

Teacher Recruitment and Preparation Through High School Grow Your Own Teacher
Training and the Application of Mentorship Before Graduation

by

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ABSTRACT

Nationally, schools in the United States struggle to recruit and retain highly qualified teachers. Previous research supports using teacher pedagogy training and mentorship to increase retention. This study examines the use of mentorship in a high school Grow Your Own teacher training program and student career selection. The action research study used a mixed-methods approach framed by social cognitive career theory. The study explores how student self-efficacy beliefs and career selection evolved through a semester-long mentorship program. The study also examines mentors' ability to identify student pedagogy strengths. This study builds on previous research about teacher recruitment and retention. The findings outlined in this study highlight the use of mentorship in a high school grow your own teacher training program and the student's future career selection. Most participants changed their perception of the teaching profession through the four-year teacher training program. Mentors also reported a high level of confidence in identifying student pedagogy strengths. The fluidity of student career selection through high school allows for professional training programs to inform their decision. High school career training program designers can also use the information collected through mentorship to shift their actions based on the information received. The use of grow your own professional training and mentorship in this study could be applied to professions outside of teacher training to develop high-skill workforce pipelines.

Keywords: Teacher Recruitment, Teacher Retention, Grow Your Own, Career and Technical Education, Teacher Shortage

DEDICATION

To my family, the limitless love and support you show me is always felt. I know that nothing we accomplish in life is possible in isolation, and I eagerly share my life with you. Mandy, thank you for believing in me and providing the emotional space to continually pursue my crazy ideas. You set the highest bar for yourself, you are my inspiration. We make a great team! Everly and Maxwell, I am proud of you, I love you, and I am honored to be your dad. Mom and Dad, thank you for showing me how to apply work ethic, servant leadership, and unconditional love to create a wonderful life. You all motivate me every day to live in a way that honors you, and makes you proud to call me your husband, dad, or son. I love you.

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CHAPTER 1

INTRODUCTION

In 2022, I became a principal tasked with opening a new school. In this first year of work, a key element was recruiting a highly qualified staff. The excitement of opening a school was tampered with anxiety about recruiting 100 new teachers amidst a national teacher shortage. In that same year, 2022-2023, over 50% of the public schools in America reported a staff shortage in their schools (Institute of Educational Sciences, 2022). Classroom teachers across the country are leaving the profession at an alarming rate, and there is a decline in the number of students entering teaching colleges or earning postsecondary degrees in education since the early 2000s (Olsen & Anderson, 2007; Rhodes, 2017). Further, teacher recruitment, retention, and staff morale are trending negatively; for example, over 300,000 people, almost ten percent of total teachers in the U.S., left the profession between February 2020 and May 2022 (Carver-Thomas & Darling-Hammond, 2017; Dill, 2022). As a high school principal and researcher, I want to determine whether a grow your own (GYO) teacher training program in high school could serve as a solution for creating new teacher candidates. This study investigated the interest of high school students in becoming a teacher after participating in a GYO teacher training program through the lens of a mentorship program.

As a high school principal, I work with student, novice, and veteran educators. I observed the benefits of mentor-student relationships as an expedited learning process for new teachers and increased confidence in their influence on student learning. Occasionally, new teachers leave our school and the profession too soon due to low confidence and job satisfaction. In my observations and conversations with these

teachers, they often needed to develop a mentor-student relationship or a connection to the school community. As a teacher, I relied heavily on peer mentors early in my career to hone my craft. This action research study implemented a mentorship intervention applied to students in their final high school semester of a GYO teacher training program.

Larger Context

Unfortunately, school districts across the United States face a shortage of highly qualified teacher candidates (Wiggan et al., 2021). The national teacher shortage surpassed 110,000 openings in 2018, representing over three percent of the teaching workforce (Garcia & Weiss, 2019). The traditional pipeline from teachers' colleges in universities to school districts needs to produce more graduates with undergraduate degrees in education to meet the current market demands. This traditional pipeline can no longer support the demand to fill teacher vacancies in all classrooms (Schaeffer, 2022). Both recruitment and retention are challenges within the national teacher shortage. Recruitment and retention rates are declining as the number of staff positions required to operate schools has increased by 13% through increased student enrollment and a reduction in staff-to-student ratios (Wiggan et al., 2021). The increase in staff is related to student support in academics and wraparound social services related to school-identified needs or policy changes at district or state levels.

Choosing a profession is often made before high school graduation (Lent et al., 1999). A possible solution to increasing the number of highly qualified teacher candidates is creating GYO teacher training programs in high schools (Brown, 2018). Jessen et al. (2020) described GYO teacher training programs as a system to recruit

candidates from the local community to the teaching profession. Recruitment and retention of teachers is a local industry, with 60% of teachers reporting living within 20 miles of their hometown (Jessen et al., 2020). GYO teacher training programs target students from the community, intending to have them return as teachers after college graduation. Therefore, GYO teacher training programs in high schools could help increase the recruitment of students in the education profession (Hanover Research, 2019). Considering new approaches, such as GYO teacher training programs, is crucial to close the gap between highly qualified teacher applicants and vacancies.

Recruitment

Beginning in the early 2000s, the number of teaching positions has outpaced the increase in student enrollment in K-12 schools (Ingersoll et al., 2018). Schools offer more support for students in and out of the classroom, with more instructional coaches, administrators, licensed teachers, and support staff. This increase in staff has led to an all-time high in staff-to-student ratios in 2019 (National Center for Education Statistics, 2021). School districts face a difficult challenge to recruit new teachers, with less than 5% of students surveyed on the 2016 ACT showing interest in the education profession, compared to 15% in 2010 (Brown, 2018; Wiggan et al., 2021). Similarly, college teacher preparation programs have seen an enrollment decline of over 25% for potential teacher candidates since 2010, and most parents surveyed in 2018 did not want their kids to become teachers (Partelow, 2019). The number of students graduating with an undergraduate degree in education peaked in 1970 with 21% of all degrees earned and dipped to 4% of all degrees earned in 2020 (Schaeffer, 2022). Our nation's current teacher shortage requires school districts to shift approaches and aggressively recruit

candidates for the profession as part of the solution to teacher vacancies (Herrmann, 2018). GYO teacher training programs can serve school districts by increasing interest in the profession and training new teacher candidates in the pedagogy valued in the local context (Valenzuela, 2017).

Retention

Teacher retention is a combination of keeping staff at the current school and in the education profession. Burns et al. (2019) found a positive relationship between increased student achievement and staff retention. However, new teachers, or those with less than three years of experience, leave the profession at a rate close to 50%, and teachers in low socioeconomic communities leave the profession at a higher rate (Carver-Thomas & Darling-Hammond, 2017). Across the United States, schools and school districts see, on average, a 16% attrition rate, with half of those teachers switching schools and the other half leaving the profession altogether (Carver-Thomas & Darling-Hammond, 2017). Following the COVID-19 pandemic, 300,000 teachers left the profession, more than 3% of teachers, between spring 2020 and spring 2022 (Dill, 2022). Even more challenging, teacher attrition is dramatically higher in Title I schools, where attrition rates are up to 50% higher (Carver-Thomas & Darling-Hammond, 2017).

Grow Your Own

GYO teacher training programs in a school district can be a solution to increase the number of potential candidates in the teacher development pipeline (Sutcher et al., 2016). Students often decide to pursue a career in education before enrolling in a college program while the student is still in high school (Hanover Research, 2019). School districts have access to students through the K-12 system and can offer teaching training

programs to recruit future teachers. The recruitment of students into the profession from the local community can also increase retention rates because teachers are more likely to work near their home communities (Carver-Thomas & Darling-Hammond, 2017). School districts can leverage the tendency of teachers to work near their homes by recruiting teachers in the community, thus increasing the retention of local staff members. Over 2 million high school students participate in career training programs in secondary schools across the country; however, only 2% of career and technical education (CTE) students pursue training to become teachers due to limited program offerings (Brown, 2018). The small percentage of students in CTE teacher training programs creates an opportunity for increased student recruitment.

GYO teacher training programs can increase staff diversification because the current students represent the demographics of the student population (Wood, 2022). Research demonstrates that when students have a teacher who represents the students' identity, student achievement increases (Partelow, 2019). Recruiting teachers with connections to the local community and representing the local community's identity can reduce the teacher shortage and raise student achievement (Jessen et al., 2020).

Local Context

I began my education career in a suburban Midwest school district in 2004, and teaching positions in that area were competitive, with dozens of applicants routinely applying for each open position. After two years teaching in the suburban Midwest, I eventually moved 1,500 miles to Las Vegas, NV. At the time of my move, Clark County School District (CCSD) in Nevada offered a \$2,000 signing bonus for new teachers, and I started the process. The hiring process included me completing an online application,

having a satellite interview with district administrators, and finally conducting a phone interview with an administrator at the school level. The school contacted me, and I accepted a position along with over 2,000 other new teachers in 2008. Seeing the competition between highly qualified teachers in suburban Midwest markets and the staffing shortage in a large urban district piqued my interest in teacher pipelines. In my experience, the expectations for student achievement are higher when students have great teachers in each classroom compared to schools with vacant teacher positions. I believe every student deserves an excellent education regardless of their zip code.

I continued my education journey in Las Vegas for over ten years. I started as a teacher and eventually moved into administration, serving in a leadership role where I have been since 2012. Currently, I serve as the principal of a magnet high school where all students participate in at least one CTE program of study. My current location opened in the fall of 2023, and I had the challenge of finding 100 staff members to open the school. When I accepted the opportunity to lead the opening of a new school, our school district had 1,800 positions unfilled; in other words, nearly 10% of staff positions were still open in August 2022. I was excited to open a school, but finding staff was my primary concern.

Student academic achievement can be influenced by several factors, some at the school level and some based on students' home life dynamics. Berliner (2009) outlined several societal variables associated with income disparities, which are outside the school's control and majorly influence student achievement. Hattie (2003) described the teacher in the classroom as the most important influence on student achievement that the school can control. However, Berliner (2004) found that the teachers had minimal

influence on learning compared to the societal influences while also reporting that expert teachers slightly outperform non-expert teachers with similar student groups.

As I tried to emulate the student academic success of my previous principal experience in Las Vegas, I knew that finding high-quality educators was vital. In my previous setting, I worked to staff the school each year during a teacher shortage. We had an average of seven open teaching positions each school year, which was 88% retention, compared to the national average of 92% for teacher retention (Sutcher et al., 2016). Moreover, our school had one of the best staff retention rates in the district. Nevertheless, even with a great school, we struggled to have a full teaching staff each year. Staff retirements, including those leaving the profession or leaving Las Vegas, are attributed to the majority of vacancies created at my previous school. Our school had minimal openings from staff transferring internally around the school district; however, most of our teachers come from internal transfers. When we filled our open teaching positions with staff from neighboring schools, this created an opening for our sister schools.

The number of candidates applying for open jobs varies considerably based on the location of the school, time of year, and subject area. After school begins in August, qualified teachers are rarely available for hire. Any retirement during summer break or the school year often leads to an unfilled teacher position during the following school year. Teacher contracts allow for internal transfers between schools during a short period in the spring. After the internal transfer window closes, however, only external candidates can be hired. I have felt firsthand how difficult it is to fill each classroom with a great teacher every year in a large urban school district due to teacher transiency in leaving the school, district, or the profession.

In August 2022, CCSD posted over 1,800 teacher vacancies after the start of the school year. CCSD is a large urban school district serving over 300,000 students in more than 380 schools. CCSD has successfully recruited candidates and hired each year; however, staff attrition requires the school district to hire many teachers yearly. In large urban school districts like CCSD, the cost to recruit and train a new teacher can exceed \$20,000 (Carver-Thomas & Darling-Hammond, 2017). The school district has hired 1,500 to 2,500 external teacher candidates for the past five years to fill vacant teacher positions. Because of attrition, the new hire counts cannot keep pace with the district's demands, which left the school district with a net shortage of nearly 2,000 teaching staff to start the year.

CCSD recruits and hires teachers worldwide via alternate routes, including business and industry license programs and local teacher preparatory colleges. The traditional teacher pipeline, from local colleges to school districts, cannot support the number of open teacher positions. Nevada has less than ten teacher college preparation programs, and the local colleges cannot satisfy the demand for new teachers in the region. The Nevada System of Higher Education (NSHE) schools had under 3,000 total students, or less than 1,000 per grade level, enrolled in a teacher college in 2021. Starting the 2023-2024 school year, over ten Las Vegas high schools participated in GYO teacher training programs, which may become part of the solution to our local teacher shortage. GYO teacher training aims to increase the number of secondary students enrolling in local teachers' colleges while assuming that those students will graduate from the teaching college and get hired into the school district. A secondary approach to solving the teacher shortage is to increase retention rates. Hiring teachers from the Las Vegas

community and GYO teacher training programs could positively influence teacher retention because most teachers choose to work within 20 miles of their hometown (Jessen et al., 2020).

GYO teacher training is available in most states; however, the models for teacher preparation vary between states and schools (Wood, 2022). To help solve the teacher shortage in Las Vegas, NV, the high school location for this research study created a GYO teacher training course in 2016. In 2018, the GYO teacher training program transitioned to a magnet program, and the first cohort of students graduated in 2021. The GYO teacher training model pathway comprised high school CTE courses, college dual credit courses, and internship experience. Students apply to the teacher training magnet program in grade eight and complete four years of CTE training courses through high school. The GYO teacher training program is in partnership with Nevada State College, and the GYO teacher training students could have the opportunity to earn up to 30 college credits toward a degree in education. As the former school principal and the researcher of this study, I collected data to examine student career choice and pedagogy strength near the end of the GYO teacher training program. The GYO teacher training program accepts 30 students as ninth graders and sees around 25 students complete the four-year training.

This action research study focused on the addition of mentorship to the GYO teacher training students. Small groups of students in the GYO teacher training program were assigned a mentor during the second semester of their senior year. Mentors met with student groups five times throughout the intervention. I collected teacher mentor and student data regarding their perspectives of the program and student motivation to

continue in the field of education. Based on the results of this action research study, I understood better how to maintain or improve the structures in the GYO teacher training program to maximize student interest in continuing into the field of education.

Problem of Practice

A variety of factors, both inside the school and out, influence student achievement (Berliner, 2009). Our current education model relies heavily on teachers working with students in each classroom. The teacher shortage is not improving, with a recent National Education Association survey finding that over half of the teachers surveyed considered leaving the profession sooner than planned (Dill, 2022). Schools must refill the teaching positions each school year to provide high-quality instruction for students (Burns et al., 2019). Student enrollment in teacher colleges has declined by nearly 30 percent over the last decade (Partelow, 2019). Traditional recruiting methods can no longer be the sole solution to filling teacher vacancies.

A possible solution to increase the number of highly qualified teacher candidates is implementing a GYO teacher training program in local high schools (Jessen et al., 2020). Talented students fill our classrooms, and schools can use a GYO teacher training program to recruit these students into the teaching profession. The problem of practice for this research study aims to determine how effectively a high school GYO teacher training program seems to be in informing students' career choices after graduation.

Purpose of Study and Intervention

This study aims to describe the effectiveness of a mentorship intervention within a high school GYO teacher training program. The mentorship intervention was designed to build student self-efficacy, model professional success, and identify areas for redesign

within the GYO teacher training program. I trained mentors to meet with small groups of students in the GYO teacher training program during their final semester of high school.

Setting

I collected data during the 2022-2023 school year at a high school in Las Vegas, where I worked in previous years. The school is a magnet high school in Las Vegas, Nevada, with a student population of 2,100 students. The student population is 56% Hispanic, 25% White, 9% Asian, 5% Black, and 5% Multiracial (Nevada Department of Education, n.d.). Students at the high school represent the demographics of the Las Vegas community, and 100% are eligible for free or reduced lunch (Nevada Department of Education, n.d.). One of the unique aspects of the school is that all students enroll in a CTE pathway, and the school graduation rate has been over 95% for the past five years, while the avg CCSD graduation rate was 83.5% during the same timeframe (Nevada Department of Education, n.d.). The high school employs 80 teaching positions, 20 support staff, seven counselors, and five administrators. Prospective students apply to a CTE pathway during their eighth-grade school year. Students are randomly selected through a centralized lottery process and are offered seats based on their application preference and lottery results. The high school is a publicly funded high school, and students take all courses required for graduation, along with CTE courses, over four years. The mentorship intervention described in this chapter focused on the fourth-year GYO teacher training students.

Students begin the GYO teacher training during their first year at the high school and take seven teacher training courses over four years. Four of the courses offer dual college credit through Nevada State College. Students graduate with a minimum of 18

college credits toward a degree in education, and 20 more general education dual credit opportunities are available outside of the CTE pathway.

The fourth year of high school's GYO teacher training program includes an internship experience. Students leave campus twice a week to work with a teacher at a local elementary or middle school. The internship also supports local classrooms while GYO teacher training students to put educational theory into practice. The goal of the GYO teacher training program is to increase the number of high school students who pursue the education profession after graduation. To increase the number of teacher candidates, the high school GYO teacher training program must expand and retain student interest in the trade. The mentorship intervention was applied during the internship experience the students' senior year.

The mentorship intervention was designed to facilitate a space for interactions between mentors and students; it also allowed for mentors to describe the strengths and weaknesses of the student preparation at the end of the GYO teacher training program. Student participation allowed a first-hand account of their feelings about the teaching profession after completing the GYO teacher training program. I employed an explanatory mixed-methods action research design, where the post-intervention survey data informed the exit interview questioning (Mertler, 2020). As the researcher, I trained mentors. The mentors met with small groups of GYO teacher training students during the second semester of senior year. The mentors shared pedagogical knowledge and real-life experiences and created space for students to share their experiences. I collected qualitative data from students and staff after the mentorship intervention to inform the

effectiveness of our GYO teacher training and to determine where we could improve the program sequence along with the mentorship program.

Research Questions

If GYO teacher training programs are a possible solution for the teacher shortage, they must maximize the return on investment and capture the highest possible number of teacher candidates. This study aims to analyze the mentors' and students' perspectives of the GYO teacher training program and ultimately inform the school if the program encouraged students to enter or leave the profession. The lessons learned as an action research model inform a continued AR cycle to adjust to each successive cohort's GYO teacher training program. The following research questions guided this action research study:

1. How and to what extent do students' self-efficacy beliefs regarding their teaching ability shift after participating in the GYO teacher training mentorship program?
2. How and to what extent do students feel the GYO teacher training mentorship program informed their future career plans?
3. What are mentors' perceptions of the student pedagogy strengths and weaknesses in the GYO teacher training mentorship program?

CHAPTER 2

REVIEW OF SCHOLARLY & PRACTITIONER KNOWLEDGE

The previous chapter discussed the local and national shortage of highly qualified teachers. Teacher vacancies are currently increasing, while prospective teacher candidates are more difficult to acquire (Carver-Thomas & Darling-Hammond, 2017; Darling-Hammond, 2000; Ingersoll et al., 2018; Jessen et al., 2020; Moser & McKim, 2020; Partelow, 2019; See et al., 2020). Teacher retention and recruitment are essential factors in maintaining an entire teaching staff for a school to stay operational. Teachers with a connection to the local community and several years of pedagogical training are more likely to stay in the teaching profession (Ingersoll et al., 2014; Moser & McKim, 2020). GYO teacher training programs in local high schools can be a solution to develop a new avenue for recruiting teacher candidates (Brown, 2018; Gist et al., 2019; Rhodes, 2017; Valenzuela, 2017).

This chapter presents information regarding how individuals select and perform in the teaching profession through a conceptual framework that combines social cognitive career theory (SCCT), Guskey's (2002) model for teacher change, small wins, and mentorship. SCCT is the primary driving lens for the study, and a literature review provides information to help identify why people choose a career, specifically a career in education (Lent et al., 1994). Next, the chapter will review the literature on teachers' influence on student achievement, teacher training, and the national teacher shortage. In the final section of this chapter, I highlight GYO teacher training programs as a recruitment and retention strategy. This study will help the research community identify possible solutions to fill open teacher positions.

Conceptual Framework

The study was guided by a conceptual framework comprising multiple theories. The conceptual framework describes how the theories relate to each other and how they inform the research intervention (Varpio et al., 2020). Social cognitive career theory (SCCT) is the primary foundation for career selection in this study. SCCT also encompasses self-efficacy theory, which describes people's belief in their ability to control the outcomes of an event based on their actions (Bandura, 1989). The model for teacher change by Guskey (2010) is described for the relevance of professional development to increase self-efficacy. Next, Karl Weick's (1984) model of small wins is presented to highlight success and increase self-efficacy beliefs. Finally, I highlight mentorship as a strategy to improve teacher performance.

Social Cognitive Career Theory

Social cognitive career theory is used in this study to identify what factors influence our decision to choose a career and how those factors support GYO teacher training programs. Lent et al. (1994) developed social cognitive career theory from social cognitive theory to help frame factors contributing to individual career development. Social cognitive theory frames human decisions based on internal motivation, including self-efficacy. The more a person believes in their own ability, the more likely they are to pursue the desired task (Bandura, 1989). Self-efficacy is described by Bandura (1997) as a person's perceived control, through actions, over outcomes in their life. Bandura (1989) describes human actions as independent choices influenced by the environment and life experience. People observe behavior in others, and future decisions are influenced based on the outcomes of those observations (Bandura, 1989).

The action research mentorship intervention used the principles of SCCT to support the GYO teacher training students to pursue a career in education. SCCT has three intersecting factors that comprise how individuals pursue a career field or education pathway. Individuals rely on their 1) self-efficacy, 2) outcome expectations, and 3) lifetime goals, all while considering financial and logistical obstacles related to gaining access to the career field (Lent et al., 2000).

Individuals who have a desire and perceived ability, or self-efficacy, to enter a profession or educational path have the greatest potential for finding success. Self-efficacy is the first pillar of SCCT theory and refers to an individual's belief in their ability to complete tasks to reach the desired outcome (Bandura, 1989). Individuals choose a career path based on their perceived ability to successfully perform the required tasks and the benefits associated with joining the profession (Brown & Lent, 1996).

The second pillar of SCCT is the perceived outcomes of entering the profession (Brown & Lent, 1996). Individuals pursue career and education pathways with access to entry and assume positive outcomes, while individuals generally avoid pursuits where the results are perceived to be negative (Lent et al., 1999). The outcomes of individual efforts, or getting the desired job, lead us to pursue careers that we perceive as attainable and within our abilities.

The final pillar for success in the career pathway is the lifelong goal set by the individual. People select careers that they believe will help them attain the professional and personal goals they have set for themselves (Brown & Lent, 1996). Individual life experiences also influence the goals for performance in a career path (Brown & Lent, 1996). Each person's life experiences also affect career selection decisions and

anticipated performance levels (Brown & Lent, 1996). People learn from environmental observations, and these life experiences influence the long-range goals set.

Self-efficacy, career outcomes, and goal setting are the building blocks for SCCT. However, all career and educational pathways also present barriers to completion, and individuals must have both the internal drive and external means to achieve their goals (Lent et al., 2000). Based on SCCT, career development pathways should assist individuals in increasing their self-efficacy beliefs regarding their ability to complete the job requirements and assumptions that the occupation brings value to current and future life goals (Brown & Lent, 1996). Examples of external barriers to careers can include access to training or jobs based on location. People must be reasonably close to the work location for employment to be possible. Another barrier to career selection is entry requirements. Entry requirements include training, industry credentials, education degrees, and equipment. The last two major barriers to career entry are financial means to meet the entry requirements and exposure to or awareness of the profession (Lent et al., 2000). Pursuing a career is framed by the individual's interest in the trade and access to completing the actions required to enter the occupation.

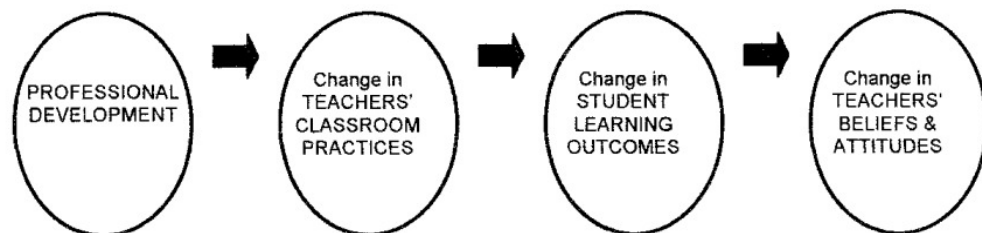
Before pursuing a professional career, people must first develop an interest in a particular career pathway; therefore, schools can expose students in K-12 educational settings to various career pathways (Lent et al., 1999). Students begin to formulate their self-efficacy beliefs and outcome potential before graduating high school (Lent et al., 1999). Teacher training and other industry pipeline programs can be more effective by exposing students to the profession in earlier grades (Hanover Research, 2019).

Model of Teacher Change

Becoming an effective teacher, and increasing the ability of teachers to cause learning, requires the development of many skills. A few of those skills include pedagogy, relationship building, data analysis, and the managerial processes required in schools (Hattie, 2003). Thomas Guskey (2002) described three goals for teacher professional development: changing teacher actions in the classroom, changing student learning outcomes, and changing teacher attitudes. The model for professional change presented by Guskey emphasizes an introductory professional development workshop and continual support during teacher implementation until the student outcome results allow the teacher to change their attitude regarding the shift, as shown in Figure 1 (Guskey, 2002).

Figure 1

Guskey's Model for Teacher Change



Educator professional development is most effective when it is ongoing and includes the analysis of both teacher inputs and student achievement outputs (Darling-Hammond et al., 2017). To begin the change process, teachers must be aware of the new approach to improving student achievement, often done through a workshop-style presentation. Workshops that provide teachers with knowledge and resources to implement research-based instructional practices are related to improved teacher

performance (Guskey & Yoon, 2009). Guskey (2003) found that the most successful professional development topics included pedagogical knowledge and peer collaboration. As such, the mentorship model in this research study included a mini lesson each week focused on a different pedagogical skill. Students were encouraged to experiment with the new skill at their internship site. Time was also provided during mentor-student meetings to review progress and offer support through the professional development process.

To support teacher actions, analysis of student achievement outcomes, and engraining long-term change following teacher training, Guskey (2010) refined the model to increase the effectiveness of professional development to emphasize support throughout the change process. Implementing Guskey's model for teacher change is effective at any level of teacher development or training. In this study, mentors used this model with pre-service students to help develop and implement solutions to increase student achievement. Follow-up meetings with the mentor allowed access to analyzing teachers' actions and student outcomes. Based on the student outcomes, the mentor encouraged continuing practice or suggested adjustments to pedagogy. Each mentor meeting was a professional development opportunity for the students using Guskey's model of change so that the students could create long-range habits for successful practice.

Small Wins

This section will examine how the models of Karl Weick (small wins) applied to mentorship intervention. The term small wins is used in this study for the moments students find success as a teacher. Weick (1984) described small wins as complete and

concrete; however, the small wins may not be seen as vital to success when viewed individually. Developing all the necessary skills to be a highly effective teacher is a process that takes several years of on-the-job training, and mentors can help students see their development of skills by setting incremental goals (Ingersoll & Kralik, 2004). Small group mentor sessions allow students to share their experiences through the internship, and the mentor can use those experiences to drive change. Students who find visible success with a small win are likelier to continue the practice and reduce their resistance to future trials (Weick, 1984). Setting goals, or small wins, between mentoring sessions can create positive momentum in developing the variety of skills required to run a successful classroom. As students identify small wins, the inertia for change gets reinforced (Weick, 1984). The improvement process can also influence self-efficacy beliefs to solve problems by contributing success to self-action and minimizing failures (Gerber, 2009).

Mentorship

This section reviews the literature focused on mentorship and how its application to the GYO teacher training program supports the development of self-efficacy beliefs. Mentorship is a tool to develop self-efficacy, provide positive influences to stay in the profession, and help new teachers achieve their goals in the classroom (Ingersoll & Kralik, 2004). Orland-Barak & Wang (2021) described the mentor as the most influential for pre-service teachers learning to teach.

Teacher training programs with mentorship models benefit pre-service and current teachers (Ambrosetti & Dekkers, 2010). Mentorship is most effective when there is a positive relationship between mentor and student, the mentor is highly skilled in the profession, and the student support evolves as their skill improves (Richmond et al.,

2020). Ellis et al. (2020) found that effective mentorship models have evolved over the past few decades from an expert to a coaching model, including training for mentors, building relationships with students, and helping students make connections from theory to practice. Effective mentorship models are strategic in how they pair mentors and students. Mentors have a significant influence on the student's perception of the profession. Through effective coaching, students can find more success in their clinical experience due to increased self-efficacy beliefs (Ellis et al., 2020).

Traditional teacher preparation programs with four or more years of pedagogy training followed by an internship experience with a mentor bolster pre-service teachers' confidence in their ability and can promote higher retention rates (Darling-Hammond, 2000). Students in the research location high school teacher training program have eight years of exposure to theory and clinical practice before beginning their professional careers. Four years of pedagogy training in high school, followed by four years in a teacher's college. Applying concepts in a practical setting is most effective when complementing a mentor and/or feedback experience (Ellis et al., 2020). Izadinia (2015) found that a positive mentorship experience leads to a positive outlook on the teaching profession and increases confidence in the student's ability to succeed in front of the classroom (Darling-Hammond et al., 2017).

The conceptual framework outlined in this section provides guidance for developing the mentorship intervention. SCCT highlights self-efficacy as a major influence on choosing a career (Lent et al., 2000). This study utilized mentorship to support student self-efficacy growth. The addition of a mentor provided guidance to

students throughout the semester to encourage growth over time, highlight small wins along the way, and provide a positive role model for the teaching profession.

Review of Related Literature

This section explores the current research on teacher development, recruitment, and retention. The section begins by highlighting information regarding a teacher shortage. Next is a review of teachers' influence on student learning and best practices for teacher development. Finally, I present information describing teacher recruitment.

Teacher Shortage

As described in Chapter One, there is a well-documented teacher shortage across the United States. Schools and communities that support GYO teacher training programs can increase the number of prospective teacher candidates from the local K-12 system as a recruitment strategy (Rotts et al., 2012). Once schools hire new teachers, retention becomes the top priority for maintaining a whole teaching staff. Teachers who increase their perceived control over success in the classroom are also more likely to stay in the profession (Ajzen, 1991; Ajzen, 2020). Self-efficacy and school culture also influence teacher retention. Schools with teachers who have positive attitudes tend to have higher retention rates (See et al., 2020). Internal school cultural norms also influence teacher retention once in the field. Teachers who feel connected to their peers, school, and community are more likely to stay in the education profession (Moser & McKim, 2020).

The current young adult interest in the education career is declining and will not support the number of K-12 teacher vacancies in our country (Schaeffer, 2022). Student enrollments in K-12 schools have increased by 25 percent in the past 40 years; however, the need for teachers has increased by 65 percent (Ingersoll et al., 2018). Schools are

shifting staffing models, which require more staff members to support similar numbers of students.

The current teacher shortage is a result of a reduced pool of teacher candidates and increased vacancies due to current teachers leaving the profession (Olsen & Anderson, 2007). Schools that develop a culture where individuals have high self-efficacy can leverage success to create a culture of collective efficacy. Donahoo et al. (2018) found that collective teacher efficacy, the belief that the social group can achieve challenging goals, significantly influences school performance. School leadership has a tremendous influence on collective efficacy, the work done by teachers, and the attitudes of all school members about student learning (Hattie, 2003). School leadership can influence a school climate where teachers believe in their ability, as well as the ability of the students. Teachers who work in schools where everyone believes that a common goal can be achieved or have strong collective efficacy have a higher retention rate and student achievement rate (Goddard et al., 2004). Across the nation, roughly half of all teachers leave the profession in the first five years of service (Ingersoll et al., 2018). A few factors contributing to the decision for teachers to leave the profession include a lack of administrative support, low wage, and a lack of proper pedagogical training (Carver-Thomas & Darling-Hammond, 2017). Strong school leadership and a culture of collective efficacy can be a solution to keep more educators in the profession.

Three factors create teacher vacancies in schools: people who leave the field of education, retire, or move schools. Most of the teachers leaving the profession do so before retirement, and eight percent of teachers transfer to another school each year (Carver-Thomas & Darling-Hammond, 2017). Retirements and internal transfers create

the same problem at the individual school level, trying to find a great teacher during a national teacher shortage. Increasing the self-efficacy of current teachers and recruiting current students to the profession could increase recruitment and decrease vacancies in the education profession.

Importance of Teachers

Many internal and external factors influence student achievement, and the teacher in the classroom is an essential variable for improving student learning (Berliner, 2009; Burns et al., 2019; Darling-Hammond, 2020; Hattie, 2003; Ingersoll et al., 2014; Terhart, 2011). The recruitment and retention of teachers at all schools are vital to the success of students (Terhart, 2011). Teachers with at least five years of pedagogical training are more effective and likely to remain in the profession (Darling-Hammond, 2000).

Teachers from alternative training programs, such as condensed or alternate routes to licensure, are more likely to leave the profession (Carver-Thomas & Darling-Hammond, 2017).

Ongoing teacher training is another critical component to leading successful classrooms and supporting teacher retention through an increase in teacher self-efficacy beliefs (Moser & McKim, 2020). Gibbs & Powell (2012) found teachers' self-reported instructional ability positively correlated to the behaviors of students in the classroom. Current teachers reported a preference for ongoing professional development with an open dialogue focused on instructional practice (Goddard et al., 2017).

Another area for growth in the profession is the diversification of the workforce. In the United States, over 80% of the teaching workforce identifies as White, while over 50% of the student population identifies as non-White (Gottfried et al., 2022). Partelow

(2019) found higher student performance rates when the students had a teacher representing their identity. Improvements in academic performance, attendance, and behavior correlate to students of color working with teachers who represent their identity (Gottfried et al., 2022; Partelow, 2019). Valenzuela (2017) suggests that GYO teacher training programs can be a source of teacher demographic diversity, where most teachers are currently White and female. Gershenson et al. (2018) found that students of color are 19% more likely to attend college when they have a teacher of color during elementary school. Students who see themselves in the same identity as their teachers find greater self-efficacy, leading to increased academic success and a potential increase in developing personal goals to become a teacher (Jessen et al., 2020).

Teacher Training

Teacher training is related to teacher success, and teachers who have more training also develop a greater sense of self-efficacy related to their ability to help their students (Darling-Hammond, 2000). See et al. (2020) found that 40 to 50 percent of new teachers leave the profession in the first five years of service. Early exits to the teaching profession are often related to job satisfaction or self-efficacy beliefs in successfully completing the job. Teachers with higher self-efficacy beliefs related to their positive effect on student achievement and their place within the organization have a higher likelihood of remaining in the field of education (Moser & McKim, 2020).

In addition to teacher colleges and GYO teacher training programs, alternative routes to teacher licensure have also been used across the country to increase the number of teacher candidates. These programs aim to recruit teachers from industries outside of education and allow working professionals to enter the teaching profession without a

degree from a teacher's college. Typically, an alternate route to licensure candidates has a college degree or work experience used to gain a teaching certification in place of a teacher college degree. The training for an alternate route to licensure candidates is shorter than a four-year degree program and generally includes some on-the-job training during the first years of service. These programs have been successful in increasing the workforce candidate pool. However, alternate route programs have higher-than-average attrition rates (Darling-Hammond, 2000). Alternate routes to licensure programs complement GYO teacher training programs and traditional teacher college pathways to increase the number of certified teachers (Darling-Hammond, 2017).

At the beginning of a teaching career, mentorship promotes teacher retention (Odell & Ferraro, 1992). When teachers receive at least six months of mentorship from veteran teachers whom they trust, they are more likely to stay in the profession and increase their self-efficacy (Hobson & Maxwell, 2020). Mentors get to serve the new teachers with instructional coaching and emotional support while keeping the best interests of the students top of their minds (Orland-Barak & Wang, 2021). New teachers get to navigate the culture of the school and their classrooms. The teacher in a classroom can be isolated from other adult contacts throughout the day, and mentors provide an avenue to support the person and teacher supporting the students. Mentorship best practices include allowing choice when creating the partnership, regular meeting times, being non-evaluative, and lasting at least six months (Hobson & Maxwell, 2020). Teachers with four or more years of pedagogical experience before entering the profession, a mentorship program, and ongoing professional development are more likely to stay in the profession (Darling-Hammond et al., 2017; Ingersoll & Kralik, 2004).

Extended exposure to teaching practices is related to improved performance as a new teacher and remaining in the profession (Darling-Hammond, 2000).

The intervention in this study was the addition of mentoring to GYO teacher training students during the final semester of the program. Including a mentorship program for new and pre-service teachers has empirical support to influence teacher retention (Izadinia, 2015). Teachers with a negative mentorship experience are more likely to leave the profession, and teachers with a positive mentorship experience are more likely to stay in the profession. Mentorship programs that have the most success include a training component for both the mentor and the student (Hobson & Maxwell, 2020). Another component of mentor program success is setting clear expectations for time and outcomes for both the mentor and the student. Mentor-student relationships are most effective with common subject pairings, where the mentor can support instruction and social-emotional needs (Hobson & Maxwell, 2020). Mentorship also has the added benefit of helping the mentor teacher reflect on their practice and improve their practice alongside the new teacher (Ambrosetti & Dekkers, 2010). Teacher attrition rates of 40 to 50 percent in the first five years are well documented (Ingersoll & Kralik, 2004; See et al., 2020). Implementing a mentorship program for new staff is a proactive measure at the school level to reduce this attrition rate (Moser & McKim, 2020). The research findings listed to support the addition of a mentorship component to the GYO teacher training program to increase self-efficacy and support students with social-emotional needs.

Metacognition

For self-efficacy beliefs to improve, a teacher must first reflect on their abilities and identify areas for growth. Like all learners, teachers use metacognition to determine

their strengths and areas of deficiency (Flavell, 1979). Using metacognition is vital for educators to become lifelong learners, and developing new teacher pedagogy is especially important for pedagogical development (Matsumoto-Royo et al., 2022). Professional development effectiveness is often related to a teacher's ability to self-identify their areas for improvement (Graham & Phelps, 2003). New teachers often need support from a mentor to help identify or prioritize the pedagogical areas for improvement (Gunstone & Northfield, 1994). Using metacognition, teachers have the ability to improve targeted skills, which ultimately influence their self-efficacy beliefs.

Teacher Recruitment Models

Traditionally, highly qualified teacher candidates graduate from four-year colleges with education pedagogical training. Currently, the traditional route to filling vacant teaching positions cannot meet the demand for open positions (Rhodes, 2017). As an additional option to university programs, over 40 states have developed an alternative route to teacher licensure programs to encourage professionals from other industries to become teachers (Darling-Hammond, 2000). However, Carver-Thomas & Darling-Hammond (2017) found that teachers with at least four years of pedagogical training have a higher success rate and stay in the field longer, and teachers who enter the profession through alternative routes to licensure are 25 percent more likely to leave the profession. Darling-Hammond (2020) found that teachers with four or more years of pre-service training develop greater self-efficacy in their ability to support student achievement. Students begin to consider career options before leaving the K-12 setting, and exposure to education as a viable career pathway may lead to more prospective candidates (Lent et al., 1999). Studies demonstrate that over fifty percent of students who

participate in teacher development programs in high school continue to pursue education certifications in college (Hanover Research, 2019).

Cost of Teacher Recruitment

School districts have concerns about student achievement and financial challenges in recruiting and training teachers (Garcia & Weiss, 2019). The hidden costs of teacher retention include higher class sizes to compensate for open positions and a reduction in the average years of experience for teaching staff (Sorensen & Ladd, 2020). Experienced teachers have seen a higher level of student achievement, and an increase in novice teachers could negatively influence student learning (Berliner, 2004; Burns et al., 2019). Carver-Thomas and Darling-Hammond (2017) found the average cost to recruit and train each new teacher to be over \$20,000. Kurtz (2022) found that 44 percent of teachers considered leaving the profession in the next two years, up 15 percent from 2011. This also strains school budgets, with a 15 percent increase in recruitment costs to replace the additional staff leaving the profession before retirement. GYO teacher training programs can reduce the financial burden on districts for teacher training and recruitment. (Carver-Thomas & Darling-Hammond, 2017).

High School GYO Teacher Training

Gist (2022) describes GYO teacher training as a program designed to recruit high school students or community members to join the educator workforce. GYO teacher training programs have yet to be standardized and take various forms across the country and can include college credits, extracurricular training, and high school exploration courses (Jessen et al., 2020). Most states ($n = 47$) across the United States have a GYO, teacher training program; however, only 15 programs receive state funding (Wood,

2022). While GYO teacher training in high school programs may be a solution to increase prospective candidates, especially in urban school districts, there is not a large body of research focused on these programs (Carver-Thomas & Darling Hammond, 2019; Gist, 2022; Rogers-Ard et al., 2019; Simieou III et al., 2021; Valenzuela, 2017). GYO teacher training programs are yet to be commonplace, but the programs have gained popularity due to the shortages of teaching candidates, especially in urban districts (Gist, 2022; Simieou III et al., 2021). Through limited studies, individual programs have shown positive results in recruiting teacher candidates (Hanover Research, 2019).

Growing teachers from our communities can have a positive influence on student learning. Interest in the education profession among young adults has declined over several decades. Less than five percent of eleventh-grade students reported on the ACT that they were interested in becoming teachers (Brown, 2018). People close to the student, including friends, family, and mentors, influence interest in career pathways (Lent et al., 2000). Teachers in the classroom have direct access to students and can share influence in support of the profession; however, only 45% of teachers would recommend the profession to a younger version of themselves (Kurtz, 2022). Research has found that students make career decisions, including pursuing a teaching career, before they graduate high school (Hanover Research, 2019).

Encouraging results for GYO teacher training exist in some states, cities, and school districts across the country. The state of Illinois created a model for community-centered cohorts where community members were encouraged to become teachers, and the program found an increase in teaching candidates (Rogers-Ard et al., 2019). Hawaii demonstrated similar success after starting the Institute for Native Pacific Education and

Culture to encourage community members to become teachers (Rogers-Ard et al., 2019). Two additional GYO teacher training programs, Recruiting Washington Teachers and Pathways2Teaching, found that 50 percent of program graduates reported an interest in the teaching profession and that the program increased their interest in teaching (Hanover Research, 2019). The city of Oakland created a successful program, Teach Tomorrow in Oakland, recruited and trained college students to become teachers, and assisted with mentorship and job placement while completing college coursework (Rogers-Ard et al., 2019). The Clark County School District, in partnership with Nevada State College's Teacher Academy Pipeline Project, developed GYO teacher training programs in more than ten district high schools.

In addition to increasing teacher candidates, GYO teacher training programs find increased retention and diversification of teacher candidates (Carver-Thomas & Darling Hammond, 2019; Simieou III et al., 2021; Valenzuela, 2017). On average, teachers who receive more training stay in the profession longer, and GYO teacher training can increase retention through additional pedagogy exposure (Carver-Thomas & Darling Hammond, 2019; Sutchter et al., 2019). GYO teacher training programs can help address teacher shortages by recruiting teachers from the community, and local teacher candidates have higher retention rates (Valenzuela, 2017). GYO teacher training programs recruit students in current classrooms that represent the demographics of the school community and are a viable strategy for diversifying the teaching workforce (Simieou III et al., 2021; Valenzuela, 2017). GYO teacher training programs can provide quality teachers familiar with the demographics of the communities they serve (Simieou III et al., 2021). Although research studies are limited, the information presented in this

section supports that GYO teacher training is a viable option for recruiting and retaining teachers (Jessen et al., 2020).

CHAPTER 3

METHODS

The previous chapter provided a theoretical framework and literature review related to the GYO teacher training programs as a possible solution to reduce the national teacher shortage. This chapter describes the intervention's action research process, setting, and participants. The chapter continues with the research design and data analysis process. The focus for the final section of this chapter details the implementation timeline for this study.

Action Research

Action research (AR) is a systematic process for practitioners to implement change in their area of influence and work in continuous cycles to improve outcomes (Mertler, 2020). My long-term AR goal is to create a high school GYO teacher training program that produces highly skilled teachers. The AR study presented in this chapter centers around GYO teacher training students in their final year of high school. Mertler (2020) presented education-based AR as a continuous cyclical process where educators reflect on student outcomes, create and execute a plan for change, and then use data collected as evidence to continue or tweak the current intervention or begin a new intervention.

As a practitioner working in a school, I wanted to know in what ways the GYO teacher training program helped students develop self-efficacy in their own pedagogy or make career decisions. With those goals in mind, I selected AR for data collection to analysis in this study to inform our practices. The GYO teacher training program in this study graduated the first magnet students in 2022-2023. I collected data from the second

cohort of students to finish the program. I selected AR with a mentorship intervention to support students and review the student outcomes from the GYO teacher training program. AR allowed me as a practitioner to support the students in real-time and via a systematic process for data collection as a researcher (Mertler, 2020).

In this study, I completed an initial research cycle (cycle 0) by interviewing two teachers and a guidance counselor in the GYO teacher training program. Findings from this initial cycle indicated a need for individualized support for students as they participated in the internship experience. Students attended weekly internship visits, and the structure for providing timely feedback from peers, teachers, or mentors to the students throughout the semester needed improvement. During the fourth year of the GYO teacher training program, students completed two courses taught by the same instructor. One course was dual credit for pedagogy development, and the second course was for internship participation. Having one instructor and 25 students in the internship class made it logistically challenging to provide individualized support. As such, this AR project included a mentoring process in which veteran teachers participated in the classroom to help support the GYO teacher training students during their internship. Continuous AR cycles for the GYO teacher training programs will allow for improvement in the program over time. Based on AR data from this intervention and combined data from teacher college enrollments, graduation rates, teacher hiring, and eventual teacher evaluations, future AR cycles can assist in the program's evolution. Data collected from this intervention was shared with the school to inform the development, or adjustment, of the curriculum presented to students during the four-year high school GYO teacher training program.

The intervention outlined in this chapter was implementing a mentorship program for senior-year students in their final semester of the GYO teacher training program. Mentorship models for new teachers can increase pedagogy skills, self-efficacy, a connection to the profession, and ,ultimately, retention (Moser & McKim, 2020). I trained five mentors to meet with small groups of GYO teacher training students during their final high school semester. To train mentors, I reviewed the data collection process and how each session was designed. Each week, I also reviewed the procedures for the day. As a group of mentors, we prepared individual stories for small wins, previewed the pedagogy topic for the day, and shared strategies to increase student participation. After each mentor was comfortable with the session topic, we moved into the classroom to meet with small groups of students. I also met with the mentors as a group after to session, to share student feedback. To build relationships and share data, I met with the mentors several times during the intervention. First at an onboarding meeting, then before and after each session, and finally with an exit interview.

Mentors met with students five times throughout the semester, and each meeting provided time for pedagogy support, real-time problem-solving, and highlighting success in the field. The final step in the intervention process was conducting interviews with mentors and students to inform future cycles of AR. The goal of the GYO teacher training program was to increase students' self-efficacy beliefs, passion for the profession, and retention in the teacher pipeline. The mentorship program design supported student growth and highlighted success as students developed their skill set for teaching.

Setting

The setting for this research study was at a Las Vegas high school during the 2022-2023 school year. The first cohort of GYO teacher training students graduated in the spring of 2022. This study investigated the experiences of the second cohort of students who graduated in the spring of 2023. While enrolled in the high school GYO teacher training program, students take two years of teacher training in high school courses and two years of teacher training in college dual credit courses. The senior year of the program includes an internship where students work with a neighboring elementary or middle school teacher twice a week throughout the school year. The internship training aims to increase students' interest, enjoyment, and self-efficacy beliefs about a career in education.

Intervention

The mentorship intervention occurred during the second semester of the 2022-2023 school year, from February through May. I used recommendations from the CTE teacher training teacher to select staff participants before the start of the intervention in February. I provided mentor training five times between February and April. The training occurred 30 minutes before each mentor-student session. Individual mentor and student focus group interviews occurred after the final mentor-student session in May. I completed all interventions and data collection by the end of the 2022-2023 school year.

The overarching goal of the GYO teacher training is to increase the likelihood of the students continuing to a teacher college after high school graduation. The mentorship was applied to the internship to create a vehicle for data collection regarding the program and student perceptions. I designed the lessons to increase students' self-efficacy by

providing solutions to real-world situations, highlighting the joy of teaching, and identifying gaps in the training. The data collected was shared with school staff to assist in improving the GYO teacher training program for future cohorts.

Participants

The intervention location instructional staff with teaching experience and availability to mentor the GYO teacher training students during the school day were selected to participate as mentors in the intervention. I selected five veteran educators to serve as mentors based on recommendations from the CTE program teacher and voluntary participation consent. Each of the five mentors worked with small groups of four students during the intervention. The educators had an average of 12.6 years of experience in various roles. The teacher demographics at the high school mirror national statistics for the teaching profession, with over 65 percent of teachers identifying as White and female (Ingersoll et al., 2018). Based on availability during the school day, I selected a combination of teachers and administrators who could meet with students during their class time. The administrators worked at the school as assistant principals at the time of the intervention. All the administrator participants served as teachers prior to becoming school leaders.

Table 1

Mentor Participants

Pseudonym	Role	Gender	Years of Education Experience	Teaching Content Expertise
Maria	Administrator	F	13	Special Education
James	Administrator	M	10	Social Studies
Vanessa	Teacher	F	8	Early Childhood
Alicia	Administrator	F	16	Special Education
Peter	Teacher	M	16	English

Student participation in the mentoring sessions included all 25 students from the senior GYO teacher training class. However, data collection for this study only included the 11 students who completed all steps in the research process and submitted consent forms. The CTE teacher and training teacher reviewed the mentorship program with students as an expectation for the class. I shared the aims of the study and explained the data collection process through surveys and focus group interviews at the end of the semester. I provided consent forms for the students and their parents prior to participating in data collection. All students participated in the mentor sessions as part of their GYO teacher training program. However, only eleven students completed all steps in the data collection and consent process. Student participant attrition occurred at several points through the intervention. I removed student data from the analysis if they did not submit the parent consent and student assent forms. I also removed student data from those who did not complete both the pre- and post-intervention survey. This study shares data from those students who completed the pre- and post-intervention survey, exit interview, and official consent forms.

Table 2

Student Participants

Pseudonym	Pre-Intervention: Interest in Teaching as a Career
Angel	Maybe
Christina	Maybe
Eleanor	Yes
Rachel	Maybe
Charlotte	Maybe
Alice	Yes
Amelia	Maybe
Evelyn	Yes
Mia	Maybe
Sophia	Maybe
Abigail	Yes

Role of Researcher

I served as the former high school principal at the intervention location and currently work as a principal at a different high school. I participated as a trainer for mentors and observer for implementation. As the former principal at the intervention location, I actively participated in developing the GYO teacher training pathway, including curriculum, staff, and dual credit selection. The GYO teacher training program aims to increase the number of future teacher candidates and has the potential to increase diversity in the teaching profession to match the student population. In the researcher's previous role as principal of the school, a natural bias may have occurred with staff and students based on the nature of each stakeholder's previous relationship in the organization. To mitigate this bias, I did not directly participate with students during mentor sessions and used mentor selection recommendations from the CTE teacher. I did not work at the research site during the intervention and served as principal at a different high school.

Research Design

Mentorship for aspiring teachers can increase self-efficacy beliefs, a connection to the profession, and an excitement to stay in the profession (Ambrosetti & Dekkers, 2010). The final step in a traditional college pre-service teacher preparation program is to complete a student teaching experience with a mentor teacher. The GYO teacher training program at the high school mirrors this process with a smaller-scale internship. The high school students visit a neighboring school two times per week during their senior year. The students work with the same cooperating teacher throughout the year. Students provide whole group, small group, and individual instruction as directed by and under the supervision of the cooperating teacher. The intervention applied in this research was the addition of a mentorship component for the GYO teacher training students during the second semester of their internship. The GYO teacher training student groups were paired with a mentor to support their skill and self-efficacy development. Students were placed in small groups for mentorship to replicate the professional learning community model (PLC). Huijboom et al. (2021) found that PLC structures increase teacher reflection and group interdependence. Teachers who feel connected to their peers have higher self-efficacy beliefs in their ability to impact learning and stay in the profession longer (Moser & McKim, 2020). The intervention implemented in this research study is to increase the exposure of GYO teacher training students to mentorship early in their coursework.

Intervention

The intervention outlined in this section included two phases after the staff selection process. First, was a mentor training program and student onboarding. Second, mentors and students participated in five sessions over the final three months of high

school. An exit interview occurred following the final mentor-student intervention session with each mentor individually and three small groups of students.

Students met in groups with their mentors five times during the internship. The mentorship meetings had two primary objectives for the researcher. First, to support students as pre-service teachers and work to improve their self-efficacy beliefs. Supports included practical problem-solving, solving technical and emotional needs, and celebrating progress. The second objective for the researcher was to identify any gaps in the training program. Students had seven semesters of GYO teacher training before the internship, and mentor meetings exposed areas of strength and growth for the students. Surveys collected student data at the program's beginning and end. Mentors participated in a post-intervention survey.

Training

The format for the professional development of mentors and students followed Guskey's (2002) model of teacher change. Guskey (2002) suggested that educators' most effective professional development happens along a continuum of support. Guskey (2002) believes that professional development support should occur at multiple points to achieve lasting change. First, the PD should introduce the new idea and explain why the change will add value. Second, the PD needs to provide support as teachers implement and when student data is collected. Finally, for the instructor's behaviors and beliefs to change, the desired student achievement outcomes must support the decision to change (Guskey, 2002).

To prepare the students for mentor sessions, I met with the students prior to the first mentor meeting. I described the intervention to the students and the study's aims. All

students participated in the mentorship program as part of the GYO teacher training program, and students could opt in or out of the data collection. Parent permission forms were sent home with students with a letter from the researcher describing the experiment design. Students also had the option to opt-in to data collection through an assent form. Those students who returned the parent consent and self-assent forms participated in the pre-intervention survey. Students or parents who did not consent to the data collection were allowed to work on other homework during the survey. Of the 25 students in the class, 11 completed the permission-granting process and data collection process. I did not include the data from those students who did not complete the entire application or data collection process.

To prepare the mentors for the sessions, I met with the mentors prior to student meetings to provide guidance on each module and answer questions as a group. To guide the mentors-student conversations, I developed five modules. The theme for each module contained practical pedagogy skills and an opportunity for the students to share real-world experiences with the particular topic. Mentor training occurred five times, immediately before each student session, and included time to share experiences with students from the week prior. I reviewed each module during the training, and mentors had a note-taking document for each training session. The note-taking document provided an agenda and suggested talking points to encourage consistency across each mentorship group. When the mentors were comfortable with leading the session and prepared talking points, they moved into the student classroom for small group meetings.

Mentor Training Structure

I led a mentor training session 40 minutes before each of the five mentor-student interactions. The mentor training included three components, each of which lasted ten minutes.

1. Review program expectations and debrief the previous module. (10 minutes)
2. Introduce the new module and explain the expectations for mentors. (10 minutes)
3. Review the note-taking document and answer mentor questions. (10 minutes)

Mentor-Student Session Structure

Mentor-student sessions occurred five times throughout the internship for 40 minutes per session. Mentor training and student group sessions occurred bi-weekly starting in March, culminating in an interview in May. The structure for the 40 minutes included time for relationship building, direct instruction, and peer-to-peer internship support.

Table 3

Mentor-Student Session Format

Time (Minutes)	Strategy	Purpose
10	A. The mentor shares a real-world situation related to the session topic. B. Students share a “win” from the internship in a roundtable discussion.	Mentor models vulnerability and small wins.
10	Direct instruction: mentor shares mini-lesson information.	Provide pedagogy training.
20	Roundtable discussions for students to share classroom situations and receive feedback.	Model PLC structure and provide on-time support for students.

On the first day of the intervention, the GYO teacher training classroom instructor and I reviewed the mentorship intervention design with the class. We allowed students to

select groups of four or five students based on their preferences. On the first day of the mentorship, before the mentors entered the room, the classroom teacher reviewed the mentorship program with students and then asked them to form groups with four or five of their peers. Students had a choice in peer selection to create a relaxed environment to share information and mirror a PLC structure. I randomly assigned mentors to student groups. Mentors met with the same group of students for all five mentor sessions over the eight-week intervention.

To begin each meeting, mentors shared an authentic experience from their career related to the module topic. The experience sharing served as a model of vulnerability to the group and increased the likelihood of collaboration with students and staff. Mentors created an opportunity for students to share their perspectives from the GYO teacher training program and their self-efficacy beliefs about teaching. After the staff members shared a unique story, they followed the note-taking document during the mentor training to guide students through the mini-lesson topic. I developed five mini lessons to share practical tips for improved pedagogy. Mini-lesson topics included relationship building, classroom management, lesson plan design, lesson study, and an overall impression of the GYO teacher training program. After the mini-lesson, mentors answered questions from the group. The final portion of the mentor-student session was for students' internship experience problem-solving. Each student had time to share a recent success story and an area of concern related to the session topic or internship in teaching in general. The mentor and other group members provided feedback where appropriate. Mentor meetings lasted 40 minutes. A full outline of the intervention's timeline is provided in Table 5.

Session Topics

I developed five mini lessons to be deployed by the mentor during each meeting. I designed mini lessons to provide practical solutions and increase self-efficacy. Mentors led the lessons in small groups. The sessions were:

1. Relationship Building
2. Classroom Management
3. Lesson plan Creation
4. Lesson Plan Review
5. GYO Teacher Training Program Reflection

Session topics and mini lessons were related to gaps in student training found during Cycle 0 data collection. Lesson one created practical steps for students to define their role with students and staff at the internship site. Lesson two created a reminder of practical strategies to address classroom management concerns. Students previously received classroom management coursework in the GYO teacher training program, and this lesson is to provide real-time suggestions for experiences at the internship site. Lessons three and four created a model for PLC work to develop and analyze lesson plans. The lesson plan review is used in session four to allow students to reflect on their lessons and help each other improve. The final lesson, five, allows students to share their experiences in the four-year GYO teacher training program with the mentor. The final session allowed students to share suggestions to maintain or improve the program.

I collected data from the mentors and students through Likert-scale surveys containing closed- and open-ended questions. Students completed a pre- and post-intervention survey, followed by a semi-structured group exit interview. Mentors

participated in a post-intervention survey and a semi-structured exit interview. The mentor survey focused on the participants' perceived effectiveness in identifying student pedagogy strengths. The student survey focused on students' self-efficacy beliefs and career choices after graduation.

Data Collection

I collected qualitative and quantitative data as part of this sequential explanatory mixed-methods study where the analysis from the post-intervention survey informed the development of the qualitative questions (Ivankova, 2014; Mertler, 2020). I grouped students for the final interviews based on post-intervention responses for interest in teaching. I also used the post-intervention survey data to create focus group questions. I included focus group questions on pedagogy strengths and how their opinion for teaching evolved through the program based on student survey responses. Students participated in pre- and post-intervention surveys and a focus group with data collection centered around measuring self-efficacy beliefs and future career choices. Mentors participated in post-intervention surveys and an individual exit interview emphasizing the strengths and weaknesses of the GYO teacher training program. The combination of qualitative and quantitative research methods allowed a better understanding of the research questions (Creswell & Guetterman, 2019). The following two subsections detail how I collected the qualitative and quantitative data. Appendix A contains the complete list of pre- and post-intervention survey questions for students, and Appendix B contains the post-intervention survey questions for mentors.

Quantitative Survey Data

I used surveys to collect quantitative data from students and mentors. Students participated in pre- and post-intervention surveys, whereas mentors only participated in post-intervention surveys.

The student survey was adapted from the collective teacher efficacy scale (Goddard et al., 2000) and the Ohio State Teacher Efficacy Scale (Tschannen-Moran & Hoy, 2001). I referenced the two teacher efficacy scales while generating survey questions for student self-efficacy evaluation. I modified or combined ideas from each survey to create an instrument unique to the pre-service GYO teacher training students. The student survey comprised 22 statements to which respondents indicated their level of agreement on a 6-point Likert scale from *strongly disagree* to *strongly agree*. Survey themes aligned closely with the three pillars of SCCT: self-efficacy (13 questions), desirable job (eight questions), and life goals (one question). I only included one question for life goals because I wanted to keep the focus of the data collection on the teaching profession. This study is focused on student pedagogy strengths and choosing teaching as a career, and I did not want students to use this intervention for other career explorations. A survey example statement for student self-efficacy is: *When I teach students, they learn new information*. A survey example statement for the student's future career choice is: *I feel that the four years in GYO teacher and training influenced my decision to become a teacher*. The post-survey included six open-ended questions to collect program evaluation questions about the GYO teacher training program. An example of an open-ended question is: *Can you share one or two skills you are most proud of or where you surprised yourself during the internship?* Students participated in the pre-intervention

survey on the first day of mentorship and the post-intervention survey on the last day. I entered student pre- and post-intervention survey responses into a Google Sheet for analysis. I created mean scores for each question on the pre and post survey for comparison and analysis of change in responses from beginning to end of the intervention.

Mentors completed a survey at the end of the GYO teacher training program. The mentor survey focused on assessing their perceptions of student preparation through the program. In particular, I designed questions to collect mentors' feedback on the strengths and weaknesses of student skill sets after the program. Mentors indicated their agreement on a series of 14 statements on a 6-point Likert scale from *strongly disagree* to *strongly agree*. A survey example statement for mentor perception of the GYO teacher training program is: *Based on my PLC conversations with students, I believe students are prepared to complete a collegiate teacher training program.* I designed this survey to help mentors identify areas of strength and weakness in student preparation through the GYO teacher training program. I designed questions pulled from PLC conversations through the intervention. The questions included statements pertaining to each of the mini lessons, small wins, and the model for teacher change. The end of the survey included six optional, open-ended questions to share feedback on the GYO teacher training program and the student participants. An example of the open-ended question is: *What celebrations did the students share with the PLC group regarding the GYO teacher training program?*

Qualitative Mentor Exit Interview and Student Focus Group Data

I conducted student focus group and individual mentor interviews to collect qualitative feedback from each participant. As part of a sequential explanatory mixed-methods action research, the survey data informed the creation of the exit interview questions (Ivankova, 2014; Mertler, 2020). I placed students in exit interview groups based on the reported career aspirations from the post-intervention survey. I created three student exit interview groups for responses of “yes, maybe, or no” on the exit interview. I chose exit interview groups with common career choices to create an emotionally safe environment for students to comfortably share their career choices with like-minded peers. Semi-structured interview questions allowed flexibility for me to clarify responses and follow up for more detail on how the program informed the students choice of “yes, maybe, or no” if needed (Mertler, 2020). I also selected explanatory mixed methods to allow quantitative data clarification through the qualitative exit interview. An example of survey data informing interview questions is the student career choice over four years. I wanted to know why students changed their opinions over four years and if the program informed their opinion change. A second example of the survey data informing the interview questions is the mentor's explanation of what GYO teacher training experiences the students remember with an emotional connection. These questions allowed me to understand the quantitative data better and why participants answered questions as they did. For consistency, after completing the quantitative data analysis and identifying areas for clarification, I created exit interview questions with the same base questions focused on student self-efficacy, future career choice, and mentor perception of the GYO teacher training program (Mertler, 2020). To help participants prepare for the discussion, mentors

and students were given interview questions during the final mentor-student session (Mertler, 2020). The complete list of base interview questions for student focus groups is available in Appendix C, and base interview questions for mentors are available in Appendix D.

Students participated in 30-minute focus groups conducted by the researcher. Focus groups were created based on post-survey data regarding future career choices in teaching: strong interest, potential interest, or no interest. All focus groups answered six base questions with follow-up questions for clarity as needed. I asked the base questions focusing on self-efficacy beliefs for being a teacher and future career choices for the education profession. The students participated in focus groups because they represented their singular experiences during the interview. I used audio recordings and transcript creation through Google Meet.

Mentors participated in 20-minute individual semi-structured interviews conducted by the researcher. I conducted individual mentor interviews to allow for more detailed data collection regarding the unique experiences in each PLC group. I did not use focus groups for mentors because they spoke about the experiences of several students in their group. I used seven base questions and added follow-up questions where appropriate to provide clarity in response. Mentor questions focused on the strengths and weaknesses of the GYO teacher training program and suggestions for future improvements. I used audio recordings and transcript creation through Google Meet.

Quantitative Data Analysis

Data were cleaned and formatted in Google Sheets, then reviewed for potential outliers or inconsistencies. Then, I created an average for each theme by adding the items

related to a particular theme and dividing that score by the total number of items. The average kept the theme scores on the same scale. Three themes were computed and analyzed via SPSS 28 (IBM, 2021). I also tested the three themes in each survey topic for reliability. The students' self-efficacy construct and mentor-identified strengths and weaknesses construct were both above .70. The construct for RQ2, GYO teacher training program informing career plans, initially had a very low Cronbach's alpha score. After removing 3 items, the scale was above .70. The score above .70 indicates a statistically acceptable level of question consistency for each theme (Salkind & Frey, 2019).

Cronbach's alpha scores are reported in Table 4.

Table 4

Cronbach's Alpha Reliability

RQ Topic	Pre α	Post α
Students' self-efficacy beliefs (n =13)	.825	.724
GYO teacher training program informs future career plans (n=7)	.825	.702
Mentor identified strengths and weaknesses (n=14)	-	.780

Descriptive statistics were computed for student surveys to examine the data, including mean change and the average score for pre-post assessments. I compared means for each theme by computing the average change scores in the pre- and post-intervention scores for students. Next, a paired samples t-test was used for each theme to determine whether the change was significant (Salkind & Frey, 2019). For each t-test, the effect size (Cohen's *d*) was also calculated (Salkind & Frey, 2019).

Qualitative Data Analysis

I used a series of coding steps to organize the qualitative data. I listened to the audio recording paired with the original interview transcript to correct errors in transcription. I then listened to each interview while reading along with the transcript. I used a tidy transcript model to eliminate filler words or sounds without changing the participants' tone, volume, or meaning (Henderson, 2018). I repeated the process of listening to the interview audio file while editing the written transcript until both data sources were aligned.

Transcript data were analyzed through an inductive in vivo approach, starting with raw data from participants and developing initial groups or codes for analysis (Bhattacharya, 2017). I reviewed the transcripts and initial codes for shared ideas and phrases in the raw data (Charmaz, 2009). Analysis and coding of data started with grounded theory initial coding using in-vivo methods to capture participant voice (Charmaz, 2009). Subsequent rounds of focus coding using a priori descriptive code system created categories and themes from mentor and student data sets (Saldana, 2021).

I sorted the initial codes in two ways. The first method was to combine all mentor responses by question. Codes for each question were taken from each interview and grouped by interview questions. Second, I used the same process to combine all student responses by question. I coded the mentor and student data separately. The second code analysis phase was to take the initial raw codes and develop focused codes (Charmaz, 2009). The focus codes allowed all data collected to be assigned categories and then grouped into themes (Bhattacharya, 2017). The interviews from both groups' codes were

sorted into 10 categories and finally into three themes. I describe the codes, categories, and themes in Chapter Four.

Timeline

The timeline for the mentorship intervention is outlined in Table 5 below.

Table 5

Intervention Timeline

Time Frame	Action	Procedure
February 2023	Select Mentor	1. Teacher recommendations, consent, onboarding
March 2023	Mentor Training 1 Onboarding students Student Pre-Survey Mentor Session 1	1. Mentor training module 1 2. Student onboard and consent forms 3. Student assent forms 4. Student pre-intervention survey 5. Mentor session 1, "Productive Relationships"
March 2023	Mentor Training 2 Session 2	1. Mentor training module 2 2. Mentor session 2, "Classroom Management"
March 2023	Mentor Training 3 Session 3	1. Mentor training module 3. 2. Mentor session 3, "PLC for Lesson Plan Creation"
April 2023	Mentor Training 4 Session 4	1. Mentor training module 4 2. Mentor session 4, "PLC Lesson Study"
April 2023	Mentor Training 5 Session 5	1. Mentor training module 5. 2. Mentor session 5. "Reflections the GYO Teacher Training Program Experience"
May 2023	Post-Intervention Survey Interviews	1. Student post-intervention survey 2. Mentor post-intervention survey 3. Mentor one-on-one exit interviews 4. Student group interviews
June 2023 - January 2024	Data Analysis and Write-Up	1. Data analysis 2. Discussion and conclusion writing process
February 2024	Dissertation Defense	1. Dissertation presentation and defense

CHAPTER 4

DATA ANALYSIS

This chapter describes the data collected and synthesizes survey and interview data from mentors and students. For clarity in reporting, the interview and survey data are grouped into topics or themes for analysis based on the original research questions (DiStefano et al., 2009). This chapter organizes findings by the three research questions:

1. Students' self-efficacy beliefs
2. GYO teacher training program informs future career plans
3. Mentor-identified student pedagogy strengths and weaknesses

Each section provides my quantitative and qualitative findings and a synthesis of the data collected.

As described in Chapter Three, I collected quantitative data through surveys. This chapter uses the term “student” to represent the high school students who served as students through the intervention. Students completed pre- and post-intervention surveys asking respondents to rate their level of agreement to a series of 22 questions on a 6-point Likert scale ranging from *strongly disagree* to *strongly agree*. Student data are grouped into two sections to address the first two research questions: students' self-efficacy beliefs and GYO teacher training program informing future career plans. Mentors completed a post-intervention survey asking respondents to rate their level of agreement to the 14 questions on a 6-point Likert scale ranging from *strongly disagree* to *strongly agree*. Mentor data is analyzed to address the third research question assessing mentors' ability to identify student strengths and weaknesses in the GYO teacher training program.

As stated in Chapter Three, I grouped the survey items by themes focused on research questions and then tested each theme for reliability, and all received a Cronbach Alpha reliability score above the acceptable limit of .70 (Salkind & Frey, 2019). Each subsequent quantitative section outlines descriptive statistics analyzed for each theme. Students completed a pre- and post-intervention survey, and to compare mean data change I applied a paired samples t-test for student self-efficacy and student career selection. Mentors completed a post-intervention survey, so descriptive analyses are presented. Each section outlined in this chapter will conclude with quantitative and qualitative data triangulation, where a synthesis of findings is presented (Mertler, 2020).

I collected qualitative data through student focus groups and individual interviews conducted with mentors, as outlined in Chapter Three. I reviewed the transcripts for both groups and followed the in-vivo and priori coding procedures outlined in Chapter Three. Based on the codes, I created three construct-based themes and subdivided the themes into multiple categories, outlined in Table 6 below.

Table 6

Qualitative Code Summary

Themes	Categories
Self-Efficacy	<ul style="list-style-type: none"> • Enjoy GYO • Improved Skills • Program Recommendations • Metacognition and Next Steps
Career Choice	<ul style="list-style-type: none"> • Program Influence • Teaching as a Desirable Job
Mentor ID Strengths	<ul style="list-style-type: none"> • Hireability Skills • Student Strengths • Student Weaknesses • Mentorship

Student Participants

Student data analysis includes the 11 students who completed consent forms, assent forms, pre-intervention survey, intervention, post-intervention survey, and the focus group exit interview. The GYO teacher training class roster includes 25 students; 14 of those students participated in some, but not all, steps in the intervention, and therefore, their data are omitted from the analysis presented in this chapter. The class as a whole represents the gender demographics of the teaching profession, with approximately 80% of students identifying as female. However, only female students completed all portions of the intervention. Five of the eleven reported a clear interest in becoming a teacher when they entered the GYO teacher training program freshman year. Students who entered the program without a strong desire to become a teacher generally reported that they wanted to be at the school, and teaching was the only program they were accepted into through the magnet lottery. Table 7 describes the eleven participants and includes the data shared regarding their perception of teaching as a future career choice.

Table 7*Student Participants and Teaching as a Career Choice*

Pseudonym	9th Grade	12th Grade Pre-Intervention	12th Grade Post-Intervention	Change Career Choice During GYO
Angel	Yes	Maybe	Maybe	Yes
Christina	Yes	Maybe	Maybe	Yes
Eleanor	Yes	Yes	Yes	No
Rachel	Maybe	Maybe	No	Yes
Charlotte	Yes	Maybe	Maybe	Yes
Alice	No	Yes	Yes	Yes
Amelia	No	Maybe	Maybe	Yes
Evelyn	Maybe	Yes	Yes	Yes
Mia	Maybe	Maybe	Maybe	No
Sophia	No	Maybe	Yes	Yes
Abigail	Yes	Yes	Yes	No

To begin the final high school semester, and this study, students reflected on their perceptions of teaching from grade nine when they began the GYO teacher and training program. Students compared these reflections to their pre and post-intervention perceptions of teaching as a career. Students like Alice reported an interest in attending the high school but had no interest in teaching when they entered ninth grade. The GYO teacher training program generally has the lowest number of applications, which serves as an easier selection in the magnet lottery than other more highly sought-after programs within the school, such as cosmetology or culinary arts. Eight of the 11 students, 73%, reported a change in career choice over the four-year GYO teacher training program, with four students increasing interest and four decreasing interest in choosing teaching as a career. Only two students, Rachel and Sophia, changed their opinion about teaching as a career choice throughout the intervention, with Rachel changing from “maybe” to “no” and Sophia changing from “no” to “yes.” The majority of students (n=9) did not change

their opinion of teaching as a career choice throughout the mentorship intervention. In the end, five students wanted to be a teacher as their first career, five students might be a teacher in the future, and one student discovered teaching was not a good fit for them.

RQ1: Student Self-Efficacy Beliefs

This section describes the findings related to students' self-efficacy beliefs. The data outlined below centers around the students' perceptions of their ability to be successful in pursuit of a teaching degree and success as a teacher once in their own classroom.

Quantitative Data

Students' self-efficacy beliefs generally did not change after participation in the mentorship intervention, as reported on the pre- and post-intervention surveys. The average score on self-efficacy from the pre-survey was 4.44 (SD = .63), with a post-survey average of 4.47 (SD = 0.44). A paired samples t-test also confirmed no significant change in student self-efficacy beliefs occurred after the mentorship program ($t_{10} = .162, p > 0.05$), with a small effect size ($d = 0.05$). However, student self-efficacy beliefs did change regarding individual topics, as measured by individual survey items in the self-efficacy construct (see Table 8). Generally, student responses regarding performance as a classroom teacher were consistent or higher from the pre- to post-intervention survey. After the intervention, students reported more confidence in several items including; facilitating learning, managing a classroom, creating lesson plans, and metacognition. The increase in confidence is represented through an increase in the mean score reported, and evidenced in Table 8 below. Students reported improved perceptions of their ability to identify growth areas and self-efficacy beliefs for success in college through a higher

mean post-intervention survey score. However, students reported less confidence, or lower mean score, after the intervention in building relationships with students, solving problems in the classroom, motivating students, and overall self-efficacy belief to be a good teacher in the future. The self-efficacy theme contains areas of growth and decline in student perceptions. Students' self-efficacy beliefs increased on eight questions and decreased on five between the pre- and post-intervention survey. Overall, the construct of self-efficacy did not show significant change. However, students did report a change in self-efficacy beliefs on specific skill sets measured on the survey.

Table 8*Self-Efficacy Survey Results*

Item	<u>Pre</u>		<u>Post</u>	
	Avg.	SD	Avg.	SD
I can build professional, productive relationships with my students.	4.82	0.60	4.27	1.10
I can build professional, productive relationships with my peers.	4.55	0.82	4.64	0.67
When I teach students, they learn new information.	4.27	0.90	4.45	0.52
My classroom management skills allow me to run a productive classroom.	4.00	1.18	4.36	0.81
I can develop standards-based lesson plans that engage students.	4.18	1.47	4.27	1.19
After I teach a lesson, I can reflect on the student outcomes and adjust for future lessons.	5.09	1.04	5.18	0.75
I know I can solve problems when they arise in the classroom.	4.36	1.21	4.55	0.93
If a student is struggling in class, I can help them.	5.00	0.89	4.55	0.69
I can motivate students to work hard.	4.64	0.92	4.36	0.67
I feel prepared to navigate the classroom and teach students while at the internship.	3.64	1.36	3.55	1.04
Based on my internship experience, I can identify where I need to improve as a teacher.	4.45	1.63	4.91	1.14
I am prepared to be successful in a teacher's college if I decide to attend in the future.	4.00	1.00	4.36	1.12
I have the ability to be a good teacher if I choose to be one in the future.	4.73	1.01	4.64	0.81

Qualitative Data

Qualitative data collected through focus group exit interviews provides evidence that student efficacy beliefs did increase throughout the GYO teacher training program.

Using the qualitative data codes, I created four categories within the theme of self-efficacy beliefs:

1. Students enjoyed the GYO teacher training program.

2. Students improved their skills as a teacher.
3. Students used metacognition to make recommendations for GYO teacher training.
4. Students used metacognition to identify their next steps for career preparation.

Table 9

Self-Efficacy Categories and Focus Codes

Categories and Codes	
Enjoy GYO	<ul style="list-style-type: none"> • Liked Internship • Liked Program Classes • Liked Working with Kids • Liked Mentorship
Improved Skills	<ul style="list-style-type: none"> • Improved Pedagogy Skills • Influenced Learning • Increased Confidence
Recommendations	<ul style="list-style-type: none"> • More Practice • More Mentorship • Better Organization of Internships
Metacognition and Next Steps	<ul style="list-style-type: none"> • Prepared for College

Category One: Students Enjoyed GYO Teacher Training

The first category from the qualitative data under the self-efficacy theme is the enjoyment of the GYO teacher and training program. In the first group of codes that support category one, most students spoke highly of the internship, program courses, and working with kids. Amelia shared a common sentiment among students by stating, “I enjoyed the GYO program, and I think internship was my favorite part of the program. I liked encouraging and supporting a group of kids who struggled with reading in the second-grade classroom. Eleanor affirmed this idea, stating, “I enjoyed working with the students at the internship; I could identify with them, especially helping a student translate from English to Spanish, because I was in that position once. Spanish was my first language.” Several students echoed Eleanor’s statements and spoke of enjoying

helping kids feel more comfortable in school and seeing a younger version of themselves in the classrooms. Amelia shared how she enjoyed the internship, “I liked working with the same table of students each class, and as we practiced together, I saw them getting more confident.” In contrast, Rachel, who conducted an internship at the same high school, did not enjoy the internship, as reflected in this statement, “I did not enjoy the internship because I was uncomfortable teaching my peers; I think I would have liked working in an elementary setting.” Rachel highlights a familiar feeling from students that they were more comfortable working with younger students than high school peers. Rachel was the only student in this data set who completed an internship at the same high school. However, all students in the GYO teacher training program worked with high school students to conduct mini lessons over the four year program.

Generally, students highlighted the internship as their most vivid memories about the GYO teacher training program, but students also mentioned the courses and helping kids as noteworthy program components. Several students commented on enjoying their classes and instructors, including Charlotte, who stated, “I liked the classes, and our teachers have a lot of passion.” Angel represented several of her peers by sharing appreciation for her GYO teacher training classes, and the other high school classes taken outside of the program. Angel stated, “I enjoyed the program classes, and I learned a lot from the core classes outside of the program. The expectations were high in most of my classes through high school.” Students also reported an enjoyment of working with kids. Evelyn represents several students who expressed satisfaction with helping students learn. She stated, “There was a boy in one of my classes and he was just sitting there. I helped him set up his Google slides and he started working. Now he will always have the

skills to create a slideshow with his ideas.” Rachel, who does not see herself as a teacher in the future, reported enjoyment working with students. Rachel recalled a specific lesson and stated, “We did a hands-on activity in the pre-k, and the students used grass and other real items to see what floats. I enjoyed seeing them learn.” Overall, most students enjoyed the GYO teacher training program experiences as students and as internship teachers.

Lastly, students reported strong enjoyment of the mentorship component of the program. Mia stated, “I liked talking with the mentor. I just wish we would have started this (mentorship) during freshman or sophomore year.” Several other students commented on the value of mentorship and echoed this desire to receive mentorship before senior year. Mentors also helped students find small wins while at the internship. Evelyn shared, “I was able to help clarify information for students, and I liked watching them apply the new skills.” Generally, students commented that they enjoyed working in small groups with a mentor.

Category Two: Students Improved Their Skills at Internship

The second category in the self-efficacy theme describes findings centered around students improving their skills through the GYO teacher training program. The first group of codes related to category two shows that students reported improved classroom pedagogy skills. Charlotte represented growth as an educator in this statement, “Personally, I felt like a good teacher when I used a combination of hands-on activities with the kids.” Students reported a feeling of success when they applied instructional strategies learned in class to the internship. Amelia reported, “I helped a second grader learn to read using a small group, notes, and encouragement. It felt good to use these

engagement strategies to help a student.” Evelyn stated, “I learned to plan more about what I was going to say, and I feel like my presentation skills got a lot better during the internship.” Students reported confidence in their ability to teach at the internship with coaching from mentors and internship teachers.

The second group of codes to support student pedagogy improvements includes the student perception of increased confidence and helping to facilitate learning. Several students commented on their anxieties about leading a class in the beginning of the program and their transition to the enjoyment of leading a class through the intervention. Most students reported being nervous to start progressively more enjoyment leading the class through the intervention. Teaching at the internship, students reported an increase in confidence. As an example, Angel stated, “My confidence grew at the internship. I was scared at first but became comfortable talking in front of people.” Eleanor stated an example of this improved self-efficacy, “I improved as a teacher during the program. I am more confident presenting lessons to the class; I really like leading small groups.” Students also reported that they helped to facilitate learning while at the internship. Amelia stated, “I felt successful during the internship; it was good for me and the students. We were learning together; I liked working with the kids.” Another student, Alice, shared a moment about motivating a student, “One student did not want to do work, but because I asked her to get work done, and she liked me, the student completed the assignment.” Overall, students shared examples of how their confidence increased, and they helped facilitate student learning while at the internship.

Category Three: Students Recommendations for the GYO Teacher Training

The third category under the self-efficacy theme is students identifying recommendations for the GYO teacher training program. The first group of codes contributing to program recommendations focuses on the student's request for more practice and mentorship as support. Students' statements indicated an eagerness to acquire more practice before running their own classrooms. Eleanor stated, "To feel more comfortable running a class, I think we need more practice teaching before going to the internship." Several students echoed the desire for more role-play and practice lessons in the GYO teacher training program. Eleanor also acknowledged that the GYO teacher training program "probably would have more practice normally, but our sophomore year, we did not come to school because of COVID." In addition to more opportunities for practice, students also reported wanting more mentorship across the entire program. Mia stated, "I would like to see mentorship during freshman and sophomore year, maybe from the upper-level students." Angel agreed with Mia during their focus group interview, "I like it when the upper-level students checked on us freshman year, but after COVID, I did not know anyone younger than me." Students enjoyed the vertical support structure between older and younger students prior to the COVID shutdown. After students returned to school, they expressed interest in the return of the vertical relationships and support structures within the GYO teacher training program, where upperclassmen helped underclassmen. Several students reported a desire for extended mentorship from an adult or peer through the GYO teacher training program.

The next set of codes related to program recommendations center around the need to improve the organization structure at the internship. A common statement regarding

the GYO teacher training program was the desire for clearly defined roles for students and teachers for the internship. Amelia stated, “I always felt a little lost at the internship. I did not know what I was supposed to do or if I was pushing the classroom boundaries.” Abigail agreed with Amelia during their group interview, stating, “I really did not want to step on my teacher’s toes at the internship. I want to help but did not know where I fit in.” Student interviews revealed an enjoyment of the internship experience; however, a lack of expectation clarity for the internship roles for the student and teacher. Generally, the students enjoyed the internship, but they also clearly articulated a need for more onboarding before the internship experience.

Category Four: Students Used Metacognition to Identify Next Steps in Career

Preparation

The final category in the self-efficacy theme describes findings centered around students' preparation for college after high school. The codes in this section focus on the student's self-efficacy beliefs about entering college as an education major after high school. Concerning their next steps, students generally reported confidence in their ability to succeed in college as an education major after high school. Evelyn stated, “I think I will be successful in a [sic] college because we developed a lot of skills and had a lot of teaching experiences.” Evelyn represented most students who leaned on the experiences in the GYO teacher training program to develop self-efficacy beliefs toward success in college as an education major. Eleanor also believes she will be successful in college and attributes her self-efficacy beliefs to the course work: “I definitely feel prepared for college as an education major. After taking college courses in high school, I like that I can just continue with the next class toward the degree.” Most students reported feeling

prepared for college because of the coursework and experiences in the GYO teacher training courses.

However, some students expressed apprehension at college. For example, Christina said, “I know that I am more prepared than most kids my age, but I am nervous about learning some of the information in high school and remembering it in college.” A concern shared in Christina’s group is that there may be too long of a gap between learning the information in the high school GYO teacher training program and the application of the skill after college graduation. Although a few students shared apprehension, students generally reported that the college credits in the GYO teacher training program were challenging, and now they feel prepared to succeed in college.

Triangulation

The quantitative and qualitative data presented reflect changes in students’ self-efficacy beliefs through the mentorship intervention. However, changes in students’ self-efficacy increased or decreased in different sections of this theme. For example, students reported improving pedagogy skills, enjoying helping kids, and feeling prepared for college as an education major, while also self-reporting areas for pedagogy growth before becoming a teacher. Students also said they enjoyed the GYO teacher training program, including coursework, internship, and mentorship intervention. Through the synthesis of the quantitative and qualitative data, three findings related to student self-efficacy beliefs emerged.

First, student metacognitive reflection occurred through mentorship intervention, and students knew how to improve their pedagogy skills. Students indicated some improvement on the survey question that asked whether they could identify where they

needed to improve as a teacher, with an almost .5-point increase. Focus group exit interview responses included students reporting using pedagogy skills learned through the GYO teacher training program, improving those skills, and increasing confidence to use the learned instructional strategies. Student interviews also revealed a desire for more opportunities to practice teaching before they entered the internship. These data points indicate that the students feel confident self-identifying their growth areas in becoming a teacher.

Second, students reported enjoying working with kids but need more pedagogical practice to create professional relationships. Qualitative interview data generally supports that students enjoyed working with kids during the internship. Interview data also shows a desire for more practice during the GYO teacher training program before entering the internship. An interesting finding from the qualitative data was that students reported they could relate to the kids in their internship classrooms. However, they also had slightly lower scores (0.55 point difference) on the post-survey, asking to what extent students thought they could build relationships with students. Similarly, students also had lower scores on the post-survey item that asked about knowing how to help a struggling student in a class (0.45 point difference). Students reported that they enjoyed working with students at an internship while recognizing their need for more practice in creating a professional relationship to help those students learn.

Finally, students reported feeling ready for continued preparation to become a teacher after completing the four-year GYO teacher training program. Survey question 12 asks, "I am prepared to be successful in a teachers' college if I decide to attend in the future." Students had an average increase of .36 points on an individual survey item

asking if they were prepared to be successful in college as an education major. Focus group exit interview responses supported this increase in confidence through the GYO teacher training program, including student confidence for success after completing college dual credit courses in the GYO teacher training program. After completing the four-year GYO teacher training program and working with mentors through the intervention, students increased their self-efficacy for college success after high school.

RQ2: GYO Teacher Training Program Informs Future Career Plans

This section describes the findings related to the second research question, assessing students' perception of the GYO teacher training program informing their decision to become a teacher. The information below centers around student-reported experiences that informed their plans of whether to pursue a job in the teaching profession.

Quantitative Data

I collected students' future career plan data through pre- and post-intervention surveys. An average theme score was created to understand overall shifts in career plans. The average 6-point Likert score on student career selection from the pre-survey was 4.56 (SD = 0.84), with a post-average of 4.74 (SD = 0.71). Though a slight descriptive increase, a paired samples t-test confirmed that no significant change in student career choice occurred during the mentorship program ($t_{10} = 1.204, p > 0.05$) and a small effect size ($d = 0.36$).

Table 10 below shows the average pre- and post-intervention survey scores for individual items comprising the second theme, assessing future career plans. Generally, students reported similar answers on the pre- and post-survey questions. For example,

there was no change for the item asking about enjoying being a leader in the classroom. One exception to this was an average increase of .64 points on the item asking if becoming a teacher could help students achieve their lifetime goals. This increase suggests that students see teaching more favorably in their future career goals after the mentorship intervention. There was also an average increase of .45 points on the item asking if students changed their mind about teaching as a career choice, which suggests that after participating in the program, students changed their ideas about future career plans. These data points support that the GYO teacher training program informs the student career choice both before and after the mentorship intervention.

Table 10

GYO Teacher Program Career Choice Quantitative

Item	Pre		Post	
	Avg.	SD	Avg.	SD
I enjoy working with students.	5.00	1.00	5.09	0.94
I enjoy being a leader in the classroom.	4.90	0.88	4.90	0.88
I want to share my knowledge with students.	5.09	0.70	5.00	1.00
I think being a teacher is an important job.	6.00	0.00	5.91	0.30
I think teaching is an enjoyable job.	4.18	1.08	4.27	1.01
I would recommend becoming a teacher to a friend or family member.	3.82	1.33	4.09	1.38
I think being a teacher could help me reach my lifetime career goals.	3.55	1.86	4.18	1.54

Qualitative Data

Student focus groups provided qualitative data to support findings related to their future career choice. Generally, the GYO teacher training program provided evidence for student career choices based on their interests. Those students leaning towards education

as a career choice at the beginning of the intervention found more passion for teaching. The students leaning away from education as a career choice found less passion for teaching through the intervention. I separated the qualitative data collected for student perceptions of teaching after four years of GYO teacher training into two categories.

1. Program Informing Career Choice
2. Teaching as a desirable job

The two categories are supported by several codes outlined in Table 11.

Table 11

GYO Teacher Training Program Career Choice Qualitative

Categories	Codes
Program Informing Career Choice	<ul style="list-style-type: none"> • Internship Greatest Influence • GYO Represents the Profession • Self-Identification as a Teacher
Teaching as a Desirable Job	<ul style="list-style-type: none"> • Future or Proxy Career • Enjoyable Job

Category One: GYO Teacher Training Informed Career Choice

Students reported more clarity in career choice after participating in the mentorship intervention and the four-year GYO teacher training program. The first category in the career choice theme is the program informing the students’ choice of teaching as a career. The first set of codes focuses on the GYO teacher training program experiences and specifically highlights the internship to inform career selection.

Generally, students felt the four-year GYO teacher training program painted a clear picture of the teaching profession. Sophia who in grade nine did not want to be a teacher stated, “The internship changed my mind because I got to do the job, and I enjoyed working alongside the teacher.” Alice, who also reported not wanting to be a teacher in

9th grade, agreed, “Freshman year, I did not want to be a teacher, but over the years, I started to change my mind. Internship unlocked something in me, and I enjoyed teaching and want to do this for a job.” Students generally stated that the internship was a good experience, and the four-year GYO teacher training program clarified future career selections. An example of job clarity information helping a student decide to opt out of the career field came from Rachel. Rachel stated, “The special education college class decreased my interest in teaching, and the internship verified for me that I do not want to work as a teacher.” Rachel was a “maybe” for becoming teacher during the four-year GYO teacher training program, and the course focused on special education laws and the legal responsibilities for teachers informed her decision away from teaching. Overall, students agreed that the GYO teacher training program provided a clear picture of the job of a teacher, and this insight assisted each student in selecting teaching or not, as their future career.

The second set of codes includes information regarding self-identification as an influence on career choice. Students generally identify themselves as a teacher or not a teacher throughout the program. Students shared their perspective of teaching as a future career choice through this self-identification lens as a teacher for a viable career choice. Abigail and Rachel provide examples of this self-identification lens when reflecting on teaching as a viable career choice. Abigail stated, “I have wanted to be a teacher since elementary school. Going through this four-year program verified that teaching is the right career for me.” Rachel reported at the beginning of the intervention that she “maybe” would consider teaching in the future. After the intervention, Rachel represented several students who did not identify as a teacher. Rachel stated, “I never

really wanted to be a teacher; I only selected the program to get into the school. After four years, I still do not have a passion for teaching.”

The self-identification as a teacher was not fixed, and a few students evolved their teacher identity through the program. Students like Sophia, who did not see herself as a teacher in grade nine, stated, “I had not seriously considered teaching until my mentor told me I could be really good at it. That conversation influenced me a lot, and now I want to teach.” After the intervention, Sophia now considers teaching to be a viable profession for her life. I generally observed that students interested in the profession maintained their passion, and those who never found an interest in teaching still do not have an interest in teaching. Of the eleven participants, ten students finished the intervention considering teaching as “yes” or “maybe” a career from them, with Sophia changing her opinion from “maybe” to “yes.” Only one student, Rachel, decreased interest in teaching through the intervention.

Category Two: Teacher as a Desirable Job

The second category in the theme of program informing career selection focuses on the student's view of teaching as a desirable job. Students shared a variety of perspectives on the teaching profession, including teaching as a future option and working with kids in a profession outside of the classroom. Generally, students reported respect and appreciation for the teaching profession. Students also generally stated that they would recommend the teacher profession to a peer, regardless of their personal career choice to be a teacher or not. Although not all students also expressed interest in becoming teachers themselves, they generally feel that teaching is an important and respectable career option.

The first set of codes associated with teaching as a desirable job, is related to working as a teacher later in life or with kids in a different setting. Students who do not want to enter college as an education major immediately after high school generally reported that teaching is a possible career option today or in the future. Angel stated, “I assume the point of the GYO teacher training program is to convince us to be teachers, and it did push me to think that I might like teaching in the future.” A few students who did not show immediate interest in teaching have found a desire to help people in a proxy profession, such as social worker or therapist. Charlotte stated, “After working with kids, I know that I want to continue that in the future. Not as a teacher, but maybe as a social worker.” Rachel agreed during the focus group, stating, “Working in the Pre-K during internship verified that I like being with children, but I do not want to be their teacher.” Students generally reported enjoyment with helping people and found value in the skills learned in the GYO teacher training program to help them find a career match.

The second set of codes associated with teaching as a desirable job relates to students' opinions of the profession for importance and enjoyability. Mia represented the general feel for the students by stating, “ I am still in between if I want to be a teacher, and after this program, I know teaching is an important job.” Students in the GYO teacher training program respect the profession and believe teaching is an important job. Students like Christina also believe teaching can be fun, stating, “After going to internship, I reignited my passion for teaching, and I remembered that I actually enjoy this work.” Sophia echoed the sentiments from Christina: “The kids loved me, and I loved them, so yeah, I think teaching could be an enjoyable career.” Generally, after

completing the four-year GYO teacher training program, students believed teaching is an important career, and most also think it could be an enjoyable job.

Triangulation

This section's qualitative and quantitative data supported that the students believed the GYO teacher training program informed their future career choices. Three findings emerged from the data sets regarding the GYO teacher training program's informing career choice, student perceptions of the teaching profession, and the selection of similar career fields outside of education.

The first finding from this section is that students report a clear understanding of the profession and have a positive perception of the role of the teacher. On the pre and post-survey, students had an average score above 5.90 points (out of 6) on the item asking if they believed teaching was an important job. Students also felt confident that they could identify how they needed to improve as a teacher (post-survey average of 4.91 points). Sophia highlighted evidence that the students understand the role of the teacher by “doing the job” of the teacher during the internship. Eleanor and Abigail shared thoughts during their interview that demonstrated they believe that teaching is an important job. Each student group observed demonstrated knowledge of the teaching profession and the expectations for being successful as a teacher.

Second, students report that the GYO teacher training program informed their career selection. There was a notable average increase (0.45 points) on the post-survey item asking if they changed their minds about teaching as a career choice after participating in the GYO teacher training program. As reported in Table 7, eight of eleven students reported a change in career choice from grade nine to grade twelve.

However, during the mentorship intervention in the final semester of GYO teacher training, only two of eleven students changed their opinion on teaching as a career. Over the four-year GYO teacher training program, most students reported a change in opinion, and at the end of the program student career choice is generally fixed. Focus group data included students reporting that the GYO teacher training helped them decide if teaching was the best career for them. Eleanor represented the general sentiments of the group by giving the internship experience as the most influence on their decision to pursue teaching. While the program may not have changed opinions about teaching for all students, several students reported that the program informed their decision. Students like Abigail knew she wanted to be a teacher before and after the program, and Rachel never felt a passion for being a teacher before and after the GYO teacher training program. Abigail and Rachel did not change their opinion of their career choice but reinforced their decision to be a teacher.

Finally, a few students used their perception of the teaching job and information from the GYO teacher training program experiences to select a field outside of education with similar skill sets. Charlotte and Rachel represented several students by stating they value helping kids but want to help them through other careers parallel to teachers, such as a counselor or social worker. On the survey, students generally agreed they would recommend teaching as a profession to their peers ($M = 4.09$). Both interviews and surveys confirm that regardless of their immediate career plans, students generally respect the teaching profession and think positively about the job of a teacher.

RQ 3: Mentor Identified Student Pedagogy Strengths

The third research question focused on collecting feedback from the mentors about the strengths and weaknesses of the students after completing the GYO teacher training program. Data to answer this question included all five mentors, who completed consent forms, mentor training, mentor-student meetings, post-intervention survey, and the individual exit interview.

Table 12

Mentor Participants

Pseudonym	Role	Gender	Years of Education Experience
Maria	Administrator	F	13
James	Administrator	M	10
Vanessa	Teacher	F	8
Alicia	Administrator	F	16
Peter	Teacher	M	16

Quantitative Data

Mentor post-survey data showed an ability for mentors to identify student pedagogy strengths and weaknesses after completing the GYO teacher training program. The mentor's ability to identify student strengths and weaknesses in the GYO intervention assessment included 14 questions on a post-intervention survey (see Table 13). The average 6-point Likert score was 4.77 (SD = 0.47). Generally, mentors believe they can identify strengths and weaknesses in student preparation through the GYO teacher training program; students understand the job, and are prepared for college.

First, mentors reported the highest level of confidence in identifying student strengths (M = 5.60), identifying positive student experiences (M = 5.40), and identifying

student weaknesses (M = 5.40). Mentors reported a high level of confidence in identifying strengths and weaknesses in student preparation while also highlighting positive experiences for students. Mentors reported the least confidence in student classroom management ability (M = 4.00) and student preparation for success at the internship (M = 4.00). Based on mentor intervention sessions, mentors generally reported a deficiency in preparation for running a classroom during their internship. An exception to the lack of preparation data is related to lesson plan development. Mentors reported an above-average score for students' ability to develop standards-based lesson plans (M = 4.80).

A second finding from mentor post-intervention survey data is an above-average response for students' understanding of the profession and their self-efficacy beliefs. Based on student conversations, mentors reported that they felt confident identifying student understanding teacher job requirements (M = 4.80). Mentors also reported confidence in identifying the student's self-efficacy beliefs due to the GYO teacher training program (M = 5.00).

Finally, mentors reported that students are prepared for college as an education major but are not yet ready to run their own classroom. Mentors reported above-average results for identifying student preparation for college after high school (M = 4.80). Mentors identified an area for student growth with readiness to start teaching. Overall, mentors responded below average to question 14, "If my PLC students applied for a teaching job at my school in the future, I would recommend they be hired" (M = 4.60). Mentors generally feel like students are ready for the next step in their education, as an education major in college, but they are not ready to be hired as a teacher yet.

Table 13*Mentor Ability to Identify Student Pedagogy Strengths Quantitative*

Question	Avg.	SD
Based on student conversations, I believe the students know what is required to be a good teacher.	4.80	0.40
During our student conversations, students highlighted enjoyable experiences during the GYO teacher training program.	5.40	0.49
Based on student conversations, I can identify areas of strength in student preparation.	5.60	0.49
Based on student conversations, I can identify gaps or weaknesses in student preparation.	5.40	0.49
I believe this mentorship program increased the self-efficacy beliefs of students regarding their teaching ability.	5.00	0.63
With the PLC's assistance, students could solve classroom problems.	4.60	0.49
Based on our conversations, it was clear that students can build professional relationships with their students .	4.60	0.49
Based on our conversations, it was clear that students can build professional relationships with their peers .	4.60	0.49
Based on our conversations, it was clear that students have the classroom management skills to run a productive classroom.	4.00	1.10
Based on our conversations, it was clear that students can develop standards-based lesson plans.	4.80	0.75
Based on our conversations, it was clear that students can help peers improve lesson plans through the lesson study process.	4.60	1.02
I believe the students were prepared to be successful in their internship experience.	4.00	0.89
Overall, I believe the students in my PLC are prepared to be successful in a teacher's college.	4.80	0.75
If my PLC students applied for a teaching job at my school in the future, I would recommend they be hired.	4.60	0.49

Qualitative Data

Mentor individual exit interviews provided data to support the findings related to the mentor's ability to identify student strengths and weaknesses in the GYO teacher training program through the mentorship intervention. Based on the qualitative data

collected, mentors were able to ascertain strengths and gaps in student preparation through PLC mentor conversations. Mentor qualitative data included four categories:

1. Hireability Skills
2. Student Strengths
3. Student Weaknesses
4. Mentorship

The codes outlined in Table 14 support the four categories.

Table 14

Mentor Ability to Identify Student Strengths and Weaknesses Qualitative

Categories and Codes	
Hireability Skills	<ul style="list-style-type: none"> • Coachable • Passion is Inconsistent • Hire Some Students in the Future
Student Strengths	<ul style="list-style-type: none"> • Identify Pedagogical Strengths • Foundation Skills, Need Help with Application
Student Weakness	<ul style="list-style-type: none"> • Identify Pedagogical Weakness • More Practice Needed • Internship Organization and Communication • Dual Credit Might be Hurting
Mentorship	<ul style="list-style-type: none"> • Mentors Enjoyed the Process • Helpful Data to Improve GYO Program

Category One: Student Soft Skills

The first category in the mentor identification of strengths and weaknesses theme is the identification of student soft skills. The first set of codes analyzed in the student hireability skills category centers on the mentor's feeling that students were coachable. As expected, mentors shared that the students lacked experience in the teaching profession, and were eager to apply suggestions from the mentors. Based on the conversations regarding preparation and problem-solving throughout the intervention,

mentors identified the students' needs and skills. Peter stated, "The biggest thing I noticed with the students is their willingness to be coached. They took feedback from me and changed their actions at internship." Vanessa echoed this sentiment, stating, "My students were eager to improve when a lesson did not go very well, and growth was contagious and positive in our group." James also felt his group was coachable, "Our group had good lesson plans, and they all helped each other improve by giving feedback through the student PLC." Generally, mentors reported knowing where each student needed more practice and that the students were receptive to mentor coaching.

The second set of codes analyzed in the student skill set category focused on student passion for teaching, and mentors identified students they would like to hire in the future. Mentors reported an inconsistent level of passion for the teaching profession from their students. Maria shared, "I had one student who could not wait to tell me about her internship and get feedback each week, and a couple of students who never seemed to be fully engaged in our small group conversations." Peter shared a similar statement about his group, "Three students in my group were introspective and willing to be coached, and one student, who is a great kid, but would not do the work." Peter was not sure why the student was not motivated to complete the work. Mentors generally shared the sentiment that each group had a few students who showed a passion for teaching and a few students who did not. James stated, "The GYO teacher training program is working well to increase interest for the students who want to teach, but the students who do not want to teach the program is not changing their mind[s]." Each mentor identified students that they would recommend for hire as a teacher in the future. The heritability recommendations were generally based on a passion for improving pedagogy more than

their current skill set. Mentors understand that the students have to complete a college degree after high school, but the mentors identified six students they would be confident to hire in the future. Alicia stated, “I had two students who asked good questions and were always prepared; I would definitely hire them in the future. I also had one student who did the minimum to participate in our group, and I would not hire that person in the future.” James shared a similar statement, “One of my four students showed me she was willing to do the work to improve her skills, and she is the only student from my group I would recommend for hire today.” Mentors shared their ability to identify students’ passion for teaching, and the mentor hiring recommendations are generally based on this passion.

Category Two: GYO Teacher Training Student Strengths

The second category in the mentor identification of strengths and weaknesses theme is the identification of student strengths. The first set of codes focuses on mentors’ reported ability to identify student pedagogy strengths, including lesson plan development. James stated, “I think the biggest pedagogical strength for my students was writing lesson plans.” Peter shared, “I believe their strength was lesson plan writing, and their willingness to be coached improved the skills quickly.” Generally, mentors reported feeling comfortable identifying student strengths, including specific tasks, such as lesson plan writing. Alicia shared a common feeling about the mentor’s ability to identify pedagogical strengths and improve skills. Alicia stated, “I know the students’ individual strengths and their passion for the profession seemed to determine if they improved or not.” All mentors reported they were comfortable identifying the students’ pedagogical strengths.

The second set of codes related to the category of student strengths centers around foundational skills and the need for more practice in application. Overall, mentors reported confidence in the student's foundational pedagogical skillset. However, the mentors also reported needing more practice to develop those foundational skills. Alicia stated, "I think the GYO teacher training program does create a strong foundational skill set for our students; they just need some more time applying those skills." Maria shared a similar statement, "I know the students have foundation knowledge from their classes. The students know what they are supposed to do, but I think they need more practical application before the internship." Peter is also confident that his students have solid foundational knowledge, "I enjoyed coaching the students to turn their knowledge into practice during the internship." The mentors generally reported the students to have a solid understanding of the foundations of teaching from the GYO teacher training program coursework. The mentors also generally reported that the students needed coaching and time to practice applying the knowledge.

Category Three: GYO Teacher Training Student Weaknesses

The third category in the mentor identification of student strengths and weaknesses theme is the identification of student weaknesses related to teaching. The first codes in the student weakness category provide qualitative data related to the mentor's ability to identify areas for pedagogical improvement and the student's need for more practice. Mentors generally reported they were comfortable finding student areas for growth and that students need more practice applying pedagogical skills. Generally, mentors report confidence in identifying areas for program growth. Alicia stated, "I know my three students' areas for growth." Peter shared a similar comment, "I was happy with

students' general knowledge, but the level of detail for each student was weak. I enjoyed coaching them on the technical details required to make their plans a success." Mentors also uniformly reported needing more time to apply skills learned in the GYO teacher training program before going on internships. Maria stated, "I kept asking myself if the students had enough time in the classroom setting. I do not think they practiced teaching enough before the internship." James shared a similar concern, "While their lesson plans were well written, I do not think they understand why each part of the lesson is so important. They need more practice." Mentors believe in their ability to identify student areas of weakness and universally agree that students need more time to apply skills.

The set of second codes in the mentor-identified student weakness category focuses on the internship and college coursework. A general program concern brought by mentors is the need for tighter organization in the internship. Vanessa stated, "We need clear expectations for internship dress code, time in classrooms each week, and duty expectations in the classrooms." Maria echoed Vanessa's statements by saying, "We need to have daily communication between our school and the internship school to ensure the student expectations are being met." Mentors generally reported that a lack of consistency existed between internship experiences. Vanessa also stated, "Are we using the best partner teachers at the internship? Based on our PLC conversations, I do not think each student is getting a strong internship experience." Generally, the mentors are concerned that the internship needs standardization to ensure each student is placed with a great teacher and has access to everyday teaching experiences. The placement and selection of college courses in the GYO teacher training program is the final weakness identified by the mentors. Peter stated, "My students and I are concerned that learning

about special education laws in high school might be too far removed from when they need to apply in their classroom. Maybe taking that class at then of college is more appropriate to keep current.” James commented, “The special education course may be too challenging for this point in the student development. We do not want students to leave the GYO teacher training program with a negative feeling about the coursework.” A concern shared by James echoed a similar concern. James stated, “I am concerned that the special education dual credit class taken the last semester of high school may create fear or doubt for student self-efficacy prior to graduation.” James is concerned that the end of the GYO teacher training program should be a highlight, and the special education laws may not help increase student confidence. Mentors believed they could identify student weaknesses in the GYO teacher training program through the student PLC conversations.

Category Four: Mentorship

The final category in the mentor identification of student pedagogy strengths and weaknesses theme is mentorship. The first set of codes related to the mentorship category is the mentor’s enjoyment of the process. Mentors generally reported enjoying the intervention and expressed a desire to extend the length of mentorship in future years. Vanessa stated, “I enjoyed serving as a mentor. My favorite part was getting to know students on a peer-to-peer basis.” Alicia shared, “I loved stepping away from my regular job to talk with students about our profession and helping them learn.” Maria echoed statements, “I absolutely enjoyed being a mentor. I love working with students, getting to know them, and helping coach them.” Mentors universally agreed that they enjoyed participating in mentorship. Mentors also expressed a desire to extend the mentorship

component for a longer period of time. Peter stated, “The one thing we never have enough of is time; we need more time together.” Peter suggested meeting twice a month for the entire senior year to see skillset growth over time.

The final codes associated with mentorship center around using student voice to improve the GYO teacher training program. James stated, “I enjoyed getting GYO teacher training feedback on improving from a kids perspective.” Maria also enjoyed the feedback from students, stating, “After the first meeting, the students came out of their shells and were absolutely willing to openly share their experiences with me.” Overall, mentors reported enjoying the intervention and learned about the student experience in the GYO teacher training program through the PLC conversations.

Triangulation

The survey and exit interview data confirmed that mentors believe they can identify student strengths and weaknesses after completing the GYO teacher training program. Mentors unanimously shared their enjoyment of the mentorship program. Mentors enjoyed a break from their regular work routine to meet with students and discuss the education profession. Through the quantitative and qualitative data synthesis process, two findings emerged.

First, mentors identified pedagogy strengths and weaknesses for student preparation in the GYO teacher training program. Survey question data shows mentor confidence in identifying student strengths ($M = 5.60$) and student pedagogy weaknesses ($M = 5.40$). Exit interview responses from mentors, like Alicia and Maria, included mentors reporting they could quickly identify pedagogy foundational skills and weaknesses that came from needing more practice. Mentors also believed they could

support student lesson plan development through student peer-to-peer lesson plan discussions (M = 4.60). Exit interview responses included mentors reporting that the PLC structure helped students improve their lesson planning and develop problem-solving strategies at internships. Mentors like Peter and Vanessa highlighted students being coachable through the PLC to improve pedagogy skills. All mentors expressed confidence in identifying student strengths and weaknesses in the GYO teacher and training program.

Second, mentors generally believe students are prepared for the next steps in teacher development. Generally, mentors reported that students are prepared for college as an education major after the GYO teacher training program (M = 4.80), and interview data supported the mentor's confidence in the student's ability to continue in college as an education major. Mentors like Vanessa and Maria shared the sentiment for the group that because the students are coachable, the mentors are confident in their future success. However, a discrepancy appeared in the data related to hireability. Quantitative mentor survey data for the identification of students they would like to hire scored below average. Conversely, interview data revealed this to be a nuanced data point. Mentors like Alicia identified students in her group who have passion, and she is ready to hire them soon. Alicia also identified students in her group with minimal passion for teaching, and she will most likely never hire them. The quantitative data average does not represent the individual recommendations of the students. All mentors identified students they wanted to hire and those they did not. Generally, mentors believe GYO teacher training students are developing the foundation skills to find future success.

CHAPTER 5

DISCUSSION

There is a national teacher shortage across school districts in the U.S. (Institute of Educational Sciences, 2022). This shortage influences student academic achievement and school culture; further, the additional burden created by open positions is placed on current teachers and may ultimately cause more teachers to leave the profession (Castro, 2023; Nguyen et al., 2022; Schmitt & deCourcy, 2022). The action research study outlined in this dissertation examines mentorship in a high school grow your own (GYO) teacher training program as one possible solution to increase the number of prospective teacher candidates.

The previous chapter described the quantitative and qualitative data from students and mentors related to the mentorship component of the GYO teacher training program. In chapter four, I also included a synthesis of qualitative and quantitative data for each research question as a path forward to this chapter for sharing the intervention findings. This chapter describes the mentorship intervention's findings for each research question. Next, I share connections from the intervention data to previous research and practical applications at the school level. Finally, I share the next steps for research and big-picture takeaways from the data collected. This chapter presents findings from the three research questions:

1. How and to what extent do students' self-efficacy beliefs regarding their teaching ability shift after participating in the GYO teacher training mentorship program?

2. How and to what extent do students feel the GYO teacher training mentorship program inform their future career plans?
3. What are mentors' perceptions of the students' pedagogy strengths and weaknesses in the GYO teacher training mentorship program?

Findings: Connections to Literature & Theory

RQ 1

Research question one centered around students' self-efficacy beliefs. As described in Chapter Two, self-efficacy describes a person's belief in their ability to control the outcomes of an event based on their actions (Bandura, 1989). Self-efficacy is a significant component of Social Cognitive Career Theory (SCCT), which explores factors that influence career selection decisions (Lent et al., 1994). I designed the mentorship intervention for the GYO teacher training program with the aim of increasing students' self-efficacy beliefs regarding their ability to teach. Based on a synthesis of data collected, I discovered three key findings from this action research intervention.

The first finding relates to the student's use of metacognition to improve as a teacher. Through peer-to-peer and mentorship conversations, students reported using metacognition to identify areas for pedagogical growth. Survey data demonstrated the students' growth through the intervention to identify where they needed to improve in the classroom. Students did not report a strong confidence in their pedagogical skills, but they did report a strong belief in their ability to self-identify where to improve. Students using metacognition to improve pedagogically aligns with previous research studies. Matsumoto-Royo et al. (2022) found that feedback from peers and instructors allowed for more effective self-reflection and practice improvements with pre-service teachers.

Graham & Phelps (2003) reported that teacher professional development effectiveness is often related to the teacher's ability to identify where improvements are needed. On the post-intervention surveys, students reported growth in their ability to identify where pedagogy improvements are needed compared to the pre-intervention survey. Through focus group interviews, students reflected on their abilities, and shared a desire for more pedagogy practice before they are comfortable running their classroom. Mentors also confirmed the improvement in student's ability to reflect on practice and identify areas for improvement.

The second self-efficacy finding is that students enjoyed working with kids at their internship sites. Regardless of future career plans, students reported enjoying the experience of going to an internship site and working with kids in a classroom. According to SCCT, job enjoyment is essential to selecting a career field (Brown & Lent, 1996). Students combined their enjoyment of the internship with metacognition to identify their need to improve pedagogy skills to help kids learn better. Prior research supports teacher self-efficacy improvements in pre-service teachers through teacher training programs. Darling-Hammond (2020) reported a connection between the increase in teachers' self-efficacy beliefs and retention for new teachers with the duration of training received. Teachers who receive more training through a college degree program compared to an alternate route reported an increase in their self-efficacy beliefs and are more likely to remain in the profession (Moser & McKim, 2020). The student's ability to identify needs while enjoying the internship experience leads to an optimistic view of increasing self-efficacy for the students.

The final finding related to student self-efficacy beliefs is their confidence to take the next step in their teacher preparation journeys. Student survey and focus group data align with mentor survey and interview data to suggest a high level of confidence when considering entering college as an education major in the future. Students may not have strong self-efficacy beliefs in their ability to run a classroom while in the GYO teacher training program, but they do have high self-efficacy beliefs in their ability to be successful in college. To become a teacher, the students must finish the high school GYO teacher program and then complete a college degree as an education major. Students feel confident that they can take the actions required to complete a college degree program. Through survey and interview data, mentors reported a similar confidence that students are prepared to enter college as an education major. As reported in Chapter Two, teachers with four or more years of pedagogy training and a mentor are more likely to remain in the profession (Darling-Hammond et al., 2017). As part of SCCT, self-efficacy beliefs are vital to career selection, and the student confidence to find success is a positive finding for fostering future teacher candidates from the GYO teacher training program (Brown & Lent, 1996).

RQ 2

Research question two focused on students' perceptions of the GYO teacher training program informing student career selection. As Chapter Two describes, SCCT highlights career selection, which often occurs before high school graduation based on life experiences and self-efficacy beliefs (Lent & Brown, 2019). Brown & Lent (1996) also describe people's tendency to pursue careers where they will feel successful and avoid jobs where they do not predict success. People often base their career choices on

experiences, seeking opportunities with positive reinforcement and avoiding those situations with negative memories (Brown & Lent, 1996). I designed the mentorship intervention to create opportunities for positive experiences working as a teacher at the internship. Based on SCCT, these positive experiences may influence students' career selection into teaching (Lent & Brown, 2019).

To create opportunities for students to celebrate professional growth, I designed a portion of the mentorship intervention in this study to highlight small wins at the internship site. Mentors intentionally highlighted small wins through each mentorship session to reinforce students' positive memories or feelings of success (Weick, 1984). Based on small wins or small losses, the mentors coached students by celebrating the wins or developing a plan to overcome frustrations. The intentional highlighting of success and extended coaching sessions provided an opportunity to create positive change over time and ultimately increase self-efficacy beliefs. I described Guskey's (2002) model of teacher change in Chapter Two, and mentors applied this model of pedagogy change through the mentorship meetings to increase self-efficacy to inform student career selection into the teaching profession. Using Guskey's (2002) framework, mentors introduced the students to a pedagogical idea to implement at the internship. At each mentor meeting, the students reported on the success of implementation and received support through peer-to-peer or mentor feedback. Ultimately, I designed each mentor meeting to review, support, and improve student pedagogical performance at the internship.

Research question two of this study provides data to support the use of mentorship to inform student career selection. I implemented mentorship to the GYO

teacher training program as an intervention support for increasing student self-efficacy beliefs. The use of mentorship for pre-service teachers, as described in Chapter Two, is supported by research to increase pedagogy skills, enjoyment of the job, and confidence to find success as a teacher (Ellis et al., 2020; Ingersoll & Kralik, 2004; Orland-Barak & Wang, 2021; Richmond et al., 2020). As detailed in Chapter Four, students reported through exit interviews that the internship was the most influential portion of the GYO teacher training program for career selection. The use of mentorship helped foster improved student self-efficacy and highlighted positive experiences, which could help inform students' career choices after the GYO teacher training program.

Overall, students reported that the GYO teacher training program informed their future career choices. Through the triangulation of quantitative and qualitative data findings, a trend emerged related to the program informing student career choice. Students believe they understand the teaching profession well after completing the four-year GYO teacher training program. Students also reported a high level of confidence in what is expected of them if they become teachers in the future. Students decided whether to pursue a career in education based on their experiences in the GYO teacher training program. While students shared in focus groups that the senior year internship had the most influence on career selection, most students reported changing their career choices over the entire four-year program through survey responses. Students self-identified if they enjoyed working with kids and if they saw themselves as a teacher. The GYO teacher training program exposed students to the real work of being a teacher. Students report confidently knowing if they can see themselves as a teacher in the future or not based on the GYO teacher training program experiences. The students' confidence in

career selection is supported by previous research showing that students often select a profession before graduating high school (Hanover Research, 2019). Jessen et al. (2020) found that GYO teacher training programs can influence student career choices in the teaching profession.

The GYO teacher training program allowed students to gain awareness of the teaching profession, which then helped them make informed career choices after high school graduation. Most students, eight out of eleven, reported a shift in their choice of becoming a teacher from grade nine to grade twelve. Meaning they finished the GYO teacher training with a different level of interest in becoming a teacher than when they entered the program. During the second semester of senior year mentorship intervention, only two students reported a change in choosing teaching as a career path. Because the survey data only shows that two of eleven students changed their career choice at the end of the program, students' opinions on becoming teachers appeared to be more malleable early in the program. The four-year GYO teacher training program helped to inform students' career choices based on their experiences. Students reported that program experiences also helped them understand if they wanted to work with kids in any career pathway. Students reported that the GYO teacher program helped to inform their decision to become a teacher, not become a teacher, or work with kids in a different capacity outside of the classroom.

RQ 3

Research question three examined the mentors' perceptions of the students' pedagogy strengths and weaknesses in the GYO teacher training program. Chapter Two describes mentorship as a professional development strategy to increase teacher self-

efficacy and retain teachers as they develop pedagogical skills (Ingersoll & Kralik, 2004). Using the lens of SCCT, I used mentorship to support student's self-efficacy development and provide an example of a successful educator who enjoys the job and may represent the student's career goals (Lent et al., 2000). The ultimate purpose of the GYO teacher training program is to produce a high-skill educator workforce pipeline. Through interviews and surveys, mentors reported that most students are prepared to enter a college as an education major after high school graduation. Mentors generally have confidence in the student's ability to find success in college. However, mentors were less confident in their recommendations to hire the students in the future due to inconsistent enthusiasm for the profession. The mentors were willing to recommend a few students who demonstrated high levels of passion and work ethic to become teachers.

For this study, the role of the mentor was twofold. First, they served as professional development support to students. Second, and related to research question three, the mentors worked at the ground level with students to identify pedagogical strengths and gaps in student development. The findings reported in Chapter Four support mentorship as a vehicle to identify student skill strengths and weaknesses.

Mentors reported that they enjoyed supporting students and the mentorship intervention. The first finding related to research question three is that mentors reported confidence in identifying strengths and weaknesses in students' skills. Mentors identified and reinforced strengths while supporting gaps in preparation. Mentors used each meeting as an opportunity to share strategies with students and then receive feedback from students after implementation. Mentors used a cycle of coaching that centered

around students' experiences with the teaching strategies at the internship. These professional development cycles aligned with Guskey's model for teacher change described in Chapter Two (Guskey, 2002). To increase self-efficacy beliefs, mentors highlighted small wins for students at their internships (Weick, 1984). To open each session, mentors shared a vulnerable story from their professional experience and allowed each student to share a success story from the internship. The students did not directly comment on reporting small wins, but the mentors commented that the students shared internship experiences with the group each session. Mentors enjoyed the experience of supporting students' professional development and sharing their stories of working with kids. Mentors confidently reported that they could identify student pedagogy strengths and weaknesses.

An additional benefit to the mentor's identifying student pedagogy strengths and weaknesses is an opportunity to inform GYO teacher training program adjustments. The information acquired directly from student experiences allows the teachers and administrators to reflect on the GYO teacher training program design. Based on students' experiences and mentor-identified instructional strengths and weaknesses, the GYO teacher training program design team may adjust the program to support the development of future GYO teacher training students.

Next, mentors reported confidence in the students succeeding in college as an education major. To become a teacher, students must graduate high school, graduate from college, gain certification, and accept a position in a school. The high school GYO teacher training program is the students' first step on a longer path to ultimately running their classroom. All mentors believed the training received in the GYO teacher training

program provided students with the skills necessary to be successful in college. Mentors highlighted their coaching conversations with students as the basis for their confidence in student success at the college level. Specifically, mentors called out two aspects of the GYO teacher training program. First, mentors believe the rigor of dual enrollment classes in the program prepares students for future college coursework. Second, mentors believe the real-life teaching experience at the internship provides an advantage for students entering college as an education major. High school GYO teacher training program students may choose different career paths. However, if education becomes their path, the mentors reported confidence in most students' abilities to succeed as an education major in college. The mentors shared reservations about students entering college as education majors who did not exhibit a passion for the education profession. In each mentor group, the mentors found students with varied enthusiasm for the profession. Specifically, mentors were concerned about college success as an education major for the six students who identified teaching as their career path with "no" or "maybe" on the post-intervention survey. In alignment with SCCT, mentors believe that students with high self-efficacy beliefs and enthusiasm for teaching will find success in college as an education major (Lent et al., 2000). Moser & McKim (2020) research found similar results, that an increase in teacher retention for those who enjoy the job of teaching and have high self-efficacy beliefs.

Limitations

This study has several limitations, and I want to call out two specific discussion points. First is the local setting. The sample for this study comprised one researcher and one classroom in one school, with 11 participating students and five mentors. The sample

size limitation is not unique to this study and is common within mixed-methods action research studies (Creswell & Guetterman, 2019). However, combining qualitative and quantitative data allowed a better understanding of the findings (Creswell & Guetterman, 2019). The value of working with one GYO teacher training program created an opportunity for in-depth data on each participant's individual experiences through qualitative data collection (Mertler, 2020). Spending time with mentors and students at one school site allowed for a deeper understanding of the individual student and mentor experience related to GYO teacher training and career selection. As the researcher, I met with the mentors frequently to prepare and debrief each mentor-student session. The frequency of my interactions with mentors created the opportunity for mentors to feel more comfortable sharing their experiences during the exit interview. As the researcher, I also had a deep knowledge of this particular context and setting. Student focus groups provided important contextual information for the quantitative survey data collection. Students had the opportunity to clarify survey data in a group interview setting. Although the sample for this study is one classroom, the mixed methods action research process allowed for a more thorough examination and synthesis of mentor and student data.

The second limitation I call out is the intervention timeline compared to the timeline for becoming a teacher. I collected the data for this study for less than one semester at the end of a high school GYO teacher training program. No information is available to determine if the high school students in this study will continue to college as education majors. Students shared their predictions for future pursuit of a job in education, but no information is available for their entry and completion of a college degree. More information is also needed to determine if those students who complete a

GYO teacher training program and a college degree in education become teachers and remain in the profession. This research study examined a portion of the career selection process in high school, and future research should examine students across all four years of the GYO teacher program. To better understand the teacher pipeline, future research should include longitudinal analysis. Possible research could include why students select a high school GYO teacher training program and follow students through high school, college, and into the education profession.

Future Research

Based on the limitations described above, many future research opportunities exist. In this section, I call out three possible research opportunities. First, this action research study examined a mentorship intervention during the final semester of one GYO teacher training program. I recommend expanding the mentorship intervention in the GYO teacher training program across multiple years and locations. This expansion may provide a broader understanding of the GYO teacher training program's influence on teacher workforce pipeline development. A second recommendation based on the current limitations is a longitudinal research study. Future research should examine the input information related to SCCT as to why students enroll in a high school GYO teacher training program. Tracking student retention from high school GYO teacher training through college and into the workforce could provide valuable information for workforce pipeline development. The data collected in this study supports previous research that GYO teacher training programs are part of the solution to our national teacher shortage (Jessen et al., 2020). As a final recommendation, there is an opportunity to expand the intervention from this study to other professions. High school GYO training programs are

not exclusive to teacher training, and mentorship may benefit other industries' CTE pathways. Additional research around high school GYO training programs may create opportunities for practitioners to better support the high-skill workforce pipelines across multiple industries.

Implications for Researchers

In this section, I suggest expanding the information discussed in this study to future research endeavors around teacher retention and high-skill workforce development programs. I share three recommendations for future research investigations including best practices for teacher retention, why students choose a GYO teacher training program, and how mentorship is applied to other CTE areas. I advocate for using action research as a method for education-related investigations. AR allowed me, as a researcher, to use systematic data collection, analysis, and reporting methods. AR allowed me, as a practitioner, to implement an intervention and collect feedback from current students. Mixed methods allowed me, as a researcher, to identify trends through quantitative survey data and then understand why participants responded as they did on surveys through qualitative interviews. The use of mixed-methods AR served me well as a researcher and practitioner in supporting the GYO teacher training students and program while allowing a format to share findings with a broader research community.

First, is the continued investigation into policy and practices that increase retention in the teaching profession. Teachers generally enjoy interactions with students, but the stress of the teaching profession is leading to retention concerns (Amitai & Van Houtte, 2022). The findings in this study support the idea that mentors enjoyed working with students, and the students appreciated working with mentors. Students also shared

that they liked working with the kids at their internship. SCCT supports job enjoyment as a factor for selecting and remaining in a profession (Lent et al., 1999). However, retention is a challenge for schools nationwide, and teachers are leaving a profession where they generally enjoy working with students. Future research is needed to explore policies and practices that improve teacher retention.

The first suggestion for continued research centers on teacher retention, and the second suggestion for future research focuses on increasing interest in a workforce pipeline. SCCT supports the idea that people begin formulating their career identity before graduating high school (Lent et al., 1999). The recommendation is for future research on the career exploration of elementary and middle school students. Many begin selecting careers before high school graduation, and research around the exposure to careers in primary grades may help strengthen high school GYO training programs (Brown & Lent, 1996; Playton et al., 2023).

The final recommendation is to expand the GYO teacher training program model to other professional industries. This study implemented mentorship in a GYO teacher training program, and future research could replicate this study in other GYO training programs. Only 2% of the two million students in CTE are engaged in GYO teacher training programs (Brown, 2018). With 98% of CTE students training for other careers, the use of mentorship in other high-demand career fields would provide more clarity on the influence of high school GYO programs related to informing student career selection. The intervention applied in this study is relevant to most CTE GYO training programs. Especially the use of industry-specific mentoring programs in other CTE GYO programs. Through the lens of SCCT, seeing your future self in the profession can influence people

to pursue a career (Brown & Lent, 1996). Industry professionals as mentors may also be better than teachers at highlighting small wins and supporting internship performance (Richmond et al., 2020; Weick, 1984).

Implications for Practitioners

This study has several important implications for practitioners. In this section, I use the term “practitioner” to refer to someone working in a school setting. The first recommendation is to apply mentorship to GYO teacher training programs to support students. The findings in this study align with previous research that mentorship is effective for coaching practical skills and increasing self-efficacy beliefs (Hobson & Maxwell, 2020). I recommend implementing mentorship throughout the GYO program, as both mentors and students expressed an interest in an extended mentorship beyond the scope of the study. For this study, formal mentorship occurred during the final semester of the GYO teacher training program to help students highlight small wins, build self-efficacy, and see a positive role model as they decide on a career path after high school. Data collected in this study shows that the four-year GYO teacher training program informed students' career choices. However, during the final semester of the GYO teacher training program, most students did not change their decision of whether to pursue a teaching career. I recommend adding a formal mentorship structure throughout the GYO program. Student career choice is fluid during the program, and a mentor may help students decide to pursue a profession earlier. The GYO teacher training program may inform career choices while students are in high school. Students can change their career plans in high school, college, and beyond. The use of mentorship throughout high school can support students in making an informed career decision before entering college.

My second recommendation for practitioners is to apply mentorship to GYO programs to collect feedback directly from students. The use of mixed-methods data collection in this study provided broad-scope quantitative data from the class and individual qualitative experience data from each student (Creswell & Guetterman, 2019). Mentors build trust over time and hear individual students' voices through the program. The action research approach to hearing authentic student voices through the internship is helpful for practitioners in designing and implementing a GYO program (Charmaz, 2009; Mertler, 2020). GYO program designers can work with mentors to adjust the program design as needed based on student experience data and mentor-reported pedagogy strengths.

The final practitioner recommendation is to expand the GYO teacher training model to all CTE pathways. While this study focused student career selection through a GYO teacher training program, similar interventions apply to other professions. Aligned with SCCT, career selection is influenced when students have exposure to the profession and positive role models in the trade (Lent et al., 1994). CTE training programs such as medical professions, social services, construction, and computer science prepare students on a similar path to the GYO teacher training program. Bringing in industry professionals to meet with students during the GYO CTE program may influence career selection into the desired profession (Kost et al., 2022). Mentorship use in CTE GYO workforce pipelines to increase self-efficacy and skillset is relevant to most industries (Bhatnagar et al., 2020; Scandura, 1992).

Lessons Learned

To say I learned a lot during the intervention and writing process would be an understatement. As a practitioner, I will highlight two takeaways. First, I want to mention the data collection process. As educators, we are often very close to the work of students and teachers and often lean on our personal experiences or observations when making decisions. This study's systematic data collection and analysis process provided a new lens for my professional practice. I am careful to avoid assumptions about data and more intentional about collecting qualitative and quantitative evidence before making policy or practice decisions at the school site. School leaders make hundreds of decisions per day, and I have learned to refocus those decisions based on available data (McDaniel & Gruenert, 2018).

My second takeaway from the research process is the importance of sharing our findings for the greater good. Schools across the country are trying to solve similar concerns. Before this research process, I was content to read the work of others without sharing our work with the education community. Through this process, I learned the importance of sharing our work with others. I am becoming more comfortable sharing my voice and our school performance outside the school building. Practitioners must share their experiences applying theoretical ideas at the school level to support the profession (Merlter, 2020).

Concluding Thoughts

As a school principal, I hoped to find a solution to the national teacher shortage. Unfortunately, school staffing is a wicked problem (Rittel & Webber, 1973), with many variables influencing recruitment and retention (Carver-Thomas & Darling-Hammond,

2017; Ingersoll et al., 2018; Wiggan et al., 2021). Mentorship applied through a GYO teacher training program is supported through data in this study and previous research to inform career choice. GYO career training programs can help high school students make and informed choice regarding future career selection. The findings in this study support the use of career training in high school and the application of mentorship to support GYO workforce development pipelines.

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APPENDIX A
STUDENT QUANTITATIVE SURVEY QUESTIONS

Student Pre-Assessment

Rating Scale

1 - Strongly Disagree 3 - Slightly Disagree 4 - Slightly Agree 6 - Strongly Agree

Rating						Self Assessment
1	2	3	4	5	6	I can build professional, productive relationships with my students . (RQ 1)
1	2	3	4	5	6	I can build professional, productive relationships with my peers . (RQ 1)
1	2	3	4	5	6	When I teach students, they learn new information. (RQ 1)
1	2	3	4	5	6	My classroom management skills allow me to run a productive classroom. (RQ 1)
1	2	3	4	5	6	I can develop standards-based lesson plans that engage students. (RQ 1)
1	2	3	4	5	6	After I teach a lesson, I can reflect on the student outcomes and adjust for future lessons. (RQ 1)
1	2	3	4	5	6	I know I can solve problems when they arise in the classroom. (RQ 1)
1	2	3	4	5	6	If a student is struggling in class, I can help them. (RQ 1)
1	2	3	4	5	6	I can motivate students to work hard. (RQ 1)
1	2	3	4	5	6	I feel prepared to navigate the classroom and teach students while at the internship. (RQ 1)
1	2	3	4	5	6	Based on my internship experience, I can identify where I need to improve as a teacher. (RQ 1)
1	2	3	4	5	6	I am prepared to be successful in a teacher's college if I decide to attend in the future. (RQ 1)
1	2	3	4	5	6	I have the ability to be a good teacher if I choose to be one in the future. (RQ 1)
1	2	3	4	5	6	I enjoy working with students. (RQ 2)
1	2	3	4	5	6	I enjoy being a leader in the classroom. (RQ 2)
1	2	3	4	5	6	I want to share my knowledge with students. (RQ 2)
1	2	3	4	5	6	I think being a teacher is an important job. (RQ 2)
1	2	3	4	5	6	I think teaching is an enjoyable job. (RQ 2)
1	2	3	4	5	6	I would recommend becoming a teacher to a friend or family member. (RQ 2)
1	2	3	4	5	6	I think being a teacher could help me reach my lifetime career goals. (RQ 2)

1	2	3	4	5	6	In 9th grade, when I started the GYO teacher training program at SECTA knew I wanted to be a teacher. (RQ 2)
1	2	3	4	5	6	After four years in the GYO teacher training program, I changed my mind about teaching as a career choice. I either changed my mind about becoming or not becoming a teacher. (RQ 2)
YES, starting soon! Maybe someday NO, never!						I know that teaching is the career for me. (RQ 2)

Student Post-Assessment

Rating Scale

1 - Strongly Disagree 3 - Slightly Disagree 4 - Slightly Agree 6 - Strongly Agree

Self Assessment	Rating					
I can build professional, productive relationships with my students . (RQ 1)	1	2	3	4	5	6
I can build professional, productive relationships with my peers . (RQ 1)	1	2	3	4	5	6
When I teach students, they learn new information. (RQ 1)	1	2	3	4	5	6
My classroom management skills allow me to run a productive classroom. (RQ 1)	1	2	3	4	5	6
I can develop standards-based lesson plans that engage students. (RQ 1)	1	2	3	4	5	6
After I teach a lesson, I can reflect on the student outcomes and adjust for future lessons. (RQ 1)	1	2	3	4	5	6
I know I can solve problems when they arise in the classroom. (RQ 1)	1	2	3	4	5	6
If a student is struggling in class, I can help them. (RQ 1)	1	2	3	4	5	6
I can motivate students to work hard. (RQ 1)	1	2	3	4	5	6
I feel prepared to navigate the classroom and teach students while at the internship. (RQ 1)	1	2	3	4	5	6
Based on my internship, I can identify where I need to improve as a teacher. (RQ 1)	1	2	3	4	5	6
I am prepared to be successful in a teacher's college if I decide to attend in the future. (RQ 1)	1	2	3	4	5	6

I have the ability to be a good teacher if I choose to be one in the future. (RQ 1)	1	2	3	4	5	6
I enjoy working with students. (RQ 2)	1	2	3	4	5	6
I enjoy being a leader in the classroom. (RQ 2)	1	2	3	4	5	6
I want to share my knowledge with students. (RQ 2)	1	2	3	4	5	6
I think being a teacher is an important job.(RQ 2)	1	2	3	4	5	6
I think teaching is an enjoyable job. (RQ 2)	1	2	3	4	5	6
I would recommend becoming a teacher to a friend or family member. (RQ 2)	1	2	3	4	5	6
I think being a teacher could help me reach my lifetime career goals. (RQ 2)	1	2	3	4	5	6
In 9th grade, when I started the GYO teacher training program at SECTA knew I wanted to be a teacher. (RQ 2)	1	2	3	4	5	6
After four years in the GYO teacher training program, I changed my mind about teaching as a career choice. I either changed my mind about becoming or not becoming a teacher. (RQ 2)	1	2	3	4	5	6
I know that teaching is the career for me. (RQ 2)	YES, starting soon! Maybe someday NO, never!					

OPTIONAL: (RQ 1) Can you share one or two skills you're most proud of? Did you surprise yourself in any way? Where do you feel you need more practice?
OPTIONAL: (RQ 1/3) Did you experience frustrations with the GYO program, internship, or mentorship?
OPTIONAL: (RQ 1) If you decided to attend a teacher's college, do you feel prepared to be successful?
OPTIONAL: (RQ 2) Did the teacher and training program influence your decision to continue a career in education? Why or why not?
OPTIONAL: Is there any other information you would like to share or questions I should have asked?

APPENDIX B

MENTOR QUANTITATIVE SURVEY QUESTIONS

Rating Scale

1 - Strongly Disagree 3 - Slightly Disagree 4 - Slightly Agree 6 - Strongly Agree

Self Assessment	Rating					
Based on student conversations, I believe the students know what is required to be a good teacher. (RQ 3)	1	2	3	4	5	6
During our student conversations, students highlighted enjoyable experiences during the GYO teacher training program. (RQ 3)	1	2	3	4	5	6
Based on student conversations, I can identify areas of strength in student preparation. (RQ 3)	1	2	3	4	5	6
Based on student conversations, I can identify gaps or weaknesses in student preparation. (RQ 3)	1	2	3	4	5	6
I believe this mentorship program increased the self-efficacy beliefs of students regarding their teaching ability. (RQ 3)	1	2	3	4	5	6
With the PLC assistance, students could solve classroom problems. (RQ 3)	1	2	3	4	5	6
Based on our conversations, it was clear that students can build professional relationships with their students . (RQ 3)	1	2	3	4	5	6
Based on our conversations it was clear that students can build professional relationships with their peers . (RQ 3)	1	2	3	4	5	6
Based on our conversations it was clear that students have the classroom management skills to run a productive classroom. (RQ 3)	1	2	3	4	5	6
Based on our conversations, it was clear that students can develop standards-based lesson plans. (RQ 3)	1	2	3	4	5	6
Based on our conversations it was clear that students can help peers improve lesson plans through the lesson study process. (RQ 3)	1	2	3	4	5	6
I believe the students were prepared to be successful in their internship experience. (RQ 3)	1	2	3	4	5	6
Overall, I believe the students in my PLC are prepared to be successful in a teacher's college. (RQ 3)	1	2	3	4	5	6
If my PLC students applied for a teaching job at my school in the future, I would recommend they be hired. (RQ 3)	1	2	3	4	5	6

Please share a few student comments regarding the questions below.

OPTIONAL: (RQ 3) What skills/qualities/dispositions did your students demonstrate that show they're prepared to move on to a teacher's college? Where did they need more practice?
OPTIONAL: (RQ 3) What frustrations do students feel about the internship or GYO teacher training?
OPTIONAL: (RQ 3) What celebrations did the students share about the GYO program, internship, or mentorship?
OPTIONAL:(RQ 2) Did your students indicate that they would continue with a career in education? Can you tell me about these discussions?
OPTIONAL: <i>Is there any other information you would like to share or questions I should have asked?</i>
OPTIONAL: <i>Are there any requests to make your mentorship experience more effective?</i>

APPENDIX C

STUDENT QUALITATIVE GROUP EXIT INTERVIEW SCRIPT

Interviewer	
Number of Participants	
Will you enter a teacher college	Yes Maybe Never
Date	

Hello _____, Thank you for taking the time to sit with me today and for participating in the mentorship intervention. I hope you enjoyed the experience. Our interview today aims to improve the mentorship program for future classes. I will ask about your experience as a student in the teacher and training program, your teaching ability, and your future career plans. This is our second year with the GYO teacher training seniors, and we know there are areas for improvement. The interview will take approximately 30 minutes to complete. We need honest feedback to improve the program, and I hope you feel comfortable sharing your thoughts.

To allow me to participate in the discussion without focusing on taking notes, I will use two tools to record the details of our conversation. Google Meet will be used to record audio of our discussion. The recording will not be shared beyond you and me.

Before we begin, I would like your consent one more time that you are willing to participate in this interview. Response _____

Thank you for your help. I will now begin recording our conversation.

Thank you for agreeing to participate in this interview. Your feedback will help shape the direction of our GYO program going forward.

1. (RQ 1) During your four years in GYO teacher training, please share a success story where you overcame a challenge or helped a student learn.
 - a. Why is this example important to you?
2. (RQ 1) What teaching skillset have you improved the most in?

What skill are you looking to improve further?
3. (RQ 1) If you decide to enter a teaching college, do you feel prepared to be successful in college?

Why or Why Not?

4. (RQ 2) Think back to the beginning of freshman year. How has your opinion about becoming a teacher changed or stayed the same over the four years in GYO teacher training

Do you think the GYO teacher training program increased or decreased your interest in becoming a teacher?

5. (RQ 2) Please share an example of an experience that influenced your decision to be a teacher in the future.

Why was that moment important to you?

This concludes my pre-scripted questions. Is there anything else you would like to share regarding the GYO teacher training program?

I will now stop the recording.

Thank you again for your time today and the five mentor meetings this semester. You are welcome to view my findings if interested. Information will remain confidential for you and all participants. I am working to identify trends through the quantitative survey and this qualitative interview that can help us improve the GYO teacher training program.

Do you have any questions about this action research project?

Thank you!

APPENDIX D

MENTOR QUALITATIVE EXIT INTERVIEW SCRIPT

Interviewer	
Interviewee	
Interviewee Current Assignment	
Years of Experience	
Date	

Hello _____, Thank you for taking the time to sit with me today and for serving our students as a mentor. I hope you enjoyed the experience. Our interview today aims to improve the GYO teacher training program for future classes. We are in our second year with the GYO teacher training seniors, and we know there are areas for improvement. The interview will take approximately 20 minutes to complete. I will ask about your mentor experience and perspective on program strengths and weaknesses. We need honest feedback to improve the program, and I hope you feel comfortable sharing your thoughts.

To allow me to participate in the discussion without focusing on taking notes, I will use two tools to record the details of our conversation. Google Meet will be used to record audio of our discussion. The recording will not be shared beyond you and me.

Before we begin, I would like to ask for your consent one more time that you are willing to participate in this interview. Response _____

Thank you for your help. I will now begin recording our conversation.

Thank you _____ for agreeing to participate in this interview. Your feedback will help shape the direction of our GYO program going forward.

1. (RQ 3) Did you enjoy the experience of serving as a mentor?

What was the best part?

2. (RQ 3) Based on your PLC conversations, where are students the most prepared to be successful in the classroom?

Do you have a student story?

3. (RQ 3) What skills can we reinforce or need to be developed stronger for students in the future?

Did you notice any areas of frustration for students that we can improve for next year?

4. (RQ 3) What types of experiences did students share with you that brought the strongest emotional response? Positive or Negative.
5. (RQ 3) Based on what you know about the students today, would you recommend they be hired at this school and work as your peer in the future?

Why or why not?

6. (RQ 3) Do you think the GYO teacher training program increases or decreases student interest in becoming a teacher?

Why or why not?

This concludes my pre-scripted questions. Is there anything else you would like to share regarding the mentorship or GYO teacher training program?

I will now stop the recording.

Thank you again for your time today and the five mentor meetings this semester. You are welcome to view my findings if interested. Information will remain confidential for you and all participants. I am working to identify trends through the quantitative survey and this qualitative interview that can help us improve the GYO teacher training program.

Do you have any questions about this action research project?

Thank you!

APPENDIX E
ASU IRB APPROVAL LETTER

APPROVAL: EXPEDITED REVIEW

Lydia Ross

Division of Educational Leadership and Innovation - Tempe

Lydia.Ross@asu.edu Dear Lydia Ross:

On 1/25/2023 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Teacher Recruitment and Preparation Thorough High School Grow Your Own Teacher Training and the Application of Mentorship Prior to Graduation
Investigator:	Lydia Ross
IRB ID:	STUDY00017288
Category of review:	(6) Voice, video, digital, or image recordings (7)(a) Behavioral research
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> • GYO Teacher Training , Category: IRB Protocol; • Mentor Note Sheet, Category: Participant materials (specific directions for them); • Parent Consent, Category: Consent Form; • Participant Training Slide Show, Category: Participant materials (specific directions for them); • Principal Site Permission Letter, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • Qualitative Exit Interview Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Quantitative Survey Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • SECTA Staff Recruitment Email, Category:

	Recruitment Materials; • Staff Consent, Category: Consent Form; • Student Assent Age 16-17, Category: Consent Form; • Student Consent 18 years old or older, Category: Consent Form;
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The IRB approved the protocol effective 1/25/2023. Continuing review is not required for this study. All modifications to studies approved as Expedited and Full Board **must** be submitted for review and approval.

When consent is appropriate, you must use final, watermarked versions available under the “Documents” tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Ryan Cordia
Lydia Ross
Ryan Cordia