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Equitable access to the career and technical education graduation pathway for students receiving special education services

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EQUITABLE ACCESS TO THE CAREER AND TECHNICAL EDUCATION GRADUATION PATHWAY FOR STUDENTS RECEIVING SPECIAL EDUCATION SERVICES

By

Michael K. Snow

Accepted in Partial Completion
of the Requirements for the Degree
Doctor of Education

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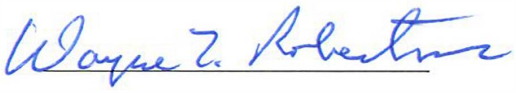

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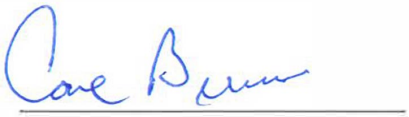

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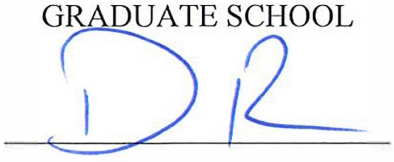

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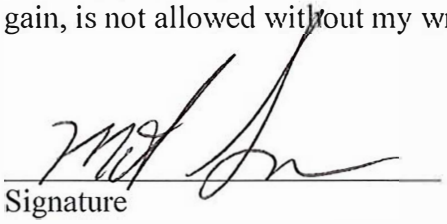

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Equitable Access to the Career and Technical Education Graduation Pathway for Students Receiving Special Education Services

A Dissertation
Presented to
The Faculty of
Western Washington University

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
Michael K. Snow
June, 2023

DEDICATION

Dedicated to Kristy, Conner and Hannah and

my mom and dad: Family is always number one.

To my entire family and to my friends– thank you all for everything.

Thank you for supporting my education over the years.

Education changes lives.

ABSTRACT

DISSERTATION: Equitable Access to the Career and Technical Education Graduation Pathway for Students Receiving Special Education Services

STUDENT: Mike K. Snow

DEGREE: Doctor of Education

COLLEGE: Western Washington University

DATE: June 9, 2023

The purpose of this qualitative case study was to explore the access of the Career and Technical Education (CTE) graduation pathway for students who receive special education services in a selected school district. Analyzing the course taking of three cohorts of high school students, who had individualized education plans, involved a deep dive into each one of their transcripts. This type of analysis enabled me to compare and contrast the course taking between students served in special education who lost an elective opportunity to receive additional IEP services to those who did not. Did the students who lost an elective to receive additional special education services, specifically in the class named Resource Study Skills, have the same access to the CTE graduation pathway compared to those who did not take the resource class? In addition, the study looked to see if these same students were negatively impacted in their ability to attend the local CTE skill center during their high school career and if there was an impact on their graduation rate.

The study found that students who lost an elective to receive additional IEP services in a special education class named Resource Study Skills, had a decrease in percent of students who qualified for the CTE graduation pathway, with a decrease in enrollment to the local CTE skill center and in graduation rates when compared to their peers with an IEP, who did not take the

resource class. A recommendation is made to the State of Washington to conduct a similar study that allows the state to not only find discrepancies between groups of students, but also why the differences exist. Recommendations for the district involved in this study includes sharing the findings with appropriate staff so they can learn the impact of course taking has on their students' high school and post-high school lives. Further research that includes not only the student's high school course taking, but also includes the student's special education qualifying areas and High School and Beyond Plan is suggested as it will provide more specific insights as to why a student may have been assigned the resource class in question. This specific type of insight may provide the school district with more actionable information that would allow them to remove any identified systemic barriers.

ACKNOWLEDGEMENTS

I dedicate this dissertation to my mom and dad, Marilyn and Ron Snow - I miss you both so much (we all do). Thank you for sacrificing so I could start my college journey. My mom taught me to care about others no matter who they were or what their background may be. My dad taught me to be resilient, have tough conversations, and to do what is right when everyone is looking and when no one is looking - integrity. Thank you to my wife Kristy and my kids Conner and Hannah. Since we became a family, I have gone back to college to earn my second degree, my masters in educational leadership, my superintendent certification and now my Doctorate in Education. Yes, I'm done with college, I promise (again), but I'm not done learning. Thank you all for helping me with this dissertation. I could not have done it without you. I also want to thank my in-laws Bill and Linda. They supported us when we were a new family, were always there and are not only family to me, but great friends as well. In my work setting I have had a very supportive core team who have supported me on this journey. Thank you, Chris Martin, Kristi Morrow, Mike Weatherbie, Dr. Monica Meadows, Dan Tedor and Dr. Miriam Tencate. Your insights and support have meant so much to me. I would also like to thank the WWU leadership team: Committee Chair: Dr. Wayne Robertson, Dr. Tim Bruce, Dr. Donald Larsen, Dr. Carl Bruner and Carola McGowan. Thank you so very much for your leadership, compassion and support. Finally, a big, fun and supportive thank to my WWU Cohort #1: Mary, Pat, John, Angelina, Eric, Byron, Michelle, Will, Duane, Steve and Michelle. The last two years have been hard, rewarding, fun, motivating and most of all supportive.

I am blessed,

Mike

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CHAPTER I

INTRODUCTION

As my educational career years go by, I have seen a common theme. Students who need more, in many cases, get less in some aspects of their education. When new programs are developed, we policy makers have not thoroughly thought through how those programs will be accessed by each student. Specifically, no matter what position I have held in my career, I have seen many students with Individual Education Plans (IEP) lose an elective class to receive additional services. I am not saying the student does not need those additional services in their school day; I am pointing out that those students lose valuable access to general education; and I am proposing that this model has a negative impact on those students' equitable access to a portion of the graduation pathways that are now available in the State of Washington. In the State of Washington, House Bill 1599, "expanded the ways in which Washington students can develop their course plan and show their preparation for a meaningful first step after high school. Beginning with the Class of 2020, students must fulfill the pathway requirement to graduate which must align with their High School and Beyond Plan" (Graduation Pathways, 2022).

This law change de-linked the requirement of meeting standards on the state assessments in math and literacy as a part of the graduation requirement. An option in this law change provides an opportunity for a student to meet graduation assessment requirements by having two credits or more from a specific program area of Career and Technical Education. By possibly losing an elective to receive IEP services this pathway potentially becomes less accessible for these students. In my research, I used a qualitative case study of a given district that uses a six-period schedule to compare and contrast student outcomes of students who had their schedule

impacted by losing an elective to receive IEP services. Did these specific students' experiences have an impact on their access to the CTE graduation pathway?

In my research I found many studies that point to the benefit of CTE classes for students with disabilities. Other studies pointed to the importance of the IEP's transition plan and how a successful plan leads to a more successful postsecondary education outcome.

As a former high school special education teacher who has written many transition plans as a part of a student's Individualized Education Plan, I worked with the school counselors to schedule my students for the upcoming year. For a student who struggled with academic success in their general education classes, it was a common practice to keep adding more special education time to that student's schedule. As a secondary school administrator for 14 years who participated on many IEP teams, built master schedules, and knew those scheduling decisions had pros and cons, I saw the same practices take place. However, now as a district administrator, I am also aware of the limits of the master schedule I developed. Finally, now in my fourth year as a district-level administrator, I can clearly see how system structures, practices and even beliefs impact a student's ability to be prepared for successful post-secondary outcomes.

I hope to accomplish two goals with my research. One reason for this research is to serve district leaders as we go about writing policies and procedures, developing budgets and rethinking our practices when it comes to scheduling decisions for our students. My second goal will be realized if more students, as a result of leaders making more equitable schedules for students who receive special education services, have gained increased and equitable access to career and technical education graduation pathways, classes and related programs. I am a firm believer that students who have more needs should get services in an "in addition to" versus an "instead of"" philosophy. A given student may need more services, but the possible solution

needs to involve increased course offerings such as an eight-period schedule or an extended school day or year, in many cases. These solutions can allow for access to elective and support classes if needed. We need to remember the goal of education in our schools is to serve our students so that they are prepared for life after high school.

Background

"Applied research is undertaken to improve the quality of practice of a particular discipline" (Merriam & Tisdell, 2015). The purpose of this study was to determine if a specific secondary school scheduling practice has a relationship with a student's ability to access on-time graduation opportunities so that they are prepared for successful post-secondary outcomes—career and college ready. Specifically, I compared and contrasted students who receive special education services in a given school, who lose an elective period to receive additional special education services, versus other students in the same school who also have an individualized education plan (IEP) who do not lose an elective to receive IEP services.

I did wonder if my research would show that the students who lost an elective were not negatively impacted in their access to the CTE graduation pathway. This outcome is interesting to me because if losing an elective has little impact on graduation pathway access, then what is impacted? Students with disabilities must gain or lose something by being denied an elective. Did the graduation rate of a historically marginalized group of students, students with IEPs, increase because they received more academic support so that they were successful in core academic classes? I fully understand that IEP teams, which include parents and students, make decisions regarding a student's learning program that then in turn impact scheduling decisions, and work diligently to make sure they keep the whole student in mind; but these recent

graduation pathway options have a double-edged sword. The team wants equitable access to all graduation pathways and hopefully strives for inclusion, but some students may need additional supports that are only available by losing an elective if the services only take place during the school day.

This trade-off is more impactful in a school district that only offers a six-period schedule. With 24 credits needed towards graduation in the State of Washington, a student with a six-period day has limited opportunities to meet all the requirements. In districts with an eight- or seven-period schedule or a five-period trimester, students have extra opportunities not only to obtain support classes, but also to access more CTE classes than students served in a six-period model. Again, the chosen district in my case study does utilize a six-period bell schedule. I did not compare other districts' graduation access data to my chosen district. That may be a possible follow-up research question.

What has piqued my interest in special education graduation rates the last few years has been my involvement in working with school teams to see which of the graduation pathways are available for senior students who are very close to not graduating because of the state assessment requirements. This process had our team look at each student's transcript and CTE course-taking patterns. All too often, we observed electives being lost over the four years of high school for these students. Random CTE course taking versus specific CTE Program Area courses that matched a student's High School and Beyond Plan was also noted as a possible source of a barrier to graduation for these students (High School and Beyond Plan, 2022). We know some bell schedules (example: an eight-period day versus a six-period day) allow for more student choice when it comes to elective classes and that some educational practices result in some students who receive special education services losing electives to allow them to receive

additional IEP service minutes. We do not know if these practices have had a negative impact on these specific groups of students having access to any or some of the graduation pathways. There is a paucity of extant research related to the focus of my proposed topic. This does not surprise me as the CTE graduation pathway is fairly new. However, research articles about the benefits and legal requirements of students with disabilities being in general education are plentiful and have been studied for years. An important note: the CTE graduation pathway should not be overly used by students with IEPs. That is to say that if your student population is 14% students with IEPs, then the proportion of your students who use the CTE graduation pathway should also be approximately 14%. This pathway is not intended to be a default graduation pathway for special education students or, for that matter, a default graduation pathway for any group of students.

My study explored whether the scheduling practice described above, resulting in some students with an IEP losing an elective opportunity, has a negative impact on these same students being able to attend the local skill center. The skill center requires a student to attend for three consecutive class periods so that they can attend a CTE-related course that is designed to prepare the student to be career ready. This three-period block also qualifies the student, by design, for the CTE graduation pathway as it represents three full credits towards graduation (The CTE graduation pathway only requires two full credits from the same CTE Program Area).

We also know that for many years laws have been passed to make sure students in special education, whose population has grown considerably since the enactment of the original version of the Individuals with Disabilities Education Act (IDEA), receive a free and appropriate public education. IDEA emphasizes the importance of preparing students for opportunities after high school. From the 2009-10 school year to the 2020-21 school year the total number of students

ages three to twenty-one who received special education services under the Individuals with Disabilities Education Act, increased from 6.5 million or 13% to 7.1 million or 15% of the total number of students in public education (NCES, 2022). In §300.1 of IDEA, it states, "The purposes of this part are—To ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living" (Sec. 300.1 (a), 2017). In addition, §300.43 Transition Services of IDEA-states:

> Transition services means a coordinated set of activities for a child with a disability that—Is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (Sec. 300.43 Transition Services, 2022).

Furthermore, the US Department of Education Office of Special Education Programs has identified post-school outcomes as a priority.

Problem Statement

It is well recognized that students who qualify for special education services historically have struggled with transitioning from the high school setting to the world of work (Flexer et al., 2008) (Test et al., 2009). In my study, I proposed to analyze high school transcript data from the last three years of graduates from a chosen district using a qualitative case study approach. "Gathering of data by studying documents follows the same line of thinking as observing or interviewing. One needs to have one's mind organized, yet be open to unexpected clues" (Stake, 1995, p. 68). This study specifically looked at the transcripts of students who have been required

to take an elective special education class identified as Resource Study Skills possibly in lieu of a CTE elective class that may better prepare them for career readiness. The goal of this study is to examine and change the practice of removing students with IEP from general education opportunities that will make them more college and career ready. Students need more access to career exploration, more opportunities for dual credits and more time each and every day with their peers in the general education setting - inclusion.

Purpose Statement

The main purpose of this study is to investigate the access to the CTE Graduation Pathway by students with Individual Education Plans whose schedule has them trade an elective credit opportunity to receive additional specially-designed instruction. To facilitate this study I analyzed three cohorts of high school students' transcripts. In addition, this research also examined other details available in the transcript, including access to the local skill center, number of CTE credits obtained and impact on graduation rate.

Given the increasing emphasis on equity and inclusion in state and federal legislation, as well as educational shifts, it is critical to examine the course selection of our students who receive special education services and assess the educator practices that determine their chosen courses. Failing to do so may impede our ability to prepare students to reach their post-secondary desired outcome. With the focus of Career and Technical Education to prepare students for Career Readiness, and with special education designed to meet each child's individual needs, it is clearly of utmost importance to link purposeful CTE course taking for our students with disabilities (Harvey, 2021).

Significance of Study

Engaging in a scheduling practice that ensures maximum opportunity for college and career readiness for all students needs to be non-negotiable. Research shows that purposeful participation alone in CTE programs leads to higher rates of employment for students with disabilities (The Employment Situation, 2017). Current statistics also indicate that students who are involved in a vocational program are less likely to drop out of school (Wagner, 1991). A related study titled "Career and Technical Education, Inclusion, and Postsecondary Outcomes for Students With Disabilities" found:

> that students with disabilities who are enrolled in a 'concentration' of CTE courses have higher rates of employment after graduation than students with disabilities who are similar in other observable ways but are enrolled in fewer CTE courses. We also find consistently strong evidence that students with disabilities who spend more time in general education classrooms experience better outcomes—fewer absences, higher academic performance, higher rates of grade progression and on-time graduation, and higher rates of college attendance and employment—than students with disabilities who are similar in other observable ways but spend less time in general education classrooms (Theobald et al., 2017)

The purpose of this study is to analyze the impact the IEP service model has on access to the state's CTE graduation pathway option which requires a student to have a minimum of two CTE classes from the same program area.

Research Questions

The research questions posed for this research study are the following:

(1) What impact does losing an elective to receive special education services have on students' ability to access the CTE graduation pathway?

(2) What impact does losing an elective to receive special education services during their 11th and 12th grade year have on students' access to the local skill center?

(3) What impact does losing an elective class to receive special education services have on students' graduation rate?

Definitions

The following definitions of key terms will be used throughout this study:

- **Inclusion**: Inclusion is the belief that all students have a right to meaningfully participate in the general education setting, both academically and socially. Inclusion is realized when all students, regardless of their designation to receive special education services, are provided with targeted services, supports, and accommodations; allowing them to learn in the general education classroom, interact with peers, and engage the core curriculum. Inclusive instruction rebukes the problematic perspective that students receiving special education services need to 'fit in' or 'earn their way' into general education classes. The belief that general education instruction is not malleable and that students should be making adaptations to be included in the general education setting has contributed to the continuation of two parallel systems of education in which students receiving special education services are marginalized and devalued because of their environmental segregation (OSPI, 2015).

- **Individualized Education Plan (IEP)**: An Individualized Education Program (IEP) is a written statement for a student eligible for special education that is developed, reviewed, and revised in accordance with state and federal laws (IEP, n.d.).
- **Parent participation**: The role of parents in the evaluation process, IEP development, and placement decisions are strengthened. For example, parents are included in placement decisions, whereas before they only had a right to be included in IEP meetings (Sec. 300.322, 2017).
- **IEP development and transition planning**: A statement of transition service needs is to be provided to youth starting at age 16. The transition plan must consider their preferences and interests, as well as include an examination of their coursework and a determination of whether they are on track for their goals at graduation.
- **Career and Technical Education (CTE):** Career and technical education (CTE) is the practice of teaching specific career skills to students in middle school, high school, and post-secondary institutions (OSPI, n.d.).
- **CTE Program Areas**: Washington State groups the 16 National Career Clusters into six Program Areas which are: Agricultural Science, Business & Marketing, Family & Consumer Science, Health Sciences, Skilled and Technical Sciences, and STEM.
- **High School and Beyond Plan:** The High School and Beyond Plan is a state graduation requirement. Each student must have a High School and Beyond Plan (HSBP) to guide the student's high school experience and prepare the student for postsecondary education or training and career (RCW 28A.230.090 and WAC 180-51-220). Students start their plan in seventh or eighth grade and then continue to revise them throughout high school to accommodate changing interests or educational and career goals. (High School and Beyond Plan, n.d.)

- **CTE program of study:** Programs of study are course sequences that prepare students with the knowledge and skills necessary for success in their chosen career. These sequences embed relevant, real-world experiences and culminate in a postsecondary credential. Programs of study offered by a Local Education Agency (LEA) must be approved by the state agency per the Strengthening Career and Technical Education for the 21st Century Act (ACTE, 2019).
- **CTE Concentrator:** CTE concentrator.—The term 'CTE concentrator' means— (A) at the secondary school level, a student served by an eligible recipient who has completed at least 2 courses in a single career and technical education program or program of study. (ACTE, 2019).
- **CTE Completer:** A student served by an LEA who has completed 3 or more courses for 4 or more credits including an advanced course (level 3 or level 4) within an approved program of study (TEA, 2019).

Summary

Our students with disabilities need an "in addition to" model versus an "instead of" practice. My research analyzed the transcripts of graduates who received special education services in a selected district to see if they had equitable access to the Career and Technology Education graduation pathway, local skill center and to a high school diploma. It is my goal that my research will make a positive impact on future students with disabilities who graduate in the State of Washington.

CHAPTER II

LITERATURE REVIEW

The review of literature can be categorized in three distinct areas: state and federal laws and related studies, available graduation pathways and the High School and Beyond Plan in the State of Washington, and benefits of inclusion in Career and Technical Education. In many of these categories, special education and CTE appeared in the same study as both are about meeting the needs of students so that they are college and career ready. Connecting the studies and the laws was the common theme of inclusion - not only the requirements, but also the benefits of CTE classes for students with disabilities. As mentioned in the first chapter, there was no specific literature found that speaks to the impact on special education students when they lose an elective (possibly a CTE elective); similarly, extant research offers scant information about how this loss of elective credit may have an impact on the availability of the CTE graduation pathway for students with disabilities.

Related Literature

I selected and reviewed studies and articles from journals, public databases, dissertations and websites. I conducted a thorough search at Western Washington University's Library within the reference, dissertation, and thesis sections throughout the literature search. The study drew upon a number of key resources in order to provide a comprehensive analysis of the topic. These included several prominent organizations and research initiatives, such as the National Center on Secondary Education and Transition (NCSET), the Association for Career and Technical Education (ACTE), the National Longitudinal Transition Study (NLTS) 1 and 2, the National Center on Educational Outcomes (NCEO), and the Council for Exceptional Children (CEC).

Moreover, the study also made use of several legislative documents that are crucial to the field of education. These include The No Child Left Behind Act (NCLB) of 2001, the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, The National Longitudinal Studies I and II (NLTS), and The Carl D. Perkins Career and Technical Education Act of 2018.

By utilizing these various sources, the study was able to draw upon a wealth of data and research in order to provide a nuanced and informed analysis of the topic at hand.

Laws and Related Studies

The state of the American education system was a growing concern in the 1980s, as evidenced by the report "A Nation at Risk". Educational accountability and parent involvement, as well as a commitment to improve outcomes for students with disabilities, were addressed in the No Child Left Behind Act (NCLB) of 2001. A study that has been widely referenced by researchers is The National Longitudinal Transition Study (NLTS), which provided educational information about students with disabilities in secondary schools in 1985. This report was followed by the National Longitudinal Transition Study-2 (NLTS2), which identified changes among youth with disabilities during their early post-high-school years. The focus of this report was on the subset of youth represented in NLTS and NLTS2 who had been out of high school for up to two years. Data comparisons between NLTS and NLTS2 document changes in various aspects of the early post-school experiences of youth with disabilities who had been out of secondary school for up to two years. Information shared in NLTS2 includes trend data regarding graduation rates, post-high school education, and employment rates of students with disabilities (Wagner et al., 2005).

In 2018, Washington State passed Senate Bill 6032, a supplemental appropriations bill, that included a provision requiring the state superintendent to ensure that CTE courses are aligned with high-demand, high-wage jobs, including removing from the approved list any courses that do not meet this criterion. (State Policies Impacting CTE: 2018 Year in Review, 2018) This law speaks to the known value, as deemed by the governor and by the Legislature, of each student having access to these classes.

Perkins Act

A part of the funding for CTE is the federal Perkins Act which was originally named the Vocational Education Act of 1963. It was renamed the Carl D. Perkins Act in 1984; it is the main federal law supporting the development of career and technical skills among students in secondary and postsecondary education. The funds from Perkins are used to supplement the CTE programs within a school. Typically, those funds are used to support professional learning as well as to purchase equipment and supplies. However, the requirements of this law go much deeper. The Perkins Act of 1984 defined vocational education as organized educational programs directly related to preparing students for paid or unpaid employment, with vocational student organization activities as an integral part of the program. The Perkins Act included language that requires equal access for special populations, including students with disabilities, to all vocational programs, services, and activities and prohibits discrimination based on special population status (Wonacott, 2001).

The Perkins Act IV (2006) includes a theory of action that speaks to the goal of CTE. It states that participation in CTE courses and related activities will increase students' career interest. This will lead to more successful post-high-school outcomes by providing students with needed skills, knowledge, and motivation to pursue their chosen career. Perkins IV also

introduced separate indicators for secondary and postsecondary education, added two secondary indicators aligned with requirements under the Elementary and Secondary Education Act of 1965, as amended (ESEA), and of importance to this study, "required reporting of disaggregated data to include the same subgroups as are used for ESEA reporting, in addition to the 'special populations' that are specifically listed in the Perkins statute" (U.S. Department of Education, 2014).

In July of 2018, Perkins Act V was signed into law. This version of the law requires state and district CTE leaders to consult with stakeholders from different populations, including special education, as they work to improve their CTE program. A part of this consultation would be to review existing courses and look for access and representation of students with disabilities in all CTE courses. In an Advance CTE newsletter titled "Engaging Representatives of Learners with Special Population Status through Perkins V", they wrote, "Perkins V provides states an opportunity to formalize the stakeholder engagement conducted during the plan development stage and ensure that special populations routinely have the opportunity to inform and guide CTE efforts and initiatives" (Engaging Representatives, 2021).

Graduation Pathways in Washington State

Also, specific to the State of Washington is, House Bill 1599 (2019)

> expanded the ways in which Washington students can develop their course plan and show their preparation for a meaningful first step after high school. Beginning with the Class of 2020, students must fulfill the pathway requirement to graduate which must align with their High School and Beyond Plan. This delinking of the math and English state assessment as a graduation requirement allowed for various graduation pathways

including the purposeful use of CTE classes in lieu of passing content based assessments. The CTE Graduation Pathway information is found below:

Career & Technical Education (CTE) Course Sequence

A student may meet this graduation pathway option by completing a sequence of CTE courses

- 2.0 high school credits in CTE courses; **and**
- 2.0 credits are in the same Program Area; **and**
- The course has access for students to earn dual credit; **or**
- Leads to an Industry Recognized Credential (IRC); **or**
- Is a Core Plus program.

A local CTE Graduation Pathways designed and submitted by districts or State-Tribal Education Compacts (STECs) that includes at least 2 high school CTE credits from differing program areas if the local school board approves the sequence, school board designee, or local advisory committee, and receive final approval by OSPI.

Career and technical education (CTE) graduation pathways are a sequence of rigorous, related CTE courses that include dual credit options, industry recognized credentials, or a Core Plus program. Students completing a CTE pathway may plan to enter an apprenticeship or employment directly after high school or enroll in a training program, college, or university" (Graduation Pathways, 2022).

In 2019, the Office of Superintendent of Public Instruction (OSPI) presented an online workshop titled “Legislation Supporting Washington’s Students with Disabilities" that showed how the newly available graduation pathway was being accessed by students. This presentation contains OSPI’s equity statement:

> Career and technical education (CTE) graduation pathways are a sequence of rigorous, related CTE courses that include dual credit options, industry recognized credentials, or a Core Plus program. Students completing a CTE pathway may plan to enter an apprenticeship or employment directly after high school or enroll in a training program, college, or university; it requires education leaders to examine the ways current policies and practices result in disparate outcomes for our students of color, students living in poverty, students receiving special education and English Learner services, students who identify as LGBTQ+, and highly mobile student populations. This statement requires education leaders to develop an understanding of historical contexts; engage students, families, and community representatives as partners in decision-making; and actively dismantle systemic barriers, replacing them with policies and practices that ensure all students have access to the instruction and support they need to succeed in our schools (OSPI, 2019).

This equity statement is important in my study as it pertains to the availability of graduation pathways for students with disabilities and that shows we must work to remove barriers for our students.

An OSPI report titled “Graduation Pathways Snapshot, Class of 2021” provided data regarding student groups’ representation in the newly available graduation pathways. The report states:

> In this initial year of graduation pathway implementation some groups including students of color, students with disabilities, students who are English Language Learners, and students identifying as Gender X are measured as accessing graduation pathways at lower rates than their peers (Came, 2022).

It is important to note that in this study addressing the number of students using each graduation pathway, OSPI is not able to determine which specific pathway was selected in the student’s High School and Beyond Plan. Therefore, OSPI cannot report on the pathway students utilized to meet their graduation requirement. OSPI can justifiably speak only to those that they had access to based on their course-taking and assessment results. The graduates in the Class of 2021 completed the graduation pathways at the following rates.

- 58.4% ELA and Math Course Exams
- 43.5% CTE Graduation Pathway
- 4.4% Military Pathway / ASVAB

Table 1 is a disaggregated snapshot of Washington State Graduation Pathways by student groups for the class of 2020. (Came, 2022).

Table 1

Class of 2020 Graduation Pathways, Disaggregated

Class of 2020 Graduation Pathways, Disaggregated*

	% Completed ELA/Math Pathway	% Completed ASVAB Pathway	% Completed CTE Graduation Pathway	% Completed CIA	% No Pathway
All Students	66.5	2.9	9.8	3.4	25.6
American Indian/ Alaskan Native	43.1	3.6	6.7	6.3	45.4
Asian	85.7	1.2	10.2	1.0	11.8
Black/African American	52.8	1.8	6.8	4.3	39.4
Hispanic/Latino of any race(s)	51.1	3	10.3	3.7	38.8
Native Hawaiian/ Other Pacific Islander	51.8	2.5	8.5	1.7	42.1
Two or More Races	69.1	3.1	9.7	3.7	23.2
White	71.6	3.1	10.0	3.4	20.6
Students with Disabilities	22.6	1.5	10.9	26.9	41.5
Low-Income	51.9	3.4	9.2	4.5	37.8
English Language Learners	31.3	1.4	8.9	4.9	57.4
Female	69.4	2.4	9.0	2.5	24.0
Male	63.8	3.4	10.7	4.2	26.9

Source: Graduation Pathways Dashboard, retrieved January 19, 2021.

*Includes all students in the Class of 2020; including those who graduated, are continuing their education, or have left school.

The report also included the next steps to be considered by OSPI to ensure that pathways are accessible by all students.

The Office of Superintendent of Public Instruction will continue to monitor graduation pathway completion and, in collaboration with the State Board of Education, consider future policy recommendations to accelerate the growth of meaningful and useful

graduation pathways, as well as focus on eliminating gaps in access for historically underserved student groups (OSPI, 2019).

What can be found in the above chart is that 10.9% of graduating seniors in the class of 2020 who qualified for special education were able to fulfill the CTE graduation pathway. These data do not mean that those students used this pathway to graduate, but it was available to them as their high school course-taking met the requirements of the pathway. It is important to note that my study examined three cohorts of students: Graduating classes of 2019, 2020 and 2021. Although the CTE Graduation Pathway began in 2020, I chose to include the class of 2019 in my study to help add depth to the data collected. In addition, the district chosen for my research was already working on a more purposeful CTE course taking as a part of their work related to increasing CTE completers and preparing the district for the upcoming graduation pathways. Data specific for each of the three cohorts analyzed are listed in the Appendix.

High School and Beyond Plan

The OSPI website contains information and resources for students, families, and schools regarding special education. The OSPI Special Education website contains resources for "Secondary Transition." This resource is designed to provide information related to secondary transition services that are intended to help youth with disabilities make the transition from the world of high school to the world of adulthood. The "Individualized Education Program (IEP) Teams work together to plan and implement academic and non-academic courses and programs of study that help all youth achieve successful post-school outcomes such as postsecondary education and training, employment, and community engagement" (Secondary Transition, 2022).

One of the resources on this site is the HSBP & Aligned IEP: CTE Course Sequence document. It is designed to help staff and administration navigate the High School and Beyond Plan and how it fits within the IEP Transition Plan. This section provides an example of how the CTE Graduation Pathway may be utilized:

Figure 1

Example CTE Graduation Pathway

☒ CTE Course Sequence[2] *[Does not need to meet specific standards for ELA and/or math; 2.0 total credits minimum]*	**Career(s) of interest: Graphic Designer (in progress)** Course #1 Visual Communications Credit 1.0 Course #2 Media Arts/Web Design Technology Credit 1.0 **Career(s) of interest: Computer Programmer (*planned*)** Course #1 *Computer Application* Credit 1.0 Course #2 *AP Computer Science Principles* Credit 1.0

In addition, this document provides examples of how a district can successfully write a student's Transition Plan as a part of the student's IEP. Included in this exemplar is a section called the "Course(s) of Study." The descriptor for this portion of the plan is "(list the course(s) of study needed to assist the student in reaching his/her postsecondary goals, unless already described above, or attach a list of courses" (Career Guidance Washington, 2021). Below is an actual screenshot of what is shown on this resource:

Figure 2

Example Course(s) of Study

COURSE(S) OF STUDY *(list the course(s) of study needed to assist the student in reaching his/her postsecondary goals, unless already described above, or attach a list of courses)*

Grade 9: English 9, Algebra 1, Physical Science, PE, Health, Visual Communications, Graphic Design, Advisory
Grade 10: English 10, Geometry, Biology, PE, World History, Fitness for Life, Media Arts/Web Design Technology, Advisory
Grade 11: English 11, Algebra II, PE, US History, Commercial Art, Computer Application, Advisory, Yearbook 1 Grade 12: Creative Writing, Personal Finance, AP Computer Science Principles, Civics, Psychology, CAD Drafting and Design, Advisory, Yearbook 2

Sherrie will utilize a CTE course sequence as her graduation pathway.

- She is working towards completing a skills and technical CTE course sequence through her successful completion of Visual Communication and Media Arts/Web Design Technology courses, this is anticipated to be complete at the end of 2019.
- She is also working towards the completion of a second CTE course sequence in business and marketing by obtaining a passing grade in Computer application and AP Computer Science Principles courses by the end of her senior year.

This article is included in my research to acknowledge the importance of this graduation pathway that is conveyed by OSPI to all public high schools in Washington State. In order for students with disabilities to have access not only to the CTE graduation pathway, but also to be prepared for postsecondary endeavors, it is mandatory that they have maximum opportunities for purposeful access and representation in CTE classes.

The High School and Beyond Plan (HSBP), a Washington State graduation requirement, and the IEP, a federal requirement, both support a student's smooth transition from school to adult life. IEPs should be developed to align with HSBPs developed by students so that a comprehensive plan is in place that addresses the student's needs and meets all federal, state, and local requirements. In an effort to support this work, the Washington Student Achievement Council developed a document titled "Guidelines for Aligning High School and Beyond Plan (HSBP) and IEP Transition Plans." The purpose is to provide information and guidelines to

Washington State's teachers and administrators for developing and aligning the HSBP and the IEP. This document states many of the students with disabilities have difficulty in the transition to life after high school. Cited within this report are data from the Bureau of Labor Statistics. It reported that individuals with disabilities are among the least represented demographic groups in the labor force. The participation rate for people with a disability was approximately a third of people without a disability; and young adults with disabilities, ages 16 to 19, have roughly twice the unemployment rate of young adults without disabilities (Bureau of Labor Statistics, 2023). All of this speaks to the importance of ensuring that students with disabilities are prepared for successful postsecondary outcomes by having access to all opportunities while in the school setting. Furthermore, being thoroughly prepared to obtain a job after high school is of paramount importance for individuals with disabilities as they have historically had to overcome numerous other barriers.

Benefits of Inclusion in Career and Technical Education

Studies cited in the following section, which speak to the positive impact of CTE courses on all students, are readily available. Specifically, students were considered CTE completers, meaning that the students had successfully completed two or more credits from the same CTE Program Area. Those CTE completer students showed improved graduation rates, grade point averages, and post-secondary employment rates. General themes of these studies spoke to students having improved grade point averages. In his review of the literature regarding the efficacy of career and technical education for students with disabilities, Harvey concluded that "vocational education has been reported to make a significant difference in post school employment for students with disabilities when it was occupationally specific and directed at labor market needs" (Harvey, 2021). Wonacott reported that students with disabilities who had

access to regular CTE programs not only obtained paid competitive jobs more often, but also were better prepared to keep those jobs (Wonacott, 2000).

Although my study is not specifically about the effects of CTE, I believe it is important to include this facet in my research as it helps solidify the importance of my research. With that being said, there are numerous studies that speak to the benefits of career and technical education (CTE) for our students. It is important to note that many of the studies were from years ago when the requirements for education for students and educators were different than they are in the era of high-stakes education. It is also important to note that the positive causal impact of CTE course-taking on students varied or was even not a finding in some studies (Brodersen et al., 2021).

In many of these studies, CTE course-taking has been associated with a decreased dropout rate and increased student attendance and graduation rate. Further findings have connected CTE course taking with students earning more college credits, higher employment rates, and an increased rate in income and employment (Dougherty, 2016).

The National Center for Educational Statistics, utilizing data from the National Education Longitudinal Study of 1988 (NELS:88) and the Education Longitudinal Study of 2002 (ELS:2002), found that students who had taken 2.0 - 3.99 CTE courses had a higher post-secondary enrollment rate within eight years of graduation than the overall rate of the student population studied. However, students who had taken 4.00 or more CTE courses had a lower post-secondary education enrollment rate (U.S. Department of Education, 2016).

In a study conducted to determine if there is a connection between CTE enrollment and successful postsecondary outcomes for students with disabilities researchers used:

> longitudinal data from state data to investigate the relationships among career and technical education (CTE) enrollment, inclusion in general education, and high school and postsecondary outcomes for students with learning disabilities. We replicated earlier findings that students with learning disabilities who were enrolled in a "concentration" of CTE courses had higher rates of employment after graduation than observably similar students with learning disabilities who were enrolled in fewer CTE courses. We also found that students with learning disabilities who spent more time in general education classrooms in high school had higher rates of on-time graduation, college attendance, and employment than observably similar students with learning disabilities who spent less time in general education classrooms in these grades (Theobald et al., 2018).

Lee, Rojewski & Greg (2016) conducted a study where they found that it was not enough just for a student with disabilities to be in a random CTE course or even just a couple. The researchers specifically state that the positive correlation between CTE course-taking and successful outcome after high school occurs when the student takes four or more courses in the same program area—a concentration of courses. In a related study, findings included that high school students identified as CTE concentrators (three or more high school credits in a single career pathway) were more likely to be employed full-time after high school completion than non-CTE concentrators earning fewer CTE credits.

In a study from the National Assessment of Career and Technical Education: Final Report to Congress (2014) the findings in regards to the benefits of CTE classes were mixed. One finding was that between 1990 to 2009 high school graduates completing "4-year college preparatory coursework nearly doubled, and that CTE students showed larger increases than did non CTE students. However, this may reflect changes in who participated in CTE rather than the

impact of CTE" (U.S. Department of Education, 2014). The study also found that the college going and completion rates varied by the CTE concentration field. For example, the college going rate for computer and information sciences was 84% and the rate for repair and transformation was 52%. Results related to employment and earnings outcomes also varied. In the study they found that eight years after graduating from high school, CTE concentrators had average hourly wages that were not statistically different no better but no worse than those for graduates who were non-concentrators and had the same level of postsecondary attainment…[A positive finding was that] "six years after starting postsecondary education, students who earned a CTE certificate or associate's degree were more likely to be employed and to consider their job to be the start of a career than were those who did not earn a sub baccalaureate credential (U.S. Department of Education, 2014).

A policy brief was written by the National Center on Educational Outcomes at the University of Minnesota and Achieve with the goal of giving states education guidance on how best to provide students with disabilities a purposeful high school diploma so that they are prepared for life after high school. The policy brief titled "Graduation Requirements for Students with Disabilities" states that:

> it is critical that high school graduates, including students with disabilities, receive a diploma that means something — that they are prepared for postsecondary education and careers. All students deserve access to the academic skills they need so that they can make their own career decisions. They should not have those decisions made for them because they did not have the academic preparation they needed or, worse, left high school with a diploma believing they had been prepared (National Center on Educational Outcomes, 2013).

The report “Causal Effects of Career-Technical Education on Postsecondary Work Outcomes of Individuals with High-Incidence Disabilities” used data from the National Longitudinal Transition Study-2 and speaks to the power of students experiencing purposeful CTE course taking.

> A propensity score analysis revealed significant causal effects for a secondary career and technical education (CTE) concentration on the postsecondary work outcomes of adolescents with high-incidence disabilities. High school students identified as CTE concentrators (three or more high school credits in a single career pathway) were more likely to be employed full-time after high school completion than non-CTE concentrators earning fewer CTE credits. Results support and extend past descriptive and correlational studies by detecting a direct causal link between CTE and postsecondary work outcomes (Lee et al., 2016).

Although limited, correlational data suggest that students in a CTE program of study experience positive high school outcomes such as decreased dropout rates, improved attendance and course grades, and increased college enrollments (Hughes et al., 2002). In addition, the availability of the CTE option reduces upper-secondary dropout rates and improves labor market outcomes for participants (Bishop & Mane, 2004).

“Improving Graduation and Employment Outcomes for Students with Disabilities: Protective Factors and Student Perspectives,” is a study that examines factors that predict graduation, post-secondary employment, and a student’s continuing education (Benz, et al., 2000). The other study took into account students’ perceptions of what program and teacher characteristics they perceived were the most important in helping them realize their post-high

school goals. Findings in both studies concluded that career-related employment experience and having a meaningful student-led transition goal had a strong correlation of a student graduating from high school and having a successful employment outcome. It goes on to say that having a high school experience where the student has a strong connection with a staff member who helps them plan for post-high school goals is highly valued by the student.

In "Predictors of Postschool Employment Outcomes for Young Adults with Severe Disabilities," it states that students with severe disabilities often leave high school without the skills, experiences, or support to gain meaningful post-high-school employment (Carter, et al., 2012). The authors of this study considered many factors related to the student, their family, and school. Their findings for this specific population of students with disabilities show that students who held a paid community-based job while in high school led to a more successful employment rate after high school.

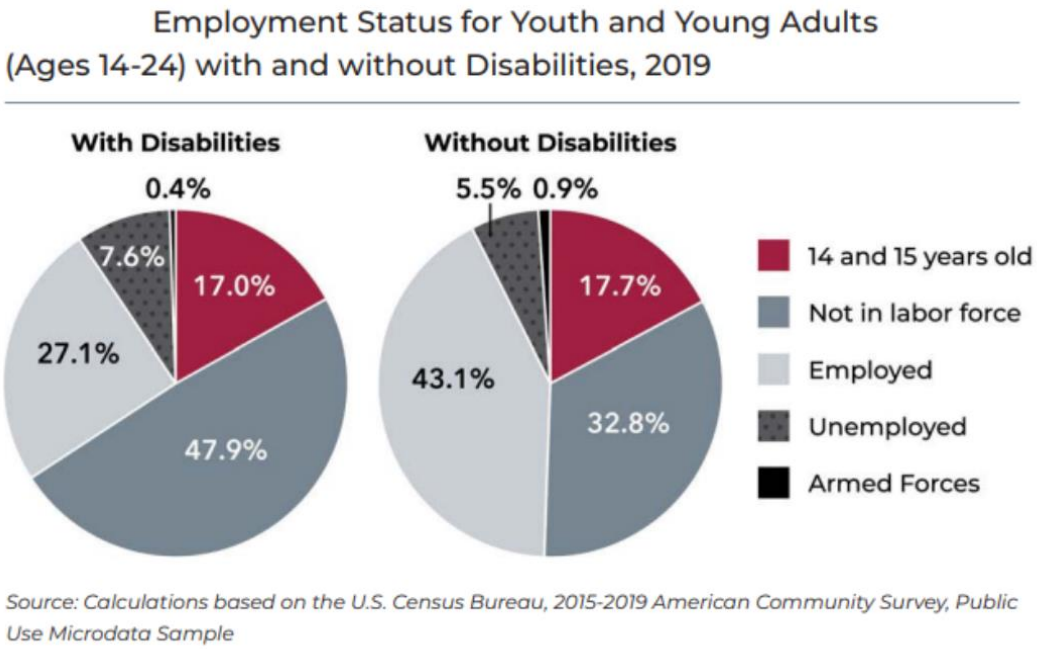
The Institute for Educational Leadership authored the 2021 Youth Transition Report that shows a gap between youth and young adults with disabilities and those without disabilities. The study measured success in education, employment, opportunity, and poverty at both the state and national levels. For the purpose of my research, I included key data from this report that speaks to gaps in the State of Washington. State of Washington data per study above:

- High School Attainment (graduated from high school) Gap Between Young Adults (18-24) with and without Disabilities, in Washington State: 2019 = 12.1%
- College Enrollment Gap Between Young Adults (Ages 18-24) with and without Disabilities, in Washington State: 2019 = 11.4%

- College Degree Attainment Gap Between Young Adults (Ages 18-24) with and without Disabilities, in Washington State: 2019 = 16.6%
- Employment Rate Gap Between Youth and Young Adults (Ages 14-24) with and without Disabilities, in Washington State: 2019 = 13%
- Poverty Gap for Youth and Young Adults (Ages 14-24) with and without Disabilities, in Washington State: 2019 = 5.4% (Cheng & Shaewitz, 2021)

Figure 3

Employment Status for Youth and Young Adults



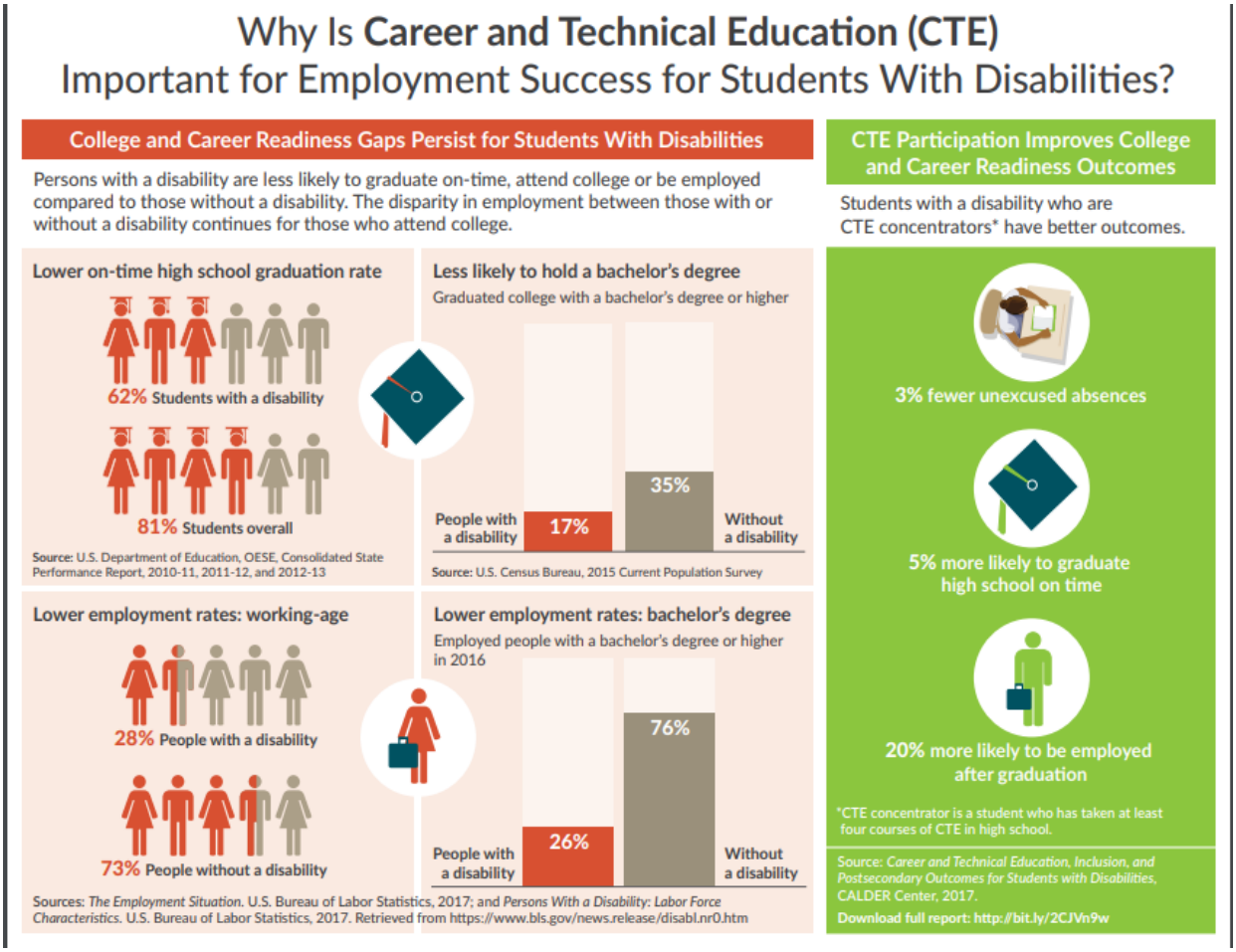
Source: Calculations based on the U.S. Census Bureau, 2015-2019 American Community Survey, Public Use Microdata Sample

A clear line can be drawn from low educational outcomes to low employment outcomes, including low wages and disengagement from the workforce. What begins as a 12.5 percent gap in high school attainment between youth with and without disabilities results in a poverty rate among people with disabilities that is more than twice the rate of those without disabilities (Cheng & Shaewtz, 2021).

In Figure 4 from The U.S. Bureau of Labor Statistics, it shows a clear and powerful picture of how students with disabilities benefit from purposeful CTE course taking.

Figure 4

Why is CTE Important for Employment Success for Students with Disabilities?



Summary

There is ample research around the impact of the bell schedule, the impact of taking CTE classes, and how inclusionary practices can improve student outcomes such as graduation and attendance rates and student achievement as measured by grade point average. Supportive

findings were noted in national studies and in requirements of both state and federal laws and acts. Further studies highlighted the different post-high school experiences that students with disabilities have versus students without disabilities. However, research specific to linking our state's CTE Graduation Pathway and elective course taking practices of our students with disabilities is lacking. This gap in research tells me that my research is important for districts and the students they serve.

CHAPTER III

METHODOLOGY

Purpose of the Study

To facilitate this study, I propose to use a qualitative case study approach. The qualitative method will allow me to conduct my research in an investigative manner. It is my hope that the findings of my research will be applicable to the work that educational leaders are charged with doing—ensuring all students are college and career ready. By collecting data specific to students with IEPs who lose an elective to receive special education services, I expect that I will be able to show that these students are not having equitable access to Career and Technical Education classes, which then reduces their access to the CTE Graduation Pathway. The findings of my research will make for more informed decision-making by educational leaders as they develop practices and procedures related to how they provide services to students with IEPs.

Research Design:

A qualitative case study is an in-depth description and analysis of a bounded system (Merriam & Tisdell, 2016). Since my data are coming from three years of graduates' transcripts from one high school, my analysis will allow me to understand the practices that either promote college and career readiness for their students with IEPs, or limit these students' access to post-high-school opportunities. The objective of the data analysis is to derive clear conclusions from a specific chain of evidence. According to Yin, any interested reader should be able to link the conclusions presented in the case study report to the underlying analyses, the supporting evidence, the case study protocol, and the original research questions (Yin, 2009).

Case study research involves "intensive study of a single unit for the purpose of understanding a larger class of (similar) units observed at a single point in time or over some delimited period of time" (Gerring, 2004). By including three years of high school transcripts in my case study I will have the opportunity to gain a deeper understanding of the problem. Per a case study conducted by Baxter and Jack (2008) that will allow me to better understand the problem so that I may be able to describe the research problem or situation (Baxter & Jack, 2008).

Theoretical Framework:

In qualitative research, before data collection is completed, the researcher needs to investigate extant literature, exploring exhaustively what research has shown to date, as well as major rival hypotheses or explanations. However, in my literature review I have found no studies specific to my research question: Do IEP students who lose an elective have reduced access to the CTE graduation pathway? According to Yin, any case study findings are "likely to be more convincing and accurate if [they] are based on several different sources of information" because multiple sources of evidence allow for data triangulation and the development of converging lines of inquiry (Yin, 2009, p.116). Although my case study is from a single high school, by having multiple cohorts of data, I believe my findings will be accurate for the school and population being studied. To this point, there is no rival hypothesis in my review of literature. Because I suspected there may be a counterargument to my study, I sought feedback from professional colleagues to confirm my processes, findings and recommendations.

The **research questions** to be addressed in my study are:

- What impact does losing an elective to receive special education services have on students' ability to access the CTE graduation pathway?
- What impact does losing an elective to receive special education services during their 11th and 12th grade year have on students' access to the local skill center?
- What impact does losing an elective class to receive special education services have on students' graduation rate?

Participants:

There are no human participants in this qualitative case study. However, I will be using de-identifiable data from three years of high school transcripts from a chosen public high school. Specifically, I will be analyzing the unidentifiable transcripts of students who graduated from said high school who had IEPs from the cohorts of 2019, 2020, and 2021. A total of 286 transcripts were reviewed, however, I chose to only include student transcripts that met the following parameters:

- Students who at the minimum attended high school (grades 9-12) in the specific high school reviewed for at least three years
- Transcripts of students who received special education services, but who were not fully self-contained (at least 2 classes were in the general education setting)
- Student transcript records, for only up to five years of high school were included in this study so as not to significantly impact the other data gathered (some students may have attended high school via a transition program for up to seven years, but only

information from the first five years was included in this study if the student met the other two parameters)

Because of the above parameters, out of the 286 transcripts reviewed only 201 were included in my findings. Although the transcript data were de-identifiable, I sought and obtained the district's permission to use the data for this study.

Setting

The high school chosen for this study is a comprehensive 4A public high school (The Washington Interscholastic Activities Association determined that schools with more than 1443 students in the State of Washington qualify as 4A) (WIAA, 2020). The school runs a six-period day in a two semester school year. Twenty-four credits are required for graduation.

Instrumentation, Procedures/Data Collection and Analysis

In qualitative research the researcher is the key instrument (Bogdan & Biklen, 1998). As the researcher I will collect data and proceed with analysis of those data encountered in de-identifiable high school transcripts using a digital spreadsheet. The collection of data will include every class each student took during their high school career, credit earned, and the year they took the class. I will also collect data specific to whether each student was enrolled in a special education resource class (Resource Study Skills) and how many semesters they were enrolled in this elective class. In addition, I will also collect data specific to CTE classes accessed during the students' years in high school. Doing this will allow me to analyze if each specific student had two credits or more of CTE classes from a given CTE program area that would have allowed the student to graduate using the CTE graduation pathway. My rationale for the analysis of

transcripts comes from my own knowledge of the impact scheduling decisions when a student who has an IEP struggles or it is determined the student needs additional services. In many cases, the decision is to remove an elective from the student's schedule in order to allow more service minutes related to the student's IEP.

Identification of Themes and Validity

My expectation of the analysis of transcripts is that I will see that students with an IEP who lose an elective credit versus students with disabilities who do not lose an elective credit, have fewer opportunities to be eligible for the CTE graduation pathway. However, what I may notice is that, while these students had fewer opportunities, my analysis may demonstrate that the representation of CTE pathway eligible seniors is equal between the two groups because there are many opportunities to take electives throughout the four years of high school.

Another finding may be that students who lose an elective class have fewer opportunities and decreased representation among students who attend the local skill center because the skill center requires three periods a day in the students' six-period schedule. A student who has an IEP and whose schedule is determined by special education classes needed to support their success may not have room in their schedule for the three periods required to attend the skill center. As a means of triangulating to support the validity of my findings (Merriam & Tisdell, 2016), I had my data, findings and recommendations reviewed by colleagues who have experience and leadership roles that are specific to special education, transcript data, data disaggregation, graduation pathways, and student scheduling decisions.

Limitations to the Study:

This study will be conducted by analyzing three years of transcripts data from one high school. The researcher did not have access to the students' IEP or evaluation, have knowledge of the IEP qualifying area(s), have knowledge of scheduling choices or decisions that played into the students' schedule; furthermore, I will not include information from the students' High School and Beyond Plan in my analysis. No surveys or interviews of counselors or IEP case managers will be conducted. Because of these limitations, additional research may expose additional findings or conclusions that support increased inclusionary practices for students with IEPs.

Subject Positioning:

Over my 28-year career in education, I have had numerous experiences. Through it all I have believed in doing for my students as I would want a school to do for my own children. This belief is what I have taken with me as a special education teacher, a building administrator, and now, a district administrator.

When incorporating purposeful transition plans for my students as a part of the IEP process as a special education teacher, I sought to make sure my students had access not only to career-related interest surveys, but more importantly full access to CTE classes in the general-education setting. As a building administrator I spent my first five years overseeing and supporting the special education department. Our department worked hard to make sure our students were ready for life after high school. However, during this time we did encounter struggles in scheduling opportunities and in practices that in some cases became barriers for our students. As a principal, I worked with a team to build master schedules with decreased barriers

and inclusionary practices that would benefit each of our students. Still, even with an inclusionary mindset, I know I did not get all of our students with disabilities the opportunities they deserved. Now as a district administrator, I work with a great team to continue the work that will close opportunity gaps for all of our students, including those with disabilities. I bring all of these experiences and a mindset that students with disabilities need full access to classes that allow them not only to graduate from high school, but will also prepare them for a successful future.

CHAPTER IV

Results and Outcomes

This qualitative case study came about as I reflected upon my educational career and thought deeply about the student outcomes we want our educational systems to provide for each one of our students. In my current administrative position, I have a unique view and understanding of the creation of master schedules in the secondary setting, the related scheduling process, the existing graduation pathways, special education and career and technology education (CTE) in Washington State. Connecting these educational practices and programs with graduation pathways made me wonder if students who receive special education services have equitable access to the CTE graduation pathway or if instead some special education students are denied this curricular option. My goal was to verify my hypothesis - that some of our students who receive special education services do not have equitable access and or representation in this pathway. To do this my study will answer three questions:

1) What impact does losing an elective to receive additional special education services have on students' ability to access the CTE graduation pathway?
2) What impact does losing an elective to receive special education services during their 11th and 12th grade year have on students' access to the local skill center?
3) What impact does losing an elective class to receive special education services have on students' graduation rate?

I reviewed 286 high school students' transcripts, 201 of which met the criteria to be included in my research. These transcripts reflect the academic records of students who receive special education services from a comprehensive high school that offers a six-period day. The data I sifted from these transcripts suggests that my hypothesis holds true. Students who receive

special education services who lost an elective to receive more special education services, did in fact have a decreased CTE Graduation Pathway rate as compared to their special education peers who did not lose an elective. My findings included the following:

Table 2

Summary of Case Study Findings Table

Group	No. of Trans-cripts Analyzed	No. of Transcripts that met Parameters of Transcripts to be Considered	Avg. No. of Special Educa-tion Elective Semester Sections taken in High School	No. of CTE Semester Sections taken in High School	CTE Skill Center Enroll-ment Percent	Advanced CTE Course Taken?	CTE Gradua-tion Path-way Met?	Gradua-tion Rate
Students w/ IEPs who lost an elective	159	129	4.02	7.18	19.23%	30%	56.15%	86%
Students w/IEPS who did not lose an elective	127	72	0	9.75	38.89%	43.06%	80.56%	97.2%
Difference	NA	NA	4.02	2.57	19.66%	13.06%	24.41%	11.2%

The data above show that of the 129 transcripts analyzed of students who lost an elective to receive an elective special education class named Resource Study Skills, the students averaged a little over four semester sections (or 2.0 credits) in their four years of high school. The school I selected for my study operates on a six-period day and requires 24 credits for graduation; thus, those two credits equate to 8% of those students' credits needed for graduation. These same students also averaged slightly more than seven semester sections of CTE classes (or 3.5 credits) or 14.5% of the required 24 credits for graduation. These same students, when their CTE course

taking classes were analyzed, were able to meet the CTE Graduation Pathway requirement (at least two credits from the same CTE Program Area) 56.15% of the time. Therefore, students who had access to CTE credits were more likely to achieve the CTE Graduation Pathway than those students who did not have access to these CTE courses.

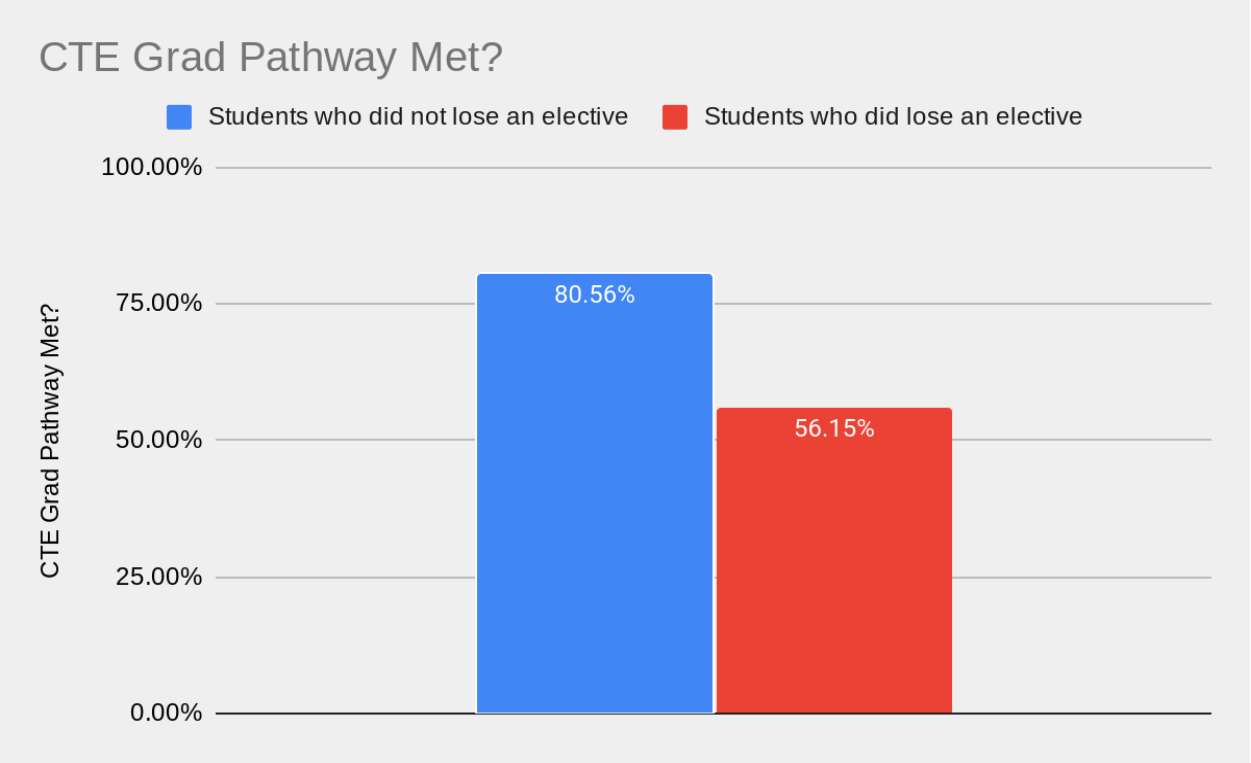
When looking at students with Individualized Education Plans and whose high school courses did not include an elective special education class named Resource Study Skills, those students were able to take 9.75 semester sections of CTE courses (over 4.5 credits) in their four years of high school. These same students were able to meet the CTE graduation pathway 80.56% of the time, which represents a 24.41% increase compared to the other student group.

Research Question # 1: What impact does losing an elective to receive special education services have on students' ability to access the CTE graduation pathway?

As noted above, the major finding of my study was that students who did not lose an elective to receive additional IEP services were 24.41% more likely to have met the CTE Graduation Pathway than their peers who did not lose an elective. In my research, for students who lost an elective section to receive a special education elective class titled "Resource Study Skills", averaged four semester sections of this class while in high school (grades 9-12). The four-section average equates to two of the 24 credits or 8.3% of the credits needed to graduate. It is important to note that these four Resource Study Skills credits do not count towards any graduation requirement other than a general elective credit. By contrast, CTE Graduation Pathway credits appear on students' transcripts as fulfilling a specific graduation requirement, akin to credits in mathematics or English/language arts.

Table 3

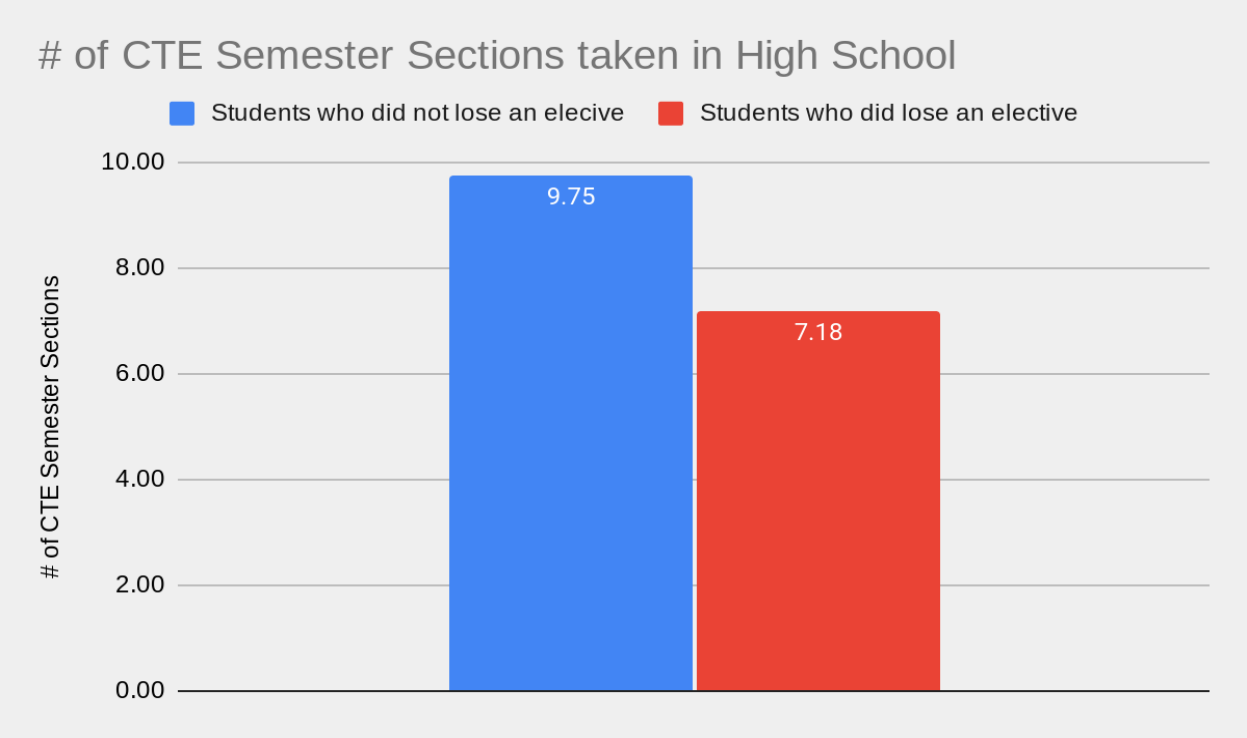
CTE Graduation Pathway Met?



In the analysis of the 129 students whose course-taking included a special education class titled Resource Study Skills, the students averaged just over four semester sections of this class in their years in high school. These students then had those four semester sections to enroll in other elective courses, some of them possibly being a CTE course. The following table shows the number of semester CTE sections for the two groups in this study.

Table 4

Number of CTE Semester Sections taken in High School



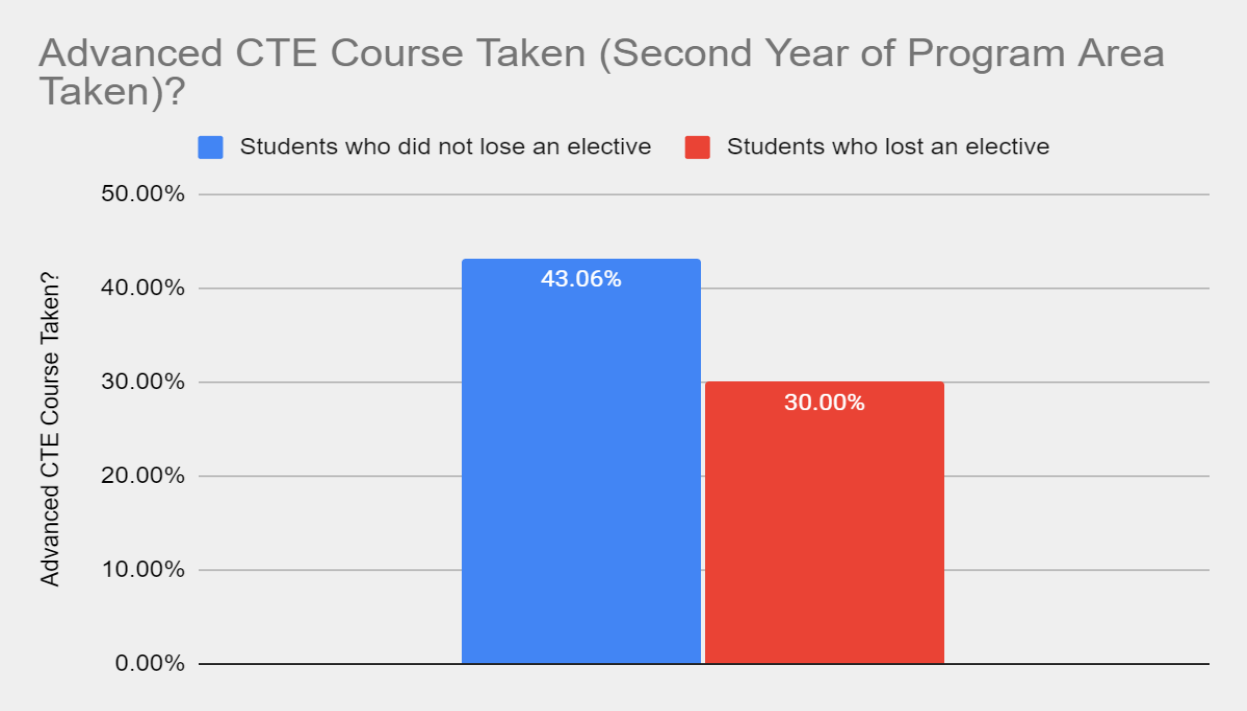
By averaging more than two and a half CTE course taking semester sections more, those students who did not lose an elective had a 26.4% increase CTE course-taking. These extra sections would make it more likely that a student could meet the CTE Graduation Pathway requirement (at least two credits from the same CTE Program Area). As noted in the literature review both Harvey (2021) and Wanacott (2000) spoke to the post-high school employment benefits of CTE course taking (paid competitive jobs more often and better prepared for keeping the job).

Additional data from my analysis of transcripts focused on classes taken by the same students that would be considered advanced CTE classes. These advanced classes would be

courses that have a prerequisite course prior to taking the course (e.g., Introduction to Engineering and Design followed by Principles of Engineering or Culinary 1 followed by Culinary 2) or if the student completed both semesters of the same course at the local skill center. In both cases, the student would have at least two CTE credits from the same program area and would have received instruction in the same career pathway. It is also noteworthy that a second class in a course sequence is more likely to offer dual credits (both high school and college credits) than the first year of a course sequence. The table that follows shows my findings when comparing students with an IEP who did not lose an elective versus those who did lose an elective to receive additional special education services. As the data illustrates, students who did not lose an elective were able to participate in what is considered advanced CTE classes 13.06% more often than the peers who did lose an elective.

Table 5

Advanced CTE Course Taken?



Related to advanced course taking data, there is a report specific to the school in question that was completed in a partnership with the company Always be learning (Abl). The mission and vision of Abl is "Each student is given the opportunity to maximize their potential and make informed choices between viable and meaningful next steps about their education and future" (Abl, n.d.). Specifically, Abl helps schools look at students who, based on items such as course taking and grade point average, are more prepared for college and career. When a student takes a class such as an Advanced Placement (AP) course, or another dual-credit qualifying course such as College in the High School (many CTE courses have College in the High School dual credits), those courses have a positive impact on the analytics from Abl's findings of whether a student is college and career ready. The Abl analytics align with my analysis of "Advanced CTE Courses

Taken" in this study. The Abl data collected give overall findings narrowed down to student groups, but not individual student course-taking practices that were achieved in this qualitative case study. However, when analyzing the Abl data from the same district, I noted strong relationships with the data I collected and analyzed. Abl's 2019 data related to Academic Intensity (a dual-credit course is a part of determining Academic Intensity) course taking showed the following data from students with and without an IEP.

Table 6

Always be learning: Dual Credit Course Taking 2019

	Dual-Credit Course Taking: Students without an IEP	Dual-Credit Course Taking: Students with an IEP	Opportunity Gap:
2019	39%	16%	23%

*data specific to the graduating courses of 2020 and 2021 was not available at the time of this research (ABL, n.d.).

Although my study specifically targeted the difference between two subgroups of students with an IEP versus Abl's data shown above, which focused on students with an IEP versus those without an IEP, it is still important as the data above demonstrate that students with IEPs who attend the school in my study have opportunity gaps, a conclusion that supports the findings of my study.

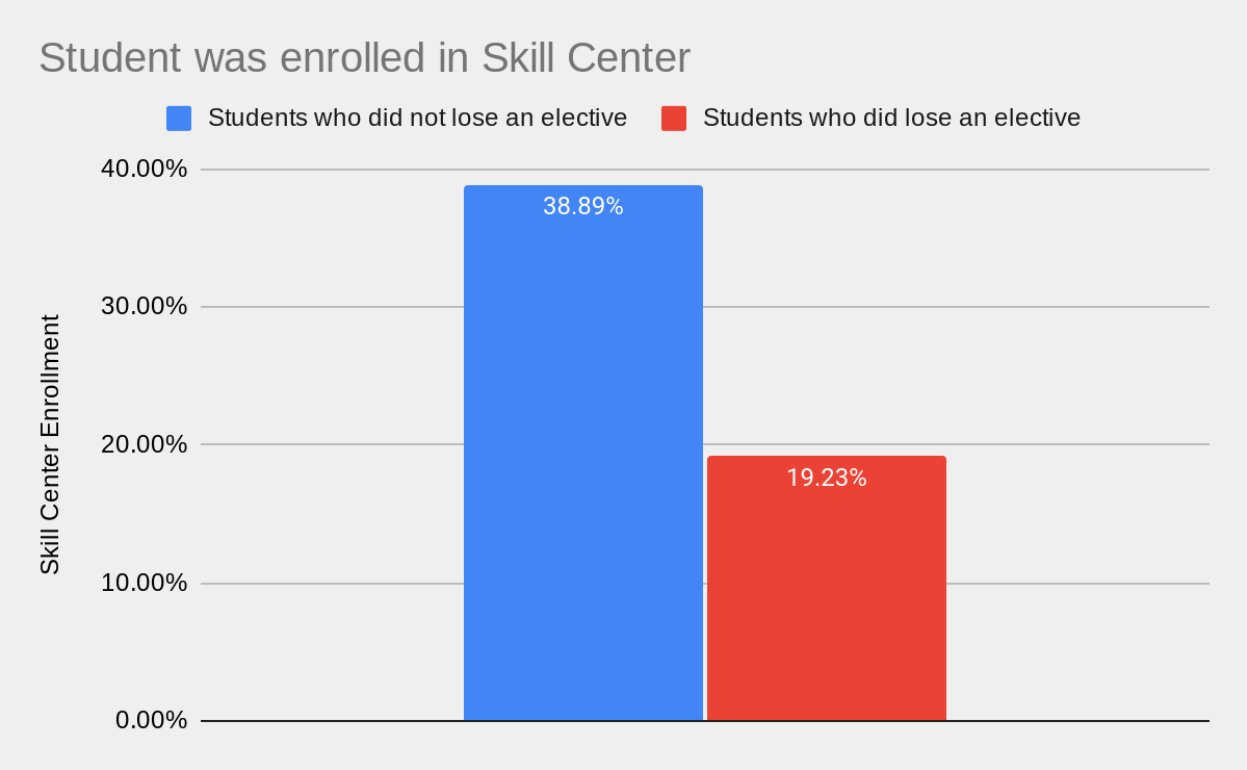
Research Question # 2: What impact does losing an elective to receive special education services during their 11th and 12th grade year have on students' access to the local skill center?

The impact of a student's ability to enroll in our local skill center if they lost an elective to receive additional IEP services reflects another focus of the current study. Students who enroll in a skill center attend the program for half (three periods) of their school day. During this three-period block section of their day, the student takes what is essentially a three-hour block class

that is specific to a CTE-based class that specializes in a given subject. Examples of this include; Aerospace Manufacturing & Maintenance Technology, Animation, Culinary Arts, Criminal Justice, Medical Assisting and Video Game Design. These courses often offer dual and equivalency credits for the students as well. Dual credits are high school and college credits that are obtained simultaneously. Equivalency credits offer the student the opportunity to earn not only a CTE credit, but also possibly a credit in a core content area such as math, English or science. Skill centers also work to connect students with employment opportunities both during and after their high school careers. For some students, having access to a skill center may be equivalent to the availability of Advanced Placement or Running Start opportunities for other students. A skill center is not for every student, but the opportunity to enroll in one, if the student chooses to, should be available. In my research I found that students who did not lose an elective to receive additional IEP services were twice as likely to attend our local skill center as students who did not lose the elective. Students who stay in the skill center for the entire year and pass their class will all have met the CTE Graduation Pathway requirement as each year of attending a skill center equates to three full credits from the same CTE Program Area, thus meeting the Washington state requirements for this specific pathway. Per Harvey's research (2021), when these students take CTE courses that are directed at labor market needs it has a positive impact on post-high school employment opportunities.

Table 7

Student was enrolled in Skill Center



Not directly captured in the chart above is that of the 53 students in this study who attended our local skill center, 90.5% of them graduated from high school. Of those students who did not lose an elective and did attend the skill center, 96.4% of them graduated. Of the students in this study who did lose an elective but were still able to attend the skill center, 84% of those students graduated. In the same three-year window of this study the OSPI report card on the selected school showed a 74.7% graduation rate for students with an IEP (includes students who attended the skill center and those who did not).

Research Question # 3: What impact does losing an elective class to receive special education services have on students' graduation rate?

Out of the 201 transcripts that met the parameters to be included in this study there was an overall graduation rate of 87.5%. As noted above in Question 2, per the OSPI report card for this chosen high school, the special education graduation rate for the same three-year period that correlates to this study averaged 77.4%. Although this study did not identify why there was nearly a 10% difference in the graduation rate, the answer may be found in the fact that this study did not include all students with IEPs who attended this high school. Students who transferred in with more than two years of high school credits, who were largely in self-contained classes (at least five of the six classes) and students who only accumulated less than three years of attendance in this high school (may have dropped out of school after their freshman or sophomore year) were not included in this transcript analysis study.

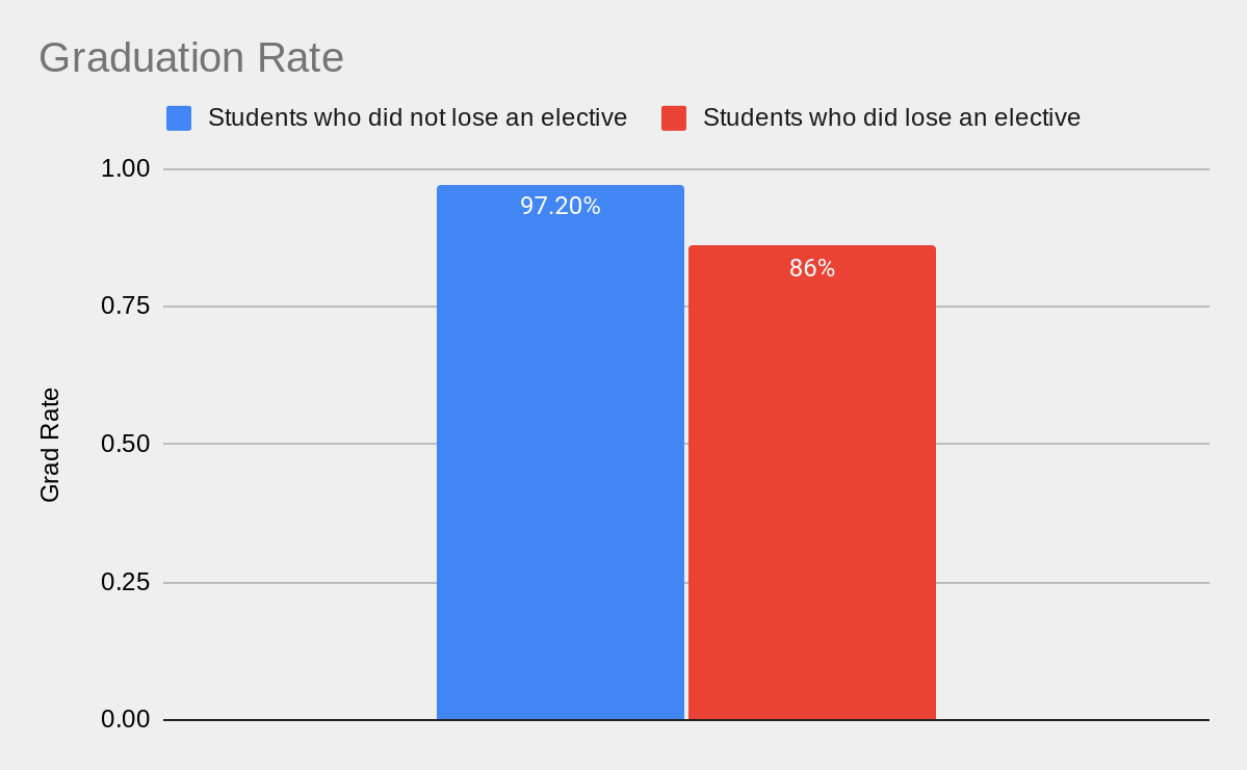
The graduation rate for students who did not lose an elective class to receive more special education services was 97.2%, while the graduation rate for those students who did lose an elective by taking the special education class Resource Study Skills, at least one semester in high school was 86%.

It is important to also remember that this study did not look at special education qualifying areas of the student, delve into other risk factors the IEP team may have considered when scheduling the student for this elective study skills course or look at grades of core content classes that may have been suffering when this schedule decision was made. That being said, the graduation rate is quite high when compared to the overall graduation rate of special education students in this high school (77.4% average) or the state's special education graduation rate during the same three-year period (63.5% average) per the OSPI report card (OSPI, 2022). The

chart below shows an 11.2% increase in graduation rates between the students who did not take the special education Resource Study Skills class versus those who did take the class.

Table 8

Graduation Rate



To verify my findings, I consulted other administrators and specialists who have specialized backgrounds that would allow them to analyze and establish the internal validity of the data and to draw their own conclusions. These colleagues included: District CTE Director, Executive Director of Special Services, Executive Director of Educational Technology and Assessment, Director of Equity, Diversity and Inclusion, Manager of Data Analysis and Data Integration Specialist. Input gathered from them was shared in a conversational manner as we reviewed the processes, final data, findings, and recommendations. Their perspectives are meant

to add some level of insight and validation and are not to be considered as a part of an action plan for the district involved.

In summary, when students with Individualized Education Plans lose an elective credit to receive additional special education services in a Resource Study Skills class, they do not have the same curricular opportunities as other students who do not lose an elective to receive additional services. Students who lose the elective opportunity to take a CTE course do not have the same access to the programs and opportunities that prepare them for life after high school. By missing CTE classes, programs such as skill centers and the related CTE graduation pathway, these students miss valuable exploratory opportunities that can better prepare them for a successful future.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

When I was a special education teacher, one of the things I truly valued doing was writing a student's Transition Plan as a part of their IEP, a process, I truly enjoyed writing with the student and the family. The Transition Plan is about the student while they are in high school and after high school. Connecting school and career truly engaged the students because they could see themselves in the plan. Through this process, they could see and understand why the courses they were taking in high school had a purpose. As I went into the current study, I was remembering those times as a teacher trying to make sure my students had access to classes that matched their interest. In some cases, the students with whom I was working, were not able to access the classes they were interested in because there was not enough room in their schedule or because we were told the class was too hard for them. As a principal who built many master schedules and served on IEP teams where Transition Plans were being discussed, I could see the same barriers that I faced when I was a teacher trying to meet the career interest of a student for whom I case managed. In writing this dissertation I attempted to identify a possible root cause of what may have led to inequitable access to Career and Technical Education classes. This qualitative case study analyzed 201 high school transcripts of students who attended the same high school. The study was designed to answer three questions:

- *Research Question # 1: What impact does losing an elective to receive special education services have on students' ability to access the CTE graduation pathway?*
- *Research Question # 2: What impact does losing an elective to receive special education services during their 11th and or 12th grade year have on students' access to the local skill center?*

- *Research Question # 3: What impact does losing an elective class to receive additional special education services have on students' graduation rate?*

The data from selected school and graduation cohorts of 2019, 2020, and 2021 highlight discrepancies between students with IEPs who did not lose an elective to receive additional services via a class titled Resource Study Skills when compared to their peers who did take the class:

- 24.41% increase in being able to successfully access the CTE Graduation Pathway
- 19.66% increase in accessing the local skill center in their course-taking
- 11.21% increase in graduation rate.

Findings

My findings show that students with an IEP who lose an elective credit to receive additional IEP services via an elective course named Resource Study Skills have less access to the CTE Graduation Pathway by 24.41% when compared to their special education peers who did not lose a credit. In addition, they experienced lower representation to the skill center and an 11.2% decrease in graduation rate versus their peers who do not lose an elective. The current study focused on data from a single school district in the state of Washington. These findings should encourage school and district teams to come together to work collaboratively in analyzing the data from this research and look at their systems and beliefs that may have played a role in these outcomes.

The process of developing a four-year course-taking plan for a student who has an IEP involves the IEP team developing a high school plan that prepares the student not only for

success while they are in high school, but also a plan that results in the student being college and career-ready. This planning is referred to as the Transition Plan. This plan is built into the IEP when a student reaches age 16 and includes the student's interest, skills and goals for high school and beyond. It also must align with the student's High School and Beyond Plan. All of this is somewhat of a balancing act. The IEP team, which includes the student and family, must think through a course of study plan that meets the student's needs and supports them in reaching their academic goals, yet also prepares them for life after high school. The data and conclusions from this study pointedly highlight unintended consequences, both short- and long-term, that impact the probability that a student who is receiving special education support will have access to career and technical curricular options as part of the Transition Plan. This qualitative case study illustrates that teams need to think through decisions that lead to a lost or not purposefully-considered elective course for the student or conversely, that may result in options that will support students' success beyond high school graduation.

As mentioned before, in examining data for this study, I did not have knowledge of each student's IEP or related documentation. This is important to state because the IEP team will have access to the student's learning, social emotional development, college and career goals and life goals. In some cases, this may lead to a decision that does have the student lose an elective course to take an additional IEP support-type course to meet the student's individual needs.

Implications for practice and recommendations

My research and literature review addressed both high school benefit (e.g., increased attendance in school, increased grade point average, increased graduation rate) and post-high school benefits (increased employment, increased income earnings) that intentional CTE course

taking can add to a student's education and career outcomes. In addition, it has been made clear that state and federal laws require inclusion in general education programs and purposeful graduation planning (e.g., High School and Beyond Plan and the Transition Plan related to the IEP) for each student with an IEP. As an outcome of this research, I am recommending the following:

State:

1. At the state level, there needs to be a specific study, not just overall findings, related to students receiving special education services accessing the CTE Graduation Pathway, but also what factors impact these students' access to the CTE Graduation Pathway. By surveying districts throughout the state, we will be able to understand more thoroughly what scheduling practices do and do not work at the systems and beliefs levels. Do schools that offer an eight-period day versus a six-period day have similar outcomes? Do schools that utilize the High School and Beyond Plan purposefully see improved graduation rates and successful post-high school outcomes? Do schools that have higher inclusionary rates show greater access to CTE classes and dual-credit classes than those districts that have a lower inclusionary rate? This knowledge may impact statewide professional development (from the central office to the building administrator and to the teacher and counselor audiences) related to inclusionary practices and overall support related to special education.

District and School:

1. At the district and school level, the action steps must be a part of our reflections on our core beliefs regarding Equity, Diversity and Inclusion. Does the school believe in all students in all places? If not, why? Exploring implicit bias may be a starting point.

The district and the school will need to identify systems and barriers that prohibit all students from having access to programs and services. Are there policies, procedures or budgets that do not support access and representation to certain programs or opportunities?

2. Specifically, at the master schedule level and course offerings, are there courses that students are assigned to that unintentionally do not prepare them for college or career? Are there opportunities to move general elective classes to CTE and/or dual-credit opportunities? Does the school offer a mechanism for each student to have support when considering scheduling decisions for the next year such as advisory periods where an adult staff member can offer support for aligning the career interest of the student to the scheduling of the classes for the upcoming school year? Finally, district and school leaders should look at scheduling practices that do not prepare students to be college and career ready such as Teacher Assistant course offerings or students repeating classes that they have already successfully completed.

3. I recommended that the district looks for other ways to support student needs without having a student lose an opportunity to take an elective that can prepare them for a successful post-high school outcome. Strategies such as incorporating support periods via an intervention, such as scheduling an enrichment period into the bell schedule for all students would provide an equitable way to meet each student's needs while providing the same course-taking opportunities for each student.

4. Districts will need to use analytics that measure students' post-high school success as a part of the school and district improvement plan. Although all schools have access to post-high school data to measure their students' success, it is not a requirement to use the

data, or to report out on it. Although a student's post-high school outcome is not solely determined by the school setting, the setting does play a role. By purposefully analyzing the available data a school and/or district can more strategically plan for providing a supportive system for each one of their students.

5. The district and school will need to have professional learning conversations with IEP team members on a regular basis to discuss not only possible implications of course taking, but also about increasing their collective knowledge of existing CTE courses and apprenticeships so the student's IEP Transition Plan is more connected with each student's post-high school goals.

6. The district in this study should review existing CTE courses and existing course taking patterns to see if current classes are meeting the needs of their students. Are there gaps in program areas that may cause students not to have access to courses that align with their interest areas, but also do not meet the requirements of the CTE Graduation Pathway (2.0 credits in the same CTE Program Area)? This review could also identify other possible needs such as staff assignments, staff professional development needs and the need for improved communication with parents regarding programs available for their students.

7. The district should explore purposeful ways to communicate the purpose of the High School and Beyond Plan to students, families and staff. I further recommended to identify a systemic manner not only to fill out the plan, but also to use the plan purposefully and continuously use it to determine course-taking for students that aligns with career interests.

Implications for future research

1. In considering the potential scope of my research, I had started with many more targets to consider. Follow-up research could also consider noted discrepancies and why these discrepancies exist between students with IEPs and those without IEPs. This examination of discrepancies could be similar to my research, in that I looked at course enrollment differences with students in special education. The same research should be conducted for English language learners and students who take math or English support classes as electives instead of a possible CTE course selection. This continued research would be able to consider course enrollment patterns for all educational programs and ethnicity groups with the goal not being just to identify opportunity gaps, but to identify the potential cause of the gaps, and lead to remedies and solution.

2. Further suggested research could focus on knowledge of individuals who make up an IEP team. Do these team members understand the possible lifelong implications of course enrollment in high school? This type of exploration would look to not only gather information about the IEP team's knowledge of how course taking in high school may impact college and career readiness, but also long-term employment readiness and income earning potential for a student. This type of research might then lead to professional learning of staff, parents and students.

3. Research specific to students with IEP service areas and their special education qualifying categories (e.g., specific learning disability, behavior, math, and reading) would help identify commonalities amongst students who are more routinely placed in the special education elective course titled Resource Study Skills. This may allow the school to identify other means of support during the school year that might preclude

students having to forfeit a career-readiness type class. Furthermore, by more clearly identifying commonalities in the special education qualifying area, it may allow the district to look at interventions for this group of students even before the student reaches high school.

These recommendations to the state, district and school will help make a difference for each student in our state. It is not enough to know the opportunity gap for our students and then to stop there. We must work together to identify the why behind the outcome. Districts working together to share best practices of what to do and what to avoid will make the work around equity and inclusion for each student more timely for all and just in time for others.

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APPENDICES

Appendix A:

Summary of Findings:

Graduation Cohort (2019, 2020, 2021)	No. of Transcripts Analayzed	No. of Transcripts that met Parameters Identified to be Considered in Study	# of 194/195 Semester Sections (lost an elective)	# of CTE Semester Sections	Advanced CTE Course Taken?	Skill Center Enrollment?	CTE Grad Pathway Met?	Graduation Rate:
Did not lose an Elective	127.00	72.00	0.00	9.75	43.06%	38.89%	80.56%	97.20%
Did lose an elective	159.00	129.00	4.02	7.18	30.00%	19.23%	56.15%	86%
Difference			-4.02	2.57	13.06%	19.66%	24.41%	11.20%