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Kazimir Bartley Gazdzik

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A Mixed Method Study of the Impact of Advanced Placement, International
Baccalaureate, and Dual Enrollment Courses on College Transition and Success

By

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A Dissertation

Submitted to the Graduate Faculty

Of the

University of North Dakota

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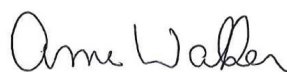
Doctor of Philosophy

Grand Forks, North Dakota

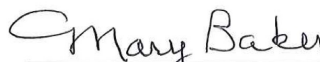
December
2018

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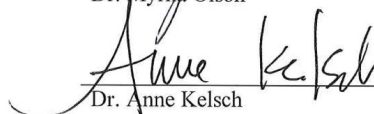
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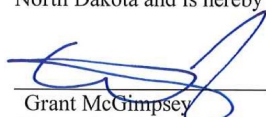


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December 5, 2018

Date

PERMISSION

Title A Mixed Method Study of the Impact of Advanced Placement,
International Baccalaureate, and Dual Enrollment Courses on College
Transition and Success

Department Teaching and Learning

Degree Doctor of Philosophy

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Kazimir Bartley Gazdzik
November 29, 2018

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To my wife Jennifer my life long editor. I would also like to dedicate this to my children Ariana, Teagan and Lauren, who hopefully will know that reading, writing and dedication bring opportunities.

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Abstract

In an educational environment that has limited resources, and greater pressures for increased academic standards, what is the best option to help prepare high school students for college academics? This research study: *A Mixed Method Study of the Impact of Advanced Placement, International Baccalaureate, and Dual Enrollment Courses on College Transition and Success* attempted to investigate the impact of advanced courses on college transition.

The results of this research showed no statistical difference in academic success or transition to college between students who had taken advanced classes and those who had not. There were also no statistical differences between students who had taken AP and PSEO classes. 130 participants enrolled at a Midwestern university participated in this research study and answered survey questions about their college and high school grade point averages; how they dealt with academic challenges in college; if they felt their high school prepared them for college academics; and how many credits they transferred from their advanced programs. The qualitative portion of the survey asked participants more reflective questions about their transition to college academics. Both groups of students, those who had taken advanced courses in high school and those who hadn't, experienced similar challenges in college transition and success. Participants perceived that advanced courses in the humanities prepared them the most for college academics. Implications include improved advising for each group and increased focus on writing and critical thought in high school.

Keywords: Advanced Placement, Post-Secondary Education, College Academics, College Transition, College in the Classroom

Chapter I: Introduction

Background Information

More students are graduating from high school and are attending colleges than previous generations. According to information from *Digest of Education Statistics*, compiled by Snyder, de Brey, and Sally A. Dillow (2018), in 1940 approximately 38 percent of all high school aged students graduated, while in 2016 that number was closer to 90 percent. This trend of increased high school graduation rates has translated into higher attendance in college:

Between fall 2015 and fall 2026, [college] enrollment is expected to increase 13 percent. Despite decreases in the size of the traditional college-age population (18 to 24 years old) during the late 1980s and early 1990s, total enrollment increased during this period... The traditional college-age population rose 6 percent between 2005 and 2015, and total college enrollment increased 14 percent during the same period. Between 2005 and 2015, the number of full-time students increased 14 percent, while the number of part-time students increased 15 percent... During the same time period, the number of males enrolled increased 17 percent, and the number of females enrolled increased 12 percent. (p. 9)

However, research shows that this higher number of students attending college is not producing more college graduates. According to Pennington (2004):

While the proportion of high school graduates who begin college has increased dramatically in the past two decades, the percentage who complete any level of post-secondary education has yet to rise significantly. More than one-fourth of

students who enter four-year colleges and nearly half of all who enter two-year institutions do not return for their second year. The percentage of 25 to 34 year olds who have successfully earned a college credential has not changed significantly in three decades. (p. 2)

According to the National Center for Education Statistics, compiled by Knapp (2012), 59 percent of first time students at 4-year institutions (i.e. public, private, or for-profit schools) in 2005, successfully completed their degree within 6 years of starting; this means 41 percent did not complete their degree within six years. These statistics are more troubling when examining college completion rates for minorities. One study found that “six years after high school graduation, the completion rates of African American and Hispanic students were 47% and 46%, respectively, compared to 67% completion rates for Whites (Melguizo, 2008, p. 215).

Another study conducted by Reason, Terenzini, and Domingo (2006) found that 25% of students in U.S. universities drop out during their first year of college (p.150). Research conducted by the ACT (2015) confirms the dropout rates, and that only 52.6 % of entering college students earn a degree within five years of starting. Potential first year dropout rates might be due to poor preparation.

If there is a greater number of high school students graduating and entering college, why is there not a corresponding increase in degree completion from college? What predicts graduation results, and how can secondary institutions better prepare students? Michael Kirst (2004) states that “the best predictor of whether a student will go on to complete a bachelor's degree is the intensity and quality of that student's secondary school curriculum” (p. 51-52). Conley's research (2007) demonstrates that many

students are not receiving the type of intense and challenging instruction in high school that translates to college success:

The success of a well-prepared college student is built upon a foundation of key cognitive strategies that enable students to learn content from a range of disciplines. Unfortunately, the development of key cognitive strategies in high school is often overshadowed by an instructional focus on de-contextualized content and facts necessary to pass exit examinations or simply to keep students busy and classrooms quiet (p. 12).

This focus on test taking and memorizing does not equate to skills necessary for college success, which requires cognitive strategies for critical thinking and problem solving. Besides the need to develop specific skills and background information for collegiate academic success, students also need to have some soft skills, such as commitment and interpersonal skills. According to *Ivy Bound, Test Prep and Academic Tutoring* web page (2017), one of the top soft skills necessary for success in college is perseverance.

The page states:

Perseverance – Self-confidence is a trait that many students struggle with as they navigate their teenage years. When you don't believe in yourself, it can be difficult to grow. Perseverance, overcoming an obstacle despite an initial failure, is one of the most challenging soft skills to achieve. Everyone makes mistakes; learning from your mistakes and moving forward is often the only path to success" (7 Soft Skills Students Need for Success, 2017).

How can secondary schools promote the development of the hard skills such as writing, academic reading, and critical thinking skills along with the necessary soft skills for

collegiate academic success?

One way high schools provide intense and challenging curriculum to develop these skills is by offering students college level courses while in high school. These college level options include Advanced Placement (AP), Post-Secondary Education Options (PSEO) and International Baccalaureate (IB) programs. All of these options lead to college credit if successfully completed.

The goal of these advanced options is twofold. First, the intent is to provide more challenging curriculum. The second goal is to give students the opportunity to gain college credit and thus allow students to graduate from college earlier than usual. These goals combined with family expectations and or parental hopes for their children and the demand for rigorous academic coursework during high school have caused a growth in advanced academic programs.

According to the most recent report by the College Board, the 10th Annual Report to the Nations, the Advanced Placement (AP) program has grown from 514,163 students taking at least one exam in 2003, to 1,003,430 students in 2013 (10th Annual Report). According to the International Baccalaureate (IB) web page, growth for this program has grown 46% from 2011 to 2016 (IB). For Post-Secondary Enrollment Options (PSEO), sometimes known as dual enrollment, growth was at an annual rate of seven percent from 2002-03 to 2010-11 (Fast Facts about Dual and Concurrent Enrollment).

Professional Interest

I have been a high school teacher for 23 years, with thirteen of those years teaching Advanced Placement courses. I taught AP World History, AP American Government, and AP Politics and Comparative Politics and AP Human Geography.

These courses were fast paced, required large amounts of college-level readings, expected students to be able to write sophisticated compare-and contrast essays using primary source documents as evidence, and required higher order thinking skills in order to understand and express how societies change over time. The AP courses challenged my students to reach beyond any other high school courses they had previously taken.

At the start of every academic year, I would begin with a full class of up to 40 students in my AP courses. By the end of the first quarter, approximately one-eighth of the students had dropped out. Having not experienced much failure before, they often did not know how to persevere. Up until this point, many of these students had always found school to be fairly easy. They were accustomed to finding success with little effort. Suddenly, with the increased difficulty of materials and large amounts of homework, they began to struggle. They had never needed to develop study skills before or been expected to do such large and challenging amounts of studying. With these new academic challenges, they would sometimes fail and without much experience with failure, they gave up.

I had observed that when a student was struggling with the academic rigor, challenging readings, intense pace and/or writing expectations, if I could persuade them to stay in the course and get them to believe in themselves, they would ultimately succeed and finish the course. With these students, I would acknowledge that the work was hard, yet with strategies, I could teach them how to persevere through the challenge and ultimately help develop their desire, or perspective, to stay. I would work with them to break down the learning into smaller pieces, talk them through the challenges, and get them to realize their own potential. I would remind them often that failure and struggle

would drive them to new learning. The majority of these students ended up being successful in the class and grew in confidence and academic competence.

As a high school AP teacher, I want to know the impact my classes have on students' transition from high school to college. I knew students were obtaining college credit for the work in my courses, but I did not know how the work in these courses helped them later in college. If they could persevere and survive the academic challenge of my AP courses, did this better prepare them for the academic challenges of college?

Additionally, aside from Advance Placement, my high school offers another advanced curriculum option which is the Post-Secondary Educational Option. While the high school has become increasingly economically and racially diverse in the last decade, the students who self-select AP classes are predominantly white, middle and upper class students. Students from less privileged backgrounds tend to enroll in the Post-Secondary options. Some students self-reported their Post-Secondary courses were easier than the AP courses they took while in high school. Why are students perceiving the difference in rigor between these two advanced options? Furthermore, does one prepare students for college better than another? I feel more research needs to be done to determine the impact of advanced high school options on transition to college academics and college success and the differences between the preparation the program provide.

As a social studies teacher, I have always been interested in how people develop academic skills and tenacity, along with how people and societies organize and solve issues. As a doctoral student, I began learning more about psychosocial development and how people go through stages of development as they progress through life. I also began hearing about new theories related to how personal characteristics such as perseverance

and tenacity are as important to academic success as skills, such as reading and writing. I began to wonder if my AP coursework had helped to develop not only the academic skills but the personal qualities needed to persevere through academic challenges the students would experience in college.

Lack of research on Impact of AP Courses on College Success

Although advanced high school options have increased in popularity in the past few decades, there is little research on how the options of AP, IB, and PSEO, influence the transition to college academics and long-term college success. The existing research focuses primarily on the impact of Advanced Placement courses on collegiate success and those results are mixed, as compared to students not taking AP. One study found that, “1st year college GPA increased by .01 percent for each subject area in which the student took honors or advanced courses” (Kuh, G., Kinzie J., Cruce, T., Shoup R., Gonyea, R., 2007 pg. 14). This finding suggests that advanced coursework in high school has a positive but minimal effect in college. A study conducted by Shaw, Marini and Mattern (2013) showed that while students who received high scores on AP exams had statistically better college success, students who took AP courses but did not do well on the AP exams showed no advantage in terms of college success. Thompsom and Rust (2007) measured the grade point averages of AP students while in high school and compared them to their collegiate GPA. Their results indicate that AP students as a whole, did not achieve higher GPA’s in college than students who did not complete an AP course.

The research on the impact of Post-Secondary Options on college success is even less than that of AP. A study by Allen and Dadgar (2012) found that students who

participated in City University of New York's post-secondary education program graduated earlier from college and achieved better grade point averages compared to others who did not participate in the PSEO program. There was no research found about the impact of IB programs on college success, and there is no known research that compares the effectiveness or impact of the three options: AP, PSEO and IB.

Another limitation of the available body of research on advanced high school courses and their impact on college success is that they focus narrowly on grade point average. There is to date no studies examining how advanced courses have an impact on students' psychosocial development for college transition.

Need for the Study

There is a need to examine the impact of advanced high school study on college transition and success beyond simple measures such as grade point averages. Are students who took Advanced Placement, International Baccalaureate, and Post-Secondary Option courses in high school better prepared for higher forms of learning in college? In particular, do advanced high school options help students develop the psychosocial skills of tenacity and perseverance? In other words, do these courses help students develop a commitment to persevere through difficult academic experiences? Underlying these questions is the need to more adequately find solutions for college readiness in order to improve college retention and persistence to graduation.

There is also a need to determine if there is a difference in how AP, PSEO, and IB options prepare students for college. With educational institutions facing economic realities of limited resources, high schools have to make difficult decisions about what

courses and curricula they can afford to offer. It is not financially feasible for a high school to offer students every option.

Importance of the Study

The importance of this study goes beyond my personal interest in high school preparation for college academic work. High schools can use the results of this study to make more informed decisions about which advanced course options to offer, as well as to better advise students about which advanced course options to take. Universities can potentially use the study results to better understand how the variety of advanced options helps prepare students differently for college. In general, the results of this study are important to fill gaps in the research and provide more information on how high schools and colleges can work to increase retention and graduation rates at the post-secondary level.

Overview of the Study

This mixed method study was completed at a public university located in a Midwestern state. Students were asked about their college transition and the impact of their high school courses on this transition using a survey and open-ended response questions.

Research Questions

The research questions guiding this study are:

1. What impact, if any, do AP, PSEO, IB classes have on student transition and success in college academics?
2. Are there differences between how AP, PSEO, and IB impacts the development of academic skills and the transition to college academics and college success?

3. How do AP, PSEO and IB classes in particular impact underrepresented students (low SES or minority) and their transition to college academics?

Theoretical Framework

Chickering (1993) argues that three kinds of competence develop in college: intellectual competence, physical and manual skills, and interpersonal competence. He describes intellectual competence as, “skills in using one's mind... mastering content, gaining intellectual and aesthetic sophistication, and, most important, building a repertoire of skills to comprehend, analyze and synthesize” (pg. 45). This concept of intellectual competence will frame this study: do Advanced Placement, Post-Secondary Education Option and International Baccalaureate courses help students develop the intellectual competence necessary for college success?

A newer model defining college readiness has been developed by David Conley (2008) in a policy paper prepared for the Bill & Melinda Gates Foundation, which supports Chickering's ideas of intellectual competence. In Conley's definition, there are four areas of overlapping development. In the center of the concept is key cognitive strategies, followed by key content, academic behaviors, and the outer ring is contextual skill and awareness. Conley (2008) states, “Successful academic preparation for college is grounded in two important dimensions—key cognitive strategies and content knowledge” (pg. 14). It is not simply content knowledge that brings success. Conley's work combines both hard and soft skills for collegiate academic success, which incorporates soft skills along with academic skills of reading, and writing. The concepts of intellectual competence and cognitive strategies presented by Chickering and Conley,

respectively, assume a student's ability to deal with academic challenges and desire to persist with a project to its end.

The challenge for this research study was to measure the impact of advanced high school courses on student college transition and success. According to Reason, Terenzini, and Domingo (2005) in their article, *First Things First: Developing Academic Competence in First Year of College*, three categories were tied to academic success of college students – curricular experiences, classroom experiences, and out-of-class experiences. The research by Reason, Terenzini, and Domingo (2005) goes on to acknowledge:

Finally, ... students' academic competence is shaped in no small measure by students' precollege characteristics. These personal and academic backgrounds and experiences both prepare and dispose students to varying degrees to engage with the learning opportunities their institutions offers. (p. 156)

This idea is similar to information offered by Adelman in *A Nation at Risk* (1983), which indicates that academically challenging high school course work helps develop college readiness.

Limitations of Study

There are limitations to this study. The use of one university limits the potential variance in the number of students who took courses in Advanced Placement, International Baccalaureate, or Post-Secondary Education options. This research study measures students' perception at one finite time, not how each student views their academic development over a period of time. Another limitation is the sample size.

It is important to point out that the institution itself may limit the sample quality. As a comprehensive public university, it has an ACT composite score range of 19 to 25, an acceptance rate of 85% in 2017, and according to Forbes Magazine (2017) is ranked 139 in the Midwest, and 571 nationally (Forbes, 2017). According to the National Center of Educational Statistics, 42% of students accepted graduate within 150% of time, or 6 years. According to PrepScholar, the university is listed as an easy acceptance, or not very competitive, institution with an average ACT score of 21 and grade point average of 3.1. The lack of competitiveness may indicate poor academic performance during high school age years; or a student's poor test taking ability.

According to the National Center of Educational Statistics, the students at the university being studied have a 25 percentile ACT score of 19, which means 25 percent of the students scored at or below this number on their ACT. The university has a 75 percentile score of 25, which means 25 % of the student body scored at or above this score on the ACT. For the University, 42 percent of accepted students graduated within 150% of time, or 6 years, of entering the University. Each descriptor of the university offers a limitation on the commitment, and academic preparation of the student body. Top academic students may not attend the university, therefore the success of these students in AP, PSEO or IB programs may not be as formative in academic development as it was for students who attend more competitive schools and programs.

Definition of Terms

Academic competence. Academic competence is defined by DiPerna and Elliott (1999) as, "...a multidimensional construct composed of the skills, attitudes, and behaviors of a learner that contribute to teachers' judgments of academic performance"

(pg. 208). DiPerna sees academic competence as the skills, attitude and behavior related to a student's academic development.

Advanced Placement (AP). Advanced Placement (AP) courses are those accredited by the College Board and offered to high school students, in the high school classroom. Students take a standardized test at the end of the year. Specially accredited high school teachers, who have their syllabi reviewed by the CollegeBoard, teach the course.

Advanced student. For purposes of this research study, advanced students will be those who participated in the three high school programs being reviewed.

AVID. AVID stands for Advancement Via Individual Determination (AVID) which imbeds best practices for student learning and college readiness, within a school and at the classroom level. According to AVID's web page, What Does AVID Do, states:

AVID brings research-based strategies and curriculum to educational institutions in elementary, secondary, and higher education. The AVID System annually provides 60,000+ educators with training and methodologies that develop students' critical thinking, literacy, and math skills across all content areas throughout the entire campus, in what we call Schoolwide AVID.

AVID is a school wide support system for students who are identified as needing support and help in understanding the preparation needs, application to, and support in the transition to college. For many secondary schools, according to AVID.com, best practices are imbedded in curriculum school wide, while also having students in AVID specific

classes. In these separate courses students are able to get more support and one-on-one guidance.

College readiness. In compiling a report for the Bill and Melinda Gates Foundation, David Conley (2008) created working definitions of a few words that are suitable for this study. The first is *college readiness*. Conley states:

College readiness can be defined operationally as the level of preparation a student needs to enroll and succeed—without remediation—in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program. (p. 5)

College skills (for readiness). According to Conley (2008) the academic skills necessary for success are writing and research. For writing, he states in the report for the Bill and Melinda Gates Foundation:

Writing is the means by which students are evaluated at least to some degree in nearly every postsecondary course. Expository, descriptive, and persuasive writing are particularly important types of writing in college. Students are expected to write a lot in college and to do so in relatively short periods of time. Students need to know how to pre-write a piece before it is submitted and...College writing requires students to present arguments clearly, substantiate each point, and utilize the basics of a style manual...(p.14)

On the second primary skill college students need, is research which he states:

College courses increasingly require students to be able to identify and utilize appropriate strategies and methodologies to explore and answer problems and to conduct research on a range of question. (p.14)

Two major skills required for college success for all students, writing and researching.

College transition. Having students take college courses during high school blurs the idea of college transition. For the purpose of this study, college transition is defined as the time the student is taking college courses, without it being also counted for high school credit.

International Baccalaureate (IB). The International Baccalaureate Program was started in 1968, as a non-profit organization-promoting student learning. Their web site states:

Founded in 1968, the International Baccalaureate® (IB) is a non-profit educational foundation offering four highly respected programmes of international education that develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world. Schools must be authorized, by the IB organization, to offer any of the programmes.
(ibo.org)

To promote the intellectual, personal, and emotional skills of students, in the IB's elementary, middle school developmental programs, along with their high school orientated diploma and technical programs focus on the following skills:

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

Informed by these values, an IB education:

- centers on learners
- develops effective approaches to teaching and learning

- works within global contexts
- explores significant content.

Working together, these four characteristics define an IB education.

(Fast Facts about Dual and Concurrent Enrollment. (n.d.). Retrieved March 26, 2016, from <http://www.nacep.org/research-policy/fast-facts/>)

For this research study, focus on the International Baccalaureate (IB) program will be on both the diploma programs and the career related program, which is a two-year plan of study, culminating in an exam.

Post-Secondary Education Options (PSEO). Post-Secondary Education Option (PSEO), is sometimes known as dual enrollment. It refers to high school students being enrolled in college courses on a college campus, while still enrolled in high school.

Organization of Remaining Chapters

This dissertation is divided into five chapters. Chapter II is an overview of literature compiled on college transition and Advanced Placement, International Baccalaureate and dual enrollment courses. Chapter III describes the scope and methodology of the research conducted for the study including ethical implications, validity, and limitations. Chapter IV includes the data collected during the study and provides an analysis with respect to the research questions. The paper concludes in Chapter V, with a summary of findings and implications for future research.

Chapter II: Literature Review

The literature reviewed regards the impact of Advanced Placement, Post-Secondary Enrollment, and International Baccalaureate courses on student development, and transition to college academics. Also examined are the following aspects of each: background, accessibility, cost, credit attainment, and collegiate success. Also reviewed in this chapter literature dealing with college transition and collegiate success.

Advanced Academic Programs

Advanced Placement (AP), Post-Secondary Education Option (PSEO) and International Baccalaureate (IB) are three of the most commonly adopted programs in high schools, to provide opportunities to raise the rigor of the curriculum and to prepare students for future collegiate studies. Several factors influence which option or options are chosen by school districts, including: proximity to college campuses, resources to support the programs, and desires related to particular demographics. Each option offers choices to students, parents, districts, and states to improve academic performance and readiness for students, and each path offers different experiences. While each program has a different history, one common goal for all programs is to educate advanced students.

Advanced Placement

Background. Many high schools today are choosing to implement Advanced Placement classes, created and regulated by the CollegeBoard with exams administered by the Educational Testing Services (ETS). These agencies have created programs that deliver academic challenge to high school students through college level course work in

their high school classrooms known as Advanced Placement (AP) courses. The CollegeBoard states:

AP® enables students to pursue college-level studies while still in high school. Through more than 30 courses, each culminating in a rigorous exam, AP provides willing and academically prepared students with the opportunity to earn college credit, advanced placement or both. Taking AP courses also demonstrates to college admission officers that students have sought out the most rigorous course work available to them.

Each AP course is modeled upon a comparable college course, and college and university faculty play a vital role in ensuring that AP courses align with college-level standards. Talented and dedicated AP teachers help AP students in classrooms around the world develop and apply the content knowledge and skills they will need later in college.

(World History, Course Description, 2017, pg. 1).

At the end of an academic year of study, students in the AP courses take a nationally administered exam and are awarded college credit and/or entrance into higher-level college courses based on passing exam scores.

The program started during the Cold War, an era of political, social and economic challenges. The United States and the Union of Soviet Socialist Republic (USSR) were in competition to be the first in space, and competing to gain greater political influence and economic dominance. Eric Rothchild (1999) says of this time and its impact on education:

The Cold War and outbreak of the Korean War in June 1950 changed [society's

outlook], convincing many that the up-grading of American education was a matter of survival in a death struggle with communism. We needed engineers and scientists and people of talent in all areas, if America was to see another century. Top professionals increasingly needed graduate work and graduate schools needed strong college graduates. If our high schools weren't producing students of talent, America might rot at the core. (p. 176)

This historic setting encouraged high schools to offer options for high achieving students to give greater access to advanced or college level classes. Supported by the Ford Foundation, a report entitled *General Education in School and College: A Committee Report by Members of the Faculties of Andover, Exeter, Lawrenceville, Harvard, Princeton and Yale* states:

The conclusion of the report pulled no punches. It recommended that schools encourage more independent study for their brightest seniors, and it advanced a seven-year program and a specific outline for advanced placement. The report noted that with the possibility of Universal Military Training, acceleration might be of particular import. The authors further recommended a set of achievement examinations...which would enable the colleges supporting these examinations to give an entering student advanced placement in a subject like, let us say, chemistry; or credit for the prerequisite to majoring in history....

(Rothschild, pg. 177)

The Advanced Placement program started in 1953 with 27 pilot schools participating. The initial goal was to promote advanced and privileged high school students to the elite colleges of Harvard, Princeton, and Yale from the 27 participating preparatory schools.

Initial course offerings were in 10 topics: Biology, Chemistry, English Composition, French, German, Latin, Literature, Mathematics, Physics, and Spanish.

Over the past ten years, there has been growth in the number of schools offering AP courses as outlined in the CollegeBoard's Tenth Annual Report to the Nation (2014):

[Over the past 10 years], the expansion of AP has nearly doubled the number of students who have been given access to the opportunity of AP, more than quadrupled the number of low-income graduates who have been given this opportunity and the expansion has resulted in a larger increase in successful AP experiences than not, a tribute to the educators who have worked hard to prepare many more students and to the students who have embraced the opportunity (pg. 6).

According to Eric Rothschild (1999), "The energy for expanding the Advanced Placement Program has often come from local school systems, state legislatures, foundations and professional organizations" (p. 195). States, school districts, and parents want options for their children to obtain college credit, and to learn the skills necessary to best prepare them for college academics and potentially reduce college costs. This desire has led to the creation of 37 different AP courses and exams, with 33.2 % nationally of high school graduates taking at least one exam. This equates to 132,500 teachers in nearly 14,000 public schools working with AP.

<https://www.collegeboard.org/releases/2014/class-2013-advanced-placement-results-announced>

Accessibility. Since these courses are offered on high school campuses, and during the normally scheduled academic day, there is no additional cost for taking the course. The Advanced Placement program being offered in the high schools should give

all students, including low income and minority students, access to more challenging courses.

Almost 70 percent of all secondary schools in Minnesota offer Advanced Placement courses. According to Minnesota Department of Education, 325 schools out of 459 secondary schools in 2016 had 45,348, a 4% increase for 2016, students take at least one AP exam. This makes AP the largest program offering college credit to students in the state of Minnesota. Of the group who took one AP exam in Minnesota during 2016, 10,452 were students of color, along with 4,208 low income students (Minnesota Department of Education, *Report to the Legislature*, 2017). In Minnesota, some Advanced Placement courses are offered through online secondary schools, such as Minnesota Connections Academy (<https://www.connectionsacademy.com/minnesota-online-school/curriculum/high-school/advanced-placement>).

Cost. The cost for the exam is \$ 94.00 per student. If those fees are cost prohibitive, there are alternative avenues a student can take to pay for the exam. In some states like Minnesota, if the student participates in the free and reduced lunch program, that student is able to take the test at no cost. Therefore, the AP tests are accessible to students of any socioeconomic status.

According to the *Minnesota Board of Education (2018) Memorandum on AP Reimbursements* the following subsidies and reimbursement are available:

Exam subsidies are available for public and non-public school students. The state will reimburse \$53 per exam for category one (fee-reduced, low-income) students and \$40 per exam for exams taken by category two (non-fee-reduced) students.

To qualify for exam fee reimbursement for your students, each school must

complete and submit the AP Program Application for Reimbursement 2017-18 to MDE by April 20, 2018.

Table 2-1 Cost of AP Exams

AP Exam Fees	Category One: Fee-reduced students	Category Two: Non-fee-reduced students
Cost of Exam	\$ 94	\$ 94
College Board reduction	\$ 32	\$0
School rebate	\$9	\$ 9 (optional)
MDE reimbursement	\$ 53	\$ 40
Total Cost to Students	\$0	\$45 or \$54 (if school waives rebate)

The College Board waives \$32 per exam for all fee-reduced students, and when schools forego their \$9 rebate, the state subsidy covers the entire cost of these exam. Schools will be invoiced \$53 per exam. (Advanced Placement Program Application for Reimbursement 2017-18, 2018):

Credit attainment. For students and parents alike, earning college credit is often the ultimate goal of an AP course. Earning this credit is based on student performance on the exam. Grading criteria for the AP exams, according to the CollegeBoard’s web page, are based on the following five-point scale:

[The] score is a weighted combination of ... scores on the multiple-choice section and on the free-response section. The final score is reported on a 5-point scale as follows:

5 = extremely well qualified

4 = well qualified

3 = qualified

2 = possibly qualified

1 = no recommendation

"Qualified" means that [the student has] proven ... capable of doing the work of an introductory-level course in a particular subject at college. Many colleges and universities grant credit and placement for scores of 3, 4 or 5; however, each college decides which scores it will accept (APscores.collegeboard.org).

Students participating in the AP program are not guaranteed college credit, even though they may have attained a passing score of 3, 4, 5 on the exam. That is left up to the discretion of the university to which they apply.

Although each exam will have a different passing average, according to the 10th Annual Report to the Nation, the passing rate of a 3 or greater nationally is 20 % for all AP exams. Of the passing scores, 24 % received a 3, 19.5 received a 4, while only 13.9 % received a 5. A student needs to have a minimum score of 3 out of 5 for colleges to accept the credit, however the credit attainment is left to the discretion of the post-secondary institution. Many colleges are creating policies that they will only accept a score of 4 or higher to grant credit, leaving many students who scored a three out of the credit process (CollegBoard, 10th *Annual Report to the Nation*). Therefore, it is less definitive that students would earn college credit, than if they had taken a college course such as Post-Secondary Education Option, or College in the Schools (CIS).

Collegiate success. The CollegeBoard’s web page, “Work for Success,” explains the benefits of AP under the following topics: 1) Stand out in college admissions; 2) Earn college credit; 3) Skip introductory courses; and finally, 4) Build college skills. The CollegeBoard’s web page goes on to review college skills that can be built through AP course experience:

The increase rigors of AP courses will not only give your mind a workout, they will help you polish up your time management and study skills, which given the pressures of undergraduate life, will become an invaluable ally. In addition, getting a feel for how to tackle challenging issues and problems, with the support of your AP teachers, can help you grow your natural study habit and skills. In the end, you will get the most out of your AP courses now and your college courses in the future. (APscores.collegeboard.org)

The CollegeBoard provides a generalized skill set consisting of time management and gaining an understanding of what college level work is necessary. These are seen as skills that promote collegiate academic success.

Questions about AP rigor. After the proliferation of the Advanced Placement programs across the United States, there has been some retraction and discussion about the academic development of students in these programs. Tony Wagner and Ted Dintersmith in their book, *Most Likely to Succeed* (2015), succinctly depict the recent challenges to the use of Advanced Placement courses:

A number of our top private high schools and some of our most forward-thinking public schools have dropped AP courses, recognizing that superficial content coverage is antithetical to real learning...

A few years ago, Dartmouth College had incoming freshmen who had scored a 5 on their AP psychology Exam take the final from Dartmouth's introductory psych course. Ninety percent failed. Perhaps even more telling, students who failed the final and then enrolled in the class performed no better than students who hadn't taken the AP Psychology (p. 215-216).

As a result of this study, Dartmouth no longer accepts Advance Placement scores for credit. The first class to be implicated in Dartmouth's policy change of not accepting any AP credits is the graduating class of 2018. For this class, student applications for admissions have dropped. According to Jay Mathews (2014) in the *Washington Post*, Dartmouth has received the ire of highly motivated high school students who would like to get credit for their successes. He states:

There's been a backlash, but Dartmouth again seems unaware. Applications for the Class of 2018, the first to be affected by the new rule, are down 14 percent. That is the biggest decline in 21 years. ... The news release made no mention of Dartmouth's decision to be the only Ivy to drop all credit for AP, IB and AICE [Advanced International Certificate of Education]. The trend nationally is in the opposite direction. ... Since 2003, the number of students taking AP exams has increased 95 percent. The number of students passing at least one AP exam has increased 83 percent. Success on IB and AICE exams also has increased, despite the three programs' exams being the toughest in American schools and being written and graded by outside experts so they can't be dumbed down (p. 2).

The choice by Dartmouth to end its acceptance of credits for AP and other courses is being debated not only by colleges but also by other elite, preparatory schools. This

situation leads to a social issue of educational divisions based on economic divisions within the US. Historically those who have had the luxury to go to elite preparatory schools have also had the luxury of AP courses (Rothschild, 1999). Now, the opportunities have expanded to the general population of high school students, and the elite schools have chosen to leave AP behind.

Another challenge to the credibility of Advance Placement courses is that some high schools have labeled classes with the AP designation in the course title, but those courses are not officially supported by the CollegeBoard. Conley (2008) argues that some high schools have “co-opted” AP courses: “Some high schools have adopted the practice of offering an AP course in which none of the students take the AP exam...inflating academic credentials of students without necessarily contributing to the students’ college readiness” (p. 10).

In order to maintain the integrity of the Advanced Placement courses, the CollegeBoard in 2007 implemented an audit process. All schools offering AP courses need to participate in this audit process. According to the college board web page, “All schools wishing to label a course ‘AP’ must submit subject-specific AP Course Audit forms and the course syllabus for each teacher of the AP course”

(<http://www.collegeboard.com/html/apcourseaudit/>) Each course, with the AP designation, goes through a content review process to maintain the use of AP on transcripts. This information can be publically accessed at AP Course Ledger:

<https://apcourseaudit.epiconline.org/ledger/>

The CollegeBoard’s web page goes on to review college skills that can be built through AP course experience:

The increased rigors of AP courses will not only give your mind a workout, they will help you polish up your time management and study skills, which, given the pressures of undergraduate life, will become an invaluable ally. In addition, getting a feel for how to tackle challenging issues and problems, with the support of your AP teachers, can help you grow your natural study habits and skills. In the end, you will get the most out of your AP courses now and your college courses in the future. (Building College Skills, APscores.collegeboard.org, 2018)

The CollegeBoard provides a generalized skill set consisting of time management and gaining an understanding of what college level work is necessary for academic success in college. Teaching students how to persevere through challenge is part of what AP promotes.

The CollegeBoard does not specify advanced degree requirements for teachers who are teaching Advanced Placement courses. According to the Minnesota Department of Education, currently in Minnesota, a teacher does not need to have a Master's degree in a content area, nor in education, to teach these courses (Jacqui McKenzie, Email communication with author, March 28, 2018).

Post-Secondary Enrollment Option

Background. The Post-Secondary Enrollment Option, which began in Minnesota in 1985, gave high school juniors and seniors the opportunity to attend college classes on a college campus. Typically these students live at home and are not engaged with the entirety of college life – dorms, living away from home, and participating in all that college life offers students. If PSEO courses are completed with a passing grade, then the

student receives credit at their high school and college or university at which the courses were taken.

Other states have similar programs, commonly known as dual enrollment in which a student is enrolled in high school and college at the same time.

A report conducted by the Center for School Change provides the early history of PSEO:

The Minnesota Legislature adopts Post-Secondary Enrollment Options. This law allowed high school juniors and seniors to attend colleges or universities, full or part-time, with tax funds following them from school districts to pay for tuition, books and lab fees. Colleges and universities retained the right to decide which students they would admit. The Post-Secondary Enrollment Options (PSEO) plan was part of a broader public school choice proposal made in 1985 by Governor Rudy Perpich, but was the only choice proposal adopted in 1985 by the legislature (Boyd, pg. 9).

To be eligible to participate in PSEO courses, the student must meet the following requirements:

1. High school juniors must be in the upper one-third of their class or score at or above the 70th percentile on a test, such as the ACT (American College Test) or SAT (Scholastic Aptitude Test).
2. Seniors must be in the upper one-half of their class or score at or above the 50th percentile on the ACT or SAT. Colleges and universities may admit students based on other documentation of ability to perform college-level work. Students need to meet prerequisite requirements of the course. The

college or university makes the final determination on a student's readiness.

3. High school sophomores may enroll in a career or technical education course at a MnSCU college or university if they have attained a passing score or met the 8th grade standard on the 8th grade Minnesota Comprehensive Assessment in reading and meet the other course prerequisites or course enrollment standards established by the college. These standards include but are not limited to assessment test scores, program admission or other requirements ("Frequently Asked Questions about Post-Secondary Education Options" http://www.mnscu.edu/admissions/pseo/pseo_faq.html).

This information is similar to that offered at the Department of Education for Minnesota and the University of Minnesota guidelines for PSEO enrollment.

Accessibility. According to the MDE Report to the Legislature in 2017, 62 institutions of higher education offered PSEO courses serving a total of 7,322 students. Students who participate in Concurrent Enrollment, or College in the Classroom, amounts to 31,971 in 2017. When combined with PSEO, this reaches a total of 39,293 students. This group is the second largest offering of advanced coursework in the state of Minnesota. From 2011 to 2017, low income students increased participation in the program by 69 %, which is almost 23 % of the total participants in the programs.

With the proximity of and subsequent access to two-year and four-year colleges and universities in the state, many students have access to college credit in the state through PSEO. According to Minnesota State University System's website, its

educational system has 24 two year schools and seven universities. When combined with the University of Minnesota system, which has five university campuses, there are a total of 12 universities and 24 community and technical colleges. This allows many students access to higher education in the state of Minnesota. However, students must provide transportation to college campuses. During the 2015-16 academic year, a total of 84 private and public institutions offered PSEO courses. During the 2012-13 academic year 32,760 high school students participated in PSEO at either a public or private institution.

Cost. According to the Minnesota State College and University web page, PSEO students do not have to pay for tuition to attend college or pay for textbooks: “Under the PSEO program, tuition, fees and books are paid for students who are also earning high school credit. Consumable supplies specifically required for a class, such as art supplies and film, also are paid” (http://www.mnscu.edu/admissions/pseo/pseo_faq.html). These costs are covered by the State of Minnesota, there is no expense to the student.

Credit attainment. Dual enrollment brings students to a college campus, and credits are guaranteed at that institution. Colleges may or may not grant credits for PSEO courses taken at a different college or university. It is up to their discretion. However, since these are college-generated credits, there may be more credence given to them by other colleges compared to other college credit granting programs offered to high school students.

Collegiate success. Discussed in literature is the impact of PSEO courses on persistence and success in college by researchers. D’Amico, Robertson, and Rivers (2013) review the impact of PSEO has on these two elements. They found:

...the data shows that students who completed career program courses through dual enrollment were more likely to persist than those who completed transfer courses. ...completing dual enrollment courses on a college campus leads to enhanced persistence once entering college... one potential explanation is that students began the process of social and academic integration that Tinto (1993) suggests may lead to retention. Students who become familiar with the college setting are more satisfied with the experience (p.777).

Their study also substantiates the correlation between the PSEO program and collegiate success with the development of perseverance and passion.

PSEO today. As parents and society as a whole see the greater need for a college education, PSEO is an easy way for high school students to take a college course. Any student enrolled in high school is eligible to participate in the PSEO program, if they meet the criteria, and the State of Minnesota will pay the tuition for the college courses. Nonetheless, there may be social and developmental implications. This option can lead to students being disengaged with their high school community. Therefore, they may experience a lack of belonging to either institution and not fully accepted by the college student community. PSEO students do not attend an orientation day like traditional first year students, and are not shown the cultural traditions of campus. Not feeling accepted or connected might lead to issues that could potentially impede future academic success.

International Baccalaureate Program

Background. An alternative to AP Programs and Post-Secondary Education courses is the International Baccalaureate (IB) program. According to the Minnesota Office of Higher Education, a total of 20 school offer the Diploma Program (DP) or high

school diploma. In total, 49 districts, serving 4,647 students who took the diploma exams in 2017.

For some schools, the IB program is a way to set themselves apart from others in this era of school competition. The IB web page offers a concise background and definition of the program:

Founded in 1968, the International Baccalaureate® (IB) is a non-profit educational foundation offering four highly respected programmes of international education that develop the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly globalizing world. Schools must be authorized by the IB organization, to offer any of the programmes (<http://www.ibo.org/en/about-the-ib/>).

According to the IB web page, the program offers work at the primary level, and middle school level, a Diploma Program (DP) and career-related program for students aged 16-19.

To obtain advanced standing in their college or university through IB, students must take exams and earn a combined score of 24 on key areas of the IB test. The IB web site describes the IB's grading criteria:

In the [Diploma Program], students receive grades ranging from 7 to 1, with 7 being highest. Students receive a grade for each DP course attempted.

A student's final Diploma result score is made up of the combined scores for each subject. The diploma is awarded to students who gain at least 24 points, subject to certain minimum levels of performance, including successful completion of the three essential elements of the DP core. ... [These three elements include] The

theory of knowledge (TOK) and extended essay (EE) components are awarded individual grades and, collectively, can contribute up to 3 additional points towards the overall Diploma score.

Creativity, Action, Service – the remaining element in the DP core – does not contribute to the points total but authenticated participation is a requirement for the award of the diploma (<http://www.ibo.org/programmes/diploma-programme/assessment-and-exams/understanding-ib-assessment/>)

Accessibility. The state of Minnesota keeps track of schools offering IB in the common course list, located on the state’s department of education web site. According to the Department of Education Report to the Legislature, there are 20 Diploma Programs at the high school level, with a total of 79 programs at all three levels – elementary, middle school and high school. These IB programs serve 4,647 students.

Cost. The state’s costs for the International Baccalaureate according to the *Twin Cities Daily Planet* (2014), shows that “Some \$765,357 was spent on student exam subsidies, and \$389,005 was spent on teacher training. The student registration fee, paid once for each student who takes an IB exam, is \$151. In addition, another fee is paid for each subject in which a student is tested of \$104 per subject” (Regan, <http://www.tcdailyplanet.net/news/2014/03/16/costs-ap-and-ib-and-who-benefits>). This calculates to a cost of \$297.04 dollars incurred per student in IB courses for the state of Minnesota.

Credit attainment. The IB website explains that students *may* obtain college credit for their studies; however, this is not automatic. According to the web site: “For students, success in the IB often results in advanced standing, course credit, scholarships,

and other admissions related benefits at many universities”

(<http://www.ibo.org/en/university-admission/>).

Collegiate success. According to IB’s web page, at “Benefits for Students”, the IB Promises to develop students in the following ways:

[Students] will:

1. be encouraged to think independently and drive their own learning
2. take part in programmes of education that can lead them to some of the highest ranking universities around the world
3. become more culturally aware, through the development of a second language
4. be able to engage with people in an increasingly globalized, rapidly changing world. (Retrieved March 29, 2015)

The IB program offers a different approach than Advanced Placement. While AP allows students to pick and choose courses and exams for potential credit, the IB program offers focus areas or tracks to develop students; this is in the Diploma Program offered by the IB. According to the web page, “The programme aims to develop students who have excellent breadth and depth of knowledge – students who flourish physically, intellectually, emotionally and ethically” (Diploma Programme). The assumption in this statement is that IB supports collegiate success of students who “flourish” as a result of IB, and they will be college success stories. The IB program also offers a Career Focused program for students who want to explore careers, versus the academic path offered by the Diploma Program.

AP and IB are both offered in a high school classroom environment. This setting offers similar aged peers and more direct teacher support than some college classrooms

will offer. In planning for an AP and IB classroom, teachers often put in more skill development and fundamental academic thought processes at the start of the academic year than what happens in a college classroom. Additionally, high school teachers will see the student throughout the academic year, and this long-term interaction can create more support and mental development than a semester long college course. These differences can be referenced in research done by the American Psychological Association, authored by Drew Appleby (2006) in his research article, *How do college freshmen view the academic difference between high school and college?*

AVID - Advancement Via Individual Determination

AVID is a non-profit group whose intended purpose is to close the achievement gap for students. This program becomes imbedded in the curriculum within schools to help teach academic skills, such as time management, writing, and critical thinking focusing on first generation college students and under-represented groups. According to AVID's web page:

AVID brings researched-based strategies and curriculum to educational institutions in elementary, secondary, and higher education. The AVID System annually provides 60,000+ educators with training and methodologies that develop students' critical thinking, literacy, and math skills across all content areas throughout the entire campus, in what we call Schoolwide AVID.

Schools and educators are taught what AVID views as necessary for academic success and creates supporting courses, and imbeds the skill development. According to AVID's information educators teach the following to their students:

1. Academic behaviors for success

2. Support for student success and relationships with students
3. Develops a positive peer group for student support
4. Develop a student’s sense of hope, and achievement.

AVID is not a separate, high achieving course. It is a supportive program that is imbedded in to what the academic institution offers its students.

Table 2-2 Comparison of the Advanced Academic Programs

Advanced Programming	Accessibility	Student Cost *	Credit Attainment
Advanced Placement (AP)	<ul style="list-style-type: none"> • Second most available in Minnesota with 250 out of 444 high schools or 56.81% • 57 % of the courses offered state wide are in the metropolitan area of Minneapolis and St. Paul 	Exam fees of \$94.00	College credit attained with exam scores of 3, 4, or 5 ~Left to the discretion of the university.
International Baccalaureate (IB)	Least available in Minnesota 21 out of 444 high schools or 4.77%	Exam fee of \$227 plus \$113 fee for each subject being tested	Combined score of 24 on the IB test. ~Left to the discretion of the university.
Post-Secondary Option (PSEO)	<ul style="list-style-type: none"> • Most widely available in Minnesota • 18 percent of options are in the metropolitan areas of Minneapolis and St. Paul 	No cost to the student	Passing grade in course. ~Transfer of credits left to the discretion of the university.

*The cost listed is not taking into account subsidies by the State of Minnesota.

College Transition

There are many challenges in the transition to college. According to Frank Daley (2010) in an article published in the *College Quarterly*:

First, many students are unprepared for the rigors of college academically.

They have low academic skills: they do not read and write well enough. Second,

they don't know why they are in college. When they get out of high school (if they get out of high school), they do not have the knowledge of themselves that they require to succeed. ...

In college, they meet the third critical factor: time: Be successful in three months—that is, pass or be gone. This tipping point results in a kind of psychic paralysis.

When their academic deficiencies and lack of direction meet the time crunch, students freeze. They cannot get up, get to class, do the reading, write the essays, or complete the work. It's partly because they don't know how to do the work (many never having had to do it in high school). It's academic ineptitude but also a lack of motivation: they lack a burning desire to succeed at something specific (Retrieved Oct. 15, 2015; pg. 2).

According to Daley, students leave college due to poor academic preparation, and lack of motivation or drive.

University Policy

The State of Minnesota has established a common policy for State Colleges and Universities and a recommendation for the University of Minnesota and private colleges. In a 2017 report to the legislature, the Minnesota Department of Education wrote the following:

As articulated in Minnesota Statutes, section 120B.13, Subdivision 3a:

The colleges and universities of the Minnesota State Colleges and Universities system must award, and the University of Minnesota and private postsecondary institutions are encouraged to award, college credit to high school

students who receive a score of three or higher on an advanced placement or four or higher on the international baccalaureate program examination.

The University policy for IB Diploma policy and AP program is the following:

Students who complete an IB diploma shall be granted six (6) lower division course credits for scores of 4 or higher on each Higher Level IB examinations and two (2) lower division course credits for scores of 4 or higher on each Standard Level IB examination.

Students who complete individual Higher Level IB examinations shall receive three (3) or more course credits for scores of 4 or higher on individual Higher Level IB examinations. Students who complete individual Standard level examinations shall receive two (2) or more credits for scores of 4 or higher on individual Standard Level IB examinations.

Credits shall be transcribed according to the same rules as those used for Advanced Placement (AP) exams. Where a test covers material that is substantially similar to an existing university course, credit for the course shall be awarded. Where a test covers material that is deemed to be college level but is not substantially similar to an existing course, elective credits shall be awarded in appropriate departments.

Table 2-1 Credit Policy for Advanced Programs

Program	Credit Policy	
Advanced Placement	Scores of 3, 4, or 5 on a 1-5 scale	
International Baccalaureate	Score of 4 or higher on a 1-7 scale	At a score of 4 on higher level exams will be granted six lower division courses. Two lower division course credits for score of 4 on Standard Level IB exams
PSEO	Pass the class and receive credit	

Credits

A benefit of earning college credit early is presented in the book, *Bridging the High School-College Gap* (2016), research conducted by Joni Swanson. She found that students taking dual credit, or Post-Secondary Education Option courses were successful in completing college. The findings of the research state:

Inferential statistics suggest that dual enrollment participants may play a significant role in persistence to degree, especially for students who entered college within seven months of high school graduation, those who acquired 20 or more college credits by the end of their first year of college, and those who continued their enrollment in postsecondary education without a break of more than one semester through the second year of college (p. 344).

Participants in this study had greater access to PSEO than AP in the state of Minnesota, which allowed for higher number of credits to be transfer. Another structural reason for more PSEO credits to transfer by students is the university system policy towards credits. Generally speaking, a student who has a letter grade of D in a PSEO course can transfer the course, but it may need to be repeated if within a major program.

In the Advanced Placement system, students must earn a minimum score of a

three on a five-point scale to receive credit from AP courses. In a December 9, 2014 article in *Education Week* Carlee Adams discusses college policy for AP, IB, and dual credit (PSEO) options:

. . . students take advanced courses to bolster their chances of getting into a selective college or because they hope to get credit for a college class. Others sign up because of a must-have teacher to be with high-achieving students.

These may be the reasons why students are increasingly taking Advanced Placement or International Baccalaureate classes, according to Phil Trout, a school counselor at a school in the suburban Twin Cities but parents increasingly hope the practice will save them money, too. ‘There is an antsiness to get going, and the undercurrent is largely financial,’ he said.

But colleges don’t always see the trend the same way. And state lawmakers are entering the debate by passing laws requiring public colleges and universities to set uniform policies for recognizing AP, IB, and dual enrollment courses that student take in high school.

For the Minnesota State College and University System (MNSCU), the two-year and four-year college credit transfer policy allows credits from AP courses with a score of 3 to 5 being accepted for credit. However, MNSCU allows courses to transfer from one college to another which means that PSEO students with a letter grade of a D may still get credit. One may ask are these standards equitable?

According to previous research, bringing in credits does not usually lead to early graduation. Researched by Klopfenstein, & Thomas (2009) in their article entitled, *The link between advanced placement experience and early college success*, students did not

necessarily want to graduate early, but take courses they would enjoy. The more important goal for students was graduating with peers and not rushing the experience of college life before entering the workforce.

Summary

In his book *What the Best College Students Do*, Professor Ken Bain (2012) states: “In fact, this is one of the major differences we found between highly successful students and mediocre ones: average students think they can tell right away if they are going to be good at something. If they don’t get it immediately, they throw up their hands and say, ‘I can’t do it.’ Their more accomplished classmates have a completely different attitude – and it is largely a matter of attitude rather than ability. They stick with assignments much longer and are always reluctant to give up” (p. 20). The literature shows that a combination of academic competency skills and effort are needed for collegiate success. The advanced coursework programs available to high school students including AP, PSEO and IB, aim to promote these attributes to prepare students for the rigor of college. This study seeks to evaluate the impact of the three advanced programs on these traits of college students. Do they provide the academic competency necessary for an effective transition to college academics and ultimately collegiate success?

Chapter III: Methodology

Using both qualitative and quantitative research methods allowed for pieces of the complex puzzle surrounding the transition to college academics to be pieced together in an attempt to evaluate the relationship of advanced high school courses on students in this transition. The goal of this research was to gain a deeper understanding about the impact of advanced high school options of Advanced Placement, International Baccalaureate, and Post-Secondary Education Options programs on the transition to college academics and success in college.

Mixed Methods

This study used a mixed method approach to develop a picture about college aged students and their transition to college academics. Mixed methods was chosen because this researcher wanted quantifiable data, but also wanted to allow the participants to contribute insight, giving richer description of what the numbers mean. In his text about mixed methods research Creswell (2011) states, “Mixed methods research provides more evidence for studying a research problem than either quantitative or qualitative research alone. Researchers are enabled to use all of the tools of data collections available rather than being restricted to the types of data collection typically associated with quantitative research or qualitative research.” (p. 12) When evaluating a student’s transition to college academics, there are many factors that play into the transition process. The mixed method process helps evaluate and clarify these influences and piece together a valuable picture worth looking at in order to best help students.

The purpose of a mixed method process is to help give more meaning behind the statistical data related to the topic. Including both qualitative and quantitative data tells a

deeper story about the meaning and impact of advanced high school courses on college transition. With the use of open ended survey questions, students are free to share their voices without the restrictions that quantifiable questions bring to responses. These open ended questions allow for thoughtful student response, and a space to tell their story. This data provides depth to the information about their preparation for the experiences in college.

Context and Participants

Location

This study took place at an upper Midwest, mid-sized university. According to the university's information, for the 2017-18 academic year there are 18,856 students attending the university, with 61% of students attending full time. The student body was 53% female and 45% male. A review published in the *St. Cloud Times* from October 2017, written by Nora Hertel, states that students of color comprise 18 percent of the student body. Within this group, 6 percent are African American, 6 percent are Asian, 3 percent are Latino and 3 percent who identified as mixed race. The review goes on to state that 82% of the student body were from the state, and that 88% of the university population are undergraduates.

As a comprehensive public university it has an acceptance rate of 85% in 2017, according to *Forbes Magazine*, and was ranked 139 in the Midwest, and 571 nationally (*Forbes*). According to the National Center of Educational Statistics (2017) 42% of the students accepted graduate within 150% of time, in other words 6 years. According to PrepScholar, this university was listed as an easy acceptance, or a not very competitive, institution with an average ACT score of 21 and grade point average of 3.1 for its

accepted students. Typically, 88% of students applying are being accepted to the institution.

According to the National Center of Educational Statistics, the students at the university being studied had a 25th percentile ACT score of 18, which means 24% of the students scored at or below this number on their ACT. The university has a 75 percentile score of 25, which means 75 % of the student body scored at or below this score on the ACT.

The school offers 200 undergraduate majors along with 60 graduate programs (minnstate.edu, 2018). The institution has a policy to accept Advanced Placement, International Baccalaureate, and Post-Secondary Education credits.

Participants

Participants included 130 students from three sections of an Introduction to Secondary Education course and two sections of an Introduction to Elementary Education course from one institution. These courses occurred during students' second and third years of college. These courses were chosen for several reasons. First, these courses provided access to a broad range of majors ranging from art to the social studies. Secondly, these are required courses for which a student could not get credit by taking advanced high school coursework. Lastly these course were easily accessible for the researcher.

The chosen courses represented a variety of content areas, especially for the group of secondary students, who represent Education majors in the area of Math, Science, Curriculum Arts and Literature, Foreign Language, Art, Social Studies, Physical Education and Health, Technology, and Social Studies. This broad base of content areas

allowed for an evaluation of all available advanced courses taken while in high school and a variety of content areas for use in the research. These 130 students from five different course sections, had at least two semesters of collegiate experience on which to reflect, giving effective qualitative and quantitative data.

Data Collection

Quantitative Research

To help evaluate potential differences in academic success of students who chose between Advanced Placement (AP), International Baccalaureate (IB) and Post-Secondary Education Option (PSEO) courses while in high school, a survey was designed, field tested, and then administered to college students. The survey questions investigated students' responses to academic challenges, high school academic preparation, and specific questions about AP, IB, and PSEO courses taken while in high school. The goal was to obtain data from students who took each of the programs to evaluate the course's impact on the student's transition to college academics. Did the courses taken while still at the high school age develop more perseverance and academic skills to make the transition to college academics easier?

The survey was administered during class time via the online source of Survey Monkey to 90 students in an introduction to secondary education course and 40 students in an introduction to elementary education. It was voluntary and not tied to their grade for the course. The survey data collected was entered into SPSS for evaluation. The results are accessible only by the researcher, my advisor, and a statistician. The survey used a Likert scale of 1-5, with one indicating strong disagreement, and five indicating a strong agreement to the question.

Survey responses were separated into groups by students who took AP, IB, and PSEO, and those who did not take any of these courses. Each group was categorically evaluated using the following: grade point averages, high school satisfaction, transferring of credits and response to academic challenge.

Qualitative Research

The second part of the survey had open ended questions, whose responses further explain the quantifiable survey results (Appendix B). These open-ended survey questions allowed students to further explain their story about challenging high school courses and their transition to college academics. The survey responses helped create a better understanding of the students' college preparation using their voices. Creswell (2007) states, "We want to empower individuals to share their stories, hear their voices" (p. 40). Answering the questions in the informal space of an online survey helped liberate students to be most honest in their responses.

Responses were reviewed and transcribed into hyper-RESEARCH for evaluation, with the intent of developing possible theories on the impact of taking AP, IB, and PSEO courses in high school as preparation for students' transition to college academics.

Informed Consent and Confidentiality

Informed consent was obtained during the survey. Participation was voluntary and anonymous. Confidentiality was maintained because no names or identifying information was gathered in the completion of the survey that could lead to a specific student. Material collected has been kept in a locked cabinet, to which only this researcher has access.

The survey did not count as course work. During the process of answering the surveys, a reflective student may have felt emotional about their choices. Although this presented a minimal risk, participants were informed of campus resources for support. However, to the researcher's knowledge, no student requested use of these.

Data Analysis

Quantitative Analysis

Analyzing the quantitative data was done using SPSS software. Data was screened for missing information. Respondents were not good at answering all the questions and this led to a review of the missing data to determine the best course for analysis. Removal of missing data was determined to be the best choice for this study. The use of cleaned data sets, or those who fully answered the questions, were used to determine the mean, frequencies, and standard deviations from the Likert scale responses. The use of a statistician was available to anyone who was conducting research at this institution with an active Institutional Review Board (IRB). The researcher took advantage of this opportunity and worked closely with the statistician to make sure proper comparisons were made using SPSS. This allowed for a better review and evaluation of the statistical data.

Once the groups were established, ANOVA-tests were used to measure variances between means of group's scores on various parts of the survey, such as Grade Point Average (GPA) between at least two of the groups. Because the IB group only included four students, and based on discussions with the statistician about the group size, it was decided by the researcher, that the group was not large enough and was removed from the assessment.

Qualitative Analysis

The qualitative research data for this project focused on the impact of advanced high school courses on transition to college academics and was generated through the use of open ended response questions in the survey. Students were flexible to be personal and as elaborate as the student felt necessary. Each open-ended question helped answer the research questions by adding a student's personal experience to the statistical data collected in the survey. It also allowed for a greater number of responses to review for each of the research questions and to cross reference with quantitative data. The five open ended questions on the survey were:

1. What has been the greatest challenge in your transition to college academics?
2. What courses during high school academically prepared you the most for college?
3. How did your high school classes prepare you for success in your college courses?
4. What do you know now; that you wish you knew when you started college?
5. If you took two types of class (for example AP and PSEO) why did you take both?

For review of the qualitative material, a Grounded Theory Approach was utilized.

Strauss and Corbin (1998), in their book, *Basics of Qualitative Research: Techniques and procedures for developing grounded theory*, describes the coding process in three parts: open, axial, and selective. They state the researcher defines the open coding, "analytical process through which concepts are identified and their properties and dimensions are discovered in the data" (p. 101).

The first step was to review the responses for each question, where the responses were grouped into each category of participants – AP, IB, PSEO and students who did not take any of the courses reviewed. The coding process started, first with open coding, or a general review and categorization of material. Each piece of data collected, was evaluated and given a code, creating meaning for the material. A codebook, including the meaning of key ideas, was created to maintain consistency during the review process. This consistent and continual evaluation of material was the foundation of creating a sound theory. The process then moved to axial coding, where a theory was started about the impact of advanced high school coursework on college academics. The final step was selective coding where a hypothesis is created about advanced coursework. This process of coding was repeated and re-evaluated to establish consistency and reliability in the coding process.

After the initial coding, the codes were reviewed for relationships, or the creation of a larger concept to help explain the academic transition process. Here the codes were evaluated and connected. This is the axial process, as described by Strauss and Corbin, which creates meaning around the category (Strauss and Corbin, 1998, p. 123). Many students responded with terms like responsibility to do work, or time management, or free time. These codes were viewed as being connected through the concept of responsibility. Some aspects were connected through the idea of skills necessary for success, such as time management, reading skills, and writing skills. Other ideas related to responsibility like working another job, family and adult responsibilities were categorized into life responsibilities.

The final step was selective coding, where a core category of data was

formulated. “A central category may evolve out of the list of existing categories. Or, a researcher may study the categories and determine that, although each category tells a part of the story, none captures it completely.” (Strauss & Corbin, 1998, p. 146). For example, when participants were asked about the greatest challenge experienced when making the transition to college academics, two responses included ideas that fell into a category of professors. As the evaluation progressed, this “professor” category was expanded to include two subcategories of “building relationships with professors”, and the “teaching styles of professors”. These details and connection to the responses were organized using Hyper RESEARCH program, which allowed for organization of responses and maintaining of the coding process.

Mixed Methods Analysis

As a grounded theory designed research, the information from the written responses was compared to the data collected from the surveys to help explain the impact the high school courses had on student preparation for college academics. To accomplish this, the codes and theory gained through an analysis of the qualitative questions were compared to the quantitative data to find commonalities between the descriptions and the statistical data. For example: was there a higher grade point average in the AP group compared to the others, and how did this compare to the information given in their writing about their high school classes?

Validity

This researcher taught AP World History and currently teaches in a public high school which supports the Advanced Placement program, so he needed to maintain an open mind and objectivity towards the other types of courses being evaluated. The

researcher also evaluated the programs as a parent wondering which would be the best academic program for his children. He could not allow his interpretation of how his own children think and work influence the review of data gathered about each program.

While conducting the research, the researcher was aware of potential biases and influences from his time teaching Advanced Placement courses. If not careful, the researcher's experience could have impacted the interpretation of the survey data. It is impossible to remove one's passion and conviction from research. However, maintaining objectivity was the utmost importance. Being the instrument of the research, the researcher needed to understand his perspectives and motivations to minimize their influence on the research process, thus making the outcome more valid. Conducting mixed methods research has more potential challenges to validity, related to the nature of combining the two types of research methods. Testing validity to help minimize the researcher's influence on the research process was done using validity checks from Maxwell (2005).

Another challenge to the validity was the relationship between the researcher and the candidates participating in the research. For many, he was their advisor in education and maintained positive connections with the students, but demonstrated a neutrality towards the responses they gave for this research. To help the participants be open in their responses to the survey, they were informed that researcher was not going to review submission until the course was finished.

A step in the process to help maintain researcher clarity included writing detailed notes of the coding process and analysis of the free response questions done in the survey. This audit trail process focused on the coding process, with the development of

codes, categories, and theories (Miles & Huberman, 1984). Not only did the recoding of open coding terms and definitions help record thinking process and improve consistency, the assessment was made stronger through the use of memos. Johnny Saldana writes in his book, *The Coding manual for Qualitative Researchers*, “By memo writing about the specific codes you’ve applied to your data, you may discover even better ones” (p. 41). This process allowed for tracking of term development, reflection and recording the researching process.

The final two areas of a validity check were to take the material and organize the information into easily accessible material. Charts and graphs were created to depict the information and how it fit into the outcomes and theory researched.

Taking each of these steps to help understand potential threats to a study’s outcomes allowed for the creation of solid research outcomes. Making certain the approach to the study was ethical, that the participants were protected, and the potential impact on their lives was limited, all improved the credibility of the study.

Limitations

There are always limitations to any study depending on the participant sample created. The first limitation for this study was that it was being conducted at a mid-sized, mid-western university, preventing application of outcomes to private and larger public institutions. Another limitation was the focus on an introductory course in a school of education which limits the study to those who have chosen a specific profession. This choice prevents a broader association with the university and other discipline areas, which would be included in a broader selection of students.

Overall, minority student enrollment at the institution in this study is 21%

(Minnesota Office of Higher Education). This lower percentage may have led to a small sample size, and therefore not be statistically significant, which also limits a broader application of information.

Chapter IV: Results

This research study attempted to answer the primary question of how do advanced high school courses impact a student's transition to college academics? The selected advanced high school programs were Advanced Placement (AP), Post-Secondary Education Option (PSEO), and International Baccalaureate (IB) programs. The second question for this research asked if there was a difference in how these courses AP, PSEO, and IB affect students' preparation for college and their subsequent transition and success. The third and final question for this research asked how advanced high school courses affected the under-represented student population. Ideally, the results of this research should prove helpful to inform and improve a student's high school preparation and subsequent transition to college academics. Findings may also assist colleges in how to accommodate the unique needs these students bring and help promote collegiate success.

The results chapter starts by showing the demographic data of the sample group and any relevant connection to the research question. This is followed by the quantitative results of the survey organized by the research questions. The third section is the qualitative data, organized by survey question and their connection to the overall research question. The final section evaluates the third research question, dealing with underrepresented groups.

Quantitative Data

The quantitative data was collected using a survey created and field-tested by the researcher. The questions in the survey collected information in the following areas: (1) general information about the student demographics, (2) aspects of a student's transition,

such as grade point average, and perceived satisfaction of preparation for college courses.

Demographic data. Understanding the composition of the sample population allowed for information to be put into context and promoted a better evaluation of the results. The student population participating in the research is comprised of 44 males making up 33.8 % of the group, and 86 female participants or 66.1% with a total number of 130 participants.

Demographically, of this group 115 (88.5 %) reported to be White, 5 (3.8%) Asian, 5 (3.8 %) Black or African American, 1 (.07 %) Native Hawaiian or Pacific Islander, 2 (1.5 %) mixed races, and 2 (1.5 %) being Hispanic of any race. These were the participants who completed the survey.

Of the 130 participants, 32 (24.6 %) of the students responded that they received free and reduced lunch. Free and reduced lunch represents levels of poverty within a school population and can lead to an answer about the impact these courses may have on particular high school student populations.

Table 4-1 Demographic Data of Sample

	Numbers of Students	Percentage of group
Gender		
Female	86	66.1
Male	44	33.8
Socioeconomic Status		
Free and Reduced	32	24.6
Non-Free and Reduced	98	75.4
Ethnicity		
White	115	88.5
Asian	5	3.8
Black	5	3.8
Native American	1	.07
Hispanic	2	1.5
Mixed (Two or more races)	2	1.5

Advanced college programs taken. This study looked to compare the impact of three types of advanced high school courses on high school aged students' transition to full time college level work. Within this sample of 130 participants, 108 (76.9%) students participated in an advanced course program while in high school. Of that 108, 62 (57.4%) students completed Advanced Placement courses, 42 (38.8%) students completed the Post-Secondary Education option, including College in the Schools or CIS, and four students completed the International Baccalaureate program. Twenty-two (16.9%) students did not complete any of the advanced course work compared in this research.

Table 4-2 Group Numbers & Percentages

Advanced Coursework Program	Total	Percentage of Group
Advance Placement	62	47.7
Post-Secondary Ed. Option	42	32.3
International Baccalaureate	4	3.08
None	22	16.9
Cross Listed Categories		
Both AP and PSEO	14	10.7

Data review. Not all of the respondents answered each question from the survey. This forced the researcher to make a choice on how to deal with the missing data. In discussions with the University's statistician there were a few options. One was to get more responses in the survey. Another method would be to add a neutral response for the case, from the survey, or finally to remove the case from the comparison. As the researcher, in an attempt to get a better, comparison, the choice was made to remove the missing cases from the data set for the question. As a result of this choice, the total numbers compared in each category are different than the overall numbers given in table 4.2.

Transfer of credits & accessibility. Transferring of credits helps show the potential impact on time to graduation, which is a criteria families use to help determine whether or not to enroll in advanced coursework during high school. Credit transfer, or credit acquisition via advanced coursework, changes college rank, which may impact a student's collegiate experience. Results show that 104 (80%) students transferred credits. Of these, 62 students selected Advanced Placement credits, while 42 students attempted to transfer Post-Secondary Education credits. Although numerically fewer, 36 PSEO students transferred credits which is 85% of the total number of PSEO students, or 30.5% of the total respondents in this section of the survey. This compares to students who completed AP 42 students transferred credits, which is 67.7% of the AP group and 35.6% of the total respondents.

The greatest transfer of credits was done by PSEO students where 29 (27.8%) of them transferred 13 or more credits. Of the Advanced Placement students, 24 (23.1%) also transferred 13 credits. The IB students did not mention a level of credits transferred, and were international students. Their information was removed from the sample, because this research is trying to assess the impact of advanced U.S. credit options on college success.

This research study showed more students attempted to transfer more AP credits, and AP had a higher percentage of transferred credits at 35 percent of the total group. PSEO students transferred more credits in the 13+ category, and had a greater success rate of 85% for those who attempted PSEO credits.

This information is important for it helped to understand which program may have more of an impact on credit acquisition, and therefore have a greater chance to

graduate from a university. Being able to transfer credits demonstrates academic success through successful completion of course work that lead to the credit transfer.

Table 4-3 Transferred Credits

Number of Credits Transferred	Total & Percentage of Group	AP & Percentage of Group	PSEO & Percentage of Group
Did not transfer	26 (25)	20 (19.2)	6 (5.78)
1-6	13 (12.5)	10 (9.6)	3 (2.89)
7-12	12 (11.5)	8 (7.7)	4 (3.8)
13+	54 (51.9)	24 (23.1)	29 (27.88)
Total Students	118	62	42

Grade point average. Grade point average was one measure of academic success. This survey asked for college grade point average. For this group, 60 participants (46.2 %) self-reported they were in the top range of 3.5-4.0 grade point average, while 38 (29.2 %) reported being in the second tier of 3.0 to 3.49, twenty-nine (22.3 %) reported to between 2.5 and 2.99, and three (2.3 %) self-reported being between 2.0 and 2.49 on a 4 point scale.

Table 4-4 Grade Point Average by Program

Grade Point Average	Total and Percentage	# of AP Students	# of PSEO Students	# of students who took Both	# of Non-Advanced Students
4.0 – 3.5	60 (46.2 %)	27	12	6	15
3.49 – 3.0	38 (29.2 %)	13	9	4	12
2.99 – 2.5	29 (22.3%)	8	5	4	12
2.49 – 2.0	3 (2.3%)	0	2	0	1
Total	130	48	28	14	40

Students who completed Advance placement courses showed the highest reported grade point average at 27 students or 56% of the AP group, or 20.7% of the total group responding to the question. According to this data, if GPA is used to measure academic

success, those Advanced Placement students are more academically successful. Research on GPA as a measure of success has mixed results when AP students were examined. There was less research on both PSEO and IB grade point average comparisons and college success.

Effect on college transition and success. Question one is, what effect, if any, do AP, PSEO, IB classes have on student transition to college academics? To answer this question, the researcher used questions 5-11 on the survey which dealt with academic success and college transition. Here are the questions:

5. When I entered college, I felt confident I would be academically successful.
6. As a first-year college student, I was better prepared to meet college expectations than the majority of my peers.
7. My high school coursework prepared me for college.
8. First year college courses were easier than I thought they would be.
9. I was satisfied with my first year college grade point average (GPA)
10. I had to change majors because my initial major was too difficult.
11. I have been successful in college.

Each question had a Likert scale response with one equaling Strongly Disagree, three being Not Sure and five being Strongly Agree with the question asked. A high average would imply a successful transition and confidence as a first year college student.

The comparison evaluated the averages from each group to see if there was a difference in how each group of students answered the group questions focused on College Transition and Success. If there are differences between the groups and how

they answered these questions it may signal that one program may have more of an impact on the transition to college than another. However, results from this portion of the survey did not show any differences between AP, PSEO and students who did not take advanced courses. This lack of statistical significance in the p-value which is .359. If it were to be significant this value would need to be less than .05. The *n* value is the number of students, in each group, who answered each question in this portion of the survey. For AP the number of students was 46 of 62 or 74% of the group, for PSEO it was 28 of 42 or 66% of the group; and for both it was 13 of 14 or 92% of the students in this group. The chart also shows the standard deviation (SD) of the groups. The second part of Table 4.6 presents data on four groups, with confidence intervals for the reported means.

Table 4-5 ANOVA Comparisons of Academic Success

Group	<i>n</i>	Mean	<i>SD</i>
AP	46	4.08	.693
PSEO	28	4.07	.813
Both AP/PSEO	13	4.30	1.03
Non-Adv.	37	3.83	.957

<i>ANOVA Comparisons of Academic Success</i>					
Group	<i>Df</i>	SS	<i>MS</i>	<i>F</i>	<i>P</i>
Between Groups	7	5.75	.822	1.11	.359
Within Groups	122	89.9	.737		
Total	129	95.72			

Effect on college challenges. Dealing with challenges was the next area of focus for the survey covering questions 12-17. To be able to determine the students' determination the questions focus on challenges faced:

12. Setbacks don't discourage me; I don't give up easily.
13. I am a hard worker.
14. I have overcome setbacks to conquer an important challenge.
15. I am diligent. I never give up.
16. It is OK for me to make a mistake or two while learning.
17. I would rather practice something I do well than try to learn something new.

Potentially, high averages would mean high level of self-confidence when dealing with challenges. High Grade Point Averages may give insight into the student's ability to stay with an academic challenge such as advanced courses or college level work. For this set of questions there were similar numbers of full responses as with the set on College Transition. The average of scores from the survey are given for the four groups, with the AP/PSE students having the highest mean score in this section and a low probability of significance of difference between the groups, as signified by P at .349. These questions did not determine a difference between the groups of students commitment to handling challenges.

Table 4-6 ANOVA Comparisons of facing Challenges

Group	<i>n</i>	Mean	<i>SD</i>
AP	46	23.21	3.35
PSEO	28	22.46	3.70
Both AP/PSEO	13	24.46	2.60
Non-Adv.	37	22.13	3.68

ANOVA Summary of Comparisons of Facing Challenges

Group	<i>df</i>	SS	<i>MS</i>	<i>F</i>	<i>P</i>
Between Groups	7	96.60	13.80	1.12	.349
Within Groups	122	1490.9	12.22		
Total	129	1587.5			

High school preparation. The final area of the survey asked the participants to respond to questions which dealt with how they viewed their high school preparation for college success:

18. My high school courses developed my ability to read college-level material.

19. My high school courses developed my ability to write at a college-level.

20. My high school courses developed my critical thinking abilities.

21. My high school courses made me feel like a college student.

High averages would show satisfaction with student's high school preparation for college – 5 on scale is strongly agree. For these groups the mean was in the mid to high three, on a scale of 1-5.

Table 4-7 ANOVA Comparisons of High School Preparation

Group	<i>n</i>	Mean	<i>SD</i>
AP	46	3.60	1.37
PSEO	28	3.53	1.47
Both AP/PSEO	13	3.84	1.14
Non-Adv.	37	3.59	1.23

ANOVA Summary Comparisons of High School Preparation

Group	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>P</i>
Between Groups	7	3.79	.542	.302	.952
Within Groups	122	219.19	1.79		
Total	129	222.99			

Impact on transition to college academics. In the data collected, the students who took advanced coursework do not stand out in any of these measurements. There is no significant difference between any group in these categories of facing challenges, college grade point average, high school preparation or academic success.

Underrepresented Groups. Research question number three asked how AP, PSEO and IB classes impact underrepresented students (low SES or minority). In this research, 32 students, or almost a quarter of the respondents, selected free and reduced status during high school. Free and reduced lunch is used as a measure of poverty which may impact a student's support network for schooling, which could impact overall preparation for academic achievement. Of the 32 students, 13 (40.6%) selected they took Advanced Placement courses, while 7 (21.8%) selected taking Post-Secondary coursework. The remaining 12 (37.5%) students did not take AP, PSEO or International Baccalaureate courses. Overall no statistical difference was found between those who took advanced courses with those who did not and were on free and reduced lunch.

High school preparation. The final area of the survey asked the participants to respond to questions which dealt with how they viewed their high school preparation for college success:

22. My high school courses developed my ability to read college-level material.

- 23. My high school courses developed my ability to write at a college-level.
- 24. My high school courses developed my critical thinking abilities.
- 25. My high school courses made me feel like a college student.

High averages would show satisfaction with student’s high school preparation for college – 5 on scale is strongly agree. For these groups the mean were in the mid to high three, on a scale of 1-5.

Table 4-8 ANOVA Comparisons of High School Preparation

Group	<i>n</i>	Mean	<i>SD</i>		
AP	46	3.60	1.37		
PSEO	28	3.53	1.47		
Both AP/PSEO	13	3.84	1.14		
Non-Adv.	37	3.59	1.23		

<i>ANOVA Summary Comparisons of High School Preparation</i>					
Group	<i>Df</i>	SS	<i>MS</i>	<i>F</i>	<i>P</i>
Between Groups	7	3.79	.542	.302	.952
With-in Groups	122	219.19	1.79		
Total	129	222.99			

Qualitative Data

The qualitative research data for this project was generated through the use of open ended response questions in the survey. The five open ended questions are:

1. What has been the greatest challenge in your transition to college academics?
2. What courses during high school academically prepared you the most for college?

3. How did your high school classes prepare you for success in your college courses?
4. What do you know now; that you wish you knew when you started college?
5. If you took two types of class (for example AP and PSEO) why did you take both?

The qualitative section is organized by survey question with each group's answer to the question addressed separately. Please note that student responses include spelling errors and other grammatical mistakes made by participants. Those were not corrected to help maintain integrity of the response and analysis. This research project only includes programs taught within the U.S so the four international students who took IB courses outside of the U.S. were removed from the analysis.

Survey question one. The first qualitative question asked participants, what has been the greatest challenge in your transition to college academics? Categorizing answers to this question according to the type of advanced courses taken gives insight about the strengths of each program.

AP student responses. The challenges reported by students who completed Advanced Placement courses, can be categorized into three different themes: 1) stress related to professors, 2) attempts at balancing life, and 3) difficulty of handling responsibility. The first category of responses showed how students viewed their college educators. In some responses, there was a direct comparison between college professors and high school instructors. AP students responded with the following comments, for what was your greatest challenge:

Adapting to different professors

Professors place more responsibility on students than high school teachers do (many don't even take attendance), so getting used to that was somewhat challenging.

The tests that I took and the different teaching styles of teachers.

The workload is very overwhelming. Some teachers are more passionate about teaching than others and it definitely affects the classroom.

For some AP students there was a realization that as students they needed to understand the expectations and styles of multiple professors during their college transition. It took some students time to understand that each professor brings varying level of energy, passion, and expectations of responsibility to their classrooms.

Another set of students' responses focused on how to balance their academic life and other adult needs. Focus was usually on working a job, finding time to be a student, and caring for family. Here is a representative sample of AP students' responses:

Balancing adult responsibilities, such as maintaining a job for paying bills, while devoting time to course work

Managing online course work with class work and a child and a job to afford the books and tuition.

Going back for second degree and not being able to apply for grants or other financial benefits

Current issues of finances, student loans, and other challenges of young adulthood, seem to be issues for students as they enter college. Taking AP courses did not exempt students from these issues.

The final category was that of responsibility. College life provides less structure

compared to high school, but with that comes the responsibility to choose how to most effectively use one's open time. This proved to be challenging for some first year students. Participant's responses said the following:

Being independent. high school holds your hand and college throws you into the fire sometimes.

Being more responsible and getting my work done without reminders

Being more responsible for my own learning was more of a challenge. Professors place more responsibility on students than high school teachers do (many don't even take attendance), so getting used to that was somewhat challenging.

Even with AP coursework in high school, being accountable for one's learning and unstructured time may be challenging for some students to handle as they transition to college campuses.

Table 4-9 Qualitative Answers for AP students Survey Question One

Q # 1 What has been the greatest challenge in your transition to college academics?

Q 1 Advanced Placement Codes for Student Responses	Categories based on codes	Themes
Balance – School and non-school Being Independent Responsibility – Freedom Responsibility – Work done Money Scheduling	Life Balance of being an adult	Students need to develop life skills
Course Load Exams Expectations - Academic Failure Motivation	Academic Challenges	Students need to understand collegiate academic expectations and styles of teaching.
Professors Professors – Differ between HS/College Teaching Styles Responsibility – Work done Participation – Lack of	Professor’s teaching styles and expectations	
Studying Teaching self Time Management Writing.	Academic Skills of reading, writing & time management	Students need to develop academic skills

PSEO student responses. The second group of students that responded to question one about the greatest challenge of the transition to college academics is the Post-Secondary Education Option students. This group of students reported similar challenges compared to those of the AP students. Post-Secondary Option students also commented on professors and balancing life and education. The responses for this group included additional themes related to work load. In this, PSEO students compared the rigor of college courses to what they experienced in high school. The first categorical

response of what was their greatest challenge, by some PSEO students, was their view of professors:

I think the greatest challenge in my transition to college academics is the unfamiliarity with college professors. In high school, a student spends four years with many of the same teachers. Students become familiar with the teaching styles of their teachers and learn which teachers teach the best. But in college, students are thrown into a new atmosphere with new teachers. And in the beginning it is difficult to learn which professors teach the best and care about their students.

I was on my own. The professors weren't always on us to get our homework done.

The professors are a lot more busy.

Although they are experienced, some PSEO students encountered similar issues of understanding professor's expectations to what a few AP students discussed about dealing with the greatest challenge in their transition to college.

The second category, also similar to AP students, was that of life balance. The PSEO students commented on their greatest challenge in transitioning to life in college:

Balance between social life and academics

Balancing school and work

Leaving home and having to find time for classes, homework, and work, now that I had to pay for everything on my own as well as go to school.

The hardest part of the transition has been learning to budget time efficiently.

PSEO students were not as specific nor as repetitive as AP students, who spoke of

balancing family, school, and jobs; along with the challenge of free time. But, some students within both groups dealt with issues of finding and maintaining a balance between school, work, and a social life.

The area of difference between some AP and PSEO students deals with the level of work in the courses. Here are examples of how PSEO students responded to their greatest challenge:

Amount of time necessary out of school to accomplish all work.

Constant readings and assignments.

Leaving home and having to find time for classes, homework, and work, now that I had to pay for everything on my own as well as go to school.

The amount of reading required for classes.

The amount of reading and writing.

The course load.

The greater ratio of work required for every hour spent in class; 15 credits doesn't look like a lot but the amount of work behind those classes is more than expected

These PSEO responses to question one, about what has been the greatest challenge in their transition to college academics, could be placed in the same category as AP students, in dealing with professors and finding a balance for academics and life pressures. The difference for a few of the PSEO students and their challenging course work, needs more investigation of when the challenges began – were these challenges faced while in high school? Or did these challenges happen when the student transferred from a two-year school to a four-year school? If it was a personal interview these could have been clarified with follow-up questions.

Table 4-10 PSEO Responses Survey Question One

Q # 1 What has been the greatest challenge in your transition to college academics?

Q # 1 PSEO Codes for Student Responses	Categories	Themes
Balance (General statement) Balance School & Work Balance Social and Academics Money	Life Balance of being an adult	Students need to develop life skills
Course Load - Work load Work load Work load of course Exams are harder Failure	Academic Challenges	Students need to understand collegiate academic expectations and styles of college academics.
Teachers (Professors) are busy Different teaching styles Professors don't hold your hand Teaching Self Responsible Responsible – do the work	Professor's teaching styles and expectations	
Course Work load – Reading Reading Challenges Time management Writing academic papers Exams are harder	Academic Skills of reading, writing & time management	Students need to develop academic skills

AP and PSEO student responses. Students who categorized themselves as taking both AP and PSEO courses reported similar challenges compared to students who only took one type of course. The most common response from this group of participants was related to balancing time amid influences from outside of school that made college challenging. These issues revolved around money and time. One student said, “Factors outside the classroom - Finances are a major factor that have affected college more than high school for me. There are way more costs, and financial resources on campus are

sometimes hard to navigate.” Other students were brief and just stated, “time management” as the greatest issue.

In this group, two responses stuck out. One dealt with the topic of professors. The person stated, “Professors do not teach in a way that is conducive to learning.” This was a similar idea to the other groups’ responses to the same question but as much more pointed. The second response that was different for this group points towards the use of technology. This student stated as challenging, “Remembering to check D2L for class schedules and information.” Technology access and course information may be organized differently in high school and for College in the Classrooms, versus being on campus for a course.

Table 4-11 AP & PSEO Responses Survey Question One

Q # 1 What has been the greatest challenge in your transition to college academics?

Q # 1 AP & PSEO Codes for Student Responses	Categories	Themes
Balance (General statement) Money	Life Balance of being an adult	Students need to develop life skills
Responsible – on my own Teaching differences – Professors Higher Expectations	Professor’s teaching styles and expectations	Students need to understand collegiate academic expectations and styles of teaching.
Technology – D2L Time management Need to Study Work load Writing expectations	Academic study skills of reading, writing, technology & time management	Students need to develop academic skills

Students who did not take advanced courses. The responses to question one for the students who did not take AP, PSEO or IB courses were similar to the other groups. These students primarily wrote about finding balance between work, school, and family. Five students in this group wrote similar ideas to the following, “Balancing work and

family time with classes/homework.” Ten other students wrote about time management as an issue they faced.

The second category of responses revolved around skills necessary for success in college. Many of the students wrote about improving their writing, time management, while two wrote of a lack of preparation by their high school for college work. Students who wrote about the lack of preparation mentioned the following:

My lack of education from my high school years

The work load, in high school I never had to bring that much homework home

More views about this groups preparation in high school will be visible with the other questions.

Table 4-12 Non-Advanced Responses to Survey Question One

Q # 1 What has been the greatest challenge in your transition to college academics?

Q 1 Non-Advanced Students	Categories based on codes	Themes
Balance (General statement) Balance Work and Family Balance – work and home Responsibility and work ethic Prioritizing needs Military life to civilian life Non-traditional	Life Balance of being an adult	Students need to develop life skills
Technology Failing in college Lack of preparation	Academic Challenges & growth mindset	Students need to develop academic skills
Pace of Academics Readings and Schedule Write at college level – writing skills Different writing styles Change in Community – small to large Time management How to study Dealing with HW	Academic Skills of reading, writing & time management	

Connection to research questions. The first open ended question gave insight into two of the overall research questions: How do AP and PSEO and IB classes impact student transition and success in college; and Are there differences in how AP, PSEO, and IB impact students for college transition and success?

Students, including those who took both types of courses, AP and PSEO, were not immune to issues in the classroom and outside of the classroom. Students taking these courses expressed a need for better reading skills, improved writing skills, better time management skills and new responsibilities. An interesting similarity was how each group discussed the different teaching methods of their professors. This change represented a possible change in responsibility from high school to college in relationship to the professors and course expectations.

For PSEO students to express concerns over college courses, after taking college courses, is an interesting response, versus the experience of an AP student. This could be due to where the PSEO student accessed their PSEO classes. Some follow up questions would be helpful to determine where the students accessed their PSEO classes and whether or not they transferred the courses. In other words, was there a difference in academics between where the students took their PSEO course, say at a two-year college versus the four-year institution where the survey was administered? Understanding if students transferred PSEO courses, and from where they transferred, would help in understanding the intricacies of responses by PSEO students surrounding course loads.

Survey question two. The second survey question asked students: What courses during high school academically prepared you the most for college? Students generally responded to this question by giving class titles, such a Calculus or World History. The

categories used were based on student responses which lead to four general types of courses categories: Humanities (which included student responses of English, Literature, and Grammar.), Social Sciences (which included student responses of History – U.S. and World, Economics – Micro and Macro, Psychology, Geography), Math (which included student responses of Calculus, Trigonometry), Science (which included student response of Biology, Chemistry, Physics), and other (which included student responses of Agriculture, Business, and Foreign Language). Some students added a fifth category of teacher reputation as a reason for taking the course.

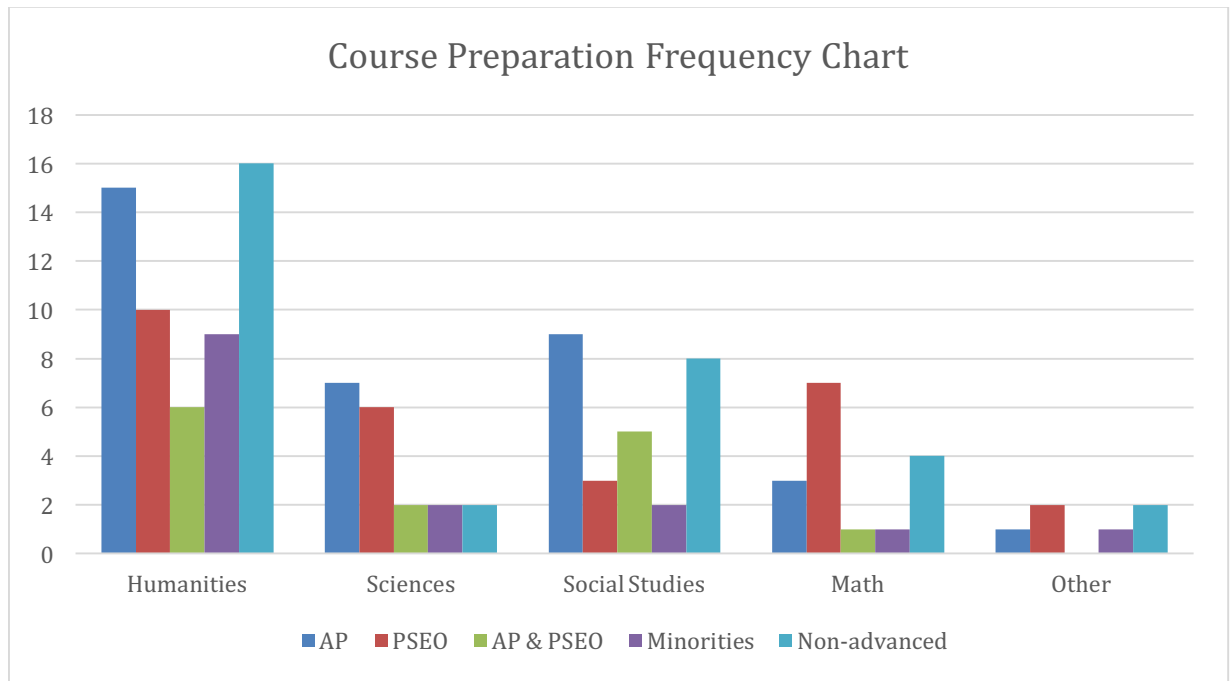
Since the survey did not ask about college majors, there could not be a connection between how many math and science majors versus Humanities majors were represented in the group. As a result, the responses may have skewed towards supporting the students' chosen major. Thus the findings represent the student's feeling the best preparation for their major was the type of class the students had in high school. If the researcher had taken information about the students' college major and cross referenced their responses to their major, it might have given better insight into how the different areas, humanities, science, math and foreign language impacted the students choice of major and success achieved during college. The Humanities may have developed student skills necessary writing and researching skills college academics requires for student success.

Table 4-13 Course Preparation Frequency

Question Two

What courses during high school academically prepared you the most for college?

Advanced Placement Frequency of Responses	Both AP and PSEO Frequency of Responses	PSEO Frequency of Responses	Minority Students Frequency of Responses	Non-Advanced students
Other- Agriculture 1 Humanities 15 Math 3 Sciences 7 Social Sciences 9 Teacher (Reputation) 2	Humanities 6 Math 1 Sciences 2 Social Sciences 5	Other- Foreign Language 1; online 1 Humanities 10 Math 7 Social Sciences 6 Sciences 3	Humanities 9 Math 1 Sciences 2 Social Sciences 2 Teacher (Reputation) 1	Other - Business 1 Humanities 16 (English, Writing, grammar, and reading) Math 4 Sciences 2 Social Sciences 8 Teacher (Reputation) 1 Foreign Language 1 Did not prepare 6



Advanced Placement student responses. Students who selected Advanced Placement included the category of sciences in seven responses. For this category, the student responses stating different science courses were all placed into one general category. So if a student responded saying “AP Bio, AP Calculus and AP Chemistry helped the most”. Three responses mentioned AP math (which would be Calculus or Statistics) with specific references to Calculus. Nine students responded with AP Social Studies as the most influential. While the final category of the Humanities (AP Literature and AP Language) had 15 responses. Most responses by the students who selected only AP as their advanced course grouped multiple disciplines together such as the following:

In high school, AP Biology, AP Literature and AP Language have academically prepared me the most for college.

AP Literature, AP Language and Composition, AP World History, and Honors Chemistry.

It appears, based on frequency measures, that this group of students felt their AP Language (Composition) and Literature courses prepared them the most for college academics. This is also supported by the statistical data which shows the highest number transferred credits by students who took AP was in the humanities.

Some former AP students put forth a bit more information about the classes and why they were successful in preparing them for college work. Here is a sample of their responses:

British Literature, Sociology, Calculus: it was mostly the teacher and how they ran the class that had the greatest impact

The courses where the teachers cared about the students and helped to gear us

towards a collegiate level workload.

These expanded responses show the intent of this question, which leads into the third survey question asking how these courses help prepare students.

PSEO student responses. The students who took Post-Secondary Education Options, responded similarly to that of AP students. Their responses included specific courses in the following frequencies: 10 listed Humanities as most helpful, six named the Social Sciences, and seven designated math as the most helpful. For this group, Humanities courses still prevailed as the best preparation course to take, while math, specifically Calculus, was second in preparation for college course work. Social Studies courses for PSEO came in third. Two students presented unique ideas that did not show in other responses. One was the method of course access, and the other was how they felt after taking PSEO courses:

All of the online courses that I took through [specific two year college].

For the last two years of high school I took only college credit courses so when I came to college, I felt like I was already a college student.

I took a lot of college in the high school [CIS] whatever that's called at my high school. These courses were very independent based, and so I felt very prepared for college. My American History college in the school's course was the hardest class I've ever taken (high school or college) so that prepared me very [well] for college.

For these students, access to online courses allowed for better transition and attainment of credits. As the students mention, being involved in these courses allowed them to be independent and feel like a college student.

AP and PSEO student responses. Of those students who took a combination of AP and PSEO courses, six students responded that their Humanities courses best prepared them for college level work. Five responded their Social Science courses academically prepared them. While two students stated their science courses prepared them the most. The least frequent response was math stated by one student. Students who did not take advanced courses. The students who did not take advanced course work also mentioned a similar list of courses as the AP and PSEO students stated. For the students who did not complete AP or PSEO, the highest vote total going to the Humanities, which compromised courses listed as English, writing, literature, and grammar. These courses may have helped develop the students skills and discipline for success in college.

From this group, six students stated that their high school courses lacked in preparing them for college level work. One student wrote, "I'm not positive my high school prepared me for college"; while another wrote, "None, I didn't feel prepared by any at all." A few students just wrote, "non." So the AP and PSEO students felt more prepared for college level work, but students who took regular level courses did not feel prepared.

Connection to research question. The student responses lean towards Humanities courses having more of an impact on their college preparation. There is not a specific connection to the development of academic skills, but being prepared may allow for greater persistence and success at the collegiate level.

Survey question number three. In answering the third research question, which deals the impact of advanced courses on underrepresented groups, only the student

responses who selected non-white were evaluated. This allowed the researcher to better glean specific help the advanced courses provided for the population. These responses were then reviewed as a separate group to analyze if there was different information to be gained from just evaluating this group. This division of responses is to help evaluate each group to see the potential impact of the various options.

Question three of the survey, asking how did your high school classes prepare you for success in your college courses, attempted to pull out skills and attitudes that were developed in courses that the students found helpful in their transition to college academics.

AP student responses. Of the AP students, 14 listed themselves as receiving free and reduced lunch while in high school. This group responded that these AP courses developed skills, rigor and organization. The specific skills the students mentioned were related to writing and thinking skills. Here are what some of the students said for their skill development from AP courses:

These were the only two classes that really made us critically think; the work done in those classes was meaningful and not just there to keep us busy.

Taught critical thinking, reading and writing skills

My English classes helped me be a better reader and writer. My AP US History class also helped me think more analytically.

The responses for these AP students focused on critical thinking, writing, and analytical processes.

The second category most students identified was writing. AP students felt that writing was a key skill developed during their high school courses. Here is a sample of

what the students said:

My English classes helped me be a better reader and writer. My AP US History class also helped me think more analytically.

I was expected to write collegiate papers.

I was prepared to handle the level of reading and writing that was expected of me as a college student.

I was taught how to write a proper paper, and practiced it many times while still in the comfort of high school.

It helped me with my essay-writing skills because I wrote many my junior and senior year

Learning how to research and frame a paper well was a great skill that has helped me in many academic avenues within the college setting.

Let us be independent. Make us write papers

The final category of responses some students discussed is how their AP courses helped with organization:

They prepared me to never give up and manage my time!

They set up a routine of homework and readings due for each class.

They taught me how to effectively study and take charge of my own learning

The organizational skills developed by students also hinted at the idea of persistence – never give up!

A few students mentioned their AP courses were more difficult than their college courses. These responses were not frequent enough to be a separate category, but stood out. Here is what this group of students said:

My [AP] high school classes were harder than a lot of my gen eds in college. The writing

and reading I did in high school prepared me very well because I was held to a higher standard in high school than college for the most part.

The [AP] work load was almost more than in college so college seemed easy.

This aligns with the researcher’s anecdotal experience with students who took AP classes and also took PSEO courses, who commented that they felt the AP courses were more challenging than the PSEO courses. In the researcher’s experience the students rationale for taking the PSEO courses was to get an easier grade and guaranteed credit.

Table 4-14 AP Students Responses to Survey Question Three

Question 3 - How did your high school classes prepare you for success in your college courses? (Explain)

Advanced Placement Codes for Student Responses	Categories based on codes	Themes
Independent Responsibility Organizational Skills	Life skills	AP Developed necessary academic skills and independence for collegiate success
Research Rigor Skills Thinking Writing	Academic skills developed	

PSEO student responses. Students who took PSEO courses identified three categories in response to the question. The two categories are: challenge and the developing specific skills for success in college. The first category PSEO students reported was about how their regular level courses were much easier than the college courses they took in PSEO. Here is what was said:

Any high school course [Non-AP or IB] I took that wasn't college credit felt easy

and didn't take a lot of effort so I feel that the high school courses could have worked harder to prepare for college for the students who weren't taking college credit classes.

High school classes [Non-AP or IB] did not do very well to prepare me for college the closest course to a college course was mathematics.

In the researcher's experience, students who took advanced courses, both AP, and PSEO courses have expressed a similar idea. Many do not want to go back to regular educational classrooms, once they experience AP, or PSEO courses.

The second category of responses is regarding the development of persistence towards academics. Students reported:

They [PSEO Instructors] prepared me to never give up and manage my time!

[The PSEO courses] Gave me the back ground to work on coursework and stay on top of assignments.

Helped me to become a harder worker.

This may show that PSEO courses helped better prepare student for the long term commitment of a college education. Statistically, differences between AP and PSEO students did not show in the survey question on dealing with challenges but subtle differences appeared in the answers to this question.

The final category for PSEO students dealt with the development of specific skills to be academically successful. Here is a sample of the responses in this category:

My high school classes [PSEO] taught me that the work I turn last minute is never going my best and that my best work can always be improved on.

My high school courses [PSEO] taught me critical thinking skills that I needed

when entering college.

[PSEO] Taught critical thinking, reading and writing skills

These were the only two classes [PSEO] that really made us critically think; the work done in those classes was meaningful and not just there to keep us busy

It seems that both AP and PSEO students felt they developed their ability to think critically, improve their writing skills, and become more organized during their high school advanced coursework.

Table 4-15 PSEO Responses to Survey Question Three

Question 3 - How did your high school classes prepare you for success in your college courses? (Explain)

PSEO Codes for Student Responses	Categories based on codes	Themes
Grit Responsibility	Persistence	PSEO students developed necessary academic skills and independence for collegiate success
HS Was easier Regular courses (were easy)	Regular level HS classes were easy	
Rigor Rigorous Coursework Due dates Demanded good work High Expectations	Rigor	
Reading demands Writing Study Skills Academic Skills Time management Organizational skills	Academic Skills	
Critical Thinking Thinking Thinking Thinking	How to think	

AP and PSEO student responses. The few students who took both AP and PSEO courses responded similarly regarding organization, critical thinking skills, and writing

and reading, but there were some additional details about the environment in which they studied. Here is what they said:

I think the ability to make my own schedule and get things done was the most important skill I learned in high school. This was not a specific class, just school in general.

They [the instructors] treated us more like adults and made sure we knew we were responsible for our learning but were flexible. I knew I had to turn in my assignments on time since there was no late work accepted but if I missed one assignment they would make an exception since it was just one time.

Practicing more independence with developing one’s schedule helped students develop necessary time management skills necessary for collegiate academic. There was also an element of how they were treated during the course and the teacher’s expectations – placing the responsibility on the student and being treated as if they can handle the responsibility. This question offered the students that chance to compare and contrast the different types of courses they took while still in high school. Future research would offer the opportunity to conduct interviews, and to flesh out the potential of this question for students who took both types of courses to compare the two programs.

Table 4-16 AP & PSEO Responses to Survey Question Three

Question 3 - How did your high school classes prepare you for success in your college courses? (Explain)

AP & PSEO Codes for Student Responses	Categories based on codes	Themes
Accountability	Accountability	AP & PSEO Developed necessary academic skills and independence for collegiate success
Grit Rigor Diligence Independent	Persistence	
Skills Thinking Organizational Skills	Academic Skills	

Students who did not take advanced courses. The students who felt their high school prepared them for college academics focused on three topics: reading, writing and critical thinking. Participants mentioned that English and history courses were helpful in their development of skills for college. Along with the reading and writing skills, the next common idea was developing their ability to critically think about topics.

A few of the students, mentioned the expectations set by the teacher. If the teacher set high expectations, they became motivated and willing to put in the time.

Table 4-17 Non-Advanced Responses to Survey Question Three

Question 3 - How did your high school classes prepare you for success in your college courses? (Explain)

Non-Advanced course students	Categories based on codes	Themes
Expectations of class Expectations of teacher Independence	Classroom Expectations	Teacher expectations for the class and planning help prepare students for college work.
Exams Long readings Readings Assignments Writing	Assignments	
Grammar/Writing Critical Thinking Background Info Teach self Research – How to Group Work	Skills	High school courses prepare the necessary reading and thinking skills for college work
Ask Questions Critical thinking/formal Thinking Research Writing	How to think	
They didn't prepare me	Not prepared	High school classes did not prepare students

Connections to the research questions. Student responses presented a picture which was helpful when answering the first research question about what effect AP,

PSEO, IB classes have on student transition to college academics and success in college. The answers were similar for each of the advanced high school course types. According to the students, advanced coursework helped in the development of academic skills such as writing, critical thinking, and organization. This is not saying that students who did not take an advanced course did not learn similar skills. The students who took advanced courses noticed the need for these skills earlier so they could academically survive in an advanced course and felt better prepared for collegiate academics. Students who took advanced courses had more practice using the skills necessary to be successful in college academics.

A difference between AP and PSEO arose when students discussed their perception of course difficulty. Some AP students felt their AP high school courses were more difficult than their introductory college courses, while the PSEO students felt their high school courses were easier. Therefore, the student's choice to take the PSEO courses was a positive experience in their preparation for college in relationship to their other high school courses.

Survey question number four. Question four attempts to obtain a bit of reflection from the students about college experience. The question asks, what do they know now that they wish they had known coming into college?

AP student responses. The most frequent category of responses for AP students was related to professors. The category was created through comments about the difference between how a college professor works with students in class, compared to how a high school instructor works with students in class. Here is what they had to say:

Most college courses are all about giving the professor what they want, limited freedom of ideas.

It is difficult to stand out in a lecture class, but it is important to develop relationships with your professors.

That some professors, no matter how intelligent they are, are terrible professors.

The relationships you develop with professors are some of the most important things you can do during your time there.

The syllabus contains more than random curtsy rules and grade scales written by the teachers.

You have to be a very independent learner. No one holds your hand to make sure your work gets done in college.

Understanding the different teaching practices of the collegiate environment and abilities is a challenge for any student who transitions to a college environment. Differentiating the settings could help minimize the challenges students face in dealing with various teaching styles and differences from high school. This could be supported by the high school teachers or college advisors. AP students also mentioned issues with advising. Here is what they said:

Do more internship, job shadowing, do more study abroad.

I wish I knew the requirements and pre-requisite classes before you can take some of the higher level classes.

I wish I would've come in with an undecided major.

Former AP students have discussed with this researcher the challenges of being in upper division courses. They felt it was a challenge at the start of college, working with

professors without having a more established relationship like the other students who took introductory courses with the professors and were mentored from the beginning of their course work.

Another response given by students who took AP was how easy college was compared to their high school classes. The frequency of these responses was not high, but it was supported by previous research in to the impact of AP. Here was what AP students felt about their college courses:

College classes are easier to pass than AP classes in high school.

How much easier college would be than high school was for me.

A consideration to make when interpreting these responses was that most high school days are structured so classes meet every day for the same length of time. Students have very little free time, as compared to college students, to be able to get work completed. This rigid, daily experience, makes it more difficult to get coursework completed, and may cause AP students to feel their high school work was more challenging.

Table 4-18 AP Students Responses to Survey Question 4

Question 4 - What do you know now that you wish you knew when you started college?

AP Student Responses	Categories based on codes	Themes
Degree Expectations Undecided Explore Grades Study what you enjoy	Advising Needs	AP students still need academic and emotional support along with understanding life in college.
Not Scary Don't Rush Gap Year Enjoy	Be Calm	
Personalities Professor Relationships Professors are not good teachers Professor's ego	Professor's teaching styles and expectations	
Readings How to study Time management Teach yourself Technology Writing Attendance (Needed)	Academic Skills of study skills, life ling learning & time management	

PSEO student responses. Post-Secondary Option student responses were of a greater variety which made determining a common thread less clear. There was one comment on professors, “Professors are not like high school teachers” and the student responses were more about giving advice to others:

That college is important but that it is not quite as difficult as they say. If you take your time, put forth the effort, and care, college will be easier than you think.

That it's not at all like high school. You have to work much harder. Fun comes after your school work.

That putting an effort towards class isn't difficult and you need to try no matter what. A bad grade can haunt you for life.

That there is lots of required reading and you need to take people seriously when they give you advice because your going to need it.

For this group, the question elicited more of an advice to future college students, versus dealing with ideas they still needed to learn once on a college campus. Their underlying advice was to stay committed and put forth the effort in class and for class.

Table 4-19 PSEO Responses to Survey Question Four

Question 4 - What do you know now that you wish you knew when you started college?

PSEO Student Responses	Categories based on codes	Themes
Easy - @ first Tech College was too easy Grades matter It's not HS Professors aren't HS teachers	Advising Needs	PSEO students still need academic and emotional support along with understanding life in college.
Friends/Social Manage time	Be Calm	
Put in effort Manage Homework Mange time Reading skills Responsible – Get Work Done Responsible is on you Academic Skills How to study better Work Load is more Professors aren't HS teachers	Academic Skills	

AP and PSEO student responses. For the group of students who took both AP and PSEO courses, there were fewer responses, but some notable ones. The responses dealt with similar issues, such as professors, and advising:

Most classes in college are filled with busy work, professors aren't always great teachers even if they're accomplished, and it's extremely expensive

That it [college] wouldn't be as hard had AP classes

I wish I would have known how to schedule my classes better. I have taken a full load every semester and brought a semesters worth of credits in but I will still graduate late because my classes in the education department are always conflicting with my classes in my subject matter department.

Not to get so overwhelmed. Everything will get done, there is no need to be stressed all the time

Students who took both PSEO and AP courses have insight for students, that advising needs are still necessary, and that college is manageable.

Table 4-20 AP and PSEO Responses to Survey Question Four

Question 4 - What do you know now that you wish you knew when you started college?

AP & PSEO Codes for Student Responses	Categories based on codes	Themes
Scheduling Degree Expectations AP is harder	Advising Needs	AP & PSEO students need continued academic and social support in their transition to university academics.
Be Calm Enjoy	Be Calm	
Homework Manage Time Study Skills Mistakes	Academic Skills of study skills, life ling learning & time management	
Professor ego	Professor’s teaching styles and expectations	

Students who did not take advanced courses. Many students who did not take advanced coursework wished they had known how to study and manage time better coming into college, as well as asking faculty for help. This student’s response encapsulates the overall theme of skills and relationship; “How to write long research papers. Think critically of my research and what I learn in the classroom. Studying skills and management. Communication with the professor is encouraged and important.”

Table 4-21 Non-Advanced Responses to Survey Question Four

Question 4 - What do you know now that you wish you knew when you started college?

Non-Advanced course students	Categories based on codes	Themes
Improve study skills Time Management Had better academic skills Knew about amount of work outside of class Technology Navigation Improved writing skills	Academic skills	Students need support in developing their life skills
Talk with professors Ask for help Ask Questions Navigate college process Class choice	Self-Advocacy	
Finances Living situations figured out	Life Skills	
Taken more math Taken college classes sooner Don't be intimidated Harder than HS	Take course to better prepare for college	Advanced courses may help develop students mind-set for college
Being challenged is ok Positive mindset Desire to go (not for others) Effort is success More challenging than thought it would be	Mindset for college	

Connections to the research questions. When the students were asked to reflect on their transition to college academics, the student responses focused on answering the first research question - What effect, if any, do AP, PSEO, IB classes have on student transition and success in college? The answer focused on the advising process and issues surrounding this advising. Taking advanced courses does not end the need for advising, but changed the type of advising necessary for students who bring in credits from AP, PSEO, and IB programs.

Survey question number five. The final survey question asked students if they took two types of classes (For example AP and PSEO) why did they take both? The responses were reviewed as the entire group of respondents, because each group responded with similar ideas. Some students took PSEO to guarantee credits, while taking AP for more rigor. Here is what the students wrote:

AP focused on cramming for one final test and was the only option for some of the courses but when pseo/senior to sophomore classes though [college name] were available I took them, having a final grade and credits earned based on the entire course and not one test is much more reasonable and less stressful.

AP history was offered in person, pseo courses were offered online.

AP was more work and you needed to get a specific score depending on the college, I wanted a free year of college as well.

I did college in the schools and AP because I wanted to take as many college level classes as possible.

I didn't take any AP classes because they were way too much work and i didnt get any credit if i didnt pass the test at the end. I chose PSEO because i could get more credits and it didnt all depend on 1 test at the end. Honestly im not sure why anyone would take any AP classes when they can do PSEO.

I only took AP and Advanced classes, because the normal classes didn't challenge me at all.

I only took CIS because it was a college level course and I received credit for completing the class in school. I didn't have to take a big test at the end.

I saw taking AP/CIS and pseo courses as an opportunity to save money

I took all my college credit classes so that i save money in college.

I took AP to gain more knowledge in the content area I was thinking of pursuing.

I took this class at the same time as PSEO because I wanted to have a specific number of credits before going into college.

To recap, students wanted to get college credit. Not all of them mentioned saving money. Some responses went further to suggest a difference between AP and PESO which is the risk of an AP exam, verses a semester’s worth or work in a PSEO class is guaranteed to count if you pass the course. Some students did not want to risk credit acquisition on one test, but would rather take a college course for the credit. Access to one type of course over another might be the key difference of this view. If students only had access to AP or only access to PSEO courses, they would not know the difference. For those students who have a choice, they may lean towards taking the PSEO option.

Table 4-22 AP & PSEO Answers to Survey Question Five

Q5: If you took two types of classes (For example AP and PSEO) why did you take both?

Advanced Placement and PSEO Codes for Student Responses	Categories based on codes	Themes
Credits easier in PSEO AP is harder Credits easier in PSEO Credits for college (9 repeats) Save money	Ease of credit Acquisition	Motivated students for college.
Fit in/Social More fulfilling No exam (If taking PSEO) Stay in HS (If taking AP) Talent fit	Personal Benefit	Enjoyment of the academic challenge.
Online (access) Schedule	Access	

Survey results for underrepresented groups. For this question - How did AP, PSEO, and IB courses impact underrepresented students the first focus area is on

responses from the 15 students who listed themselves as non-white. Of this sample, six students took AP classes, seven took PSEO, and two took IB. Since the two IB students were international students, their answers are not considered in this review. For the group of students who listed themselves as receiving free and reduced lunch, there were 17 who took Advanced Placement courses, and 10 who took PSEO courses.

When asked what has been the greatest challenge in your transition to college academics, these students commented more about how college courses were more difficult in work load and rigor with specific mention of exams while in college. Here are some of the responses:

The amount of coursework is higher in college.

the amount of hw [Home Work]

The course load.

The tests are harder than the tests that I took in high school.

The tests that i took and the different teaching styles of teachers.

The work load, in high school I never had to bring that much homework home

For the second question, what course during high school academically prepared you the most for college, the group responded with a greater emphasis on English and writing courses which were completed in high school. A close second was Social Studies, with specific references to courses in history. This question was connected to question number three, which asked how did high school courses prepare you for college academics.

For answering question three, how do AP, PSEO and IB classes in particular impact underrepresented students (low SES or minority), the students had similar result

to the entire group, which was focusing on skill development such as writing, reading, and being organized. A difference for this group was the development of a successful attitude, which led to their success. Here is what was said:

They made me realize that it was all on me and that they were not there to hold my hand.

They prepared me to never give up and manage my time!

They were the only classes that expected higher expectations for me personally.

My high school classes taught me that the work I turn last minute is never going my best and that my best work can always be improved on.

For these responses, the use of the word “they” could be the courses, or it could mean the connection with the teachers and the teacher’s impact on the student. These classes offer the skills and academic challenge necessary for success, but also the instructor who can help teach the skill of writing and persistence for later success. For specific skill development, in high school classes, the student primary response was their development of writing.

These classes helped give me an idea of what to expect, also helped develop my writing skills.

They gave me writing, reading, and discussion skills.

Trained me to write well.

Writing was seen by this group of students as an important skill that was developed during their time in high school, not surprisingly different than other students.

Table 4-23 Minority Students Responses Survey Question One

Q # 1 What has been the greatest challenge in your transition to college academics?

Codes for Minority Student Responses	Categories	Themes
Balance – Online work & family Balance – School/life/work Balance – work/school Balance School Demands Freedom Freedom –being responsible Money – Finances Manage Time	Life Balance of being an adult	Students need to develop life skills
Course Load - HW Course Load – harder exams Failure in college Tests are harder	Academic Challenges	Students need to understand collegiate academic expectations and styles of teaching.
Teaching styles different Professors Work load of course	Professor’s teaching styles and expectations	
Technology – D2L Time management Critical Thinking - Skills Manage Time Studying – habits Writing academic papers Writing at College Level	Academic Skills of reading, writing & time management	Students need to develop academic skills & understanding of importance of the process.
Motivation Motivation – stop procrastination Motivation Lack of Responsibility of self	Motivation and commitment	

So when asked, what courses during high school academically prepared you the most for college, the responses mirrored the overall group’s responses to the question about which course prepared them academically for college. Not knowing the majors of the students made it difficult to determine if the responses are due to their chosen major or if the humanities courses did best prepare the group for college academics.

Related to which area best prepared the candidate for college academics, was the question how did the courses prepare you? This group of students mentioned their high school courses held them to high academic expectations, the teachers did not hold their hand, and did not let the students quit. The following are codes of the respondents to the question:

Table 4-24 Minority Responses to Survey Question Three

Question 3 - How did your high school classes prepare you for success in your college courses? (Explain)

Codes for Minority Student Responses	Categories based on codes	Themes
High Expectations No hand-holding Effort Challenging Academics	Rigor	Minority students developed necessary academic skills and independence for collegiate success
Never Give-up No hand-holding	Persistence	
Reading Writing Researching Thinking Skills	Academic Skills Developed	

Each group of students were challenged by their advanced coursework which allowed them to develop the skills and understanding for academic success in college.

Conclusion

This research did not show definitive differences in the development of a student’s academic persistence and how it impacted their transition to college academics. It did show that taking Post-Secondary Education Option courses allowed students to transfer the greatest amount of courses within the setting of this research. A different setting could lead to a different outcome. The research also found the content area students self-selected as the most beneficial in their transition to college academics was in the humanities, specifically literature and writing classes.

Some Advanced Placement students found college academics to be easier than the course work they took while in high school, while Post-Secondary students found greater challenges once they encountered full independence of college classes revolving around life and academic balance.

The results of this research show an interesting and un-intentional piece of information about college transition – the impact of professors on students. Many students felt that professors' teaching styles and the collegiate setting to be difficult academically. Students felt this was due to college being a less supportive an environment than their previous schools, especially for students who took AP classes. All of the groups realized while in college, the complexity of life - balancing work, funding, and course work - to be challenging.

An intriguing omission from students' comments is that no student mentioned being able to apply their AP or PSEO credits to achieve minors, majors or have early access to graduation or other benefits of being upper classmen. This might support the need for specialized advising for student who took and transferred AP, PSEO and IB credits.

Chapter V: Conclusion & Discussion

This study was an attempt to answer the following research questions: What impact, if any, do AP, PSEO, IB classes have on student transition and success in college academics? Are there differences between how AP, PSEO, and IB impacts the development of academic skills and the transition to college academics and college success? And lastly, how do AP, PSEO and IB classes in particular impact underrepresented students (low SES or minority) and their transition to college academics?

There are many inputs that influence a student's transition to college life ranging from family background, generational status, socioeconomic conditions, and academic preparation during the student's time in high school. These influences are interconnected, difficult to isolate, and challenging for institutions to help students to overcome barriers to academic success. These challenges associated with academic development and college transition force researchers to look at specific, quantifiable measures such as grade point averages, ACT or SAT scores, composite AP scores, and grade point averages from both high school and from college in an attempt to establish a student's academic success in their first year of college.

As a teacher of the Social Studies, I have devoted the majority of my career teaching Advanced Placement Courses to high school students. I have attended numerous trainings, researched, developed supports for my students in literacy skills, and nurtured habits to bring them success. I have seen many success stories with my students and dedicated much of myself to promote this program.

My initial quest in pursuing this research was to find out the impact of Advanced placement courses on my former students' transition to college academics, specifically, how my AP World History course impacted my former students' transition. Many former AP students would come back to high school to visit with their former teachers. Our conversations would start with how they felt the academic challenge was for them in college, and how did we help them be prepared. Many students would comment that they felt their college courses were easier than the AP courses they took while in high school. Many students responded that they felt well prepared, and even if they still felt challenged, they knew how to handle the academic demands.

These conversations spurred my research to find out how beneficial AP can be for students, because I believe in what AP has to offer. This began a quest to improve my instruction for these students, not only in the content area of the AP course, but also in skills to help manage the content, such as time management, study skills, and understanding college life. Improving a student's ability to deal with the academic challenge, and to develop the skills necessary for college and life success is important to me in my classroom. I observed on a few occasions, that if I was able to get a student to believe in themselves and that it was acceptable to be challenged, they stayed in the course. Can AP help promote an academic mindset, and can long term commitment to a challenging course load help better prepare students for academic life after high school? This research was essentially done to help my students and my own children, as I now can see the impact these courses have on students from the perspective of a parent.

Conclusions of Research Questions

Research Question Number One: What impact, if any, do AP, PSEO, IB classes have on student transition and success in college academics?

For this part of the study, the measurements used for success and transitions were transfer of credits, content area influence, and grade point averages of students.

Transfer of credits. This research found that students who chose to take PSEO classes transferred more credits than students who took AP courses. These results are not in line with access, where AP has greater accessibility for high school students, compared to PSEO.

If the number of credits then transferred from advanced high school programs is a measure of academic success, PSEO students were more successful. This success may also create some unique challenges. Transferring more credits could lead to earlier graduation times, easier access to upper division courses in a student's major, and give earlier access to better campus housing and other campus resources. It may also create problems by forcing choices earlier in a students' academic career at an institution for which students may not be prepared. Previous research (Pennington 2004) has shown that early credit accumulation does not necessarily lead to early graduation or increased graduation rates.

In this study, PSEO students discussed the challenges of working with professors. Bringing in credits and bypassing introductory courses may lead to weaker relationships with professors, especially if the credits were earned at one campus and transferred to another. Students in these situations do not have the longevity with professors or frequent contact with them to build positive relationships, therefore challenges associated

with finding a sense of place on campus may be greater if a student earns credit at one institution and then transfers to another to complete their degree. If students transfer institutions, this limits the student's time on campus to make connections, which could be a detriment for potential long-term success.

Content area influence on academic transition. Whether or not credits were transferrable, in this study, all groups of students felt their skills necessary for college academic success were most developed in the humanities courses. The skills developed in these courses focus heavily on writing and research. This does not say that the STEM courses did not help, but students mentioned that the writing and researching conducted during their humanities courses had the greatest impact on their success in college.

Previous research supports this data. The report, *General Education in School and College*, (1953) focuses on English, both literature and grammar, as a major focus to help prepare students for university work at Harvard, Yale and other east coast Ivy league schools. The committee, who wrote the report, stresses three areas to be developed for college readiness. These ideas connect writing as a reflection of thinking and capability for college success. The committee states:

Responsibility for the Development of Language Skills

1. The ability to organize and express ideas is not a skill which is acquired at a given age and then simply put to use; it is a function of the total growth of the mind and must develop as experience of life broadens and deepens. ...
2. The central concern of a school Department of English is with means of verbal communication and with the clear thinking inseparable from precise use of language, a common requirement of all subjects. Therefore, this

department stands at the center of the program, with peculiar responsibility for helping to promote the transfer of power from one field to another, ...

The students in this study agree that their Humanities courses had the greatest impact on their ability to handle the academic requirements of college. This aligns with and substantiates the research of *The General Education in School and College* (1953).

Grade point averages & academic success. This study collected college grade point averages, and in this research study, there was no statistical difference between the groups of advanced students' self-reported grade point averages. These findings are similar to research completed by Trina Thompson and James Rust (2007). Their findings were that AP students did not get higher college grade point averages than others in college. The research for other advanced courses, such as PSEO and IB, has not had extensive review of grade point averages within their programs and college success. However, this study shows that GPA for about half of the advanced students, 46.2 % were reported at 3.5 to 4.0. For PSEO students 12 of the 28 students or 42.8 % were listed at the same level, and for AP students 27 of 48 or 56.2 % of the group also self-reported at 3.5 to 4.0.

Research Question Number Two– Are there differences between how AP, PSEO, and IB impacts the development of academics and the transition to college academics and college success?

To answer this research question was to evaluate the students' reporting on academic challenge, the challenge of college transition, and the satisfaction of how high school courses prepared students for this transition. There was no significant statistical difference between any of the groups studied.

Students who are motivated to take on the challenge of Advance Placement Courses, Post-Secondary Courses, or International Baccalaureate may naturally have higher levels of persistence and higher grade point averages, because of their commitment to the challenge. Students who took AP and PSEO classes have an expectation to continue their education.

The challenge in measuring differences in persistence, or attitude, via the self-reported GPA, is that it is not specific. Paul Tough, in his book, *Helping Children Succeed* (2016), states:

What is frustrating to those who want reliable measures of these newly important skills is that it is quite difficult to isolate and define, using the blunt instrument that is a student's GPA, what exactly enable her to succeed. And in the current educational-policy environment – in which accountability, based on empirical data, is valued so highly – if you can't clearly identify and measure skills, it's hard to convince people to take them seriously" (p. 66-67).

Measuring the development of these abstract skills is difficult when the groups being evaluated chose a different path to achieve academic challenge and success. This study chose to have students self-report their grade point averages. For future research about college transition, other methods of acquiring this data in a less subjective manner might be more accurate.

Research Question Number Three: How do AP, PSEO and IB classes in particular impact underrepresented students (low SES or minority) and their transition to college academics?

For this question - How do AP, PSEO and IB classes in particular impact underrepresented students (low SES or minority) and their transition to college academics, this group's qualitative answers were the most insightful. Their responses focused on coursework such as taking exams and the challenge of increased academic work load while in college versus during their high school experience. The ideas presented in this group's response is counter to what other students mentioned, which dealt with relationships between students and professors.

In previous research, a study conducted in California, by the Concurrent Courses Initiative (James Ervine, 2012) minority and low income students who took dual enrollment courses in California were more likely to achieve college success. Here is what the report had to say:

Extensive evaluation shows that program participants, compared with other students in their districts, were:

- More likely to graduate from high school
- More likely to transition to a four-year college rather than a two-year college
- Less likely to take basic skills courses in college
- More likely to persist in postsecondary education
- Accumulating more college credits

Research surrounding advanced high school courses from Adelman (1999) shows that successfully completing challenging courses during high school gives students more

success to completing college courses and degrees. Swanson (2008) also found that more rigorous high school classes lead to greater persistence in degree completion and limited the impact of socioeconomic status, race, gender, or challenges brought by first generation students. Research, to this point, says that students who are from under-represented groups, are a first generation college student, or from a lower socioeconomic status, should take an advanced course while still in high school. Taking any advanced course, before entering college, will lead to a better understanding of what it takes to be collegiately successful. The challenge is access to advanced coursework and having appropriate support while in an advanced program.

Counter to this is Klopfenstein's (2001) research into the impact of Advanced Placement. Klopfenstein (2001) found that income level of the family had a greater impact on student success over taking the advanced course. Generally, much of the research into the impact of socioeconomic status relates to acceptance into college as a traditional student and does not study the impact of PSEO access and impact on low socio-economic status.

Discussion

Impact of Research

The quantitative research did not find any statistically significant difference between the advanced courses and how they prepare students for college academics. This lack of difference may also say that students in these programs had the opportunity to challenge themselves and develop the skills and content knowledge to be successful. Each program offers a different culture or environment for a student's academic development and as a group of offerings may meet different student needs.

The qualitative research outcomes led to more interesting outcomes which brings the ideas that while each group of students took a different and challenging academic path, they all faced similar challenges in their transition to college life. Here the information from the students may lead to suggestions for those teaching and dealing with college transition.

Limitations of the Study

The size of the study group and the type of institution used are limitations of this study. Having a larger pool of students who completed AP, IB, and PSEO courses could give better insight into the impact these courses had. Using interviews to investigate the impact of each type of course could lead to richer information on the students' transition to college academics.

The subjects were education majors, which also limits the impact of the study. As future educators, they may have a different view of their education, their purpose, and the impact that process has had on their education.

Suggestions for Practitioners

Importance of writing and critical thought. Reported by the subjects of this research, the skills being the most effective for college success were writing and critical thinking. Offering students any advanced options will help develop critical reading, writing, and discussion skills necessary for collegiate success. In a more recent study conducted by David T. Conley (2009) in his policy paper for the Oregon's Educational Policy Improvement Center supported by the Bill and Melinda Gates Foundation, states there are four key areas that are needed to be developed for easier college transition. These areas are cognitive, content, behavior, and contextual awareness:

1. Key cognitive strategies describe the ways of thinking that are necessary for college-level work. They include: problem solving, inquisitiveness, precision/accuracy, interpretation, reasoning, research, and intellectual openness
2. Key content knowledge refers to the need for students to master writing skills, algebraic concepts, key foundational content, and “big ideas” from core subjects in order to be college ready.
3. Academic behaviors consist largely of study skills and self-monitoring. Examples include time management, awareness of one’s current level of mastery, and the selection of the learning strategies.
4. Contextual skills and awareness, or “college knowledge,” refers to the understanding of college admissions processes, college culture, tuition and financial aid, and college-level academic expectations

These programs, such as PSEO, AP and IB, are structured and supportive with high expectations for writing and critical discourse. This required writing is formalized and helps show the specific thought process and learning for each content area.

Passion and persistence. If all educators are to help create academically committed students, which can lead to greater academic success, educators need to be deliberate in building this in their classrooms. According to Thomas Hoerr (2017) there are six steps in forming skills for success which could be in a first-year seminar, imbedded in general education courses, or in high school courses. Each academic choice teachers make can form grit in students and can be aided by following the next six steps. The first step is establishing the environment. Here the focus is on psychological development of students – establishing that they are in an advanced, or college level

environment. Each option AP, and PSEO achieves this for students-students know going into the course they will be academically challenged.

The second area that nurtures success is setting the expectations. Again, each course or setting will create the expectations of academic work for the students. Part three is teaching the vocabulary of the content area and the vocabulary necessary for college transition to help students understand. Part four includes the creation of a learning situation where frustration, and failure, are a part of the learning process. These types of academic situations can be achieved by choosing advanced courses and academic challenge which AP, PSEO and IB offers students. Step five is monitoring the experience. The monitoring is dependent on the instructor and how the students are supported to be successful in meeting the academic needs of advanced courses. This support can lead to students developing academic grit. The final area is student reflection. Here, is where the teachers can help the students establish goals, discuss steps in reaching these academic goals, and have students reflect on their thinking in class. Teachers can develop AP, IB and PSEO classrooms that foster thinking, and demonstrate the thinking process in the courses (Ritchhart, 2015).

Advising. According to Edmonds and Squiers (2016) having proper advising for students during their high school period and once in college, would allow students to take advantage of their credit accumulation through PSEO, AP or IB courses. The findings of this research support the use of advising for students who took advanced high school coursework. Currently, institutions do not have sufficient support systems in place for students who take advanced coursework. They state:

Although programs allowing secondary students to earn college credit before high school graduation are now widely available in various form around the country (Chapman 2001), most programs do not have structured services in place to help students understand the programs and use these credits effectively. These services that guide student toward a seamless transition from high school to postsecondary education are best delivered between the concurrent enrollment program and high schools... Transitional advising is the individual guidance students need to maximize the benefits offered to them through concurrent enrollment program, ... (p. 86-87)

Being able to advise students about the importance of college credits, transitional challenges, and the overall impact college has on students is necessary to take advantage of the advanced coursework taken by high school students. How students are advised is a key to student taking full advantage of the credits earned through advanced coursework. Having advisors who are able to understand the impact of credit accumulation and how they will fit into the student's program will help improve the experience for the student.

The findings of this study show that some AP and PSEO students transferred enough credits to be incoming sophomores, which means their advising needs will be unique compared to first year students entering with few credits. How can students benefit from the credits and what does it means for college success? One recommendation is to have support and specific advising for students who bring in PSEO or AP credits to maximize the impact of these credits on the student's academic career. A text edited by Edmonds and Squires (2016) written by Brenda Abbot, Tiffany Squires and Jason Alteri discuss the impact of transferring credits and the need of appropriate

advising leads to challenges. They state:

Students who participate in concurrent enrollment programs enter college at an advantage, and students who are properly advised in their program are even better equipped to maximize these advantages. Transitional advising is especially important for low-income, rural, and urban student who may otherwise struggle with college access and opportunity (Karp 2006). If no one is designated to help students understand the value of a concurrent enrollment program, the value of the program is sharply diminished ... Students are better served by a designated transitional advisor, trained with knowledge of the program... (p. 108)

Knowing how to navigate the institution when transferring in credits is a significant piece in the transition to college life and what opportunities these credits offer students. To maximize the value of transferred credits, advising should either assist students to graduate early, or help them attain multiple majors within their undergraduate studies.

Policies for advising students who have attained college credit through advanced high school course work must be modified. It is suggested that colleges evaluate their advising approach for students who bring in AP/PSEO/IB credits to their institutions, and are still the traditional age of first year students. These students must be identified because they have different advising needs. According to credits, they will need to be ready to declare majors and enter upper division courses. Therefore, there is an urgency to be connected to the university. Assumptions of professors in upper division courses are that students are acclimated to collegiate expectations, but these students who have transferred in credits will need more mentoring than the others. Failure to provide this may disenfranchise the students. So, it is suggested that collegiate advising programs

look at helping students make connections with campus faculty.

Another possible suggestion is to make stronger connections between college admissions staff and high school counselors, discussing campus expectations, student support, and identifying advanced students. These discussions may help make the transition to collegiate life better for all students.

Higher education needs to be equipped to deal with AP, PSEO and IB students differently than regular education students. These students will face different challenges during their time on campus and will need support during their transition. As these students bring in credits, these students may have opportunities of which they may not know. With increased credit accumulation, these students may have a shorter time until graduation, which brings challenging questions about majors, the lack of time to build a relationship with professors, and urgency to build a relationship to the academic community. These challenges could be minimized through specialized advising for these groups of students.

Future Research

In an attempt to study the impact my Advanced Placement course had on students, which lead to this research, the comparison of AP to IB and PSEO leads to some future research opportunities. I see three potential future research opportunities.

A research area that may lead to a potential study could be, whether or not advanced programs foster grit in students? An example might be a longitudinally study using Grit Scale from Angela Duckworth (2016) with the study of grit as the focal point of comparison. Following the students long term would help establish the development of grit and academic skills over a period of time. Students could be chosen from different

advanced courses taken during their high school period, and followed to learn the impact this path has on their collegiate success. The outcome could measure effects on transition, degrees earned, time to graduation, and the students' development of grit.

Another study could focus on the AP program and how teachers help develop a student's academic mindset. Evaluating how the teachers help develop grit and growth mindset could not only help to retain students in the AP program, but could impact college performance. This research would commence in high school, but continue to follow subjects thru college.

At the university setting, potential research opportunities would be studying how having specific advising for AP, IB and PSEO students (especially if they transferred credits) could impact the culture of campus, relationship building with professors, time management skills and graduating early. There are many ways this could affect their campus life. This could be done to help build a better relationship between these groups of students and the institution.

Conclusion

Evaluation of how AP credits impacted student transition did not match my initial expectations. I was expecting to find more benefits from having been in AP courses and entering upper division courses and being challenged academically. The results of this study did not show any difference in the impact of AP on college transition. So why should high school still offer AP and other advanced courses?

Any challenging academic course builds student skills, and potential pursuit of college academics. Adelman (1991) discusses that any challenging academic program, while in high school, helps build the skills necessary for college success. Any offerings

for students is better than not offering challenging academics.

This research supports what Adelman (1991) discussed, rigorous high school preparation was good for any student. Regardless of whether students choose, AP, PSEO, or IB, any challenging academic course builds student skills and potential pursuit of college academics. Adelman (1991) discusses that any challenging academic program while in high school, helps build the skills necessary for college success. This conclusion comes more from the qualitative analysis on how students felt prepared for the academic challenges college offers. It is an easy connection to make, that college level courses prepare students for college level work. Finding measurable differences in how each influences the student is difficult to determine.

These courses may not impact the easily measured aspects of academic success such as grade point averages, or ACT scores, but they do allow students to explore and refine the necessary skills to be academically successful during college. A challenge for secondary education is to promote and support students in these programs.

Appendix A – Survey

Academic Survey

Please take a moment to fill out the survey below. The purpose of this survey is to assess your transition to college academics.

<p>Gender <input type="checkbox"/> Male (1) <input type="checkbox"/> Female (2)</p>	<p>Course Offerings Did your high school offer Advance Placement (AP), or International Baccalaureate (IB), or post-secondary options (PSEO) when you attended? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I do not know</p>	<p>College Rank <input type="checkbox"/> Freshman (0–29 credits) <input type="checkbox"/> Sophomore (30–59 credits) <input type="checkbox"/> Junior (60–89 credits) <input type="checkbox"/> Senior (90 + credits) <input type="checkbox"/> Graduate <input type="checkbox"/> Special</p>
<p>Courses Taken I was able to complete the following types of classes in high school – mark all that apply: <input type="checkbox"/> I completed Advance Placement (AP) courses in high school. <input type="checkbox"/> I completed dual enrollment (PSEO) courses in high school. <input type="checkbox"/> I completed International Baccalaureate (IB) coursework <input type="checkbox"/> I did not complete any of these classes</p>		
<p>Transfer of Credits <input type="checkbox"/> I did not transfer any college credits to my current college <input type="checkbox"/> I transferred 6 or less credits to my college <input type="checkbox"/> I transferred 7-12 credits to my college <input type="checkbox"/> I transferred 13 or more credits to my college</p>		<p>GPA Is your college grade point average (GPA)? <input type="checkbox"/> 3.5 to 4 point <input type="checkbox"/> 3.0 to 3.49 <input type="checkbox"/> 2.5 to 2.99 <input type="checkbox"/> 2.0 to 2.49 <input type="checkbox"/> 0 to 1.99</p>
<p>Number of Courses Taken How many AP/IB/PSEO classes did you take in each discipline? Category A: Math <input type="checkbox"/> 0 Classes <input type="checkbox"/> 1-2 classes <input type="checkbox"/> 3-4 classes Category B: Social Studies <input type="checkbox"/> 0 Classes <input type="checkbox"/> 1-2 classes <input type="checkbox"/> 3-4 classes Category C: Humanities (Language Arts) <input type="checkbox"/> 0 Classes <input type="checkbox"/> 1-2 classes <input type="checkbox"/> 3-4 classes</p>		<p>Choices If your high school offered any of these courses and you did not take them, why not? <input type="checkbox"/> Didn't fit into my schedule <input type="checkbox"/> Too hard, too much work <input type="checkbox"/> Not interested in the subject/s</p>

	<input type="checkbox"/> Other _____
<p>Ethnicity Demographic</p> <input type="checkbox"/> American Indian or Alaska native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or Other Pacific Islander <input type="checkbox"/> White <input type="checkbox"/> Two or more races <input type="checkbox"/> Hispanic of any race	

Please think of the following question in the context of your college experience and the coursework. Rate each of the questions to the best of your ability.		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
5.	When I entered college, I felt confident I would be academically successful.	1	2	3	4	5
6.	As a first year college student, I was better prepared to meet college expectations than the majority of my peers.	1	2	3	4	5
7.	My high school coursework prepared me for college.	1	2	3	4	5
8.	First year college courses were easier than I thought they would be.	1	2	3	4	5
9.	I was satisfied with my first year college grade point average (GPA)	1	2	3	4	5
10.	I had to change majors because my initial major was too difficult.	1	2	3	4	5
11.	I have been successful in college.	1	2	3	4	5
12.	Setbacks don't discourage me; I don't give up easily.	1	2	3	4	5
13.	I am a hard worker.	1	2	3	4	5
14.	I have overcome setbacks to conquer an important challenge.	1	2	3	4	5
15.	I am diligent. I never give up.	1	2	3	4	5

16.	It is OK for me to make a mistake or two while learning.	1	2	3	4	5
17.	I would rather practice something I do well than try to learn something new.	1	2	3	4	5
18.	My high school courses developed my ability to read college-level material.	1	2	3	4	5
19.	My high school courses developed my ability to write at a college-level.	1	2	3	4	5
20.	My high school courses developed my critical thinking abilities.	1	2	3	4	5
21.	My high school courses made me feel like a college student.	1	2	3	4	5

1. What has been the greatest challenge in your transition to college academics? (Explain)

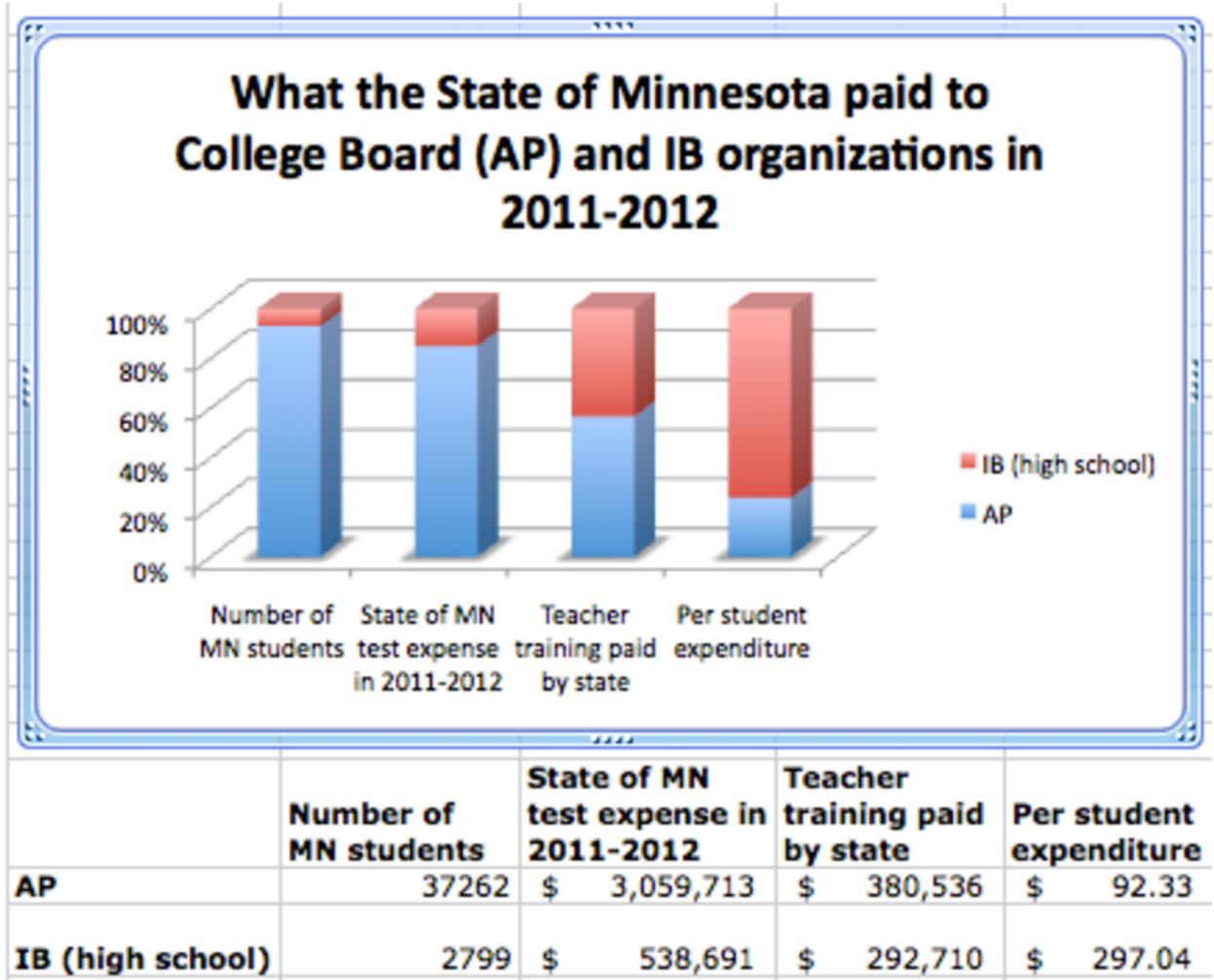
2. What courses during high school academically prepared you the most for college?

3. How did your high school classes prepare you for success in your college courses? (Explain)

4. What do you know now; that you wish you knew when you started college?


5. If you took more than one course, why did you take them both?

Table One
Cost Expenditure of AP versus IB Costs Per Student



Regan, S. (2014, March 16). What AP and IB cost - and who benefits. Retrieved November 9, 2014, from <http://www.tcdailyplanet.net/news/2014/03/16/costs-ap-and-ib-and-who-benefits>

Statistical Portrait of the Foreign-Born Population in the United States, 2009



**Statistical Portrait of the Foreign-Born Population
in the United States, 2009**

Table 1. Population, by Nativity and Citizenship Status: 2000 and 2009

Universe: 2000 and 2009 resident population

	2009 population	2000 population	Percent, 2009	Percent, 2000
Native born	268,553,734	250,288,425	87.5	88.9
Foreign born	38,452,822	31,133,481	12.5	11.1
Citizen	16,811,829	12,533,932	5.5	4.5
Non-citizen	21,640,993	18,599,549	7.0	6.6
Total	307,006,556	281,421,906	100.0	100.0

Source: Pew Hispanic Center tabulations of 2000 Census (5% IPUMS) and 2009 American Community Survey (1% IPUMS)

(PEW Research, 2011)

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: Identity Creation in High Achieving Students
Study Investigator: Kazimir Gazdzik

INVITATION

You are invited to participate in research examining the experiences of first year college students. You are invited because you may have opinions or knowledge about this issue. Your participation is voluntary. Between 1 and 5 people will take part in this study.

WHAT IS THE PURPOSE OF THE STUDY?

This study seeks to find out the experience of first year college students, the challenges they face and how they overcame them. The long term goal is to establish any similarities between the first year college experience and a first year Advance Placement student.

WHAT WILL MY PARTICIPATION INVOLVE?

If you decide to participate in this study, you may be interviewed about your knowledge, experiences, or opinions on your first year college experience. These interviews typically last thirty (30) minutes to an hour. You may also be asked to participate in a small group discussions about the college experience. Your participation may last up to three hours in total, but this varies.

You will be asked if video images, photographs, or voice recordings can be made of your interview. Such recordings will be used only for writing down exactly what you say or for training other researchers. Your name will remain secret. Tapes will be stored in a locked cabinet after use. Being recorded is voluntary. You may still participate without being recorded.

WILL MY CONFIDENTIALITY BE PROTECTED?

Information learned from this study will be used in scientific journal articles, in presentations, or to train teachers, service providers, or other researchers. None of these will identify you personally. You will be referred to by a made up name instead. Interviews, notes, and any video or audio recordings will be stored in a locked cabinet when not in use. Any information from the data that could identify you will be removed. A paid typist will transcribe any recordings; this person has signed a confidentiality agreement.

ARE THERE ANY RISKS?

The risks involved with this study include the possibility of loss of confidentiality. Though I take many steps to ensure secrecy, the identity of participants might accidentally become known. This may cause embarrassment or discomfort. Some questions I ask about your experiences and opinions might cause worry, embarrassment, discomfort, or sadness. You may choose not to answer such questions. Referrals to counseling will be available should you experience bad feelings, but no money is

available from the study to pay for such services. Another drawback for you might include the amount of time spent in interviews or answering questionnaires.

ARE THERE ANY BENEFITS?

No direct benefit is guaranteed to you from participating in this study. Your participation in this research, however, may benefit you or other people in the future by helping us understand how to develop student identities for high achieving courses and academic preparation for college.

WILL I BE PAID FOR PARTICIPATING IN THE STUDY?

No participants will receive pay for taking part in the study.

IF I DECIDE TO START THE STUDY, CAN I CHANGE MY MIND?

Your decision to participate in this research is entirely voluntary. You may choose not to participate. If you do decide to take part, you may change your mind at any time without penalty or loss of benefits that you had before the study. Your decision to participate or not in this study will not affect any relationship you might have with employers or service providers. You may choose not to participate in certain interviews or surveys, and you can skip any questions you do not want to answer.

WHAT IF I HAVE QUESTIONS?

If you have questions about this research in the future, please contact the researcher, Kazimir Gazdzik, at (320) 290-4829 or by email (kgazdzik@gmail.com) or contact Professor Anne Walker, at (701) 777-2862 or by email at anne.walker@email.und.edu. If you have questions regarding your rights as a research participant, or if you have any concerns or complaints about the research, you may contact the University of North Dakota Institutional Review Board at (701) 777-4279. Please call this number if you cannot reach research staff, or if you wish to talk with someone else.

Authorization to participate in the research study:

I have read the information in this consent form, had any questions answered, and I voluntarily agree to participate in this study. I have received a copy of this consent form.

Participant's Name (please print)

Signature of Participant

Date

Signature of Investigator or Person Obtaining Consent

Date

References

- Adelman, C. (1999). *Answers in the tool box. Academic intensity, attendance patterns, and bachelor's degree attainment*. ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398; Tel: 877-433-7827 (Toll Free). Retrieved from ERIC.
- Allen, D., & Dadgar, M. (2012). Does dual enrollment increase students' success in college? Evidence from a quasi-experimental analysis of dual enrollment in new york city. *New Directions for Higher Education*, 2012(158), 11-19.
doi:10.1002/he.2001
- Minnesota Department of Education. (2017-2018) Advanced placement program application for reimbursement 2017-18. (2018, January 30). Retrieved April 14, 2018, from <https://education.mn.gov/MDE/fam/dual/AP/>
- Appleby, D.C. (2006, May). *How do college freshmen view the academic differences between high school and college?* Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago.
- International Baccalaureate Program (2015) Assessment fees and services. Retrieved July 11, 2015, from <http://www.ibo.org/en/become-an-ib-school/fees-and-services/assessment-fees-and-services/>
- AVID. (2002-2018) What is AVID? Retrieved October 21, 2017, from <http://www.avid.org/what-is-avid-secondary.ashx>
- AVID. (2002-21018) What is AVID secondary? Retrieved October 21, 2017, from <http://www.avid.org/what-is-avid-secondary.ashx>
- Bain, K. (2012) *What the best college students do*. Cambridge, MA. : Harvard University Press.

- International Baccalaureate (2015) Benefits of IB for students. Retrieved March 29, 2015, from <http://www.ibo.org/en/benefits/benefits-for-students/>
- Boyd, W., Hare, D., & Nathan, J. (2002). What really happened? Minnesota's experience with statewide public school choice programs. Minneapolis: Center for School Change, Hubert H. Humphrey Institute of Public Affairs.
- Burney, V. (2010). High Achievement on advanced placement exams: The relationship of school-level contextual factors to performance. *Gifted Child Quarterly*, (54), 116-126. doi:10.1177/0016986209355972
- Butrymowicz, S. (2017, January 30). Most colleges enroll many students who aren't prepared for higher education. Retrieved March 24, 2018, from <http://hechingerreport.org/colleges-enroll-students-arent-repared-higher-education/>
- Chamorro-Premuzic, T., & Arteche, A. (2008). Intellectual competence and academic performance: Preliminary validation of a model. *Intelligence*, 36(6), 564-573. Retrieved January 20, 2016.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity. The jossey-bass higher and adult education series*. ERIC. Retrieved from Google Scholar
- CollegeBoard (2014) AP students - advanced placement courses. Retrieved July 2, 2014, from <https://apstudent.collegeboard.org/apcourse>
- CollegeBoard (2014) 10th annual ap report to the nation. Retrieved from http://apreport.collegeboard.org/?affiliateId=FeaturedListing&bannerid=apreport_10t
- CollegeBoard (2010) World history: *Course description*. May 2010, to May 2011.

- CollegeBoard. (2014) 2013 Summary of ap scores. 10 Years of advanced placement exam data show significant gains in access and success; Areas for improvement. (2014, February 11). Retrieved July 11, 2015, from <https://www.collegeboard.org/releases/2014/class-2013-advanced-placement-results-announced>
- CollegeBoard. (2018). Building College Skills. Retrieved October 25, 2018 <https://apstudent.collegeboard.org/exploreap/the-rewards/building-college-skills>
- CollegBoard (2015) Work toward college success. Retrieved March 29, 2015, from <https://apstudent.collegeboard.org/exploreap/the-rewards>
- College of St. Benedict & St. John's University (2014) AP_IB-AdmissionForm2014-2015 2.pdf. (CSB/SJU Policy for AP Credits) [Chart]. CSB/SJU.edu
- Conley, D. (2008). Redefining college readiness. Eugene, OR; Educational Policy Improvement Center. Retrieved from epiconline.org
- Connections Academy. (2018). Online advanced placement (AP) courses. Retrieved April 12, 2018, from <https://www.connectionsacademy.com/curriculum/online-high-school/advanced-placement>
- Creswell, J. W. (2013). Educational research planning, conducting, and evaluating quantitative and qualitative research. (Fourth ed.). New York: Pearson.
- D'Amico, M. M., Morgan, G. B., Robertson, S., & Rivers, H. E. (2013). Dual enrollment variables and college student persistence. *Community College Journal of Research and Practice*, 37(10), 769-779. doi:10.1080/1066892100372333
- Daley, F. (2010). Why college students drop out and what we do about it. *College Quarterly*, 13(3). ISSN: 1195-4353

- DiPerna, J. C., & Elliott, S. N. (1999). Development and validation of the academic competence evaluation scales. *Journal of Psychoeducational Assessment, 17*, 207-225.
- Joan, R. & David T. C. (2010). College knowledge: An interview with David Conley. *The Phi Delta Kappan (1)*, 28.
- Duckworth, A. (2016) *Grit: The power of passion and perseverance*. New York: Scribner
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Elkind, P. (2016). Business gets schooled. *Fortune, 173*(1), 48-60.
Retrieved from <http://fortune.com/common-core-standards/>
- Evans, N. J., Forney, D. S., Guido, F. M., & Renn, K. A. (1998). *Student development in college: Theory, research, and practice*. 2nd Ed. San Francisco: Wiley.
- Erikson, E. (1963). *Childhood and society* (2nd ed.). New York: Norton.
- Erikson, E. (1968). *Identity, youth and crisis*. New York: Norton.
- Erikson, E. (1980). *Identity and life cycle* (2nd ed.). New York: Norton.
- Forbes. (2018) America's top colleges - Saint Cloud State University. Retrieved March 25, 2018, from <https://www.forbes.com/colleges/saint-cloud-state-university/>
- Hertel, N. G. (2017, October 10). Enrollment down, diversity up in St. Cloud higher ed. *St. Cloud Times*. Retrieved March 11, 2018, from <https://www.sctimes.com/story/news/local/2017/10/10/enrollment-down-diversity-up-st-cloud-higher-ed/731752001/>
- Hoerr, T. (2017) *The formative five: Fostering grit, empathy, and other success skills every student needs*. Alexandria: ASCD.

Hull, S., Seeley, C., & Hirsch, C. (2010). High school to postsecondary education:

Challenges of transition. *The Mathematics Teacher*, 103(6), 442-445. Retrieved from <http://www.jstor.org/stable/20876659>

International Baccalaureate Organization, United Kingdom. (2013, August). What is an

IB education? [Press release]. Retrieved March 26, 2016, from

<http://www.ibo.org/globalassets/publications/become-an-ib-school/whatisanibeducation-en.pdf>

International Baccalaureate Organization (2005-2018). Diploma programme. Retrieved

July 11, 2015, from <http://www.ibo.org/en/programmes/diploma-programme/>

International Baccalaureate, (2005-2018) Diploma programme assessment. Retrieved

July 11, 2015, from <https://www.ibo.org/en/programmes/diploma-programme/assessment-and-exams/understanding-ib-assessment/>

International Baccalaureate Organization (2005-2018) About the IB. Retrieved January 4,

2015, from <http://www.ibo.org/en/about-the-ib/>

International Baccalaureate Organization (2005-2018). University admission ib

organization (accessed July, 2015) – <http://www.ibo.org/en/university-admission/>

Ivy Bound. (2017, January 17). 7 soft skills students need for success. Retrieved March

24, 2018, from <https://www.ivybound.net/blog/college-grad-school-articles/soft-skill-for-success>

James Irvine, F. (2012). Dual enrollment: Helping make college a reality for students less

likely to go. Recommendations for policymakers from the Concurrent Courses Initiative. www.irvine.org

- Kena, G., Musu-Gillette, L., Robinson, J., Wang, X., Rathbun, A., Zhang, J., Wilkinson-Flicker, S., Barmer, A., and Dunlop Velez, E. (2015). *The Condition of Education 2015* (NCES 2015-144). U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved, July 8, 2015 from <http://nces.ed.gov/pubsearch>.
- Kirst, M. W. (2004). The high school/college disconnect. *Educational Leadership*, 62(3), 51-55. Retrieved from <http://ezproxy.library.und.edu/login?url>
<http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=14966153&site=ehostlive&scope=site>
- Klopfenstein, K. (2004). Advanced placement: Do minorities have equal opportunity? *Economics of Education Review*, 23(2), 115-131. doi:10.1016/S0272-7757(03)00076
- Knapp, L.G., Kelly-Reid, J.E., and Ginder, S.A. (2012). Enrollment in postsecondary institutions, Fall 2011; financial statistics, fiscal year 2011; and graduation rates, selected cohorts, 2003–2008: First look (Provisional Data) (NCES 2012-174rev). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved July 8, 2015 from <http://nces.ed.gov/pubsearch>
- Knefelkamp, L., Widick, C., & Parker, C. A. (Eds.). (1978). Applying new developmental findings (Vol. 4, *New Directions for Student Services*). San Francisco, CA: Josey Bass.
- Kuh, G. D., J. Kinzie, T. Cruce, R. Shoup, and R. Gonyea. *Connecting the Dots: Multi-Faceted Analyses of the Relationships between Student Engagement Results from the NSSE, and the Institutional Practices and Conditions that Foster Student*

Success. Revised Final Report Prepared for Lumina Foundation for Education Grant # 2518 (2007): n. page. Web. 27 June 2016.

Marken, S. M. L. G. L. L. (2013). IES_dual_enr.Pdf [Information from IES, institute of Educational Sciences] (Information from IES, institute of Educational Sciences). Washington, D.C. : First Look. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=201300>

Mathews, J. (2014, February 23). Poor Dartmouth. It can't figure out application decline. Retrieved July 13, 2016, from https://www.washingtonpost.com/local/education/will-dartmouth-figure-out-big-applicant-drop/2014/02/23/9e1233c8-99fc-11e3-80ac-63a8ba7f7942_story.html

Maxwell, J. A. (2005). *Qualitative research design, an interactive approach*. (2 ed.). Thousand Oaks, CA: Sage Publications, Inc.

Melguizo, T. (2008). Quality matters: Assessing the impact of attending more selective institutions on college completion rates of minorities. *Research in Higher Education*. 49(3), 214-236. doi:10.1007/s11162-007-9076-1

Miles, M. B., & Huberman, A. M. (1994) *Quantitative data analysis: an expanded sourcebook*. Thousand Oaks, (Cal.): Sage.

Minnesota Office of Higher Education (n.d.) Retrieved July 08, 2016 from <http://www.ohe.state.mn.us/>

Minnesota Department of Education (2014). Retrieved November 7, 2014, from <http://w20.education.state.mn.us/MDEAnalytics/Data.jsp>

- Minnesota Department of Education. (2015) Data Reports and Analytics. Retrieved October 25, 2015, from <http://w20.education.state.mn.us/MDEAnalytics/Data.jsp>
- Minnesota Department of Education (2015) Postsecondary enrollment options (PSEO) <http://education.state.mn.us/MDE/StuSuc/CollReadi/PSEO/>
- Minnesota State Colleges and University System (2015). College search. Retrieved October 31, 2015, from <https://webproc.mnscu.edu/>
- Minnesota State Colleges and University System. (2015) Frequently asked questions about post-secondary education options. (n.d.). Retrieved July 12, 2015, from http://www.mnscu.edu/admissions/pseo/pseo_faq.html
- Minnesota State Colleges and University System. St. Cloud State. (n.d.). Retrieved November 9, 2014, from <http://www.mnscu.edu/collegesearch/index.php/institution/search/>
- Minnesota State College and University System. (2018). St. Cloud State University. Retrieved April 21, 2018, from <http://www.minnstate.edu/>
- Moore, W., & Slate, R. (2008). Who's taking the advanced placement courses and how are they doing: A statewide two-year study. *The High School Journal*, 92(1), 56-67. doi:10.1353/hsj.0.001
- National Alliance of Concurrent Enrollment Partnerships. (2016) Fast facts about dual and concurrent enrollment. Retrieved March 26, 2016, from <http://www.nacep.org/researchpolicy/fast-facts/>
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students – A third decade of research*. San Francisco, C.A. Jossey-Bass.

Pennington, H. (2004). Fast Track to college: Increasing postsecondary success for all students. Double the Numbers: A Jobs for the Future Initiative. *Jobs for the Future, Prepared for the Center for American Progress*.

PEW Research Center: PEW Hispanic Center. (2011 29-July). Table 1. Population by nativity and citizenship status: 2000 and 2009: Retrieved 2011 10-December <http://www.pewhispanic.org/2011/02/17/statistical-portrait-of-the-foreign-born-population-in-the-united-states-2009/statistical-portrait-table-01/>

Prepscholar. (2017). St. Cloud State University requirements for admission. Retrieved March 25, 2018, from <http://www.prepscholar.com/sat/s/colleges/St-Cloud-State-University-admission-requirements>

Ravitch, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education*. New York, NY: Basic Books.

Reason, R. D., Terenzini, P. T., & Domingo, R. J. (2006, March). First things first: developing academic competence in the first year of college*. *Research in Higher Education*, 47(2), 149-175. doi:10.1007/s11162-005-8884- 4

Regan, S. (2014, March 16). What AP and IB cost - and who benefits. Retrieved November 9, 2014, from <http://www.tcdailyplanet.net/news/2014/03/16/costs-ap-and-ib-and-who-benefits>

Ricci, M. C. (2013). *Mindsets in the classroom*. Waco, TX: Prufrock Press.

Rothschild, E. (1999). Four decades of the advanced placement program. *The History Teacher*, 32(2), 175. doi:10.2307/49443

- Skipper, T.L. (2005). Student development theory in the first college year. A primer for college educators. Columbia, SC.: National Resources Center for the First-Year experience and students in transition, University of South Carolina.
- Shaw, J., Marini, P., & Mattern, D. (2013). Exploring the utility of advanced placement participation and performance in college admission decisions. *Educational and Psychological Measurement, 73*(2), 229-253.
doi:10.1177/001316441245429
- Snyder, T. D., Cristobal de Brey, C., & Dillow, S. A. (2018). *Digest of education statistics 2016* (52nd ed., pp. 1-970) (United States, US Department of Education, National Center for Education Statistics). Washington, D.C.: National Center for Education Statistics, Institute of Education Sciences.
- Southern Methodist University (2015). Differences between high school and college. (accessed August 27, 2016)
<http://www.smu.edu/Provost/ALEC/NeatStuffforNewStudents/HowIsCollegeDifferentfromHighSchool>
- St. Cloud State University. (2017) Transfer admission. Retrieved December 25, 2017, from <http://www.stcloudstate.edu/transwer/credit-options.aspx>
- Stetser, M., and Stillwell, R. (2014). Public high school four-Year on-time graduation rates and event dropout rates: School years 2010–11 and 2011–12. *First Look* (NCES 2014-391). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved July 8, 2015 from <http://nces.ed.gov/pubsearch>

- Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Swanson, J. (2008). *An analysis of the impact of high school dual enrollment course participation on post-secondary academic success, persistence and degree completion*. Iowa City: Institute for Research and Policy Acceleration at the Belin-Blank Center for Gifted Education, University of Iowa.
- The NAEP Glossary of Terms. (2015). Retrieved March 26, 2016, from <https://nces.ed.gov/nationsreportcard/glossary.aspx?nav=y>
- Thompson, T., & Rust, J. O. (2007). Follow-up of advanced placement students in college. *College Student Journal*, 41(2).
- Tinto, V. (1993) *Leaving college*. Chicago, IL: The University of Chicago Press.
- Tough, P. (2012). *How children succeed: Grit, curiosity, and the hidden power of character*. Boston: Houghton Mifflin Harcourt.
- United States National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform: a report to the Nation and the Secretary of Education*. United States Department of Education. Washington, D.C.: The Commission.
- Wagner, T., & Dintersmith, T. (2015). *Most likely to succeed: Preparing our kids for the innovation era*. New York, NY: Scribner.
- What is the Career Programme? | International Baccalaureate®. (n.d.). Retrieved March 29, 2015, from <http://www.ibo.org/en/programmes/career-related-programme/>
- Winterhalter, B. (2014). The morbid fascination with the Death of the

Humanities. *The Atlantic*. Retrieved July 2, 2014, from

<http://www.theatlantic.com/education/print/2014/06/the-morbid-fascination-with-the-death-of-the-humanities/372216/>