

ALTERNATIVE ROUTE PROGRAMS AND SPECIAL EDUCATION TEACHER  
PREPARATION

by

Jamie Day  
A Dissertation  
Submitted to the  
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of  
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in Partial Fulfillment of  
The Requirements for the Degree  
of  
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Alternative Route Programs and Special Education Teacher Preparation

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## **Dedication**

This dissertation is dedicated to all the PK-12 teachers and staff whom I have had the pleasure of working with over the years.

Your stories deserve to be told.

## Acknowledgements

Several years ago, I eagerly embarked on this doctoral journey not knowing what was ahead. From navigating the PhD program part-time while teaching, attempting academic milestones during the onset of a world pandemic, to making the crazy decision to quit my job and go all in – it has been quite a ride. This dissertation would have not been possible without the support of my incredible professors, family, and friends who continuously offered their support along the way.

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## **List of Abbreviations**

Alternative Route.....	AR
Every Student Succeeds Act.....	ESSA
Institutions of Higher Education.....	IHE
Local Education Agencies.....	LEA
Office of Special Education Programs.....	OSEP
No Child Left Behind.....	NCLB
Special Education Teacher.....	SET
State Education Agencies.....	SEA
Teacher Preparation Program.....	TPP

## **Abstract**

### **ALTERNATIVE ROUTE PROGRAMS AND SPECIAL EDUCATION TEACHER PREPARATION**

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George Mason University, 2022

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In the United States, there exists a chronic shortage of qualified special education teachers to provide instructional services to students with disabilities. One policy solution developed to increase the number of qualified teachers is Alternative Routes (ARs), which are broadly defined as nontraditional and accelerated preparation paths to obtain a teaching license. In this exploratory sequential mixed methods dissertation, I investigate (a) empirical research conducted from 2005-2021 on alternative route programs within special education teacher preparation; (b) the role of linguistic diversity in alternative route programs by examining the experiences of multilingual paraprofessionals advancing their careers to become special education teachers; and (c) the national trends associated with the evolution of alternative route programs and the characteristics of state alternative pathways that are inclusive of special education teacher preparation. Findings reveal that alternative route programs preparing special education teachers are on the rise within the United States, but they vary on their preparation requirements. Implications for

future research and policy recommendations needed within the recruitment and preparation of special education teachers will be discussed.

*Keywords:* alternative routes, education policy, linguistic diversity, special education teacher preparation, special education teacher shortage, teacher recruitment

## **Chapter One**

### **The Special Education Teacher Shortage and Teacher Preparation Programs**

Students with disabilities are entitled to a free, appropriate public education with related services under the Individuals with Disabilities Education Act (IDEA, 2022). However, there exists a pivotal issue in PK-12 education in the United States consisting of a chronic shortage of special education teachers (SETs) to provide these services to students with disabilities (Billingsley & Bettini, 2019; Boe, 2006; Dicke et al., 2020; Mason-Williams et al., 2020; Monnin et al., 2021; Peyton et al., 2021). For the purpose of this dissertation, the special education teacher shortage is defined as “the extent to which special education teaching positions are not filled by certified teachers or teachers on the path to certification” (Boe, 2006). Prior to the COVID-19 pandemic, 48 states and the District of Columbia, which includes 98% of the nation's school districts (U.S. Department of Education, 2020), reported shortages of special educators (CEEDAR Center, 2020). Unfortunately, this shortage is projected to worsen as 27% of special education teachers report planning to leave their job, retire early, or take a leave of absence due to the increased stressors of the pandemic (Horace Mann Educators Corporation, 2020). This workforce issue is extremely problematic in special education because both teacher attrition and student enrollment continue to rise (Samuels &



Harwin, 2021). Therefore, the positive relationship between teacher attrition and students eligible to receive special education services, creates a crucial need for real solutions to an already chronic special education teacher shortage issue.

The notion of a national special education teacher shortage is not a novel concept. Concerns about the special education teacher shortage have been documented since the passing of the Education for All Handicapped Children Act (P.L. 94-142) in 1975 (Bettini et al., 2020; Weatherley & Lipsky, 1977). As a result, many researchers have investigated the reasons for the SET shortage and potential policy solutions regarding teacher preparation programs (TPPs). TPPs are composed of a combination of coursework and practicum classroom training to prepare for the teacher workforce (Fraser et al., 2018; Marshall et al., 2022). Traditionally, teacher preparation programs are situated in institutions of higher education and aim to prepare teacher candidates through a state approved program comprised of theoretical coursework, pedagogical content knowledge, and student teaching internships that occur in PK-12 classrooms (Zeichner, 2018). However, to address the teacher shortage, the U.S. federal government has permitted alternative route preparation programs in addition to traditional preparation programs. Broadly, alternative routes (ARs) provide teacher candidates non-traditional pathways to obtain teaching certification. Alternative route policies and programs vary by state, but do not have to involve institutions of higher education (U.S. Department of Education, 2022b). Alternative route programs are often viewed as cost-effective by teacher candidates and viable solutions by policy makers in recruiting additional teachers to fulfill vacancies (Lavenham & Turner, 2018; Sindelar et al., 2012). The following

sections will highlight (a) historical federal guidelines surrounding the special education teacher shortage and teacher preparation programs; (b) the policies and politics surrounding alternative route programs; and (c) a proposed economic framework to analyze the special education teacher workforce produced from AR programs.

### **A Historical Perspective on Federal Guidelines**

The special education teacher shortage has existed in the United States since the federal passage of the Education for All Handicapped Children Act (P.L. 94-142) in 1975, which was later retitled the Individuals with Disabilities Education Act (IDEA) in 2004 (U.S. Department of Education, 2020). This monumental federal law mandated that students with disabilities receive individualized educational services and thus created a specific teacher labor market: special education teachers. Special education teachers were required to provide these individualized educational services to students with disabilities in addition to a “one size fits all” model in general education. However, since the passage of IDEA, the supply of special education teacher positions has not met the demand. Thus, a critical special education teacher shortage has existed in the United States (Billingsley & Bettini, 2019). As a result, the burden of addressing the special education teacher shortage has been largely placed on teacher preparation programs (TPPs). Historically, teacher preparation programs have been expected to train and produce adequate numbers of teacher candidates to fill staffing vacancies within special education.

### **Federal Spending on Personnel Preparation**

Different federal policy solutions address the special education teacher shortage through teacher preparation programs (U.S. Department of Education, 2020) including

creating funding streams to support institutions of higher education (IHE) based personnel preparation. These policy-based interventions aim to (a) recruit new teachers in high-need areas such as special education; (b) strengthen teacher preparation through incentive grants; and (c) examine teacher retention and effectiveness (Darling-Hammond, 2007). IDEA, Personnel Development to Improve Services and Results for Children with Disabilities (CFDA# 84.325), states that: “help is given to states to meet state-identified needs for adequate numbers of fully-certified personnel to serve children with disabilities by supporting competitive awards” (U.S. Department of Education, 2020).

The Office of Special Education Programs (OSEP) manages these personnel preparation grant competitions including publishing calls for proposals in the federal registrar, assembling expert review panels, selecting winners, distributing funds, and overseeing grant execution, all with the goal of ensuring students with disabilities receive services as prescribed under IDEA. Specifically, these awards support research-based training and professional development of special education personnel and ensure that personnel are fully qualified to service students with disabilities. The competitive OSEP personnel grants prioritize high need areas such as: preparing beginning special education teachers, personnel serving students with low incidence disabilities, and leadership personnel (U.S. Department of Education, 2020). From 2000 to 2016, annual OSEP appropriations averaged more than \$87 million for special education personnel programs (Mason-Williams et al., 2020). The purpose of OSEP’s large expenditures towards personnel preparation programs increases the size and quality of a special education teacher workforce. The influx of spending can be attributed to the passing of federal

legislation (Every Student Succeeds Act, ESSA; No Child Left Behind, NCLB) which encouraged states to develop teacher preparation programs to increase teacher recruitment (Sindelar et al., 2008; U.S. Department of Education, 2022a). Despite these federal funds demonstrating a year-over-year commitment to providing a federal response to the chronic teacher shortage, the special education teacher shortage persists.

### ***Teacher Preparation Programs***

Traditionally, teacher certification policies established the rules individuals must follow to earn a teaching license in a specific content area. Teaching certification standards vary by state, but they aim to ensure that all teachers are trained and qualified to teach by participating in teacher preparation programs (Lovenheim & Turner, 2018).

Title II defines teacher preparation programs as:

A state-approved course of study the completion of which signifies that an enrollee has met all the state's educational requirements, or training requirements, or both, for an initial credential to teach in the state's elementary, middle, or secondary schools. A teacher preparation program may be either a traditional program or an alternative program, as defined by the state, and may be offered within or outside an IHE. (U.S. Department of Education, 2022b)

The federal definition of a teacher preparation program is disaggregated by two types: traditional and alternative. These two programs widely vary across states, with little consensus on their definitions. Alternative routes are defined in detail in subsequent sections. It is necessary to understand what is meant by traditional routes to preparation before discussing alternative routes. Broadly, traditional preparation programs are

defined as serving (a) undergraduate teacher candidates earning a bachelor's degree in education, who have no prior teaching or working experiences, or (b) graduate teacher candidates earning a master's degree in education (U.S. Department of Education, 2022b). Furthermore, traditional preparation programs are often categorized as being affiliated with institutions of higher education, requiring teacher candidates to complete supervised clinical field experiences, and implementing coursework regarding specific teaching content areas and theoretical pedagogy (U.S. Department of Education, 2022b).

While traditional preparation programs have historically produced certified teachers, they have not been able to keep up with the demand of rising PK-12 student enrollment (Darling-Hammond, 2007; Ludlow, 2013). The distribution of certified teachers is not equitable in all geographic areas. High-poverty schools report higher teacher shortage rates (Billingsley et al., 2019) as they serve a more predominate cultural and linguistical diverse student population (Djonko-Moore, 2016). Furthermore, teacher recruitment, mobility, and attrition are often more problematic in high-poverty schools. One potential policy solution to address the shortage of teachers in “hard-to-staff” schools is alternative route preparation programs.

### **Alternative Routes Programs: Policies and Process**

The U.S. Department of Education has permitted states to determine alternative routes to obtain teaching licensure since the mid-1980s. As a result of federal policy approval and the historical demand for qualified teachers, there has been a proliferation of alternative route teacher preparation programs across states (Dukes & Jones, 2007; Rosenberg & Sindelar, 2005). Alternative routes are broadly defined from the federal

government as a nontraditional and accelerated path for individuals to obtain a state teaching license (U.S. Department of Education, 2022b). Conceptually, the U.S. Department of Education defines that the purpose of ARs is to recruit teacher candidates who do not have a traditional education preparation background to fulfill high-need teaching areas, such as special education. However, state departments of education ultimately interpret this broad definition and determine the existence of AR programs and the extent of their regulations. State legislatures bear the responsibility to provide adequate postsecondary systems and thus determine teacher preparation policies (Earley, 2001). Therefore, state departments of education determine the existence of AR pathway policies for which they are then legally mandated to report to the federal government.

### **Accountability Reporting Mandates**

Under the accordance of Title II in the Higher Education Opportunity Act (HEOA) of 2008, the federal government enacted accountability measures for postsecondary teacher preparation programs to report (U.S. Department of Education, 2010). The resulting process of reporting accountability measures begins with individual teacher preparation programs. Teacher preparation programs are mandated to report to their prospective states during the Institution and Program Report Card (IRPC) annual data collection by April 30<sup>th</sup>. States and jurisdictions submit this teacher preparation data through State Report Cards to the U.S. Department of Education annually by October 30<sup>th</sup>. All teacher preparation data files are warehoused in the U.S. Department of Education's Title II website (<https://title2.ed.gov>) for public information on the teacher workforce. The U.S. Department of Education disaggregates teacher preparation

programs by program type: traditional, alternative program associated with an institution of higher education (IHE), or an alternative program that is not associated with an institution of higher education (non IHE). For Title II reporting purposes, states count traditional preparation programs (e.g., with IHEs) and AR IHEs as two distinct teacher preparation providers (U.S. Department of Education, 2022b). Therefore, states have two reported AR categories: those associated with IHEs and those not associated with IHEs.

### **Heterogeneity of Alternative Route Programs**

Alternative route preparation programs vary greatly across states in addition to their program classification. Alternative route programs are vast in terms of their program characteristics, requirements, and participants (Rowland Woods, 2016) as each state determines its own specific requirements (U.S. Department of Education, 2022b). Consequently, alternative route preparation programs have multiple meanings and implementation models. For example, some states permit ARs that simply require teachers to pass an entrance exam, whereas others require teachers to be concurrently enrolled in a graduate program while teaching (Torres & Chu, 2016). As a result, classification of an AR in one state may appear as a traditional preparation program in another. Collectively, AR programs are heterogeneous in nature and viewed on a preparation continuum (Rosenberg & Sindelar, 2005).

Despite their variance, Title II reports most AR policies share the commonality of hiring individuals who have a bachelor's degree but lack education certification and training. Alternative route teacher candidates often participate in internship models, where they complete training while teaching (U.S. Department of Education, 2022b).

Additionally, AR programs provide a fast and cost-effective path for individuals to teach special education because they are in the classroom immediately while they are obtaining training to work towards their state teaching license (Sindelar et al., 2012). As a result, it is estimated that 18% of teachers within the United States obtained a state teaching license through an alternative route program (Rowland Woods, 2016). To empirically address growing shortages of qualified special education teachers, an economic framework of the supply and demand of the special education teacher population is utilized. This framework positions special education teachers who participate in alternative route preparation programs as part of a broader pipeline that makes up the special education teacher supply.

### **Theoretical Framework: The Teacher Pipeline**

Conceptually, ARs are part of a vast teacher pipeline that constructs the teacher supply (Lindsay et al., 2009). These various supply sources include: (a) teachers retained from the previous year; (b) teachers migrating from out of state; (c) newly certified teachers from traditional preparation programs; (d) newly certified teachers from alternative routes; and (e) teachers who are certified to teach but are not currently in the workforce (e.g., maternity leave, medical leave). These teacher supply sources interact with teacher demand variables (e.g., student enrollment, per pupil expenditures, and teacher-to-student ratio) to determine labor shortages or surpluses (see Figure 1.1).

### **Statement of the Problem**

Recent research on alternative routes was conducted on the general education teacher population (Chetty et al., 2014; Clark & Isenberg, 2020; Grossman & Loeb,



2016; Sass, 2015; Whitford et al., 2017). There is limited empirical research specific to special education teacher population and alternative route programs (Rosenberg & Sindelar, 2005). While there are some qualitative investigations on the experiences of AR special education teacher candidates in terms of race (Scott, 2019; Scott et al., 2019), there are no studies on multilingual special education teacher candidates' experiences in ARs. Furthermore, many quantitative analyses of ARs for special education teachers consist of specific AR programs or geographic regions. As a result, AR programs trends and pathway policies are unclear nationwide. This dissertation aims to investigate the role of (a) alternative route programs specific to the special education teacher workforce regarding linguistic diversity in a particular AR program, and (b) the nationwide policy trends of AR programs and pathways across the United States. Understanding how ARs influence special education teacher candidates at both macro and micro levels are essential in evaluating their role in special education teacher preparation.

### **Purpose and Research Questions**

The purpose of this dissertation is to investigate alternative route programs within special education teacher preparation. First, a systematic literature review is conducted (see Chapter 2), to understand what prior empirical research reveals about alternative route programs within the special education teacher population. The literature review research questions consist of:

1. What evidence exists on how alternative routes impact the special education teacher preparation?
2. How do alternative routes influence special education teacher quantity?

3. How do alternative routes influence special education teacher quality?

As a result, two studies are sequentially conducted to extend previous AR research regarding multilingual teacher candidates participating in a specific AR program and nationwide trends of AR programs and policies in special education. To determine the role of linguistic diversity in special education ARs (see Chapter 3), the first study explores (a) the factors related to multilingual paraprofessionals' experiences in special education, and (b) their career advancement to become certified teachers while participating in a school district Grow Your Own alternative route program. The research questions for this qualitative case study are as follows:

1. What are the experiences of three multilingual paraprofessionals servicing students with disabilities at one elementary school?
2. What is their perception of and experience with a Grow Your Own Program in their school district?

The second study (see Chapter 4) analyzes alternative route programs at a national level by utilizing federal databases to determine state program and policy trends in special education teacher preparation. The research question for this quantitative investigation are as follows:

1. What are the teacher preparation program enrollment trends from 2012-2020?
2. What are the special education completer trends in teacher preparation programs from 2012-2020?
3. What are the AR pathway requirements that are inclusive of special education preparation?

The systematic review (see Chapter 2) will reveal what is already empirically known about alternative route programs in special education. The first study (see Chapter 3) will explore the role of ARs recruiting and preparing linguistically diverse teacher candidates at a specific school district in a Grow Your Own AR program. The second study (see Chapter 4) will provide insights on nationwide trends on AR programs in terms of their enrollment and producing special education teacher preparation completers. Additionally, it will also illuminate the general teacher preparation requirements in special education AR IHE and AR non-IHE programs. Thus, this dissertation investigation aims to provide a holistic analysis of alternative route programs within special education by employing mixed methodologies at the district and national level.

### **Organization of the Dissertation**

Due to the nature of this three-paper dissertation, its organization is noted below:

1. Page numbers throughout the dissertation are continuous. Meaning, page numbers do not start over when a new paper (e.g., chapter) begins.
2. Tables and figures are embedded within chapters to retain context. Additionally, table and figure numbering restarts with each chapter.
3. The references list for the complete dissertation are listed in alphabetical order in the References section.

### **Definition of Terms**

#### **Special Education Teacher Shortage**

This dissertation evaluates the special education teacher shortage through the economic conceptualization of teacher labor markets (Grissom et al., 2016). Teacher

labor markets, similar to other workforces, refers to the supply and demand for labor. Teacher demand can be broadly defined as the number of positions a school offers at a given level of compensation. In contrast, teacher supply is the number of qualified teachers willing to fulfill the positions. Teacher shortages occur when there is an excess demand for labor resulting from a lower supply of teachers within an existing wage rate (Lovenheim & Turner, 2018). Special education teacher shortages are defined specifically under the U.S. Department of Education. Since 2006, the shortage has been defined as the proportion of special education teachers who were not highly qualified (U.S. Department of Education, 2020).

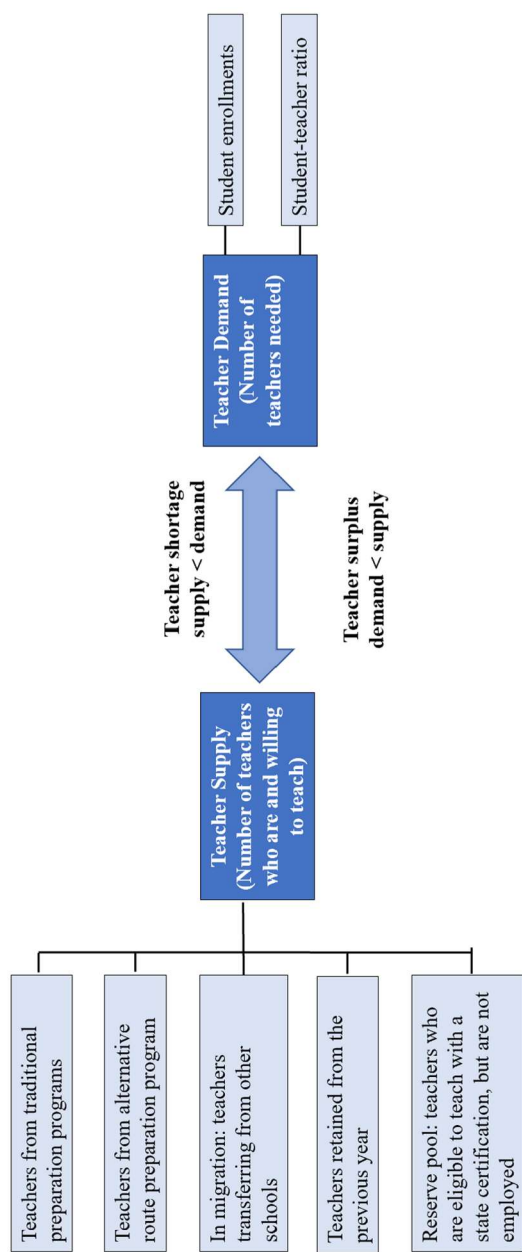
### **Alternative Route Programs**

Alternative routes (AR) can be defined as a nontraditional and accelerated path for individuals to obtain a state teaching license (U.S. Department of Education, 2022b). The purpose of alternative routes is to recruit teacher candidates who do not have a traditional education preparation background to fulfill high needs teaching areas (Lovenheim & Turner, 2018). Alternative routes are especially popular in special education to address the SET shortage (Peyton et al., 2021). Policies vary by state, but the majority of ARs share the commonality of hiring individuals who have a bachelor's degree but lack education certification and training (U.S. Department of Education, 2022b). Alternative route teacher candidates participate in internship models, where they complete training while teaching. States are mandated to report alternative route pathways, enrollment, and completion (e.g., graduation totals) frequencies to the U.S. Department of Education in Title II reports. These will be used in this dissertation to

investigate special education teacher supply. In state and federal reports, alternative route programs are disaggregated by their program type in terms of their affiliation with IHEs.

### **Multilingual Teacher Candidates**

For this dissertation, multilingual teacher candidates are defined as individuals on the path to become certified teachers who speak English, as well as at least one other language. By drawing on previous researchers, the importance of having multilingual personnel in education will be explored (e.g., Bowers & Vasilyeva, 2011; Wagner, 2021). The benefits of having multilingual individuals provide (a) instructional opportunities to students in their home languages when explaining and discussing academic concepts (Hindman & Wasik, 2015), and (b) effective communication with linguistically diverse families to build school-family relationships (Langeloo et al., 2019). In both advantages, the multilingual teacher speaks the same home language of both the student and their family. Moreover, the notion that multilingual teachers are an asset for linguistically diverse students who do not share a common home language due to their shared language acquisition lived experiences (Krashen, 2003) and culturally linguistic funds of knowledge (Marshall & Toohey, 2010) will be explored. Multilingual teachers provide emotional support to students acquiring a new language, help them culturally assimilate in a new school environment, and provide cognitive strategies in acquiring levels of proficiency in the English language when drawing from their personal experiences of learning an additional language (Conteh, 2007; Ellis, 2004; Mitchell, 2017). Both research-based aspects of multilingual teachers will be included in the examination of multilingual teacher candidates becoming certified teachers (see Chapter 3).



**Figure 1.1**

*The Components of Teacher Supply and Demand*

*Note.* This figure is adapted from Lindsay et al., 2009.

## **Chapter Two**

### **ALTERNATIVE ROUTE PROGRAMS WITHIN SPECIAL EDUCATION TEACHER PREPARATION: A SYSTEMATIC LITERATURE REVIEW**

In the United States, there exists a chronic special education teacher shortage as there are not enough qualified teachers to provide instructional services to students with disabilities. These historical shortage concerns have been documented since the inception of the Individuals with Disabilities Education Act (IDEA) in 1975 (Billingsley & Bettini, 2019; Weatherly & Lipsky, 1977). 98% of school districts currently report special education shortages (U.S. Department of Education, 2020). Due to the shortage, investigation into the reasons for the shortage and potential policy solutions have been conducted. One potential policy solution to increase teacher supply through recruitment and preparation is “Alternative Routes to Teaching Licensure.” Alternative routes (ARs) are broadly defined as nontraditional and accelerated paths for individuals to obtain a state teaching license (U.S. Department of Education, 2020). Alternative route preparation programs vary greatly across states regarding their program characteristics, requirements, and participants (Rosenberg et al., 2007). However, these state licensure preparation programs generally attempt to increase teacher supply by providing a variety of recruitment options for teachers to obtain licensure. Alternative route programs leverage nontraditional recruitment techniques as one approach to attract teacher candidates. However, due to their heterogeneity, there is mixed evidence on the effect

that ARs have on impacting general education teachers (Lovenheim & Turner, 2018). Furthermore, there is limited research that illuminates how specific AR models contribute to the special education teacher population (Rosenberg & Sindelar, 2005).

This chapter investigates alternative route preparation programs in special education. First, an economic framework on the special education teacher workforce is established. A descriptive summary of alternative route research nested within general education and the synthesis of Rosenberg and Sindelar's (2005) systematic review on AR programs in special education follows. Then, a systematic literature search on empirical studies conducted on alternative route programs specific to special education teachers is analyzed. Implications for future research and policy recommendations needed within the special education teacher population will also be discussed.

### **An Economic Framework of Special Education Teacher Labor Markets**

The primary framework for evaluating the special education teacher shortage comes from the economic conceptualization of teacher labor markets (Grissom et al., 2016). Like other workforces, teacher labor markets refer to the supply and demand for labor. Teacher demand can be broadly defined as the number of positions a school offers at a given level of compensation. Teacher supply is the number of qualified teachers willing to fulfill the positions. Teacher shortages occur when there is an excess demand for labor resulting from a lower supply of teachers within an existing wage rate (Lovenheim & Turner, 2018). However, special education teacher shortages are defined specifically under the U.S. Department of Education. Since 2006, the shortage has been defined as the proportion of special education teachers who were not highly qualified



(U.S. Department of Education, 2020). States are mandated to report annual special education shortages to the U.S. Department of Education. Therefore, to estimate shortage rates inclusive of teacher quantity, it is critical to develop a deeper understanding of the workforce pipeline specific to the supply and demand of special education teachers.

### **Supply and Demand**

The special education teacher workforce is one subpopulation of the broad teacher population in the United States. It is especially pertinent to examine special education teachers as they instruct students with disabilities, whose academic and behavioral progress are mandated by federal law (U.S. Department of Education, 2020). Special education teachers deliver instruction to students with disabilities, assess their academic and behavioral growth, and design evidenced-based individualized education plans (Council for Exceptional Children, 2021). Due to the critical shortage of special education teachers, it is imperative to examine the quantity of labor. Labor is defined as the amount of work a teacher is willing to give to produce an increase in student outcomes (Lovenheim & Turner, 2018). Special education teachers are participants of broader labor markets with both a demand and supply side. The supply side refers to the proportion of highly certified special education teachers (U.S. Department of Education, 2020). It examines how special education teachers make occupational choices to enter, remain, or leave the teaching profession (Lovenheim & Turner, 2018). The demand side determines the number of special education teachers a school can hire. It considers the student with disability enrollment, per pupil expenditures, and special education teacher to student ratios (Peyton et al., 2021).

The intersection of labor supply and demand establish both market *compensation* ( $C^*$ ) and *employment* ( $E^*$ ). Special education teacher shortages occur when the teacher supply is lower than the demand at an existing compensatory rate (see Figure 2.1).

Compensation is multifaceted as it includes both pecuniary and nonpecuniary benefits (Grissom et al., 2016). Pecuniary benefits include financial compensation such as salary, retirement plans, or medical insurance. These pecuniary benefits are often fixed in school districts as policies determine that all teachers receive the same financial amount, and it is not determined based on their individual productivity (Lovenheim & Turner, 2018). Nonpecuniary benefits are non-financial factors defined as working conditions. These working conditions are specific to the special education teacher role. Working conditions involve: (a) the responsibilities (e.g., extra paperwork, instructional tasks, meetings); (b) social supports (e.g., administration support, school culture); and (c) logistical supports (e.g., planning time, instructional resources) that are all specific to special education teachers (Bettini et al., 2019).

Both pecuniary and nonpecuniary compensation benefits influence the special education teacher supply. Teachers evaluate these compensating differentials when deciding to enter, stay, or remain in teaching (Loeb & Page, 2000). As a result, it is critical to account for various compensating differentials when evaluating special education teacher shortage. For example, special education teachers experience more paperwork, meetings, and challenging student behaviors (Bettini et al., 2019). Yet, teacher pecuniary benefits such salary and health benefits tend to not differ across school positions as they are on a fixed scale solely based on education level and experience

(Lovenheim & Turner, 2018). Therefore, without paying special education teachers more, it is hard to find a sufficient supply. Compensating differentials shift the special education teacher labor supply curve which changes the amount of labor they are willing to provide within a given wage (Lovenheim & Turner, 2018).

### **Alternative Routes to Teaching Licensure and Teacher Labor Markets**

Teacher certification policies determine the supply of teachers by establishing licensure requirements. Their aim is to regulate the teacher population by requiring sufficient training and qualifications (Lovenheim & Turner, 2018). Teaching certifications are set by each state and thus differ across the nation. Initial certification requirements may include a set level of education, completing a teacher preparation program, passing content certification exams, and a specific number of preservice field hours mandatory to enter the teaching profession (U.S. Department of Education, 2020). Despite teaching certification policies' aim to ensure a minimum teacher quality for all students, there are some affiliated consequences. A major consequence is that it limits the recruitment of teachers and thus impacts the teacher supply. This is due to the high cost and time it takes to become a licensed teacher in a traditional teacher preparation program. Traditional preparation programs are within institutes of higher education and often require four to five years to obtain licensure through a certified Bachelor's or Bachelor/Master's Education program. Therefore, a broad teacher policy initiative has been developed to provide a cost and time-effective option called alternative route preparation programs.

## **The Heterogeneity of Alternative Route Preparation Programs**

While most states permit alternative route (AR) preparation programs, they are difficult to define due to their vast models of requirements, implementation, and participants (Rosenberg & Sindelar, 2005). Because of their heterogeneity, an AR preparation program may look very different from one state to another and sometimes display the program characteristics of traditional preparation programs (Rowland Woods, 2016). Alternative routes have been permitted by the federal government since the mid-1980s and are broadly defined as nontraditional and accelerated paths for individuals to obtain a state teaching license (U.S. Department of Education, 2020). While the federal government allowed for their initial existence, state licensure offices determine AR policies and define the pathways to a teaching credential.

Generally, the purpose of state ARs is to recruit teacher candidates who do not have a traditional education preparation background to fulfill high-needed teaching areas. Policies vary by state, but the majority of ARs share the commonality of hiring individuals who have a bachelor's degree but lack education certification and training. Alternative route teacher candidates instead participate in internship models, where they complete training while teaching. Thus, teacher candidates who complete preparation in ARs and obtain a state license are part of a broader teacher pipeline which contributes to the overall supply of teachers.

## ***The Conceptual Framework of Teacher Pipelines***

Conceptually, AR teacher completers are part of a vast teacher pipeline that constructs the teacher supply (Lindsay et al., 2009). These various supply sources

include: (a) teachers retained from the previous year; (b) teachers migrating from out of state; (c) newly certified teachers from traditional preparation programs; (d) newly certified teachers from alternative routes; and (e) teachers who are certified to teach but are not currently in the workforce (e.g., maternity leave, medical leave). These teacher supply sources interact with teacher demand variables (e.g., student enrollment, per pupil expenditures, and teacher to student ratio) to then determine labor shortages or surpluses (see Figure 2.2). The teacher pipeline conceptual model can be used when empirically evaluating ARs and the teacher shortage.

### **General Education AR Programs**

Although there are approximately 463,200 special educators in the United States (U.S. Bureau of Labor Statistics, 2021), there is a dearth of research conducted on ARs that is inclusive of special education. Recent research on AR programs has been largely conducted on general education teacher population (Chetty et al., 2014; Clark & Isenberg, 2020; Glazerman et al., 2006; Grossman & Loeb, 2016; Sass, 2015; Whitford et al., 2017). These findings reveal that approximately 20% of new teachers are entering the workforce through alternative route programs (DeMonte, 2015). Investigations on ARs and general education teachers provide mixed evidence on the impact ARs have on teacher quantity and quality. Some posit that there is no statistical difference between AR teachers and those who are traditionally certified regarding their effectiveness (Whitford et al., 2017). While others perpetuate that AR teachers produce stronger significant student outcomes in math or reading (Clark & Isenberg, 2020; Glazerman et al., 2006; Xu et al., 2011). Yet, these studies limit their research to Teach for America or Teaching

Fellows, alternative pathways which recruit graduates from prestigious universities to teach in urban schools. Teach for America and Teaching Fellow teachers only make up a small portion of alternatively prepared teachers and do not reflect the larger AR teacher population in various geographic settings.

To address this gap in research, Sass (2015) examined the effects of more generic state alternative certification programs that have no special recruitment efforts nor geographic limitation. The AR programs in his investigation consisted of a variety of nontraditional options in Florida: the district alternative certification, the educator preparation institute (EPI) option, American Board for Certification of Teacher Excellence (ABCTE) passport, and the college-teaching experience options. Sass (2015) identified the district alternative certification program as the most common AR program in Florida. The district alternative certification program is defined as drastically different program than Teach for America or Teaching Fellows as it does not involve specific recruitment procedures and participating teachers are not required to complete additional coursework. Teachers are required to pass the standard general knowledge and professional education certification exams to become certified. Additionally, they are required to complete a competency-based alternative certification program that varies by school district but generally consist of an initial assessment of skills, an individualized training plan, mentoring, a training curriculum of research-based teacher practices, and a summative assessment that evaluates mastery of the practices. The AR district programs are typically web-based and often involve the collaboration of local universities (e.g., IHEs) in addition to the local school districts (e.g., LEAs). Regarding teacher supply,

Sass found that these alternatively certified teachers have stronger preservice academic skills than traditionally prepared teachers, as evidenced by their higher initial pass rates on certification exams and higher college entrance exam scores. Additionally, these general AR teacher candidates diversified the teacher workforce as it increased the number of males, minorities, and older teacher candidates entering the teaching profession.

Furthermore, Sass (2015) employed a value-added model to evaluate the effectiveness of AR teachers compared to those traditionally certified. He found that teachers who receive state certification from these AR programs are more effective in producing student outcomes. This is evidenced by the sample of AR teachers producing one to two percent of standard deviation higher student achievement math and reading scores than those traditionally certified teachers. In both of Sass (2015)'s empirical models, the impact of these forementioned AR programs on general education teachers who did not teach in inclusive classrooms were investigated. The analyses showed there were no encompassing of special education teachers nor outcomes of students with disabilities. Within the field of special education, Rosenberg and Sindelar's (2005) previously conducted a literature review on the proliferation of ARs and special education teacher preparation.

### **Empirical Literature within Special Education**

Rosenberg and Sindelar (2005) conducted their systematic search by analyzing 10 data-based studies of AR preparation in special education. These empirical studies were conducted from 1986 to 2004 and varied in methodologies, selected AR program models,

and participants. Specifically, Rosenberg and Sindelar (2005) summarized the efficacy of the various AR approaches and programs. Six studies investigated AR program evaluations and four studies compared AR features to TPPs. Overall, the studies concluded there were a variety of AR programs but a shortage of reliable evidence in terms of their nature and efficacy. With the limited findings, the studies suggested the need for (a) meaningful collaboration between institutions of higher education (IHE) and local education agencies (LEA); (b) adequate AR program length with a variety of learning activities; (c) and IHE supervision and building-based mentor support for AR special education teacher candidates. Therefore, this systematic literature review extends on Rosenberg and Sindelar's (2005) investigation on the empirical evidence that exists on AR preparation programs in special education.

The aim of this systematic investigation is to expand on Rosenberg and Sindelar's (2005) literature review by synthesizing empirical research conducted on alternative routes and special education teachers within the last 16 years. The purpose of this paper is to summarize previous research conducted on alternative route preparation programs within the special education teacher population. Therefore, this paper aims to investigate:

1. What empirical literature exists on alternative routes within special education?
2. How do alternative routes influence special education teacher quantity?
3. How do alternative routes influence special education teacher quality?



## Method

A systematic literature search was performed to summarize primary research previously conducted on the impact of alternative routes to teaching licensure on the special education teacher supply. Following Liberati et al. (2009), a review protocol to outline search procedures and coding framework was created.

### Search Procedures

The systematic search was initially conducted by utilizing the electronic databases of Education Research Complete, Psych Info, and Academic Search Complete. The search terms that were identified consisted of *alternative routes* and *special education teachers*, or *teacher licensure*, or *nontraditional pathways*, and related terms. Using Rosenberg and Sindelar's (2005) review as a start date, the scope of the search ranged from 2005 until December of 2021. The initial search yielded 617 results that used some combination of the selected terms chosen after duplicate studies were removed. This literature review focused on the empirical research specifically conducted on special education teacher candidates in alternative route programs (Figure 2.3).

Next, a hand-search was conducted in the education policy journals of *Educational Policy*, *Educational Evaluation and Policy Analysis*, and *Journal of Education Finance*. These three peer-reviewed education policy journals were selected for a hand search due to their history containing AR literature within general education. This yielded no additional results that were inclusive of special education teachers within their AR findings, as the studies focused on other teacher certification areas, did not specify certification areas, or the findings were not disaggregated by special education

teacher certification status. Then, a hand-search was conducted on OSEP's website "Attract, Prepare, Retain: Effective Personnel for All". This yielded no additional results, as the studies found were either (a) duplicate studies of the electronic search; (b) did not mention special education teachers; or (c) special education alternative route program recommendations and therefore not empirical studies. The policy hand-searches were purposefully conducted given that education policy researchers and policymakers also investigate alternative routes to teaching licensure.

Ancestry and progeny searches were completed next. The ancestry search was completed by investigating the reference section of each study that met the criteria. Twenty-one studies were identified as potential articles. A progeny search was also conducted by reviewing the titles and abstracts that referenced Rosenberg and Sindelar's (2005) literature review. This yielded 35 additional studies. After removing duplicate studies, 478 articles remained and served as the sample for screening analysis.

### **Inclusion and Exclusion Criteria**

The title, author, and abstract of each potential article ( $n = 478$ ) were screened to see if they met the following criteria: (a) an empirical study that consisted of quantitative, qualitative, or mixed methodology; (b) peer-reviewed; (c) included special education teachers; (d) addressed alternative routes; (e) conducted in the United States; and (f) written in English. I included empirical work with and without student outcome measures (e.g., empirical work that focused on special education teachers). Additionally, empirical studies that specified only special education participants and studies specifying special education and non-special education participants with the requirement that the data for

the special education was disaggregated were included. For example, Redding (2021) used the Schools and Staffing Survey (SASS) and the National Teacher and Principal Survey (NTPS) to analyze changes in newly certified teachers from state alternative route policies. Redding (2021) reported that new special education teachers were more likely to graduate from traditional preparation programs than alternative route preparation programs. However, the findings on the impact of AR policies on the composition of teachers in terms of their previously held knowledge signals (e.g., SAT scores), diversity (e.g., age, gender, race) and their participation in a particular AR program design (e.g., Teach for America, Grow Your Own) were not parceled out for special education teachers. Therefore, this empirical study was not found eligible.

Articles that were non-empirical program evaluations for special education alternative routes were excluded. Alternative route design recommendations intended for special education teacher candidates were also excluded as empirical study criteria were not met. For example, Wasburn-Moses and Rosenberg's (2008) publication, "Alternative Route Special Education Teacher Preparation Programs Guidelines" was not included because it was not an empirical study. Rather, they provided evidence-based guidelines intended to assist teacher educators in the development of AR programs. Furthermore, if studies broadly investigated teacher candidates and did not disaggregate by concentration area (e.g., special education), they were excluded from the findings. This resulted in 441 articles being excluded. Finally, full text articles ( $n = 37$ ) were then screened using the same criteria. This led to the selection of 11 articles to be included for data analysis.

## **Data Analysis**

To conduct a thematic content analysis of the articles, holistic summaries were written for each of the 11 studies included for the final review (Van Mieghem et al., 2020). Holistic summaries consisted of each study's research questions/purposes, methodology, sample, and results. An analysis table was developed to thoroughly examine each study's findings related to three factors: (a) education finance; (b) human capital; and (c) program design. These deductive themes were based on prior alternative route literature reviews conducted in general education (Sass, 2015; Whitford et al., 2017) and special education (Rosenberg & Sindelar, 2005). The 11 studies were coded separately into outcomes on teacher quality or quantity associated with AR program models or AR state licensure policies. Subthemes were identified for each of the three deductive themes (e.g., education finance, human capital, and program design) through the creation of time intensive coding.

## **Results**

A synopsis of the 11 studies is described in terms of their methodological approaches, data sources, samples, and their empirical aim of investigating how ARs contribute to the SET supply and/or quality (see Table 2.1). This is followed by a synthesis of the three themes found in the alternative route research: (a) education finance; (b) human capital; and (c) program design. The subthemes that were analyzed for each thematic category will also be discussed.

## **Study Characteristics**

Methodologies of the studies varied with the most frequent of them being quantitative descriptive analysis (64%), followed by qualitative (18%) and mixed methodologies (18%). Additionally, one study (Sutton et al., 2014) that initially employed a quantitative descriptive analysis also conducted a quasi-experimental study to evaluate the impact of alternative route licensure on teacher placement. Experimental methodologies were not conducted on the special education teacher population, as most studies (90%) were largely exploratory.

## ***Data Sources***

In six studies, researchers used secondary databases that consisted of state employment records, university enrollment data, or federal databases to explore AR program design by geographic region (Hollo et al., 2019; Jameson et al., 2019; Robertson & Singleton, 2010; Rosenberg et al., 2007; Sindelar et al., 2012; Sutton et al., 2014). Three studies employed open ended and Likert scale surveys (Ault et al., 2019; Casey et al., 2013; Rosenberg et al., 2007; Sindelar et al., 2012) to assess the impact and characteristics of alternative routes in special education. Whereas three employed semi-structured interviews to assess perceptions of AR teachers (Scott, 2019; Scott et al., 2019; Sindelar et al., 2012) and one conducted a focus group (Kurtts et al., 2007) to evaluate the experiences of alternative route special education teachers.

## ***Samples***

Studies varied in their sample sizes that was investigated. Most studies (82%) included PK-12 special education teachers who were certified through alternative routes.

Of these studies, five consisted of examining special education teacher candidates ( $n = 120$ ) who were currently enrolled in an alternative route program (Ault et al., 2019; Jameson et al., 2019; Kurtts et al., 2007; Scott, 2019; Sindelar et al., 2012) and six studies investigated special education teachers ( $n = 1,233$ ) in the field who had previously completed an alternative route program (Casey et al., 2013; Robertson & Singleton, 2010; Scott, 2019; Sindelar et al., 2012; Sutton et al., 2014). Some studies (27%) utilized university faculty ( $n = 134$ ) in their sample sizes which consisted of teacher preparation supervisors and program directors (Ault et al., 2019; Rosenberg et al., 2007; Sindelar et al., 2012). One study (Hollo et al., 2019) did not examine human participants but rather alternative route program trends by accessing data from state licensure offices ( $n = 50$ ). Furthermore, six of the empirical studies (50%) investigated specific AR programs models and provided detailed characteristics. The reported AR program models were heterogeneous in terms of their state settings, participants, and preparation requirements. However, all studies that investigated a specific AR program in detail reported program provider collaboration between IHE, SEA, and LEA stakeholders (see Table 2.2).

### ***Empirical Aims***

As shown in Table 2.1, special education teacher supply (91%) was the most common empirical focus when investigating the impact of alternative routes. Studies ranged from examining special education teacher frequencies produced by alternative routes (Hollo et al., 2019; Jameson et al., 2019; Rosenberg et al., 2007; Sindelar et al., 2012; Sutton et al., 2014), teacher retention through alternative routes (Robertson & Singleton, 2010), and perceptions of alternative route programs on the special education

teacher population (Casey et al., 2013; Kurtts et al., 2007; Scott, 2019; Scott et al., 2019). Two studies (Ault et al., 2019; Casey et al., 2013) focused on how alternative route programs contribute to teacher quality. Ault et al. (2019) examined the classroom observation scores of alternative route candidates, whereas Casey et al. (2013) investigated the perceived additional support alternative route teachers need to improve their quality. Both studies were largely exploratory, and the authors did not find any causal data.

### **Cost of Alternative Route Programs**

In terms of themes present in the empirical literature, the cost of alternative route programs plays a critical role in alternative route programs as significantly increases the special education teacher supply through recruitment efforts (Ault et al., 2019; Casey et al., 2013; Hollo et al., 2019; Jameson et al., 2019; Kurtts et al., 2007; Rosenberg et al., 2007; Robertson & Singleton, 2010; Scott, 2019; Sindelar et al., 2012). The role that cost has on teacher candidates choosing to enter into AR programs due to its effectiveness, and the role of the federal government allocating funds to AR preparation programs was evaluated. Two common subthemes of cost in alternative route programs included (a) the cost effectiveness of teacher candidates choosing an alternative route program over a traditional preparation program, and (b) the importance of federal funding for alternative routes to increase special education teacher recruitment.

### ***Cost Effectiveness***

Alternative route programs increase the special education teacher supply due to their cost effectiveness compared to traditional teacher preparation programs (Robertson

& Singleton, 2010). Cost effectiveness can be defined as the efficiency of increasing teacher supply due to the lower cost and time it takes to become licensed (Sindelar et al., 2012). Time was reported as a major contributor to ARs' cost effectiveness (Casey et al., 2013; Kurtts et al., 2007; Rosenberg et al., 2007). Special education teacher candidates valued that they were able to become licensed in a shorter time period and/or become licensed while working as a provisional special education teacher. For example, Casey et al. (2013) investigated the role of ARs on novice bilingual and special education teachers ( $n = 89$ ) already in the workforce in an urban southwestern state. While the participants reported completing a variety of AR state entities, 92% of the AR teachers reported that the length of time it took to become certified was important and 86% reported that the cost of tuition was important when choosing AR preparation over TPP. Moreover, Scott (2019) reported that the study participants would not have become a special education teacher if they had not simultaneously worked as a provisional teacher while completing an AR program. The abbreviated time it took to become licensed in alternative routes and the flexibility both contributed to special education teachers entering the workforce.

Furthermore, AR programs were found to be financially affordable compared to traditional preparation programs. Sindelar et al. (2012) calculated cost tables of obtaining special education teacher licensure in alternative route programs compared to traditional preparation programs. Costs varied on the type of alternative program with average cost per completer ranging from \$5,567 for local programs, \$14,522 for internship programs, and \$14,318 for step-up programs. Compared to licensure programs in traditional programs, all AR options were cheaper as traditional preparation programs' costs



exceeded \$31,000. Therefore, ARs are deemed cost effective to the extent that they contribute to teacher supply by providing access to candidates who may not otherwise join the special education workforce due to time or financial restraints.

### ***Federal Spending***

Findings in the cost of alternative route preparation also posited the importance of federal funding to alternative route programs in various participating states (Hollo et al., 2019). In the Rosenberg et al. (2007) investigation of AR characteristics, 31.6% of AR programs mentioned the impact of federal government funds OSEP. Jameson et al. (2019) found that federal funding significantly increased SET recruitment and retention through established cohorts. Initially they found that SETs recruited in both OSEP and state-funded programs benefited from the grant stipends as they would not have been able to manage the financial burden without them. An in-depth analysis then revealed that the OSEP grants had additional resources and a more robust mechanism for tracking the competition of SETs fulfilling their working obligation contracts compared to state grants. Thus, federal funding stimulated an increased SET recruitment and licensed SET supply remaining in the workforce.

### **Human Capital**

Human capital, or workers' individual attributes that have value in labor markets, influence the special education workforce (Lovenheim & Turner, 2018). The goal of the education policy reforms is to efficiently invest in special education teachers who will bring personal assets to the classroom that will increase student outcomes. All eleven studies (100%) investigated the role human capital theory plays into alternative route

programs. The subthemes that were found consisted of (a) cultural and linguistic diversity; (b) location specific capital; and (c) observed knowledge signals of special education teacher candidates in ARs.

### ***Cultural and Linguistic Diversity***

Findings from eight studies (73%) revealed alternative route programs diversified the special education teacher supply through recruiting and employing culturally and/or linguistically diverse candidates (Casey et al., 2013; Kurtts et al., 2007; Rosenberg et al., 2007; Robertson & Singleton, 2010; Scott, 2019; Scott et al., 2019; Sindelar et al., 2012; Sutton et al., 2014). For example, Sutton et al. (2014) examined building special education teacher capacity in rural areas through Grow Your Own (GYO) programs. The sample of special education teacher AR candidates ( $n = 638$ ) consisted of provisionally licensed SETS and composed of 26% individuals identifying as a racial minority (e.g., African American, American Indian, Asian-American, and Hispanics). The analysis found this rate to exceed the minority presence (15%) in the national special education teacher population. These findings are in line with recent calls from the field to diversify the special education teacher workforce (U.S. Department of Education, 2020).

Compared to traditional preparation programs, Robertson and Singleton (2010) found that alternative route programs recruited and employed more culturally diverse candidates in terms of race. The study investigated the effectiveness of an IHE AR program in terms of supplying certified teachers to school districts and their retention within the special education teacher workforce. The IHE AR program was a Master's in Teaching (MAT) with 43 to 46 hours of summer coursework at The University of

Memphis. The sample of special education teachers who completed ARs ( $n = 373$ ), 59% of AR candidates who identified as African American ( $n = 72$ ) were employed after five years, whereas, only 50% of TPP candidates who were identified as African American ( $n = 42$ ) were still employed.

Furthermore, Scott (2019) expanded on previous research positing that culturally diverse teachers are an asset to their student populations and alternative route programs are more appealing to Black males interested in becoming special education teachers. In this study's analysis they found that ARs successfully recruit Black-male special education teacher candidates due to cheaper tuition, flexible work schedules, and on the job training. One participant expressed the importance of his AR program declaring, "As a Black man, I could not see myself enrolling in a teacher preparation program where I [as a Black man] was not represented . . . this program allowed me to be represented and I would recommend this route to any Black guy that wants to teach special education" (Scott, 2019, pg. 343).

Regarding linguistic diversity, Casey et al. (2013) study was the only one that investigated multilingual teacher candidates in ARs. The comparison study evaluated the experiences of novice special education teachers and bilingual teachers who were prepared in an AR program. However, the research was not inclusive of multilingual special education teachers, as it was only investigated for bilingual certified teacher (e.g., English learner) samples. Additionally, no analysis was conducted on the type of AR program that the novice AR teachers completed. More additional research is needed on the role of ARs and linguistic diversity within special education. Overall, due to an

increasingly diverse student population in the United States, it is essential that additional research is conducted on the effectiveness of ARs increasing the special education teacher supply (U.S. Department of Education, 2020).

### ***Location***

Teachers have location specific capital. They often live where they are trained and then employed (Dai et al., 2007). Seven studies (70%) in this systematic search concluded that alternative route programs increase special education teacher supply in hard to staff locations (Ault et al., 2019; Casey et al., 2013; Hollo et al., 2019; Jameson et al., 2019; Robertson & Singleton, 2010; Sindelar et al., 2012; Sutton et al., 2014). Due to the flexibility of alternative route programs, special education teacher supply was increased in rural ( $n = 4$  studies) and urban areas ( $n = 1$  study). Additionally, alternative route programs capitalized on special education paraprofessionals advancing their careers, who have local community ties ( $n = 4$  studies).

**Rural areas.** School and district leaders in rural areas have historically reported special teacher shortages as they are geographically remote and often far from traditional preparation programs. Additionally, the unique economic characteristics of rural communities often make it difficult for PK-12 schools to attract teachers who typically are trained in urban and suburban areas (Jameson et al., 2019). Four studies emphasized the importance of high-quality AR pathways to support rural teacher training in special education (Ault et al., 2019; Hollo et al., 2019; Jameson et al., 2019; Sutton et al., 2014). All four studies found that alternative route programs that had online distance training provided location flexibility for rural SET candidates. For example, Ault et al. (2019)

examined an AR program affiliated with the University of Kentucky to prepare SET candidates in working with students with moderate to severe disabilities. A key component of this IHE AR program was the incorporation of virtual observations in field placements. From survey analysis, they found that alternative routes that utilized virtual observations enabled lower cost benefits for both the student and university. There were no significant differences found in observation scores from online to face-to-face observations. Alternative route programs thus increased special education teacher supply through local education agency partnerships in rural settings.

**Urban areas.** Although alternative route research in urban settings is abundant for the general education teacher population, (Clark & Isenberg, 2020; Glazerman et al., 2006; Whitford et al., 2017; Xu et al., 2011) only one special education study examined ARs in urban areas (Casey et al., 2013). Casey et al. (2013) explored novice special education teachers' perceptions of the additional supports they needed after alternative route preparation. Findings from the participants ( $n = 89$ ) included additional support requested on navigating parent communication (90.4%) and understanding cultural differences (84.6%) within their urban school setting. Implications in the study included recommended mentor training within AR preparation specific to urban school settings. None of the studies included any results specific to alternative route program structure that was delivered in-person or remote via urban settings. Therefore, more additional research is needed specific to the special education teacher population, alternative route programs, and urban settings particularly in Title I schools.

**Paraprofessionals and Local Communities.** Supporting paraprofessionals to become certified special education teachers through alternative routes has known advantages. First, paraprofessionals have job specific human capital in PK-12 public schools (Dai et al., 2007). They already have experience working with children and navigating the PK-12 public school system on-the-job. Second, many paraprofessionals also have location-specific human capital. They already have preexisting relationships with students, families, and local communities due to their paraprofessional role (Dai et al., 2007). This is especially crucial in preparing teacher candidates to work in hard to fulfill school locations and fulfilling special education teacher roles.

Four studies illuminated the significance ARs had on advancing the careers of paraprofessionals to become certified special education teachers (Kurtts et al., 2007; Rosenberg et al., 2017; Sindelar et al., 2012; Sutton et al., 2014). Kurtts et al. (2007) reported that 35% of their AR participants ( $n = 34$ ) consisted of paraprofessionals, which represented the largest workforce group compared to other career options (e.g., retired employees, military personnel, etc.). Sutton et al. (2014) investigated the impact alternative route program designed for paraprofessionals ( $n = 638$ ) had on projected SET employment capacities. The AR program titled The South Carolina Initiative, aimed to recruit paraprofessionals through Grow Your Own programs. The results showed that there were significant disproportionalities on estimated teacher job employment by special education licensure area,  $X^2(4, N = 638) = 19.20, p = .001$ . This shows the observed frequency of 17 program completers in emotional disabilities was half as many as the expected frequency of 34. In addition, the observed frequency of 14 program

completers in multi-categorical special education was two-thirds more than the expected frequency of 8.4. Therefore, while all four studies categorized ARs as successfully fulfilling special education teacher vacancies with interested paraprofessionals, disparities exist within varying special education teacher roles.

### ***Knowledge Signals***

Education employers lack information about each teacher candidate's actual productivity during the hiring process (Lovenheim & Turner, 2018). To maximize education production for their school, employers look for estimated signals of teaching productivity. These observed signals on a teacher candidate's application are the type of education (e.g., attended an elite university, obtained a master's degree) and/or the observed quality of that education act (e.g., SAT scores, teacher certification exams, etc.). In human capital theory, these observed characteristics act as a proxy for the unobserved traits of productivity (Lovenheim & Turner, 2018). As a result, teachers' observed knowledge has been largely studied in preparation program research within the general education teacher population (Kane & Staiger, 2008; Glazerman et al., 2006; Sass, 2015). Researchers posit that alternative routes programs recruit teachers with stronger observed academic knowledge traits than traditional preparation programs. Sass' (2015) study showed AR programs in Florida recruited teachers who had significantly higher academic scores. This was exemplified on AR candidates coming from more prestigious universities, having higher SAT scores, and stronger scores on their teacher entrance exam across math, reading, and writing. These initial findings suggest that ARs recruit teacher candidates with strong observed knowledge signals. There is limited research on

this human capital phenomenon for special education teachers in ARs. Therefore, it is unclear how such findings would apply within the special education teacher workforce.

Only one study (Kurtts et al., 2007) examined knowledge differences found in special education teachers by preparation path ( $n = 34$ ). Findings showed that AR special education teachers had significantly higher GPAs than non-AR special education teachers. Alternative route special education teacher candidates reported to have an average GPA of 3.39 compared to an average GPA of 3.24 for the non-AR teachers. However, it is unclear if this difference in GPA is the norm or unique to Kurtts et al. (2007) sample. More research is recommended to examine knowledge differences for special education teachers and preparation paths.

### **Program Design**

Alternative route program design consists of the structure, characteristics, and guidelines that aim to assist teacher candidates and teacher educators in nontraditional preparation settings (Wasburn-Moses & Rosenberg, 2008). The two AR program design subthemes of collaboration between stakeholders ( $n = 7$  studies) and technology ( $n = 6$  studies) were ubiquitous throughout empirical special education studies. Research emphasized the vital importance of these factors for successful special education alternative route program design in multiple geographic settings (e.g., rural and urban; different states). The following sections highlight the findings and implications found regarding the roles of collaboration and technology in AR program design.

#### ***Collaboration between Stakeholders***

Stakeholders of different education agencies play an active role in developing



AR programs. The reported agencies consisted of institutions of higher education (IHE), local education agencies (LEA), and state education agencies (SEA). For example, in the Rosenberg et al. (2007) study, AR program directors ( $n = 101$ ) identified IHEs as the primary agency responsible for program design (75.8%). Additionally, SEAs were identified sharing responsibility for AR program design (71.7%) as well as LEAs contributing it (48.5%). Most AR program directors responded that these multiple agencies collaborated in building AR structure and refuted the notion that one agency was solely responsible. The other studies (Ault et al., 2019; Jameson et al., 2019; Kurtts et al., 2007; Robertson & Singleton, 2010; Scott, 2019; Sindelar et al., 2012; Sutton et al., 2014) cited significance of collaboration in program design with particular focus on LEAs involvement with IHEs. This consisted of LEAs creating mentorships and training structure; while IHEs provided evidence-based standards, observation protocol, and online curriculum. A prime example of stakeholder collaboration occurred in Sutton et al. (2014) analysis of the South Carolina Initiative. Created to curb the special education teacher shortage, the South Carolina Initiative included the SEA (e.g., South Carolina Department of Education) to cover tuition and textbook costs, the LEAs to recruit and mentor AR candidates, and the IHEs to deliver the licensure coursework.

### ***Technology***

**Online Distance Programs.** Six studies examined alternative route programs that were administered in online formats (Ault et al., 2019; Hollo et al., 2019; Jameson et al., 2019; Scott, 2019; Sindelar et al., 2012; Sutton et al., 2014). These online distance programs were often administered to practicing but uncertified special education teachers

who were working on obtaining certification. They were reported to be cost effective for both the education agencies and SET candidates as they permitted for more students within a cohort with a cheaper price. For example, Sindelar et al. (2012) demonstrated the relative efficiency of online distance learning over face-to-face instruction in their analysis of cost effectiveness with AR program directors. Average student enrollment for online distance learning ( $M = 41.6$ ,  $SD = 30.3$ ) was higher compared to face-face programs ( $M = 30.8$ ,  $SD = 22.9$ ). In addition, costs were cheaper per student in online distance ( $M = \$10,537$ ) versus face-face programs ( $M = \$14,522$ ).

**Integrated Technology.** Studies also investigated the role of additional integrated technology embedded in online AR programs. For instance, Ault et al. (2019) specifically explored the impact of web cameras that were utilized for classroom observations of AR special education teacher candidates. Special education teacher candidates ( $n = 3$ ) and university observers ( $n = 2$ ) reported no difference in preference over virtual web camera observations versus face-to-face observations. Integrated web cameras were cited to minimize interruptions for students, cost effective for university observers, and efficient to provide frequent teacher feedback. With the proliferation of technology integrated in teacher education, these studies provided an exploratory foundation for future research with alternative route program design.

## **Discussion**

The purpose of this systematic search was to review empirical research from 2005-2021 that was conducted on special education teachers participating in alternative route programs. This review analyzed how alternative routes impact special education

teacher labor markets with a focused examination on teacher quantity (e.g., supply) and teacher quality. Eleven peer-reviewed publications were included that focused on special education teachers and alternative routes programs. In the following sections, the factors most strongly identified with special education AR research are identified, methodological strengths and weaknesses, and implications for policy will be discussed.

### **Strongest Factors in Alternative Route Research: Quality versus Quantity**

Factors regarding how alternative routes contribute to the special education teacher supply were most strongly reported ( $n = 9$  studies). This consisted of ARs having an impact on special education teacher labor markets with specific regards to finance, human capital, and program design. Studies varied in terms of participants and program characteristics, which supports previous literature that more robust research is needed on the different types of alternative routes in special education (Rosenberg et al., 2007). Furthermore, while it represented the majority in this review, only nine studies were found to examine special education teacher supply and ARs from 2005-2021. Due to the limited research and the variety of AR programs within the United States, it is recommended that more empirical investigations are conducted on how ARs impact special education teacher supply within their affiliated regions.

In terms of special education teacher quality ( $n = 2$  studies), there is a notable gap in education research. The two relevant studies were largely exploratory in nature which consisted of perceptions of special education AR candidates and supervisors regarding classroom observations (Ault et al., 2019) and special education teacher perceptions of the additional support they need outside of ARs (Casey et al., 2013). This gap differs

from research conducted on the general education teacher population, as there are many studies on how AR teachers impact student outcomes (Aaronson et al., 2007; Chetty et al., 2014; Clark & Isenberg, 2020; Glazerman et al., 2006). To fully understand special education teacher perceptions of ARs, additional research is needed that captures the impact of preparation programs on student outcomes. This is especially pertinent within the field of special education, as student outcomes are multifaceted consisting of academic and/or behavioral progress.

### **Methodological Strengths and Weaknesses**

Strengths of the included studies included researchers exploring a wide range of studies and postulated different types of questions. This included examining different variables among the participants in ARs including their gender (Scott, 2019), age (Sutton et al., 2014), race (Kurtts et al., 2007; Rosenberg et al., 2007; Scott, 2019; Sutton et al., 2014), language (Casey et al., 2013), career path (Kurtts et al., 2007; Sindelar et al., 2012; Sutton et al., 2014) and those special education teachers currently in the field (Casey et al., 2013; Robertson & Singleton, 2010; Scott, 2019; Sindelar et al., 2012). Additionally, small scale studies utilized purposeful samples to examine perceptions and experiences within alternative route programs (Ault et al., 2019; Casey et al., 2013; Kurtts et al., 2007; Scott, 2019) while others used larger samples to capture trends of alternative route program design (Hollo et al., 2019; Jameson et al., 2019; Robertson & Singleton, 2010; Rosenberg et al., 2007; Sindelar et al., 2012; Sutton et al., 2014). Additional research can build off such strengths by examining the causal effects of alternative routes on the special education teacher labor market.

Therefore, it is recommended that experimental and quasi-experimental experiments be employed to evaluate the special education teacher labor market and ARs. These studies were largely exploratory, and it is recommended that future models include robust methodologies to exert any causal findings of ARs on special education teacher quality and quantity. To examine teacher quality, it is suggested that rich state panel data be utilized to employ a value-added analysis of preparation pathways on student outcomes. Additionally, policies vary by state, so it is recommended that research is conducted on the national trends of ARs and the special education supply. By utilizing rich panel data within a specific state, AR program characteristics and special education teacher supply can be reported. This would help examine the efficacy of the varying alternative route policies within the United States.

Lastly, an trend nested within the studies' theoretical frameworks in this systematic review emerged. With the proliferation of AR state policies in the 1990s, research was conducted in the early 2000s that utilized economic frameworks (Rosenberg et al., 2007). As a result, analyses were performed on teacher supply and demand variables, cost effectiveness, and program infrastructure. Newer research conducted from 2016-2021 focused on theoretical frameworks grounded in cultural linguistic diversity (Scott, 2019). The aim of this research was to evaluate the impact alternative routes had on recruiting, preparing, and retaining a culturally diverse special education workforce. However, it is recommended that future research synchronizes the two empirical aims to capture a more holistic analysis.

## **Implications for Policy**

Federal and state policy makers share responsibility in finding as many viable teacher preparation paths as possible that lead to SET licensure. Supporting alternative route programs that meet and exceed the minimum requirements for adequate preparation of special education teachers is one option. Therefore, implications from this review are critical for all stakeholders to attract, prepare, and retain a skilled special education teacher workforce (U.S. Department of Education, 2020). The following are recommendations intended for federal and state policymakers to address this urgent need.

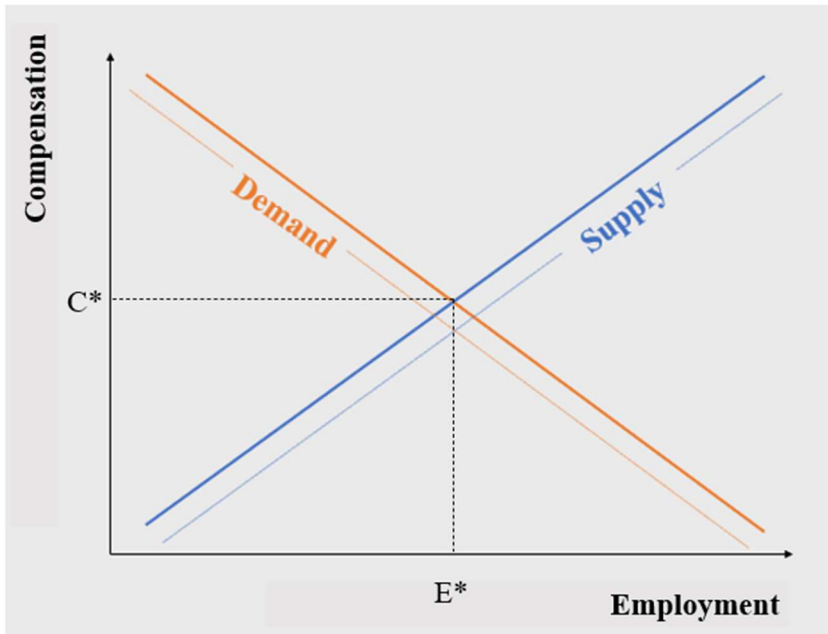
First, federal policy makers should provide greater funding to alternative route program infrastructure. This includes increased federal funding for AR cohorts to recruit more qualified and culturally and/or linguistically diverse special education teacher candidates. Findings from this review supported the notion that increased federal funded AR cohorts is needed to successfully increase novice teacher supply and later teacher retention. Additionally, federal policy makers should fund robust research to analyze ARs' effectiveness on alleviating the national special education teacher shortage. This is especially critical in addressing OSEP's initiative of increasing effective personnel for all students with disabilities in the United States (U.S. Department of Education, 2020). Funding distributed to teacher preparation researchers in universities may increase empirically based findings that drive future licensure policies.

Second, it is recommended that state policymakers adapt AR policies if they have not already. While most states allow for some form of AR program, further investigation would improve state licensure policies to increase special education teacher supply.

Additionally, it is recommended that state policymakers collaborate with local education agencies and institutions of higher education to support AR implementation. From the Rosenberg et al. (2007) examination, only 33% of AR program directors reported collaboration from state education agencies. Alternative route programs must be better supported with increased funding and program design input from state education agencies. As stated in the findings from this review, collaboration between state education agencies, institutes of higher education, and local education agencies are critical in sustaining AR infrastructure.

### **Conclusion**

Special education teachers who participate in ARs are one pipeline source to various special education teacher labor markets. As researchers, we can help education stakeholders make informed decisions about the impact alternative routes programs have on producing a skilled special education teacher workforce. Therefore, while the field has made progress evaluating AR design in special education, it is critical that (a) robust research is conducted on analyzing national trends for alternative routes and the special education teacher labor market; (b) economic and culturally/linguistically diverse frameworks drive future inquiry for a holistic analysis; and (c) findings are disseminated to all stakeholders: policymakers, institutes of higher education, and local education agencies. Additional AR research is valuable to fully evaluate recruitment policy solutions aimed to decrease the special education teacher shortage. This is an urgent matter, as teacher shortages endanger special educational services to students with disabilities.

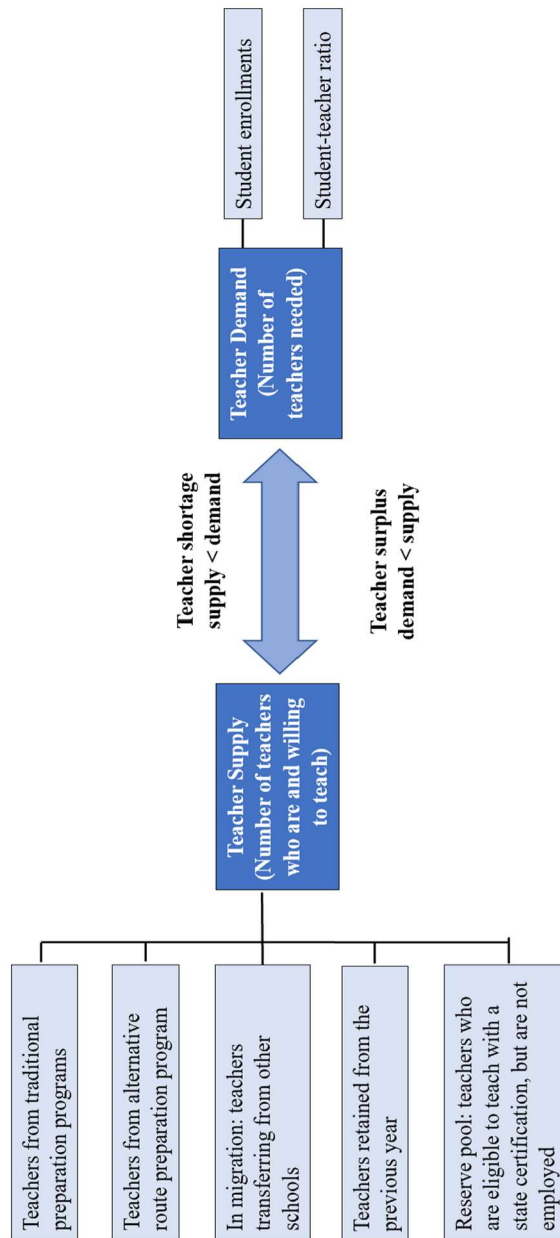


**Figure 2.1**

*Supply and Demand in the Special Education Teacher Workforce*

*Note.* The intersection of supply and demand determines both compensation ( $C^*$ ) and employment ( $E^*$ ). Special education teacher supply is upward sloping because workers tend to supply more labor when pecuniary and nonpecuniary compensation are higher. The demand for special education teachers is downward sloping because of the diminishing marginal product of labor. Both the supply and demand of special education teachers are influenced by federal, state, and local public policy. This figure is adapted from Lovenheim and Turner (2018).

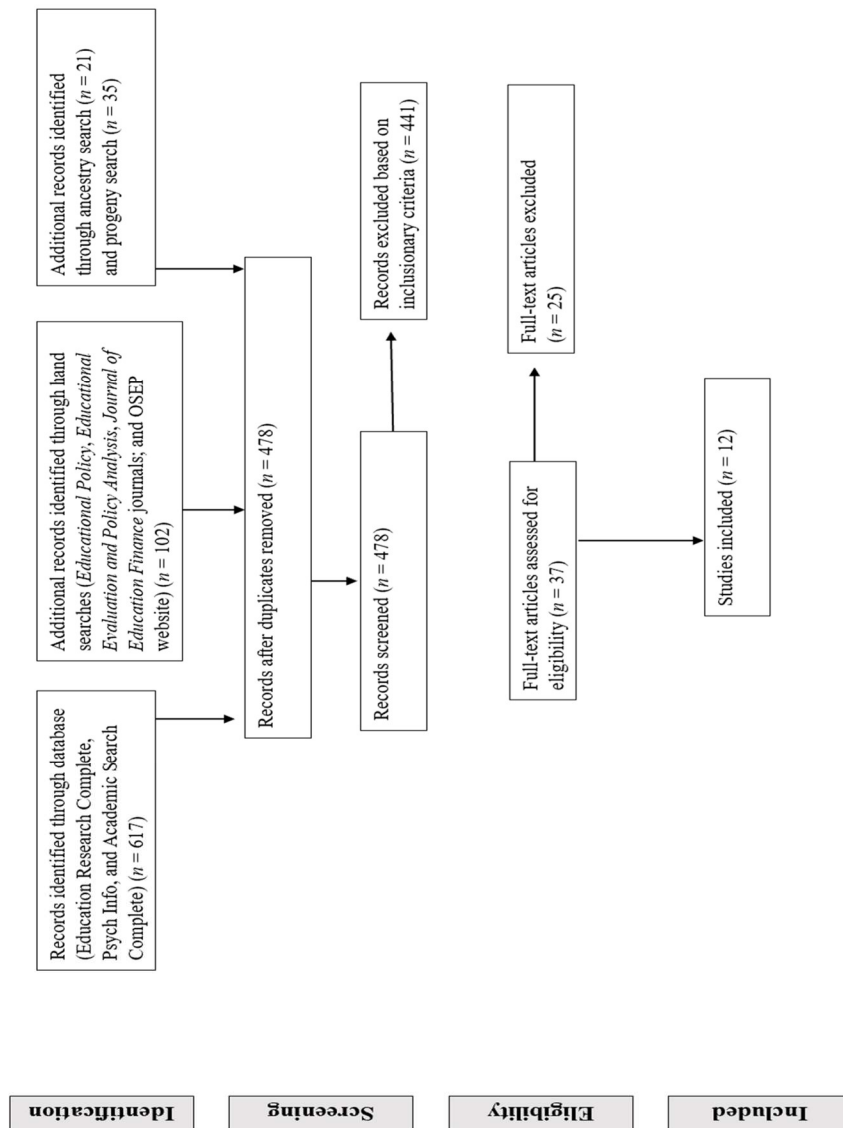




**Figure 2.2**

*Teacher Quantity: The Components of Teacher Supply and Demand*

*Note.* This figure is adapted from Lindsay et al., 2009. Figure 2.2 in Chapter 2 is the same figure as Figure 1.2 in Chapter 1.



**Figure 2.3**

*PRISMA Diagram for Search Process*

*Note.* This model is adapted from the Liberati et al. (2009) “Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement.”

**Table 2.1***Study Characteristics*

*Note.* AR = alternative routes; SET = special education teachers.

Citation	Methodology	Empirical aim		Data Source	Sample
		Teacher Supply	Teacher quality		
Ault et al. (2019)	Mixed Methods		X	MSD Field Placement form; Survey protocol for observed teacher candidates; Survey protocol for university observers	4 SET students in AR; 2 special education university supervisors
Casey et al. (2013)	Mixed Methods	X	X	Online survey consisting of both rating scale and open-ended questions	89 novice SETs that were AR certified
Hollo et al. (2019)	Quantitative Descriptive Analysis	X		U.S. Department of Education's National Center for Education Statistics; State education agencies' websites; Phone calls to state licensure offices	50 state licensure offices
Jameson et al. (2019)	Quantitative Descriptive Analysis	X		Census data; AR Cohort data from University of Utah	73 SET candidates in a AR university cohort
Kurtts et al. (2007)	Qualitative	X		Focus group data	34 SET students in AR program

Robertson & Singleton (2010)	Quantitative Descriptive Analysis	X	University of Memphis's alternative or traditionally certified program data; Memphis school districts employment data	183 SETs that completed ARs; 190 SETs that completed TPPs
Rosenberg et al. (2007)	Quantitative Descriptive Analysis	X	State departments of education; Survey on AR characteristics	235 AR programs in special education, of which 101 program directors responded to the survey.
Scott (2019)	Qualitative	X	Semi-structured interviews	9 current SET students in AR; 6 SET novice teachers who recently completed an AR
Scott et al. (2019)	Quantitative	X	Surveys derived from national standards (e.g., Council for Exceptional Children) and state preparation standards (e.g., Virginia Standards of Learning)	93 AR SET completers
Sindelar et al. (2012)	Quantitative: Descriptive Analysis	X	Semi-structured interviews; Surveys, Department	224 SET AR completers; 31 SPED AR directors

			of Labor (DOL), Bureau of Labor Statistics	
Sutton et al. (2014)	Quantitative: Descriptive Analysis and Quasi- experimental design	<i>X</i>	South Carolina Department of Education Labor Statistics; U.S. Department of Agriculture Statistics	638 SETs who completed AR programs

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**Table 2.2***Alternative Route Program Characteristics*

*Note.* AA = Associates degree; BA = Bachelor of Arts; GED = General Educational Development; IHE = institutions of higher education; LEA = local education agency; SEA = state education agency.

Source	Participants	Setting	Program Providers	Requirements
Ault et al. (2019)	For participants with BAs already hired as teachers with provisional license	Kentucky	IHE, SEA, LEA	2-year, graduate distance preparation program with University of Kentucky; online synchronous coursework, observations from IHE supervisor every semester, and mentor provided from LEA
Jameson et al. (2019)	Initial certification in special education for pre-service teachers	Utah	IHE, SEA, LEA	2-year, graduate distance preparation cohort with the University of Utah; asynchronous and synchronous coursework, IHE and LEA supervised field experiences, produced comprehensive portfolio, Special Education and Elementary Education PRAXIS
Kurtts et al. (2007)	Nontraditional adult students from underrepresented groups and limited finances: completed high school or GED, 24 years or older and recently enrolled in a community	North Carolina	IHE, SEA, LEA	127 semester credit undergraduate program at the University of North Carolina at Greensboro in high incidence disabilities; in-person coursework, 100 hours of field work experience, two IHE mentors to support observations, research

	college, or were employed paraprofessionals			skills, writing skills, interview skills, and provided PRAXIS workshops
Robertson and Singleton (2010)	Provisionally licensed special education teachers in the field	Tennessee	IHE, SEA, LEA	2-year, Masters in Teaching (MAT) program at the University of Memphis; 43-46 credit hours of coursework completed in summers
Scott et al. (2019)	Provisionally licensed special education teachers in the field	Virginia	IHE, SEA, LEA	27-credit licensure program delivered online with synchronous and asynchronous coursework with various in-state universities
Sutton et al. (2014)	Paraprofessionals with AA degrees	South Carolina	IHE, SEA, LEA	Participate in regional teacher re-education centers at universities across the state to obtain licensure; specific amount of coursework, field work requirements, and length of program are not disclosed

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## **Chapter Three**

### **THE CAREER ADVANCEMENT AND WORKING EXPERIENCES OF MULTILINGUAL PARAPROFESSIONALS SERVICING STUDENTS WITH DISABILITIES**

There is a current national dilemma of special education teacher retention and attrition rates in PK-12 schools. According to recent statistics, 48 states and the District of Columbia, which includes 98% of the nation's school districts (U.S. Department of Education, 2020), reported shortages of special educators (CEEDAR Center, 2020). In contrast, student populations continue to grow with this decrease in the teaching workforce. This is especially pertinent for students receiving special education services, as the students with disabilities population has surged over the last 10 years (National Education Association, 2019). Due to the increase of teacher attrition and students receiving special education services, there is an intensifying special education teacher shortage in the United States (Peyton et al., 2021).

Furthermore, a specific special education student population is rising in K-12 schools: the number of students with disabilities who speak another language other than English (U.S. Department of Education, 2020). Therefore, multilingual students who have teachers who speak their home language, are more likely to make stronger academic gains (Ellis, 2004). Additionally, multilingual students benefit from having multilingual teachers who do not share the same home language, as they embed their own language learning experiences into instruction and culturally relevant practices when communicating with families (Wagner, 2021). However, current statistics show that



while one-fifth of students in the United States are multilingual, only one-eighth of their teachers are also multilingual (Williams et al., 2016). Staffing a multilingual teacher workforce is needed within special education to meet the academic and linguistic demands of this growing student population.

Nevertheless, there exists an untapped teacher workforce in our U.S. education system: multilingual paraprofessionals who aspire to become certified teachers. State credentialed alternative teaching licensure paths are one way to address the special education teacher shortage by offering paths for paraprofessionals to become certified teachers (Ludlow, 2013). These policy initiatives are sometimes referred to as, “Grow Your Own Programs.” For this type of program, school districts provide financial support and mentorship for paraprofessionals to advance their career to become certified teachers. However, this policy initiative is not typically exclusive to paraprofessionals who are multilingual and working with students with disabilities.

### **Multilingual Paraprofessionals**

Previous researchers have examined the role of paraprofessionals within special education and have identified them as an asset to the PK-12 school system (Dai et al., 2007; Delgado et al., 2021; Stockall, 2014). Paraprofessionals serve as essential personnel within special education as they assist students with disabilities to maintain and generalize their learned skills, organize the classroom environment to support teachers, and often perform small group instruction under the guidance of teachers (Biggs et al., 2019; Stockall, 2014). Additionally, when paraprofessionals teach independence and self-advocacy skills to students with disabilities, they create more time for teacher instruction

(Delgado et al., 2021). Multilingual paraprofessionals are a unique subset of the paraprofessional population, due to their proficiency in English and other language(s). For this dissertation, multilinguals are defined as individuals who speak more than one language in addition to English, the dominant language used in schools within the United States. Previous literature regarding multilingual teachers within PK-12 schools will be discussed which is followed by an argument for advancing multilingual paraprofessionals to become certified teachers.

### **The Need for Multilingual Teachers**

In short, multilingual students benefit from having multilingual teachers. Multilingual teachers' cultural and linguistic diversity, and sophistication of language practices impact multilingual students' language development in schools (Bowers & Vasilyeva, 2011). Multilingualism has both social and cultural benefits. First, multilingual teachers have multiple sources of information due to their ability to communicate in at least two languages (Tse, 2001). This skill is beneficial when communicating with non-English speaking students and their families who share a common language with the multilingual teacher. In terms of language development quality, when teachers use students' home languages to explain academic concepts, there are also potential benefits for students to increase English language learning (Hindman & Wasik, 2015). For example, when multilingual teachers are familiar with and embed instruction with cognates, sets of words that are similar in English and the student's home language, students gain English vocabulary skills (Tonzar et al., 2009). Furthermore, multilingual teachers' own language learning experience is a resource and a powerful

contributor to conceptions of language, language use, and language learning (Ellis, 2004). Meaning, that even when multilingual teachers do not share the same language as multilingual students, their lived experiences of acquiring another language may benefit students' social and emotional well-being. The concept, commonly referred to as funds of knowledge, is based on the premise that multilingual individuals are competent and have knowledge from which they derive from their lived experiences (Marshall & Toohey, 2010). This research-based phenomenon draws from sociocultural perspectives that views the everyday practices of language and action as constructing knowledge. Thus, the funds of knowledge conceptually recognizes individuals in multilingual communities as a resource for classroom teaching (Gonzalez et al., 2005).

Despite these benefits, there is an ongoing need for more multilingual teachers. According to a recent census survey, one-fifth of students speak another language other than English at home; while only one-eighth of teachers speak another language (Williams et al., 2016). The mostly monolingual teacher workforce encounters barriers of communicating with multilingual families, understanding varying linguistic norms, and making instructional connections to students' home languages (Chopra, 2004). Many schools have multilingual educators in their buildings, yet they are paraprofessionals and not leading instructors (Williams et al., 2016). They have the linguistic and cultural competency that their schools need, and they have work experience within the education sector. Additionally, previous researchers highlight those multilingual paraprofessionals are known to serve as their school's cultural and linguistic bridge between faculty, students, and families (Abbate-Vaughn & Paugh, 2009; Gonzalez et al., 2005; Mitchell,

2017). They function as translators for parents of various linguistic backgrounds, assist student immigrants who enroll, and help students transition into school settings (Abbate-Vaughn & Paugh, 2009). While some paraprofessionals remain in their instructional assistant role, some opt to advance their career in becoming certified teachers (Williams et al., 2016). One alternative route preparation path designed for paraprofessionals to become certified teachers is called Grow Your Own Programs.

### **Grow Your Own Programs**

Grow Your Own (GYO) program is one model of an alternative route preparation program designed to offer additional access to the teaching profession through homegrown pathways. These homegrown pathways consist of recruiting local community members (e.g., paraprofessionals, activists, parents, uncertified school staff, high school students) to become certified teachers through collaborative partnerships between teacher preparation programs, school districts, and community organizations (Garcia & Muñiz, 2019). While there are several GYO program models in terms of the category of participants, GYO programs which recruit paraprofessionals will be described. In this GYO model, school districts recruit paraprofessionals due to their successful employment in their current role. For example, the District of Columbia has allocated funds from the Teacher Preparation Emergency Act of 2021 to train paraprofessionals in the Relay Graduate School of Education to become teachers. The GYO program in the District of Columbia will serve paraprofessionals that are currently employed through a two-year residency program that results in a Master of Arts in teaching (MAT) and a teaching license (Office of the State Superintendent of Education, 2022). The purpose of this GYO

and other similar GYO programs recruiting paraprofessionals is to strengthen the teacher pipeline by preparing qualified paraprofessionals to enter the teaching profession in their communities, thus fulfilling high-needed teacher vacancies.

Supporting paraprofessionals to become certified special education teachers through GYO programs has its known advantages. First, paraprofessionals have job specific human capital in K-12 public schools (Dai et al., 2007). They already have the experience working with children and navigating the K-12 public school system on-the-job (Stockall, 2014). Second, many paraprofessionals also have location-specific human capital (Williams et al., 2016). Paraprofessionals already have pre-existing relationships with students, families, and local communities due to their role. This is especially advantageous when considering the preparation of teacher candidates in hard to fill school locations and teacher positions, such as special education. Paraprofessionals who are recruited from within a school district also have less attrition than teachers recruited elsewhere (Dai et al., 2007). Third, employers and trainers are likely to understand the paraprofessional teacher candidate's potential. This is due to past employment evaluations, on-the-job recommendations, and the GYO application process (Dai et al., 2007). Furthermore, researchers have found that GYO programs increase the diversity of the special education teacher pipeline in terms of race (Bianco & Marin-Paris, 2019; Gist, 2019). In Gist's (2019) literature review, the author posited the importance of recruiting teachers of color through a socio-cultural lens that conceptually situates GYO programs through grassroots racial and justice initiatives. In doing so, the researcher concluded that local paraprofessionals of color possess a form of community cultural wealth that leads

them to effectively teach minority students. Paraprofessionals who identified as racially diverse were resilient in overcoming obstacles and expressed retention in the field after GYO preparation completion.

In response to the special education teacher shortage, there has not been a GYO program that has exclusively recruited multilingual paraprofessionals who service students with disabilities. Consequently, there is limited research regarding multilingual paraprofessionals working within special education. Therefore, an untapped special education workforce in K-12 schools are multilingual paraprofessionals who wish to become certified teachers. Yet, even with this potential special education teacher workforce and the GYO program initiatives, multilingual paraprofessionals encounter known obstacles on the job (Williams et al., 2016). These obstacles may hinder their ability to become certified teachers, and research is needed to better understand these obstacles that occur during their career advancement. In addition to the obstacles, we need to learn about the general experiences of multilingual paraprofessionals servicing students with disabilities. If we want to utilize this potential workforce to combat the special education teacher shortage, a detailed investigation of the actual experiences of multilingual paraprofessionals is needed. This study features the voices of three multilingual paraprofessionals about their working experiences in an elementary school. Furthermore, this study also investigates multilingual paraprofessionals' career advancement journey to become certified special teachers/specialists through a type of Grow Your Own alternative route program. Therefore, the purpose of this study is to examine the experiences of multilingual paraprofessionals in special education and their

perceptions of their GYO program within their school district. This study investigates the following research questions: (a) What are the experiences of three multilingual paraprofessionals of special education at one elementary school? and (b) What is their perception and experience with a Grow Your Own Program in their school district?

### **Method**

A qualitative case study was employed to explore the experiences of three multilingual paraprofessionals in servicing students with disabilities and their perception and experience specifically with the opportunity for career advancement to become certified teachers. This methodology was purposefully chosen to conduct a thematic analysis to examine the influences specific to leading multilingual paraprofessionals to work within special education. Semi-structured interviews, document analysis, and observations were conducted to analyze the interconnectivity of multilingual paraprofessionals with the GYO Program, and the influence that other school factors have on these paraprofessionals' working experiences. The GYO program featured in this study is the Assistant to Teacher Program.

### **The Assistant to Teacher Program**

The alternative route program referenced in this investigation was called the "Assistant to Teacher" school district personnel program. Also commonly classified as a type of "Grow Your Own" program, the Assistant to Teacher Program recruited PK-12 employed paraprofessionals to become certified teachers through a university-school partnership. It was a school district cohort for paraprofessionals who wish to advance their careers by earning their teaching license in a selected area of specialization to

become certified teachers. The Assistant to Teacher program provided paraprofessionals career mentorship, higher education course credit consultation, and full financial assistance for tuition. The eligibility, commitment, and participation requirements of the Assistant to Teacher program are provided below.

### ***Eligibility***

Interested paraprofessionals were eligible to apply to the Assistant to Teacher program if they meet the following requirements: (a) have been employed for at least three consecutive years at the school district; (b) are interested in being a teacher at this school district; and (c) have satisfactory performance reviews and evaluations. Eligible participants were then encouraged to apply through a detailed application process which consisted of an initial application form and interview. The written application consisted of a copy of the interested participant's resume, a written goal statement and short essay related to education, transcripts that include relevant coursework, and the names of two professional references. Then, human resource and university representatives reviewed applications and select highly qualified candidates for an interview. Finally, the school district's human resources department and representatives from the local participating universities decided who would participate in the Assistant to Teacher program. If a paraprofessional was selected after the application process, they were required to sign a contract to ensure commitment.

### ***Commitment***

Following the application process and acceptance into the program, the participant signed a contractual agreement to the following: (a) commit to completing the



program; (b) earn a C or above in university teacher preparation coursework; (c) forward semester transcripts to the school district human resources office after course completion to receive full tuition reimbursement; (d) gain a teaching licensure in an area of concentration approved by the state; (e) actively seek teaching opportunities when the licensure is obtained; and (f) commit to employment in the school district for at least three years from completion of the program. The contract disclosed that failure to meet any of these requirements will result in the loss of scholarship and all tuition reimbursement funds must be immediately repaid to the school district.

### ***Participation***

Participation in the Assistant to Teacher program included completing teacher preparation coursework with the affiliated universities and advisory meetings with school district representatives. Coursework hours varied depending on former degrees held (associate versus bachelor) and the state requirements for coursework under the chosen licensure area. Advisory meetings with school district personnel consisted of initial planning meetings, check-ins, resume building sessions, and mock interviews. Participation in the Assistant to Teacher program ranged from one to five years which depended on the paraprofessional's additional coursework requirements.

### ***Setting***

The setting for this study was in an urban PK-5 elementary school in the Mid-Atlantic region of the United States. The elementary school had 650 enrolled PK-5 students and was located in a large school district with approximately 30,000 students annually enrolled. This elementary school was purposefully chosen because it had a large

special education faculty population, several multilingual paraprofessionals, and was in a school district that currently has a type of GYO program referred to hereon as the Assistant to Teacher Program. A reason for this school's large special education faculty was the variety of special education student programs it hosts for the school district, as 15% of the school's student population received special education services. In addition to neighborhood students with disabilities that include specific learning disabilities (e.g., dyslexia, dysgraphia, etc.) and other health impairments (e.g., Attention Deficit Hyperactivity Disorder, Autism spectrum disorder, emotional disturbance, and speech impairments), this school had two other special education programs specific to the school district. The first one is the school district's elementary Deaf and Hard of Hearing program. Elementary students with deafness or other hearing impairments in this school district are relocated to this elementary school. The second special education program is the Communications program. Students in the district with multiple disabilities included a combination of intellectual disabilities, autism spectrum disorder, and speech impairments are selected for this program for targeted instruction that explicitly integrated assistive technology for communication purposes.

Furthermore, this school was selected because it was in a culturally and linguistically diverse neighborhood. Students identified as Asian (11%), Black/African American (15%), Hispanic (27%), White (41%), and Multiple races (6%). Many of the students (40%) speak multiple languages (over 40 different languages) at this school. Common home languages of students consisted of Spanish (22%), Amharic (6%), and

Arabic (5%). How multilingualism impacts the school community and paraprofessionals was investigated in this study.

### **Participants**

A purposeful sampling method was employed to recruit participants within the school (Creswell, 2013). Employed individuals at the elementary school who met the following criteria were recruited: (a) employed as paraprofessionals; (b) worked with special education students; (c) spoke another language in addition to English; (d) were in the process of earning a teacher certification or recently earned teacher certification; and (e) had participated in the GYO program for at least one month. Participants that met the selection criteria within the selected school were then recruited through email. The study's participants ( $n = 3$ ) were diverse in terms of age, linguistic background, level of experience, and instructional setting. All three participants were female and had been in the school district for at least 3 years. Their level of experience had ranged from 4 years to 14 years as paraprofessionals in PK-12 schools and they all worked with students with disabilities. Additionally, all participants identified as multilingual, worked in the same PK-5 elementary school, and were in the process of becoming certified teachers or had recently earned certification. The multilingual paraprofessional participants all serviced special education students in their current role, but their special education certifications varied. I initially created the sampling protocol to capture all participant inclusionary criteria specific to those paraprofessionals earning a PK-12 special education teaching license. However, only two of the participants pursued a special education teaching license (e.g., early childhood special education), whereas the third participant pursued a

special education specialist license (e.g., Assistive Technology). Table 3.1 shows the demographic characteristics of each participant in greater detail. Pseudonyms were created to respect the participants' privacy.

### ***Cynthia***

Cynthia is a 44-year-old woman who is fluent in English and Spanish. She had migrated from South America as a young teenager to the United States, where she attended high school and later earned her bachelor's degree in Psychology. Cynthia reported that she remembered how it felt to move to a new country, and have to learn a new language and new customs. Drawing from her own experience, she stated that she is passionate about helping multilinguals assimilate into the school so that they feel welcomed and have a positive learning experience. In Cynthia's current paraprofessional role, she was a "floater", meaning she goes to different PK-5<sup>th</sup> grade classrooms to service students with disabilities. She reports that her schedule varies, as sometimes she supports students who access the general curriculum in inclusive classrooms while other times, she supports students who received adapted curriculum in sheltered special education classrooms. Her daily duties include helping students complete their academic work, implementing their behavioral intervention plans, and helping students transition to various classrooms and activities (e.g., homeroom to P.E. class; lunch to recess, etc.). At the time of the study, Cynthia had seven years of experience servicing students with disabilities and had been participating in the Assistant to Teacher program for two years with the aim to achieve a state teaching license in Early Childhood Special Education.

### ***Lena***

Lena is a 43-year-old woman who is fluent in English, Malayalam, and Hindi. She migrated to the United States from India as a young adult. Lena reported valuing the United States education system, but still refers to her education in India as her foundation. In India, she graduated secondary school with honors and remembers that learning multiple languages at a young age was of great economic importance. This consisted of her acquiring her first language in Malayalam (her state language), Hindi (her national language), and English (the academic language in her school) all at a young age. Lena has a bachelor's degree in Elementary Education and has recently earned her master's degree in Assistive Technology. She has 14 years of experience in servicing students with disabilities and has served in many paraprofessional roles during her career. This consists of servicing students with low-incidence disabilities (e.g., Deaf and Hard of Hearing) to her current role servicing students with high-incidence disabilities (e.g., ADHD, Autism spectrum disorder, Learning disability) in an early childhood classroom. Lena inquired about the Assistant to Teacher GYO program in her school district, but ultimately decided to not participate. Her experience with the Assistant to Teacher recruitment, her choice to opt-out, and her career advancement within the field of special education will be further discussed.

### ***Regina***

Regina is a 27-year-old woman who is fluent in English and Spanish. She was born in the United States and grew up in a bilingual home. As a result, she has attended school in the United States for the entirety of her academic career, where she previously

earned her bachelor's degree in Early Childhood Education. Regina has four years of experience servicing students with disabilities within the PK-12 school system and reports that she has additional experience servicing students in summer camps. In her current role during the time of the study, she services English language learners with disabilities in grades 1-5 in several instructional modalities. Regina reported sometimes going into content classrooms (e.g., social studies, science, math) to support students with their independent or group academic work. Additionally, she helps English learners with disabilities in small, instructional remediation groups to review vocabulary. She reports collaborating with homeroom general education teachers, English learner teachers, and special education teachers to meet the various needs of students. At the time of this study, Regina was in her first year of the Assistant to Teacher program and she plans to earn a dual teaching license in English learner/Early Childhood Special Education.

### **Conceptual Framework**

A conceptual framework was developed for this qualitative investigation aiming to center the linguistically diverse experiences of multilingual paraprofessionals regarding their job characteristics, school community, and career advancement in special education (see Figure 3.1). Previous qualitative investigations examined the working experiences of paraprofessionals in special education (Delgado et al., 2021; Stockall, 2014), paraprofessionals advancing their careers (Dai et al., 2007; Gist, 2019), and the importance of multilingualism in PK-12 school settings (Abbate-Vaughn & Paugh, 2009; Chopra, 2004; Gonzalez et al., 2005; Mitchell, 2017). The interview protocol is intentionally designed so the participants' stories are accurately represented, and the

participants are empowered throughout the process through this methodological framework which illuminates the experiences of multilingual paraprofessionals through their told stories while participating in a Grow Your Own program.

### **Interview Protocol Design**

To elicit rich descriptive information from the participants, specific key constructs were selected and defined for the interview protocol in this qualitative study. Previous researchers illuminate the benefits of linguistically diverse faculty working with multilingual students (Boe et al., 2013; Chopra, 2004; Ellis, 2004). This is supported by the sociocultural theory of learning which recognizes the inseparability of language, culture, and context. The importance of bilingual pedagogy plays a role in education as it has potential to raise student achievement (Conteh, 2007). Multilingual teachers' identities and perceptions of linguistic diversity in the classroom is prevalent in research. However, there is limited research on multilingual paraprofessionals' working experiences within the school community and job characteristics within special education. These two key constructs were incorporated into the qualitative design and procedures, and thus need to be defined.

### ***School Community***

The school community was defined by multilingual paraprofessionals' interactions with individuals and included but was not limited to students with disabilities, special education teachers, school administrators, students' families, and school district personnel leading the Assistant to Teacher Program. Power differentials have a strong presence in education organizations, with often paraprofessionals at the

bottom hierarchy (Gibson, 2014). This ubiquitous power differential among education faculty is an essential component of this study's analysis. While multilingual paraprofessionals lack autonomy in their working conditions, they play a critical role within the school system. Often, multilingual paraprofessionals serve as the primary linguistic and cultural connectors between students, teachers, and families (Williams et.al, 2016). Therefore, semi-structured interview questions were asked regarding the working relationships with the school community and the influence they may have had on the working conditions of multilingual paraprofessionals.

### ***Job Characteristics***

Job characteristics are determined by the nature and characteristics of jobs (Spector & Jex, 1991). Smith et al. (1969) developed the five facets of job satisfaction that assess how employees feel about their jobs:

1. Type of Work itself
2. Pay
3. Promotional Opportunities
4. Supervision
5. Co-Workers.

Whereas relations with their supervisors and co-workers were represented in the school community construct, the work was captured under the specific job characteristic interview questions. Within "type of work," questions consisted of daily tasks on the job and the perceived role of linguistic diversity in education. "Pay" and "Promotional Opportunities" which encapsulated annual salary, further examined levels of satisfaction



with the job, stress, burnout, and professional goals. All five factors of job characteristics were critical to examine as they influence multilingual paraprofessionals' career advancement opportunities within the Assistant to Teacher program.

### **Data Collection and Analysis**

After obtaining Institutional Review Board approval and participant consent, qualitative data sources were determined to answer the research questions. This included an initial demographic survey followed by a semi structured interview for each of the multilingual paraprofessional participants. The demographic survey was administered via Google Forms and recorded their age; home language, first language, and/or preferred language; previous level of education; and the years of their working experience in the school setting. Semi-structured interviews served as the primary data source for informing the research questions. Participant data was collected in 1-hour semi-structured interviews which occurred in recorded sessions over the digital platform Zoom. At the beginning of each interview, the researcher developed a rapport with each participant by disclosing she had also participated in a career advancement program when she was a paraprofessional who wanted to become a teacher. The researcher then explained that the purpose of the interview was twofold: to document their unique participation within their career advancement program and to share their working experiences in special education. Additionally, the interviewer reaffirmed participants that their identities would not be revealed and that they were welcome to stop the interview at any time.

Interview questions asked the participants about their school community in special education regarding relationships with students with disabilities, special education

teachers, school administrators, and school district personnel. Furthermore, interview data was collected regarding their job characteristics and experiences within special education. This data included information on the Assistant to Teacher program which consisted of open-ended questions on the career advancement process, feelings of stress and/or burnout, day-to-day activities, perceptions of support felt by coworkers and administration, and career opportunities in special education. Additional secondary data sources included documents regarding the GYO application process and observations of multilingual paraprofessionals working on the job in special education. Triangulation of these qualitative data sources occurred to converge multiple data sources and develop a comprehensive thematic analysis (Patton, 1999).

The qualitative thematic analysis included transcribing the recorded interviews, which was followed by two researchers reading over the transcripts for general understanding and identification of emerging themes. This was then followed by coding, theoretical questioning, concept development, and exploring conceptual relationships (Strauss & Corbin, 1990). First, open coding was conducted individually by two researchers for one participant's interview transcript using an excel spreadsheet. Codes were initially deductively developed under the key constructs of school community and job characteristics reported from the participants. Then, the two researchers met to discuss the developed codes and their similarities and differences. From there, inductive axial codes were formed under theoretical discussion to align with the two research questions: (a) What are the experiences of three multilingual paraprofessionals of special education at their elementary school? and (b) What is their perception of and experience

with the Grow Your Own program in their school district? (Strauss & Corbin, 1990). The axial codes were then reorganized under “barriers” of multilingual paraprofessionals servicing student with disabilities and “motivation” to remain in it or advance their careers. Qualitative analysis was then repeated for the other two participants’ transcripts. After establishing a mutual agreement over additional theoretical discussion surrounding the axial codes, relationships were determined to then form categories (Strauss & Corbin, 1990). Direct quotes from the interview transcripts were then identified to support each generated code (Creswell, 2013). Throughout the data analysis process, techniques such as frequent questioning and discussing emerging themes occurred throughout to enhance trustworthiness (Strauss & Corbin, 1990).

### **Triangulation**

Secondary data sources were used to compare with the themes developed from the primary data source, the interview transcripts and notes. These consisted of (a) observational notes of paraprofessionals working in special education to corroborate the descriptions of their working roles and day-to-day activities, and (b) informational documents on the Assistant to Teacher program within the school district. The primary researcher conducted the observations of the paraprofessionals on the job and took anecdotal notes. The observations were used to provide credibility to the interview data on analyzing the participants’ working experiences with students with disabilities within their school community. Additionally, the Assistant to Teacher documents were collected from the GYO participant website to provide context about the procedures for entering and fulfilling the requirements for the program. The goals of these two data sources were

to strengthen the initial themes that emerged from the participant interviews by drawing on different data sources from different places and different times (Creswell, 2013). Finally, following the coding of all three interview transcripts and the triangulation of secondary data sources, themes were discussed among two researchers and disaggregated by the participants' working experiences and career advancement of multilingual paraprofessionals in special education.

### **Trustworthiness**

To enhance credibility in this study, several qualitative trustworthiness strategies were employed. First, member checking was administered with the participants to ensure that their viewpoints were accurately represented (Creswell, 2013). Participants received copies of their interview transcripts and they were given the opportunity to authenticate their shared responses, add any additional responses, and retract any of their previous responses that were misrepresented. The thematic data results were also shared with the participants to ensure they were accurately captured. Second, method source and investigator triangulation strategies were conducted to enhance trustworthiness. Method source triangulation consisted of the collection of multiple data sources about the same phenomenon (Polit & Beck, 2012). The multiple method sources used in this study included the primary data source, the semi-structured interviews, the work observational notes, and the Assistant to Teacher program information documents. The secondary data sources provided needed context and further enhanced the information obtained in the semi-structured interviews. Third, investigator triangulation involved the participation of two researchers to provide qualitative data analysis through multiple observations and

conclusions (Creswell, 2013). In this study, two researchers were used during data analysis, rather than one, to develop the initial codes, codebook, categories, and themes. Analytical discussion and questioning took place throughout the data analysis. Triangulation techniques allowed for the consideration of multiple viewpoints and sources to generate trustworthy results.

Additionally, the researcher's positionality during this analytic process was evaluated. It should be noted that a relationship with the selected school and its personnel with the researcher. Previous working relationships were referenced to build trust with the study's participants during the interviews and observations. Additionally, the researchers contextual knowledge about the school and school district to interpret their experiences was utilized. Second, as a former paraprofessional who participated in a GYO, the researcher's experience may have impacted data interpretation. For example, it was documented that the researcher's experience participating in the GYO was unlike the participants because of different program requirements. A GYO contractual agreement that obligated repayment of the tuition if program was not complete and/or the pursued of a teaching position within the school district did not occur when the researcher went through the program. Furthermore, English is my researcher's first language, and therefore, understood how this influenced her positionality and potential biases specific to the working experiences of multilingual paraprofessionals. For example, as the primary researcher, preconceived notions due to being a native English speaker needed to be set aside to fully capture the participants' experiences. The semi-structured interviews also allowed the researcher to make slight adjustments to questions according to the

participants' understanding, comfort, and willingness to disclose their experiences. Furthermore, the researcher checked her positionality throughout, and memos during data analysis occurred to ensure the participants' experiences were represented authentically.

### **Findings**

The following sections identify the themes found throughout the data analysis derived primarily from the semi-structured interviews. The thematic results from the study's participants were disaggregated by the two research questions: multilingual paraprofessionals' working experiences and their career advancement (see Figure 3.2). For research question one on working experiences, the themes consisted of paraprofessionals reporting (a) a lack of a standardized role; (b) the role of faculty collaboration; (c) serving as a linguistic connector to students and families; and (d) experiencing hierarchical differential powers. Research question two themes on paraprofessionals' career advancement consisted of the paraprofessionals' (a) perceptions of the Assistant to Teacher GYO program; (b) bureaucratic and financial obstacles they encountered; and (c) academic success in university coursework. In addition, the overarching theme of retention in special education was found throughout both research questions and is also subsequently analyzed.

#### **Working Experiences**

Common themes of the participants working in their specific paraprofessional roles emerged regarding their (a) lack of a standardized role; (b) the importance of faculty collaboration; (c) how they served as a linguistic connector in the school community; and (d) the hierarchical differential powers they experienced on the job.

### ***Lack of standardized role***

All three paraprofessionals expressed that their working roles as paraprofessionals often vary within the school system. They expressed frustration that their work schedules frequently change, are given little instructional resources, and are provided inadequate professional development to meet their students' academic needs. For example, Lena stated the following:

So as an instructional assistant, I have more than one role. And not only do I support the teacher, but I also am the teacher a lot of times. So, anything that a teacher does. My day starts with intervention groups, and I wish I had more resources to help these students, especially the EL [multilingual] students. I have been struggling a little bit with that in the morning.

Cynthia also reiterated her various roles and her inconsistent schedule within special education:

In my case, I'm a floater, so I go to different classrooms. I have been for the past few years. But this year, since it has been so different, I've been with pre-K, with the [special education] communications program just for a bit for like forty-five minutes and then third grade and fifth grade. So, it's been very different.

Sometimes I get very attached to my students, so when I have a changing schedule, which I always do, but sometimes if they remove me from a student, I suffer, it's just so heartbreaking for me.

Participants during the interviews consistently emphasized that they met the academic, linguistic, and behavioral needs of students in a variety of ways. They expressed that they

learned through “trial and error” while on the job and were given little to no formal professional development training. School observations confirmed that teachers had designated professional learning days with a variety of options, but paraprofessionals were rarely given any opportunities. Instead, they would be expected to organize classrooms on these designated professional learning days.

### ***Faculty Collaboration***

The three paraprofessionals reported that collaboration with teachers was a key factor of their job. Some reported positive experiences working with general and special education teachers to meet the instructional needs of their students. Regina noted that:

I've actually collaborated with them [special education teachers] a lot on just finding visuals and also if they've adapted like a word problem. I may take that from them because remember, the language is just too heavy [referring to English learners with disabilities]. And that has helped a lot, especially with first grade. Now they're like learning the academic vocabulary. And I just wasn't sure exactly how to simplify them. But a first grade [general education] teacher provided like examples which helped me. Not even just like them providing materials, even just seeing what they're doing. I'm able to pull inspiration a lot of times.

However, all participants in this study reported challenges working with some teachers and expressed specific concern over the large workload of special education teachers.

Lena reported:

You know, it's just like a basket of fruit. There are great teachers and they're so-so teachers and then there are teachers that don't want to work. So, it's like as an



assistant, you're helpless. There's only so much you can do. So that's really where I'm drawn.

Cynthia also said:

Okay, I have had good experiences and bad experiences. There was one department in the school where I did not feel appreciated, and I did not feel that people particularly cared about me. I did not feel accepted for who I was, for who I am. And that was not the best.

Therefore, while the paraprofessionals reported some positive experiences with teachers, all reported times of frustration and disrespect.

### ***Linguistic connector to students and families***

A common theme among the working experiences of the study's participants was how they advocated for their students with disabilities. Some reported that they specifically advocate for their multilingual students with disabilities due to their own individual English language acquisition experience. Additionally, all three paraprofessionals reported that communicating with families was particularly critical for their students' success during COVID-19 virtual learning. Cynthia related her language acquisition experience as a benefit to advocate for all her multilingual students with disabilities:

I came here when I was 16, I can feel I can still feel like the connection with the students, you know, being new in the country and not knowing the language and everything, you know, that's it's very nice to be able to talk to the student to say, yeah, I've been there. And if other children look at them the wrong way or

something you, I have to, like, stop myself from saying something to them. You know, I tried to always, like, help them, but I really become like I feel like in a way, I am their number one advocate. I want what's best for them and I want them to be accepted and integrated.

Regina reiterated that communication with families is especially essential during the COVID-19 shift to virtual instruction:

A lot of it is just keeping that at least virtually keeping that connection with mom, talking to the mom frequently and making sure she knows, hey, this is what's going on and working with mom to come up with a good home plan, because her problem is that the mom has to work. So, she's home with the older siblings and she didn't have a desk at first to work out by herself. She just didn't have the right learning environment. So, it wasn't just creating a good learning environment at home, but also just doing frequent check ins.

### ***Hierarchical power differentials***

The paraprofessional participants felt that their title was not taken as seriously on the job compared to certified school personnel, as hierarchical power differentials within the school were expressed by all three participants in this study. Paraprofessionals frequently experienced a lack of communication, support, and resources from administration.

Lena referenced asking for help from administration:

We can ask once, we can ask twice, we can ask thrice, we'll be lucky if we get help. I have no voice. I can say things, but I cannot I mean, I'm not guaranteed

that I will be heard. I want for all the students, not just my special ed students, but that help is not going to come.

Regina referred to how school communication was frequently not shared to paraprofessionals regarding school updates:

I do wish there was more transparency in general towards assistants because I mean, I know we maybe don't always know as much as homeroom teachers, but we're not... [pause] sorry for my words... Stupid. And so, when admin in general treats us like we can't handle certain knowledge, that's just it feels disrespectful.

Cynthia reported feeling disrespected when she was not given a safe working space during COVID-19:

I felt completely disrespected, that my time was not valued, and I think I shared that with you from you know, I was not very clear about my schedule. And I emailed administration and then they responded, and I asked, so do I have to go home next week or this week when I will have to go? And they responded that very same morning. Yes. You're supposed you expected to be in school. So, I was working from home and I had to go to school. I went there. There was no place for me to be. There was no room for me. I mean, I understand that I'm an assistant, but I'm still somebody who wants to be safe. And if you ask me to go to school, have a room for me, just like you do for everybody else.

Paraprofessionals working experiences in this study were associated with hierarchical power within their school community. Two of the paraprofessionals reported instances of being respected and working as a team with teachers. In contrast, all

paraprofessionals ( $n = 3$ ) reported a lack of trust and appreciation from their administration that inhibited their working role. The three paraprofessionals also reported a lack of respect from the school district with the value of their title. They felt that their title is not taken as seriously in the education sector compared to certified school personnel. The lack of a standardized role, collaboration with other school personnel, communication with students and families, and experienced hierarchal power differentials all contributed to the working morale of the three multilingual paraprofessionals within their school community.

### **Career Advancement**

Multilingual paraprofessionals have a specific skill set and relationship with faculty, students with disabilities, and the school community. First, findings are reported on the three paraprofessionals' perception of the Assistant to Teacher program. Then, reported obstacles and successes during the career advancement process are described.

#### ***Perceptions of the Assistant to Teacher Program***

Participants in this study expressed that the application process to the Assistant to Teacher program was rigorous and lengthy. Cynthia reported:

It [the Assistant to Teacher program] is a long process. It's like applying to graduate school. Mainly you have to write a statement and you have to go to multiple interviews. I had to go and get transcripts. It's a lot of work.

The three paraprofessionals were in various stages of the Assistant to Teacher program and reported their current participation experiences. Cynthia and Regina were

participating in the program, while Lena declined participating after she attended the Assistant to Teacher recruitment sessions. Lena reported:

Okay, I learned about this is a program, but I ultimately did not apply for it because I am already feeling overwhelmed. And the master's program was hard as it is only because I wanted to do a really good job. So, I made sure that I had my grades and I had to maintain the grade for the county to get reimbursed from the county. So that meant a lot to me. So, I put a lot of time and effort into it. And eventually at some point I did think about enrolling in the Assistant to Teacher Program. But for now, I just wanted to be able to breathe.

At the time of the interview, Regina shared that this was her first year in the Assistant to Teacher program. She disclosed that the initial meetings were helpful navigating coursework and state licensure requirements. Regina stated that:

My initial meeting with the advisor was really beneficial. We went over all the classes that I've taken and what else I would need [for a teaching license]. We went over different [licensure] paths and it was straight to the point. I was able to find out that I just need to take a test before getting my provisional license. And then like nine classes after that to receive my full licensure. So that initial meeting was great and really gave me a good idea of where I want to go.

However, both Regina and Lena reported that throughout participation, communication from the Assistant to Teacher school district leadership was sporadic. For example, Cynthia expressed frustration on the lack of clarity on the expectation to fulfill a teaching position. She indicated that she believed the program contract signified that she was not

expected to find a teaching position until after obtaining a full teaching license. Human Resources, however, later told her she had to search for positions after immediately obtaining a provisional license. Cynthia shared:

You know that class [introduction to special education] basically, if you take it, you can have a temporary license. And now they're telling me that I don't get my [special education teaching position] I'm not going to get my classes paid for anymore because I have a temporary license and could apply for a teaching job.

So now I'm in a situation, an uncomfortable situation.

Therefore, paraprofessionals in this study who participated in the Assistant to Teacher program expressed surprise when (a) they were eligible for a provisional license after one introductory course, and (b) the pressure from the school district to apply to vacant teaching positions with the provisional license.

### ***Bureaucratic Obstacles***

All three paraprofessionals had previously held a bachelor's degree and reported earning top grades in graduate level teacher preparation classes. Yet, they all reported bureaucratic issues with the Assistant to Teacher (e.g., long applications, communication with school district leadership, unclear commitment guidelines), difficulty navigating the complex state teacher licensure requirements, and having to complete teacher preparation requirements after work hours. Therefore, while there were some positive aspects of the Assistant to Teacher Program, there were many improvement recommendations made by the participants. They expressed the demand of working full-time as a paraprofessional,

attending graduate school, and participating in the Assistant to Teacher program as strenuous. For example, Cynthia stated:

I want to make sure I learn everything the best I can [referring to the Assistant to Teacher program] and also focus on my school [special education teacher preparation courses at the university], and work, and my family. I do not want to take too many classes and then be like, overwhelmed and I cannot do anything right.

### ***Financial Obstacles***

The concept of financial barriers was consistently reported from all interviews and the document analysis. First, paraprofessional salaries are not comparable to the demand of local cost of living. Paraprofessional salaries in the school district ranged from \$22,619.52 to \$45,697.19 depending on their educational level and experience. Yet, median homes in this school district are reported at \$634,950. As a result, two participants do not live within the school district and require a long commute. However, despite these factors, the three participants did not report frustration over their initial salaries. They reported that they were aware of it when they first accepted the position but expressed deceit and irritation when their salary steps were frozen in their school district. Regina referenced salary:

It's still low money, but it's better than I actually thought. I think my concern is that it seems like going forward, there's not going to be... There's a lot of freezes and an assistant salary is already low enough. So over time, having freezes and not doing step increases and not doing certain things is going to be more

impactful to assistants. And so right now I'm fine with my salary. I just feel like going forward, as you gain more experience, you should be doing those step increases. And that's not happening.

There were also financial barriers within the Assistant to Teacher program. Within the program, paraprofessionals reported paying the initial tuition at their chosen teacher preparation university, with the promise it would be fully reimbursed after they submit their final grades. However, the participants in the program reported unstable tuition reimbursement and the associated stress of carrying an additional financial burden.

Cynthia reported:

So, I don't even know why they accepted me in the first place if they were going to [pay my tuition]. So now I'm in a situation, in an uncomfortable situation in which I have to find a [university] scholarship, because if they don't, they're like putting pressure on me to find a job as a teacher. And I'm not ready. I feel that I need to take more classes. And that's what they don't understand. Now, they want me with my own money to pay for my master's degree. But yet they're going to benefit from having a teacher with a master's degree when I'm done.

Financial obstacles were persistent within their paraprofessional job characteristics and a contributing factor to their career advancement. Initial financial tuition reimbursement and annual salary step increases were often not met due to district budget constraints that changed yearly. This unforeseen complication put additional financial burdens on the three paraprofessionals who already reported low salaries.



### ***Academic Success in University Coursework***

Contrary to previous policy literature predicting that multilingual paraprofessionals experience academic challenges (Williams et al., 2016), all participants reported success and pride with their teacher preparation coursework in their respective universities. Participants were not explicitly asked about their perceptions of their teacher preparation coursework, but they all disclosed that they received high grades in their teacher preparation coursework and worked hard to sustain their high accolades while balancing work and family responsibilities. For example, Cynthia stated:

I've been getting straight A's, you know, that's why I have been taking one class at a time. But I want to make sure to learn everything the best that I can and also be able to focus on school, my work, and my family. I want to do things right.

Participants also reported taking classes in the evenings and in summers to fulfill state teaching license requirements. Teacher preparation courses were taught at several local universities that varied on the paraprofessional's pursued teacher/specialist certification and choice. Courses were taught in several modalities that consisted of in-person, hybrid, asynchronous, and synchronous instruction. While the interview protocol did not contain questions regarding the type and quality of university teacher preparation coursework, this unexpected theme should be further researched regarding feelings of preparedness in becoming special education teachers and/or specialists.

### **Retention in Special Education**

The overarching theme of the three paraprofessionals' retention in special education, whether as a paraprofessional, teacher, or specialist, existed within the

triangulation of multiple data sources. First, participants reported their perception of the special education teachers' workload within their school. While the paraprofessionals are not currently special education teachers, their perceived observations of their teacher workload were significant because it will potentially impact their projected career advancement in becoming a certified special education teacher. All three participants reported that special education teachers have a large workload, poor work-to-life balance, and are underappreciated within the school community. For example, Cynthia stated:

They're [special education teachers] very busy and they have to they have so much going on and not only do they have to teach, but they have to write IEPs and they have to go to the meetings and they have to they have a lot of things, a lot of paperwork and a lot of extra hours that they have to work. And that's with all teachers, of course. But special education teachers also have to write the IEPs and they have to make the changes and they have to go to the meetings. So, yeah, they have a big workload, and I don't know if they're appreciated for what they do.

Furthermore, when the study's participants were asked about their projected role as a certified special education teacher or specialist, they all expressed doubt. The two paraprofessionals who were currently enrolled in the Assistant to Teacher program reported that they did not feel prepared to become a teacher, wanted to continue taking more teacher preparation coursework in their universities, and did not plan on applying to teacher positions while they had their provisional license. Lena, who had finished her

Master of Education in Assistive Technology and achieved state certification to be a special education specialist, announced she would not be advancing her career, stating:

In five years, I just see myself continuing what I'm doing. I work with the teacher now and we are on the same page, we have the same thoughts and ideas as far as helping families and students go. And that is what matters to me the most, just not just having a voice or part, but actually being able to help students improve their education, and their overall lives and family situations.

While the other two participants felt that they were not ready to be teachers soon, they desired to advance their career within the next couple of years. Throughout all data analysis, there was a surprisingly ubiquitous theme for all paraprofessionals. Despite harsh working conditions and varying job obstacles, all participants planned to remain in the special education field as paraprofessionals in the near or permanent future. While they were frustrated with low salary, a lack of respect, and insufficient training, the daily support they provided students and families were the driving motivating factor of their retention. For example, Cynthia stated:

We really love what we do, and we just get so invested in our students. And it's just very rewarding, especially when if a student is non-verbal and you see progress, you know, like even if they have or if they are verbal, but they just have some disabilities and you see their progress and you see that they get attached to you and they trust you and everything that's just so rewarding.

Thus, while it is essential that multilingual paraprofessionals remain in the field, it is also necessary to examine why they are not fulfilling vacant special education teacher

positions after achieving certification. More research is needed on the impact the Assistant to Teacher program, teacher preparation programs, state licensure policies, and special education working experiences have on the career advancement of multilingual paraprofessionals.

### **Discussion**

The purpose of this study was to examine the experiences of multilingual paraprofessionals within special education and their career advancement through the Assistant to Teacher program. Regarding research question one, findings in this study support previous data that paraprofessionals serve as connectors between students, teachers, and families (Chopra, 2004) and directly support classroom instruction for students (Dai et al., 2007; Delgado et al., 2021). Findings from this study extended on previous research with the specific notion that multilingual paraprofessionals serve as culturally and linguistic connectors between students, families, and the school community to meet the social and academic needs of students with disabilities. Additionally, this study's findings supported the prior notion that paraprofessionals who work with students with disabilities report a lack of standardized instructional role and a desire to have clear working guidelines (Chopra, 2004). Additional collaboration training is recommended for teachers and paraprofessionals to navigate this complicated working relationship.

Regarding research question two, participants in this study also reported bureaucratic and financial obstacles during their career advancement as seen in a previous policy report (Williams et al., 2016). However, while it has been previously reported that paraprofessionals often have difficulty navigating the teacher preparation program

structure and academic content (Abbate-Vaughn & Paugh, 2009; Williams et. al, 2016), this was not the case with these three participants. All multilingual paraprofessional participants reported academic success and pride in their teacher preparation program coursework. Overall, a common theme among all participants was that their “voices were not heard” within the school community during their daily jobs and pursuit to advance their careers. While this qualitative study investigated the working experiences of multilingual paraprofessionals and their career advancement to become certified special education teachers or specialists, there were some limitations that existed.

### **Limitations**

The small sample size was a limitation to this qualitative case study. Due to the sample criterion of being multilingual and on the path of becoming certified special education teachers, the recruitment of a larger sample of participants was difficult to achieve. As a result, one participant, Lena, was an outlier in that she pursued her certification as a special education specialist in Assistive Technology. However, she was included in the sample due to the nature of a special education specialist’s role in providing direct services to students with disabilities within the school’s special education department, and because she received her university training in special education technology. Therefore, more data is needed on the experiences of multilingual paraprofessionals within special education teacher preparation and the Assistant to Teacher Program. It is also recommended that additional research select participants representing a diversity of languages, genders, and years of experience. In this study, the sample consisted of all women and only three different languages. A more diverse sample

could represent the experiences of a variety of individuals. Additionally, because the special education teacher shortage is a critical and confounded policy issue, it is recommended that quantitative data is collected to develop a comprehensive data analysis. As more career advancement funding is put into place across school districts in the United States, robust quantitative studies are needed to improve Assistant to Teacher Program structure and participant outcomes.

Thus, future research is needed to represent a variety of dynamic perspectives within qualitative research, and quantitative data is needed for generalization purposes to represent the presence of multilingual paraprofessionals servicing students with disabilities. It is essential to fully address the complex factors that contribute to the working experiences and career advancement of the multilingual paraprofessional population within special education as our national multilingual students with disabilities population continues to increase.

### **Policy Implications**

For decades, U.S. schools have struggled to recruit qualified multilingual special education teachers that reflect the linguistically diverse student population (Williams et al., 2016). Unfortunately, this problem is exponentially increasing and there is no time to waste. Grow Your Own programs, such as The Assistant to Teacher program, is one policy initiative that can address this urgent issue by supporting multilingual paraprofessionals in their career advancement to become certified special education teachers. While several school districts already have this policy initiative in existence, there are several recommendations to improve its structure.

### ***Grow Your Own Program Structure***

First, it is recommended that paraprofessional teacher candidates have their tuition initially reimbursed in Grow Your Own programs. The mutual complaint from the participants in this study was not knowing if their school district would reimburse their tuition each semester. The financial structure of this Grow Your Own program requested that paraprofessionals pay their tuition to their university at the beginning each semester, with the potential of reimbursement at the end after they submitted their grades. This is not acceptable as paraprofessionals already earn very low salaries. Therefore, it is recommended that Grow Your Own programs provide scholarships for paraprofessionals at the beginning of each semester. Instead of having the burden of a delayed tuition reimbursement, tuition would be reimbursed at the beginning of each semester.

Additionally, it is recommended that the Grow Your Own programs provide a choice of when paraprofessionals are required to enter the teacher workforce: while having their provisional license or after earning a full certification. This option could lead to paraprofessionals feeling that they are more equipped to be special education teachers after completing all teacher preparation coursework, and not feel forced to become a teacher when they are provisionally licensed, a common theme in this study's analysis. Therefore, it is recommended that GYO programs honor the preference for some individuals to complete their entire preparation before taking on a full-time teacher position rather than becoming a teacher with a provisional license.

### ***Paraprofessional Professional Development***

In this study, participants reported that (a) they did not receive professional development opportunities on designated staff days; (b) The Assistant to Teacher program meetings were after work; and (c) their university classes occurred in the evenings. This contributed to their stressful working experiences within special education. As a result, it is recommended that there is cohesiveness between the school, school district, and universities to better meet the needs of paraprofessionals' working schedules. For example, on designated staff professional development learning days paraprofessionals can: (a) attend Assistant to Teacher Program support meetings, or (b) work on university related tasks such as meeting with their professors, working on assignments, or collaborating with other teacher candidates. If allowing multilingual paraprofessionals to access a GYO program to become successful teachers is the goal, the need to grant them designated support days within their working schedule is essential. This time would be effective rather than monotonous classroom organization tasks on teacher professional learning days.

### ***Improve Special Education Teacher Working Conditions***

Finally, there needs to be a return on investment of paraprofessionals in the Assistant to Teacher program. Once they transition to being special education teachers, policies need to be put in place to retain them as teachers. This can be accomplished by improving special education teacher working conditions. It is no coincidence that all participants perceived special education teacher working conditions to be poor, and they also reported that they were not ready to be a special education teacher/specialist. Since

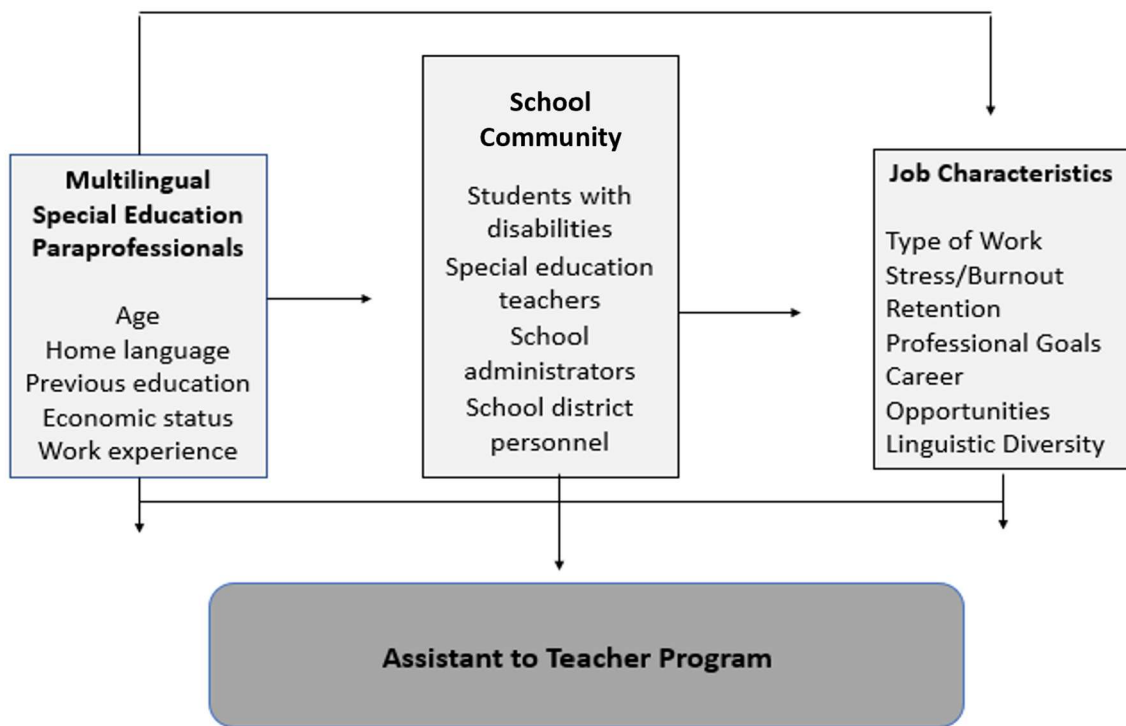


paraprofessionals in this program are the future special education workforce, special education teachers working conditions thus need to improve. Recommendations to improve special education teacher retention include increasing teacher salary, smaller special education student caseloads, and targeted professional development on how to collaborate with paraprofessionals. If the necessary funding is provided to the Assistant to Teacher program, special education teachers' working conditions also need to be critically improved to decrease attrition of successful teacher candidates.

### **Conclusion**

In conclusion, PK-12 schools need more linguistically diverse special education teachers in the United States. Teacher preparation programs, school district initiatives, and state licensure requirements fall short of this demand. While the Assistant to Teacher Program is one policy initiative that addresses this issue, it does not fully alleviate it. Bureaucratic and financial obstacles within the Assistant to Teacher Program and poor working conditions within special education, hinder the career transition of multilingual paraprofessionals becoming special education teachers. As a result, continuous improvements are required to promote multilingual paraprofessionals to complete the career advancement transition. It is imperative that researchers continue examining this complex workforce issue and its intersectionality within special education. Furthermore, policymakers must invest in diversifying the education special education teacher labor market to meet this critical demand in U.S. schools. The diverse knowledge and vast experiences of multilingual paraprofessionals make them ideal candidates for the special

education teacher workforce. Their stories must be told, and their needs must be met as they embark on becoming special education teachers.



**Figure 3.1**

*Conceptual Framework*

*Note.* The conceptual framework examines the working experiences and career advancement of multilingual special education paraprofessionals.



**Figure 3.2**

*The Persistence of Multilingual Paraprofessionals in Special Education*

*Note.* Image was created using Microsoft Office Publisher.

**Table 3.1***Paraprofessional participant data*

*Note.* Pseudonyms were created to respect the participants' privacy.

Name	Age	Experience	Languages	Certification	Status of Certification
Cynthia	44	7 years	English, Spanish	Early Childhood Special Education	In process
Lena	43	14 years	English, Malayalam, Hindi	Assistive Technology Specialist	Achieved
Regina	27	4 years	English, Spanish	Early Childhood Special Education/ PK-12 English Learners	In process

## **Chapter Four**

### **THE NATIONAL TRENDS OF ALTERNATIVE ROUTE PROGRAMS AND THEIR PREPARATION REQUIREMENTS**

The notion that high quality teachers contribute greatly to student learning is a largely accepted concept (Goldhaber, 2016; Hanushek, 2011; Lovenheim & Turner, 2018). Teacher quality has the greatest school impact on student outcomes which is vital to student achievement growth (Darling-Hammond, 2000; Hanushek, 1986; Rivkin et al., 2005). Teacher quality is particularly critical for the most vulnerable student populations such as students with disabilities. Students with disabilities depend on teachers of quality to meet their individual needs and provide special education services as outlined in their individualized education programs (IDEA, 2022). There exists a workforce issue of supplying high quality special education teachers to teach students with disabilities which has resulted in a historical special education teacher shortage (Billingsley & Bettini, 2019; Boe, 2006; Mason-Williams et al., 2020; Monnin et al., 2021; Peyton et al., 2021). Thus, several policy initiatives have been developed in attempt to combat the special education teacher shortage.

To address the insufficient teacher supply, OSEP is focused on strategies to attract, prepare, and retain special education teachers who have the knowledge and skills to provide effective services to students with disabilities (U.S. Department of Education, 2020). One policy initiative aimed to increase the special education teacher supply through additional recruitment choice is called alternative route programs. The federal

government notes that alternative route (AR) programs are different from traditional preparation programs by design and are broadly defined as nontraditional and accelerated paths for individuals to obtain a state teaching license (U.S. Department of Education, 2020). Alternative routes are vast in their program design, requirements, and participants as they vary within and between states (Rosenberg et al., 2007; Rowland Woods, 2016). Such alternative state licensure programs attempt to increase teacher supply by providing a range of pathways to licensure including less traditional recruitment efforts (Lovenheim & Turner, 2018). For example, some AR candidates who have previously earned their bachelor's degree, receive provisional teaching certification which allows them to complete requirements for full certification while working full-time in their placements (Lohmann et al., 2019; U.S. Department of Education, 2020). Other forms of AR programs require associate degrees for interested paraprofessionals (Delgado et al., 2021) and some ARs recruit high schoolers interested in entering teacher preparation (Bianco & Marin-Paris, 2019). While there is an abundance of empirical literature on ARs across the United States, there is little known on how they specifically influence special education teacher preparation. Therefore, the purpose of this investigation is to examine the national trends of alternative routes specific to the special education teacher candidates and the current preparation requirements that exist in AR pathways. The following section provides a synthesis of literature regarding alternative route programs within special education teacher preparation.

## **Literature Review**

In a comprehensive search of empirical studies conducted on alternative route preparation within special education (see Chapter 2), no studies were found to examine special education teacher preparation regarding (a) national alternative route policy trends, or (b) the comprehensive characteristics of AR IHEs and AR non-IHEs within the United States. However, several studies have examined special education teacher preparation within alternative route programs for smaller geographic regions (Jameson et al., 2019; Robertson & Singleton, 2010; Scott et al., 2019). Existing research in this field includes investigations of the effectiveness of ARs contributing to the special education teacher pipeline in a specific locality (e.g., one city, state, region within a state). Findings revealed that the effectiveness of specific alternative route programs contributing to the special education teacher supply depends on their program infrastructure and program requirements (Rosenberg et al., 2007; Sindelar et al., 2012). The following sections describe previous literature investigations specific to ARs in special education teacher preparation with reference to the involvement of institutions of higher education (IHEs).

### **Program Infrastructure**

Alternative route program infrastructure consists of the involvement of stakeholders in designing, implementing, and regulating teacher preparation (Rosenberg et al., 2007). Stakeholders in different education agencies play an active role in developing AR programs. These stakeholder agencies can include institutions of higher education (IHEs), local education agencies (LEAs), and state education agencies (SEAs). As mentioned in Chapter one, AR program types are reported to the U.S. federal



government through Title II reports and are disaggregated by their affiliation with institutions of higher education (IHEs). The systematic literature search (see Chapter 2) states all studies ( $n = 11$ ) investigated the role of IHEs in developing, implementing, and/or monitoring AR programs for special education teacher candidates. Through this work, researchers emphasized the significance of these factors for successful special education alternative route program design in multiple geographic settings.

### ***Stakeholder Collaboration: Institutions of Higher Education***

In investigating stakeholder collaboration in ARs, Rosenberg et al. (2007) surveyed AR program directors within special education ( $n = 101$ ). From their developed AR database, they identified IHEs as the primary agency (75.8%) responsible for AR program design. Under 20 U.S. Code § 1001, institutions of higher education are defined as education institutions in any state that (a) admits students holding a certificate from a school providing secondary education; (b) is legally authorized within the state to provide a program of education beyond secondary schooling; (c) provides an educational program that awards completers with a bachelor's degree, or provides a degree that is no less than a 2-year program; (d) is a public or private institution; and (e) is accredited by a national organization or granted pre-accreditation by the Secretary of Education (U.S. Department of Education, 2022c). However, many states do not require ARs to be affiliated with institutions of higher education. Title II reports designate these AR programs as “non-institutions of higher education” (AR non-IHEs).

Despite the flexibility, Rosenberg et al. (2007) identified IHEs as the lead agency (67%) making recommendations to the state on issuing teaching licenses. Their data

source included a national survey and interviews administered in 2005. Their findings align with current research (see Chapter 2), in that empirical research related to special education AR programs ( $n = 11$ ) have all been AR programs affiliated with IHEs. The body of literature in this area may not be representative of national trends of ARs, given everchanging shifts in the landscape, is designed to be responsive to field emergent needs. Further, those conducting research on AR programs are closely associated with higher education (e.g., higher education faculty reporting on examples within higher education), and therefore may not represent the full scope of the field. Data sources that cut across stakeholder contexts may offer a more comprehensive review of current trends. Existing education accountability policies (e.g., Higher Education Act of 1998) provide opportunities for a review of AR programs across the U.S. to help understand the broader scope of ARs regardless of IHE affiliation (U.S. Department of Education, 2022d). Such a review can provide insights regarding AR program requirements and characteristics including coursework, clinical experiences, and mentoring activities. The following section further highlights the opportunities for exploration in these areas.

### **Program Requirements**

Alternative route program characteristics consists of the guidelines, structure, and instructional supports that train teacher candidates in nontraditional settings (Wasburn-Moses & Rosenberg, 2008). Special education researchers posit that certain research-based preparation program requirements support teacher success in terms of their quality and retention in the field.

### ***Pedagogical Coursework***

Special education teachers are expected to facilitate content delivery and instruct students with disabilities with differentiated strategies (McElwee & Regan, 2015). Therefore, high quality special education teacher preparation requires pedagogical coursework that is driven by evidence-based standards (Council for Exceptional Children, 2015). All empirical studies conducted on specific AR programs in special education teacher preparation from 2005 to 2021 ( $n = 6$ ) contained coursework requirements with IHEs. Coursework hours in these studies varied amongst AR programs, but generally the pedagogical coursework curriculum consisted of courses that taught the characteristics of students with disabilities, instructional strategies for teaching students with disabilities (e.g., math and literacy), assessment and evaluation, and classroom behavior management.

Additionally, many AR programs presented special education coursework in different modalities (e.g., in-person, synchronous, asynchronous) to accommodate the various needs of teacher candidates. For example, Scott et al. (2019) examined a 27-credit special education-general curriculum K-12 licensure program delivered online with synchronous and asynchronous coursework with various universities in Virginia. The sample consisted of AR teacher candidates who were provisionally licensed special education teachers who were currently in the field. The AR program special education coursework followed a curriculum that was aligned with national preparation standards from the Council for Exceptional Children. The online instructional delivery was intentional to accommodate the teachers' schedules and presented pedagogy content in

different formats (e.g., video lectures, readings, journals) and teachers demonstrated their knowledge in various assessments (e.g., discussion boards, formative assessments, observations in field work). Scott et al. (2019) found that 99% of the special education teachers in this AR IHE program ( $n = 112$ ) reported a positive satisfaction with the preparation they received from pedagogical courses.

### ***Clinical Experiences***

Clinical experiences are diverse within special education but are regarded as the culmination of theoretical training from the required coursework in preparation programs (McElwee & Regan, 2015). As such, clinical experiences are defined from the federal government as, “a series of supervised field experiences (including student teaching) with PK-12 students that occur as a sequenced, integral part of the preparation program prior to the candidate becoming the teacher of record” (U.S. Department of Education, 2022b). Special education teacher candidates attempt to apply their pedagogical training and experiences to their classroom teaching during clinical experiences. The Council for Exceptional Children identifies that a high-quality special education preparation program provides sufficient opportunities to demonstrate pedagogical skills in extensive clinical practice (Council for Exceptional Children, 2015). The structure and requirements of clinical experiences vary amongst preparation programs (Brownell et al., 2010) and differ in their quality (Greenberg et al., 2011). Historically, the requirements of clinical experiences have been prevalent in most traditional preparation programs and are often referred to as student teaching. However, many AR teacher candidates are already employed as provisionally licensed teachers and working in the classroom. Therefore,

clinical requirements are more accurately viewed on a continuum, with some ARs implementing them and others not requiring them.

For example, Jameson et al. (2019) examined a graduate distance preparation cohort with the University of Utah that supported an AR IHE 2-year program. Clinical experiences consisted of IHE and LEA supervisors supporting AR teacher candidates who were obtaining initial licensure in low incidence disabilities. The clinical experiences included a collaboration between the IHE and LEAs through physically observing AR teacher instruction and observing remote instruction with bug-in-ear coaching. The AR IHE program reported strong relationships between the LEAs attempt to deliver high quality special education preparation through research, model development, and outreach projects. Clinical experiences are not always feasible as both IHE and non-IHE AR programs have teachers already employed as classroom instructors (U.S. Department of Education, 2022b). Therefore, it is crucial to examine the literature on the role of mentorship for novice teachers participating in AR programs.

### ***Mentoring***

Mentorship is vital to support novice teachers during their preparation training and in the beginning of their careers (Bettini & Park, 2021; Billingsley et al., 2019; Cornelius et al., 2020; Hunt et al., 2013; Mrstik et al., 2018; Wasburn-Moses & Rosenberg, 2008). Mentoring teacher candidates and novice special education teachers in the field can led to increased evidenced-based practices, application of strategies learned in teacher preparation, curriculum and student behavior knowledge, and reported feelings of professionalism (Hunt et al., 2013). Additionally, special education teachers involved

in mentoring programs reported higher retention rates and were more likely to pursue continuing professional development opportunities throughout their career (Ingersoll & Kralik, 2004). As a result, several national organizations (American Association of Colleges for Teacher Education, 2009; Council for Exceptional Children, 2015, National Council on Teacher Quality) recommend high quality mentorship in preparation training and at the beginning of their teaching career. The U.S. Department of Education (2022) recommends that AR programs provide mentorship opportunities to both types of AR teachers, (a) those who are identified solely as teacher candidates, and (b) those registered as employed provisionally licensed (e.g., novice) teachers in the workforce. They define mentorships as, “the coaching and instruction that a candidate receives as part of the teacher preparation program while serving as the teacher of record in a classroom.” The U.S. Department of Education (2022) also recommends that this type of clinical experience is required in alternative route programs for provisionally licensed teachers new to the field.

Regarding mentorship in special education ARs, Kurtts et al. (2007) examined an AR IHE program at the University of North Carolina at Greensboro for teachers pursuing a special education license in high incidence disabilities. This AR IHE recruited “nontraditional” special education teacher candidates who were identified as having limited finances and were recruited if they (a) completed high school or GED; (b) were 24 years or older and recently enrolled in a community college; or (c) were employed paraprofessionals. Participating teacher candidates received mentorship during their AR preparation which consisted of a full-time IHE faculty member and doctoral student who

served as academic advisors, implemented support activities, and arranged monthly meetings to practice skills (e.g., special education research, PRAXIS strategies, and teacher interviews). The AR teachers ( $n = 11$ ) reported in their exit focus group interviews that mentorship opportunities were key to their success in completing the special education teacher preparation program.

All forementioned studies examined program characteristics and infrastructures solely on ARs affiliated with IHEs and in specific geographic regions. As a result, the landscape of AR programs is not fully understood. Examining other sources of information, such as national datasets to examine AR program characteristics, include coursework, clinical experiences, and mentorship opportunities have the potential to provide new insights. Therefore, this investigation aims to explore the patterns amongst three teacher preparation special education groups: traditional, AR IHE, and AR non-IHE in the United States and the extent they require teacher preparation requirements.

### **Purpose**

The purpose of this study is to determine the nationwide trends of alternative route programs. Specific trends to be studied include teacher candidate enrollment patterns over time and between contexts, special education teacher certification program completion rates over time and between contexts, and the program requirements of AR IHEs and AR non-IHEs that are inclusive of special education. Based on previous special education workforce studies, a methodological descriptive analysis is employed to capture nationwide trends and current AR program characteristics (Dewey et al., 2017; Loeb et al., 2017). Therefore, this investigation aims to answer three questions:

1. What are the teacher preparation program (e.g., traditional, AR IHE, AR non IHE) enrollment trends from 2012-2020?
2. What are the special education completer trends in teacher preparation programs (e.g., traditional, AR IHE, AR non IHE) from 2012-2020?
3. What are the current preparation requirements of AR IHEs and AR non-IHEs that are inclusive of special education teacher preparation?

### **Method**

In this section, the data identification, collection, and coding procedures are outlined. Then, statistical methods for exploring national teacher preparation program enrollment and special education program completer trends are explained. This is followed by a description of the analytical procedures of coding AR pathways that include special education teacher preparation, and finally the statistical comparison of special education AR IHEs and AR non-IHEs regarding their preparation program requirements.

### **Data Collection**

First, online national databases were searched to identify federally reported state-level alternative route preparation program data. Title II raw datasets were selected because they captured the teacher preparation longitudinal data of all 50 states and the District of Columbia from 2014-2021. The reported years represented academic years starting at 2012-2013 (e.g., report year 2014) to 2019-2020 (e.g., report year 2021) due to the time involved in teacher preparation data collection being made available to the public in the Institution and Program Report Card (IRPC) and State Report Card process



(see Chapter 1 for Title II reporting process). Academic year is defined as “a period of 12 consecutive months, starting September 1 and ending August 31” (U.S. Department of Education, 2022b).

Next, pertinent information was gathered regarding the Title II reporting process, federally reported variables found in the Title II codebook and glossary, each state licensure departments’ contact information, and extensive notes were taken to explain the complexities of these data. For example, the originally plan was to use academic years starting at 2006-2007 to extend on Rosenberg and Sindelar’s (2005) study. However, report years before 2012-2013 were excluded due to structural changes in the calculation of teacher preparation enrollment counts (U.S. Department of Education, 2022c). Additionally, reporting categories differed after the academic years 2018-2019 thus limiting the inclusion of data beyond 2018-2019. A codebook was finalized and consisted of each variable’s operational and conceptual definitions that were derived from the Title II reporting websites. These variables are described in the following sections.

## **Measures**

Alternative route preparation programs are defined as “a teacher preparation pathway that primarily serves candidates that are the teacher of record in a classroom while participating in the route” (U.S. Department of Education, 2022b). It should be noted that this conceptual definition of an alternative route program is provided by the federal government and AR data are reported by individual state licensure offices. Therefore, purposefully selecting several Title II reported variables allowed for the exploration of teacher preparation program enrollment, completion, and pathway

requirements. These variables consisted of (a) the number of overall teacher preparation enrollees in each preparation program type (e.g., traditional, AR IHE, and AR Non-IHE); (b) special education teacher licensure program completers across program type; and (c) AR preparation program requirements according to specific state pathways. The goal was to frame each state's teacher preparation program variables to evaluate national preparation program trends and current AR requirements represented in the most recent available data in academic year 2019-2020.

### ***Teacher Preparation Program Type***

Stakeholders in different education agencies play an active role in developing preparation programs (Robertson & Singleton, 2010, Rosenberg et al., 2007). The reported collaborative agencies consist of institutions of higher education (IHE), state education agencies (SEA), and local education agencies (LEA). For Title II reporting mandated by the Higher Education Act (1998), a teacher preparation provider is defined as, “an institution of higher education (IHE) or other organization that is authorized by the state to prepare teachers” (U.S. Department of Education, 2022d) As a result, teacher preparation programs fall into three categories for reporting purposes: *traditional*, *alternative based at an institution of higher education* (AR IHE), or *alternative not based at an institution of higher education* (AR non-IHE).

In referring specifically to ARs, researchers posit that teacher preparation program design is successful when ARs collaborate with IHEs (Ault et al., 2019; Jameson et al., 2019; Kurtts et al., 2007, Rosenberg & Sindelar, 2005). Therefore, the type of preparation program was collected to analyze national trends of ARs

collaborating with institutions of higher education (AR IHE) and those that do not (AR non-IHE). This consisted of dummy coding each AR program with a binary variable of being affiliated with IHEs (e.g., 1) or not (e.g., 0) from the Title II dataset. As a result, all three teacher preparation program types (e.g., traditional, AR IHE, AR non-IHE) were included in the descriptive analysis on measuring longitudinal trends within teacher preparation.

### ***Teacher Preparation Enrollment***

The enrollment of teacher candidates was captured to analyze how many teachers were being prepared in preparation programs. The count of *enrollees* by state was collected from the Title II dataset. *Enrollees* are defined as, “a student who has been admitted to a teacher preparation program, but who has not completed the program during the academic year being reported” (U.S. Department of Education, 2022b). Individuals who completed the program during the academic year were coded as enrolled students because in that academic year they both attended and graduated the preparation program. *Enrollees* were not reported by teacher subject area or license and are therefore inclusive of all teacher preparation program concentration areas. Meaning, special education teachers were not able to be parceled out from *enrollee* data. However, the total enrollment data were disaggregated based on student demographics.

**Diversity of Alternative Route Teachers.** To examine the prior notion of alternative route programs recruiting more diverse teacher candidates (Delgado et al., 2021; Sass, 2015; Scott, 2019), the data were analyzed across several dimensions including the *race* and *gender* of participants enrolled in teacher preparation programs.

*Gender* was reported from state licensure offices as a binary variable: female or male. While *race* was reported in the seven categories of American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White, Two or more races, and Hispanic or Latino. Demographic data was initially self-reported by enrollees at teacher preparation programs. Title II raw datasets were not inclusive of a non-binary gender option, nor did it contain a variable representing “I choose not to disclose” for *gender* or *race*.

### ***Special Education AR Teachers***

To investigate ARs and their contribution to producing certified special education teachers, prior analyses conducted on teacher labor markets (Dewey et al., 2017; Lindsay et al., 2009; Peyton et al., 2021) were used as a guide. As such, data on the number of teachers produced from traditional preparation programs and alternative routes, which is referred to as *completers* were tracked. AR special education completer data was filtered out from the total completer data to examine how each preparation program type contributed to the teacher pipeline by producing certified special education teachers eligible for teaching positions.

**Special Education Preparation Completers.** *Completers* were included to capture the number of teachers that preparation programs produced each year. *Completers* are defined as, “a person who has met all the requirements of a state-approved teacher preparation program. Program completers include all those who are documented as having met such requirements. Documentation may take the form of a degree, institutional certificate, program credential, transcript, or other written proof of

having met the program’s requirements” (U.S. Department of Education, 2022b). If a teacher candidate was enrolled for any portion of an academic year but then graduated from a teacher preparation program, they were coded as a *completer*.

Title II reported data “Subject Area” in the All States raw datasets were used to parcel out completers who earned a special education teaching certification. “Subject Area” was included in the analysis due to it being defined as completers who completed the requirement to earn a licensed credential and are eligible to teach once they obtain such license from their designated state (U.S. Department of Education, 2022c). Moreover, “Subject Area” was used, and “Major Area” was excluded because completing a major within a teacher preparation program does not automatically confer a teaching credential. Therefore, to capture the relationship of preparation programs producing certified special education teachers who are eligible to instruct students with disabilities, the completers category of “Major Area” was excluded from analysis.

### ***Alternative Route Pathway Characteristics***

A teacher preparation pathway is one that primarily serves candidates that are the teacher of record in a classroom while participating in the route. Alternative routes to a teaching credential are defined as such by the state and are thus encompassed within pathway policies which set forth program requirements. Each AR pathway is identified as requiring IHEs or not. For example, Louisiana has three AR pathways which include: (a) Certification-Only Program; (b) Master's Degree Program; and (c) Practitioner Teacher Program. The specific AR programs ( $n = 28$ ) in Louisiana are housed within one of these pathways; however, Title II reports does not match identifiers of such individual

programs to a specific pathway. Therefore, to capture measures of AR requirements characteristics (e.g., Does the AR require pedagogy training? Is a supervised clinical experience required? Do teachers receive mentoring?), AR pathways are used to evaluate national AR preparation requirements amongst states in the most recent reported year of 2021 (e.g., academic year 2019-2020).

### **Analysis Procedures**

The purpose of this investigation was to examine national enrollment and completer trends in the three different types of teacher preparation programs (e.g., traditional, AR IHE, AR non-IHE) with specific reference to produced certified special education teachers who are eligible to teach. Descriptive analysis characterizes a phenomenon by identifying data patterns which answer, “who, what, where, and why” (Loeb et al., 2017). As a result, the analysis was largely exploratory and employed descriptive statistics to characterize the phenomena of ARs within special education teacher preparation. The data sources consisted of Title II raw dataset tables for report years 2014-2021 (e.g., academic years 2012-2013 through 2019-2020). Before conducting analyses by research question, the state reported data were examined for any irregularities (e.g., missing data, abrupt spikes, or dips) that could not be explained by known shock systems caused by federal policy or the economy. In doing so, all states and the District of Columbia reported 2012-2020 enrollment, special education completer, and AR pathway requirements. Therefore, all 50 states and the District of Columbia ( $n = 51$ ) were included in the analysis. The procedures were sequentially performed according

to each research question utilizing Microsoft Excel and SPSS computer software programs. The analytic procedures by research question are described.

### ***Research Question 1***

To evaluate longitudinal changes of AR enrollment, the Dewey et al. (2017) procedures were replicated. First, it was necessary to consolidate raw data enrollment reports by year into one excel database with all enrollment observations from 2012-2013 to 2019-2020. Due to a change of Title II reporting, additional data management steps in Excel for the academic years 2012-2013 through 2017-2018, adding total completer data to the total enrollment sums for each preparation program was necessary. As a result, all represented academic years were inclusive of all enrollees, which captured enrollees who graduated that academic year. Second, U.S. territories were filtered out and then data rows organized by year were checked to see if they matched when merging years together (e.g., undergrad mentor hours stopped being reported in 2018 and thus 2018-2020 data had to be adjusted within excel). Third, reporting errors were tracked by comparing the reported total enrollment with the cumulative sums for race and gender categories. Negative differences were treated as teacher candidates choosing to not disclose their race or gender as reported in the Title II website. However, positive differences in gender sums (0.64%) or race (7.9%) sums that were over the total enrollment were treated as reporting error outliers but were not removed from analysis. Justification draws from descriptive methodological guidelines of not removing outliers when it can compromise the population being observed (Comrey, 1985; Sudduth & Drummond, 2007). For example, it was unclear if the reporting errors were due to the total enrollment data, the

gender/race data being incorrectly entered from preparation programs, and/or state licensure offices. Finally, frequency line graphs for total enrollment, enrollment by gender, and enrollment by race for each preparation program type were generated in SPSS using the frequency tool. The approach involved mathematically decomposing change in teacher preparation enrollment by state that was inclusive for all certification areas.

### ***Research Question 2***

The longitudinal trends were analyzed for special education completers within the three preparation program types. Similar procedures for steps one and two presented in research question one were utilized. First, the raw data yearly reports were consolidated to one excel database with all completer observations from 2012-2013 to 2019-2020. Second, territories were filtered and removed; data rows were merged and checked by year. Unlike research question one, special education completer data was filtered in research question two. To capture preparation trends in producing certified special education teachers, the researcher parceled out “Special Education” in the “Subject Area” tab for each academic year disaggregated by the three program types. Finally, line graphs by year were created in SPSS for each preparation program type for special education completers using the frequency tool.

In this analysis, it should be noted that “Subject Areas” are not mutually exclusive because completers who had been prepared to teach in more than one subject area were counted multiple times. In other words, completers captured in the special education subject category earned or were eligible to earn a state teaching license; however, they



may have also earned an additional license in another subject (e.g., elementary education, secondary content area, English as a second language, etc.). Therefore, the Lindsay et al. (2009) framework was replicated by noting that the special education completer data are treated as eligible special education teachers in the teacher pipeline. It cannot not be assumed that all are special education teacher completers serve as special education teachers of record in the classroom after preparation completion.

### ***Research Question 3***

Similarly, the All-States Title II spreadsheet was utilized to examine research question three by downloading the raw data collected in 2021 for academic years 2019-2020 to represent the most current year available for teacher preparation program data. Next, the “AltRoute” tab was used that represented AR pathways by state and their reported characteristics and preparation requirements. Then all AR pathways ( $N = 151$ ) that were designated in the column name “AltName” were coded as being inclusive of special education teacher preparation or not (e.g., 0 = no; 1 = yes). The qualitative coding procedures consisted of two raters coding (a) the “Limited Description” column with each corresponding AR pathway for containing special education; (b) the “Teaching License Description” column for including special education. If both categories were 0, state program provider websites and state licensure websites were checked for containing special education. If a state or program provider website listed special education or specified that the program pathway was inclusive of all K-12 certifications, it received a score of 1. Additionally, if an AR pathway name was repeated more than once, it was checked to see if implementation varied across states. Due to varying state teacher

preparation policies, duplicate AR names that had different characteristics were treated as mutually exclusive. For example, four states reported the American Board for Certification of Teacher Excellence (ABCTE) as an AR pathway, and they were all inclusive of special education. However, there was variety within the state policies of implementing ABCTE as they had various program requirements (e.g., mentorship, clinical hours, etc.) and therefore, the four individual ABCTE pathways were treated as different pathways. Initial interrater reliability between the two scorers was analyzed for accuracy (IRR = 97%), and then the two scorers met to find 100% consensus after discussing differences to determine the total AR pathways that included special education teacher preparation ( $n = 113$ ).

Finally, a descriptive cross tabulation analysis was conducted for each categorical variable to evaluate if there were differences in program requirements amongst special education AR IHEs and AR non-IHEs. Chi-square independence tests were employed with Bonferroni's adjustment ( $p < .01$ ) to reduce the risk of Type I error (Lomax & Hahs-Vaughn, 2012). The special education AR pathways ( $n = 113$ ) were derived from all states and the District of Columbia that implemented AR programs ( $n = 46$ ) and provided a nationally represented AR sample to analyze program requirements. Five states (Alaska, Maine, Montana, North Dakota, and Wyoming) did not permit AR pathways in 2019-2020 according to Title II data and were therefore not represented in the national sample.

## **Results**

### **Preparation Program Enrollment**

Enrollment in teacher preparation program types that was inclusive of all certification areas changed considerably overall and within groups from 2012-2013 to 2019-2020 (see Figure 4.1). Overall, total teacher preparation enrollment declined by 8% from 2012-2013 to 2019-2020, from 633,482 to 586,502 teacher candidates. Traditional preparation enrollment decreased by 25% from 542,436 to 406,587. Contrary, both alternative route program types increased from 2012-2013 to 2019-2020. With AR non IHE showing the largest enrollment increase of 148% from 51,669 to 128,377, and AR IHEs increasing enrollment by 34% from 38,431 to 51,538.

Regarding gender, females were most teacher preparation enrollees in all program types (see Figure 4.2). Traditional preparation programs had the greatest percentages of females with 79% of their population identifying as females; whereas, alternative route non-IHEs held the higher proportion of males with 32%, and alternative route IHEs having 21% of their enrollees identify as males. The U.S. Department of Education reported that approximately 51.3% of the K-12 student population identified as male (U.S. Department of Education, 2022b). Therefore, disparities in all preparation programs producing unequal proportions of male teachers compared to the K-12 student population should be noted.

Regarding race/ethnicity, a larger percentage of teacher enrollees were white amongst all preparation types (see Figure 4.3). Alternative IHE programs recruited the highest proportion of Hispanic (20%) and Asian (5%) enrollees compared to traditional

and AR non-IHEs. In contrast, alternative non-IHEs recruited higher proportions of Black/African American (23%) enrollees. The proportions of American Indian/Alaskan Native and American Indian/Pacific Islander were comparable with each preparation program type (less than 1%). Implications on recruiting a diverse teacher candidate population in terms of race and gender will be further discussed.

### **Special Education Completers**

Total special education completer trends are presented in teacher preparation programs from 2012-2013 through 2019-2020 (Figure 4.4). Overall, special education completer trends decreased by 9.1% from 2012-2013 ( $N = 30,860$ ) to 2019-2020 ( $N = 28,045$ ). Between 2012-2013 and 2016-2017 there was a steady decline in special education completers; however, starting in 2016-2017 to 2019-2020, there was a gradual increase (5.4%) in enrollment. To evaluate specific contributions in completer data, special education completer data is disaggregated by preparation program type (traditional, AR IHE, AR non-IHE). From 2012-2013 to 2019-2020 (see Figure 4.5), most special education completers were prepared in traditional preparation programs (76.9%). Alternative route programs prepared similar proportions of the total special education completers regarding AR IHE (11.58%) and AR non-IHE (11.51%).

In monitoring longitudinal trends by academic year (see Figure 4.6), there is a difference amongst traditional and alternative routes preparation programs decomposition change over time. In traditional preparation programs, special education completions were lower in 2019-2020 ( $n = 19,435$ ) than 2012-2013 ( $n = 25,596$ ), accounting for a 24% decrease with an average annual steady decrease of -4% each academic year. In

contrast, alternative programs reported higher special education completions in 2019-2020 ( $n = 8,610$ ) than 2012-2013 ( $n = 5,264$ ) which mirrored the rise in AR total enrollment growth. Alternative IHE and non-IHE programs had similar trends with an increase of completers from 2012-2013 to 2019-2020 (AR IHE = +41%; AR non-IHE = +37%) representing an annual mean increase of +6% each academic year (see Figure 4.7). Most special education preparation graduates are vastly being prepared in traditional preparation programs; however, longitudinal trends represent an increase in completers from both alternative route types (IHE and non-IHE) with a decline trend in completers from traditional preparation programs.

### **Alternative Route Requirements**

The U.S. Department of Education (2022) reports that most teacher preparation programs within the United States (90%) have general entry requirements for teacher candidates. These common characteristics consists of a minimum GPA or transcript for both undergraduate and graduate programs, as well as a bachelor's degree for AR program entry (U.S. Department of Education, 2022b). Although these broad requirements are common throughout different preparation types, the specific preparation requirements of special education ARs differ according to IHE classification. From the coding analysis, there were a total of 113 AR pathways that were inclusive of special education teacher preparation, of which were 49% were AR IHEs ( $n = 56$ ) and 51% AR non-IHEs ( $n = 57$ ). In examining some research-based practices within special education teacher preparation, characteristics of AR preparation programs are reported (see Table 4.1). It should be noted that if an AR pathway did not have a specific requirement, there

was not guarantee that the characteristic does not exist in its encompassing AR program. It is also vital to analyze the nested requirements between AR pathway types in evaluating state teacher preparation policies.

### ***Pedagogical Coursework***

The pedagogy variable represented if professional teaching knowledge and methods classes were required within the AR preparation pathway. For reporting purposes, Title II asked, “Are pedagogy or professional knowledge classes required for this alternative route program?” (U.S. Department of Education, 2022b). Overall, 91% of AR pathways with IHEs ( $n = 51$ ) required pedagogical classes, which mirrors traditional programs’ preparation of special education teacher candidates. However, only 72% of AR non-IHE pathways ( $n = 41$ ) required pedagogical coursework. The relationship between AR pathway types and pedagogy was statistically significant, Pearson  $\chi^2 (1, N = 113) = 6.841, p < .01$ , with the strength of association considered moderate (Cramer’s  $V = .246$ ). The pedagogy variable represented the presence of a teaching methods requirement within an AR pathway and therefore, the amount of coursework hours was also examined within AR requirements.

### ***Credit Hours***

Due to the categorical reporting in Title II reports, credit hour requirements were represented as a binary variable of, “Is there a credit hour requirement for pedagogy, professional knowledge, and/or professional education coursework for this credential?” (U.S. Department of Education, 2022d). The comparison of AR pathway types and credit hour requirements did not yield a statistically significant result in accounting for

Bonferroni's adjustments, Pearson  $\chi^2 (1, N = 113) = 4.674, p = .031$ . However, it is notable that there was a 20% difference between groups as 59% of AR IHEs ( $n = 33$ ) had a coursework requirement, whereas only 39% of AR non-IHEs ( $n = 22$ ) had a coursework requirement. This shows that both AR types do not require minimum coursework to prepare special education teachers, with the vast amount of AR non-IHEs not requiring them. As some alternative route programs are believed to be more centered with "on-the-job training" than providing preparation coursework, clinical experiences and mentoring within special education classrooms were also analyzed.

### ***Clinical Experience***

Clinical experience was reported as a binary variable from AR programs which asked, "Is completion of a supervised clinical experience required for this credential?". From prior Title II analyses, traditional programs require more hours of supervised clinical experience prior than alternative programs (U.S. Department of Education, 2022b). Within special education AR program types, there was a significant difference regarding a clinical experience requirement, Pearson  $\chi^2 (1, N = 113) = 7.199, p < .01$ , with the strength of association considered moderate (Cramer's  $V = .252$ ).

Approximately, 84% of AR IHEs ( $n = 47$ ) required clinical experiences compared to 61% of AR non-IHEs ( $n = 35$ ). Clinical experiences are considered field experiences that may be inclusive of student teaching. Due to previous empirical literature reporting that AR teacher candidates may be required to be special education teachers of record and thus not required to have a clinical experience, ARs and employment was then investigated.

### ***Employment***

The requirement of AR teacher candidates being employed as special education teachers was reported with the question, “Is professional employment as a teacher required for this credential?”. Alternative route pathways were not found to be statistically significant from each other regarding required employment, Pearson  $\chi^2$  (1,  $N = 113$ ) = 1.087,  $p = .297$ . There was a 10% difference, as 67% of AR non-IHEs ( $n = 38$ ) were more likely to require employment with 57% of AR IHEs ( $n = 32$ ) requiring employment while participating in the program. This can be interpreted as both AR program types (e.g., IHE and non-IHE) sometimes require AR teacher candidates to be provisionally licensed special education teachers in the field. In addition to clinical training, the presence of mentoring was analyzed to capture differences of these special education novice teachers/teacher candidates receiving mentor support while on the job.

### ***Mentoring***

The presence of mentoring being a program requirement was reported as, “Is participation in a mentoring program required for this credential?” (U.S. Department of Education, 2022b). Overall, there were stark differences in terms of the percentages of ARs requiring mentorship for special education teachers with 79% of AR IHEs ( $n = 44$ ) requiring and only 56% of AR non-IHEs ( $n = 32$ ) requiring. However, these differences were not found significant at the  $p < .01$  level in accounting for Bonferroni’s statistical significance adjustment, Pearson  $\chi^2$  (1,  $N = 113$ ) = 6.454,  $p = .011$ . The lack of statistical significance for this comparison is still worth noting in drawing patterns within the other variable comparisons. Alternative route IHEs seem more likely to mirror traditional



preparation programs as most of them require pedagogical coursework, minimum coursework hours, clinical supervisions, and on the job mentoring for those already provisionally licensed or on the path to initial special education certification. In contrast, AR non-IHEs largely tend to differ from traditional preparation programs with fewer preparation requirements that are recommended by several national teacher education organizations. Additional evidence is needed to evaluate the specific AR programs within each pathway with robust infrastructure and program design characteristic correlations.

### **Discussion**

The purpose of this investigation was to (a) examine national special education preparation trends regarding traditional and alternative route programs, and (b) to examine the varying requirements that the different AR program types (IHE versus non-IHE) currently implemented. Based on prior research, there were grounds to anticipate an increase in alternative route program special education teacher candidates and a decrease in traditional preparation trends (Dai et al., 2007; Rosenberg & Sindelar, 2005; Rowland Woods, 2016; Sass, 2015). The results were consistent with previous literature in that alternative route enrollment and completers both showed a positive increase from the years 2012-2013 through 2019-2020, whereas traditional programs showed a decrease. Moreover, this investigation further disaggregated the trends of AR programs regarding their stakeholder affiliation, with institutions of higher education. The results showed that overall, AR non-IHEs had higher quantities of enrollees compared to AR IHEs. In terms of producing certified special education teachers, AR IHEs and AR non-IHEs were comparable with consistent trends and similar quantities produced per academic year.

However, it should be noted that despite the rise in both AR program types, traditional programs still prepared the largest percentage of teacher candidates and produced the vast amount of certified special education teachers. Therefore, implying that there continues to be an abundance of alternative route teacher candidates within the United States, but most teachers are still being produced from traditional preparation programs.

Additionally, the researcher hypothesized that AR IHEs would be more comparable to traditional programs regarding their preparation requirements than AR non-IHEs. Previous empirical research that illuminates the importance of IHE stakeholder collaboration for preparation program design, infrastructure, and teacher candidate outcomes were utilized for this study (Rosenberg et al., 2007; Sindelar et al., 2012). The teacher preparation requirements of AR IHEs providing more clinical supervision and pedagogy classes compared to AR non-IHEs were found to be significantly strong ( $p < .01$ ) with a moderate effect size. Additionally, AR IHEs were more likely to require mentoring and minimum coursework hours than AR non-IHEs ( $p < .05$ ) with a moderate effect size. These significant results signify that AR IHEs are more likely to implement research-based preparation requirements than AR non-IHEs. However, no significance was found regarding AR IHEs and AR non-IHEs requiring employment of teacher candidates. Meaning, contrary to some previous literature, both AR types do not always train provisionally licensed teachers in the field, as some AR teacher candidates may be in the process of obtaining initial licensure like traditional programs. These analyses identified differences among special education teacher preparation programs: traditional programs, alternative programs with IHEs, and

alternative programs without IHEs. However, there are several limitations in this investigation which should be addressed.

### **Limitations**

Several limitations in analyzing how preparation programs contributed to the special education teacher supply were noted in this study. First, due to the nature of state teacher preparation policies and guidelines, states identify their alternative route programs and may vary on conceptual definitions allowing for some discrepancies amongst reporting preparation program type to the U.S. Department of Education. For example, Maine's department of education website (see [www.maine.gov/doe](http://www.maine.gov/doe)) reports that it has begun implementing an AR program called "Alternative Certification and Mentoring Program (MACM) for Special Educators" in 2018. However, Title II reports in academic years 2019-2020 do not show Maine classifying any teacher preparation program as AR IHE or AR non-IHE. Therefore, while this program appears to be in existence, its data was not captured for the most recent academic year 2019-2020. Additionally, it is speculated that there is crossover between states' conceptual definitions of alternative routes when ARs involve a graduate degree. For example, Arkansas reported several Master of Arts (M.A.T.) and Master of Education (M.Ed.) programs ( $n = 9$ ) as alternative route programs. In contrast, Connecticut did not classify any M.A.T. or M.Ed. teacher preparation programs as alternative, but rather traditional. Therefore, it is predicted that AR IHE programs are viewed on a continuum, as they are sometimes classified as traditional programs when they display graduate requirements.

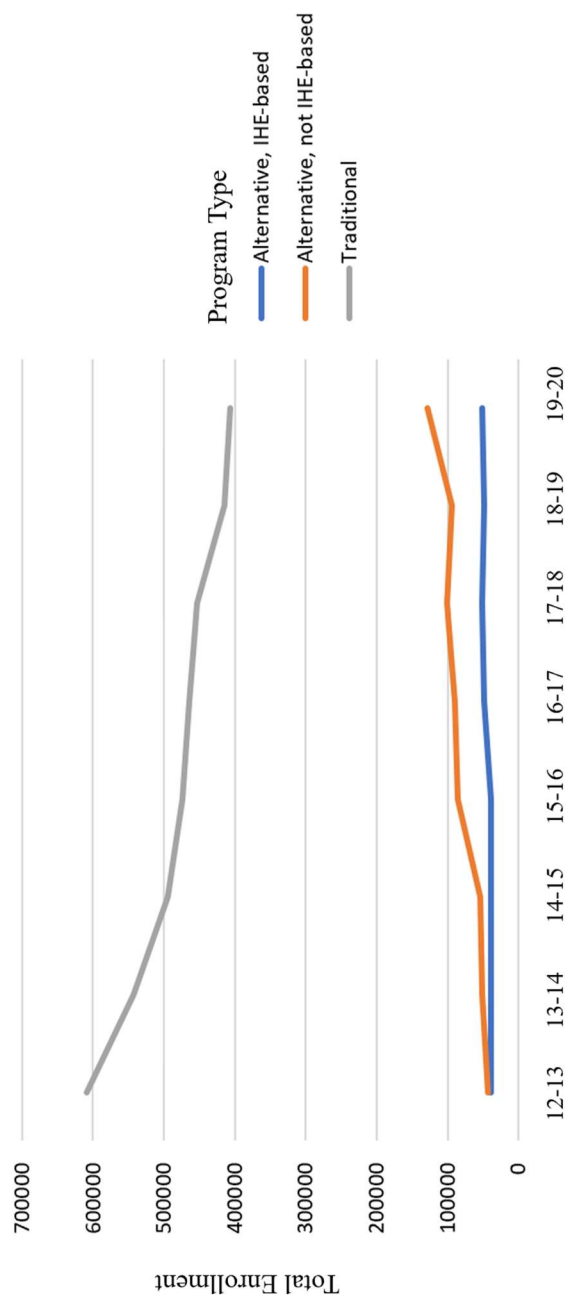
Second, the Lindsay et al. (2009) theoretical framework on the teacher pipeline posits the supply of special education teachers consists of those prepared in traditional or AR preparation programs was modeled for this work. As such, this pipeline supply of special education teachers then interacts with the demand variables to determine teacher shortage or surplus rates. However, the completer variable in this investigation did not represent special education teachers in the classroom, rather teacher candidates who had graduated from their preparation program and were eligible for state licensure. In other words, it should not be assumed that all teacher candidate completers (traditional, AR IHE, or AR non-IHE) will fulfill critical teacher vacancies upon graduation. More investigations are needed with state panel data to determine the number of completers who enter the special education teacher workforce.

Finally, the most recent academic year (e.g., 2019-2020) data in this investigation does not reflect current teacher preparation times during the COVID-19 era. It is possible that the world pandemic caused a shock system to special education teacher preparation programs regarding their enrollment and/or completers. Therefore, it is recommended that future research continue investigating national teacher preparation trends that are inclusive of academic years beyond 2019-2020. Additionally, it is recommended that future studies conduct a robust causal investigation of teacher preparation within one state that exhibits high AR qualities. This would allow for an in-depth analysis of a state's specific teacher preparation programs and the relationship with its special education teacher shortage rates.

## **Policy Implications**

Debates about the type of teacher preparation programs and how to improve them have occurred for some time (Goodlad, 1991). Within special education preparation, there is often a dichotomous contention between traditional versus alternative route programs. However, due to the findings of this study it is more realistic to compare preparation programs in terms of their IHE affiliation. This notion supports previous research that alternative route programs mirror traditional programs, when they are affiliated with universities (Goldhaber, 2019; Rosenberg & Sindelar, 2007). Furthermore, this study's results suggest that AR non-IHEs that are on the rise in recent years but tend to not implement research-based requirements during special education preparation. Policy implications for teacher preparation funding, design, and their recruited participants exists at every government level (federal, state, local). Specific policy implications within each government agency will be further discussed (see Chapter 5).

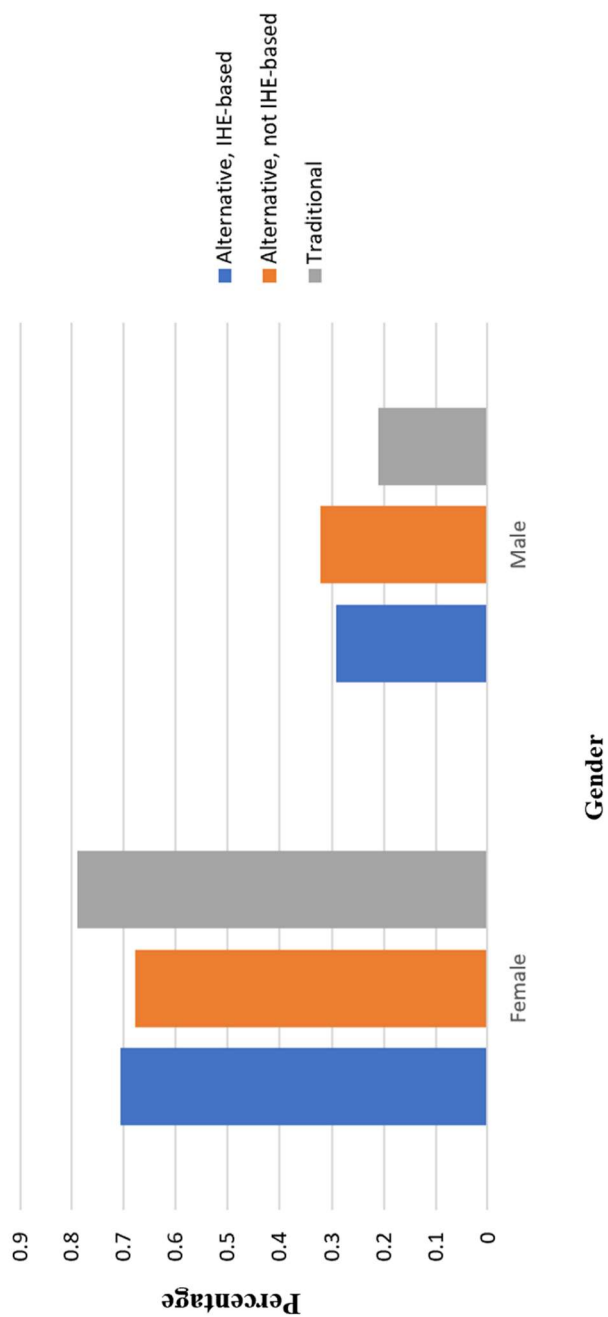
In conclusion, the notion of proliferation of ARs stands, but reference to the rise of teacher candidate enrollment and special education completers are not necessarily with the quantity of AR programs. Moreover, this proliferation of alternative programs exists with those ARs not affiliated with institutions of higher education. Looking ahead, it is essential to evaluate longitudinal program trends within special education teacher preparation regarding stakeholder collaboration, and who is enrolled in these special education teacher preparation programs regarding their cultural and linguistic diversity. To meet the demand on solving the special education teacher shortage, additional efforts must be made on investigating the various teacher preparation programs.



**Figure 4.1**

*Total Preparation Program Enrollment Trends from Title II: 12-20*

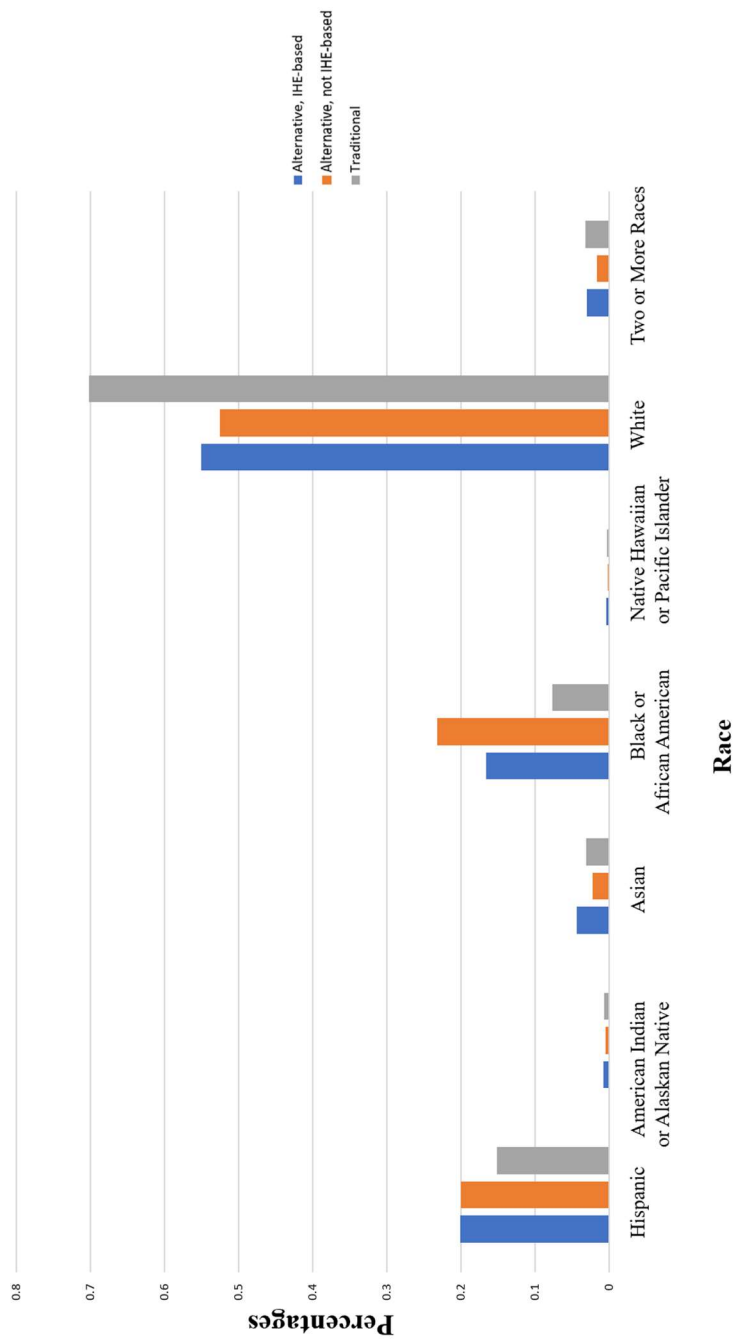
*Note.* Title II:12-20 = Title II Reports from the U.S. Department of Education in academic year 2012-2013 through 2019-2020; IHE = institutions of higher education



**Figure 4.2**

*Total Preparation Program Enrollment by Gender from Title II: 20*

*Note.* Title II:20 = Title II Reports from the U.S. Department of Education in academic year 2019-2020; IHE = institutions of higher education; Gender was reported of a binary categorical variable in Title II reports, and not inclusive of non-binary individuals.

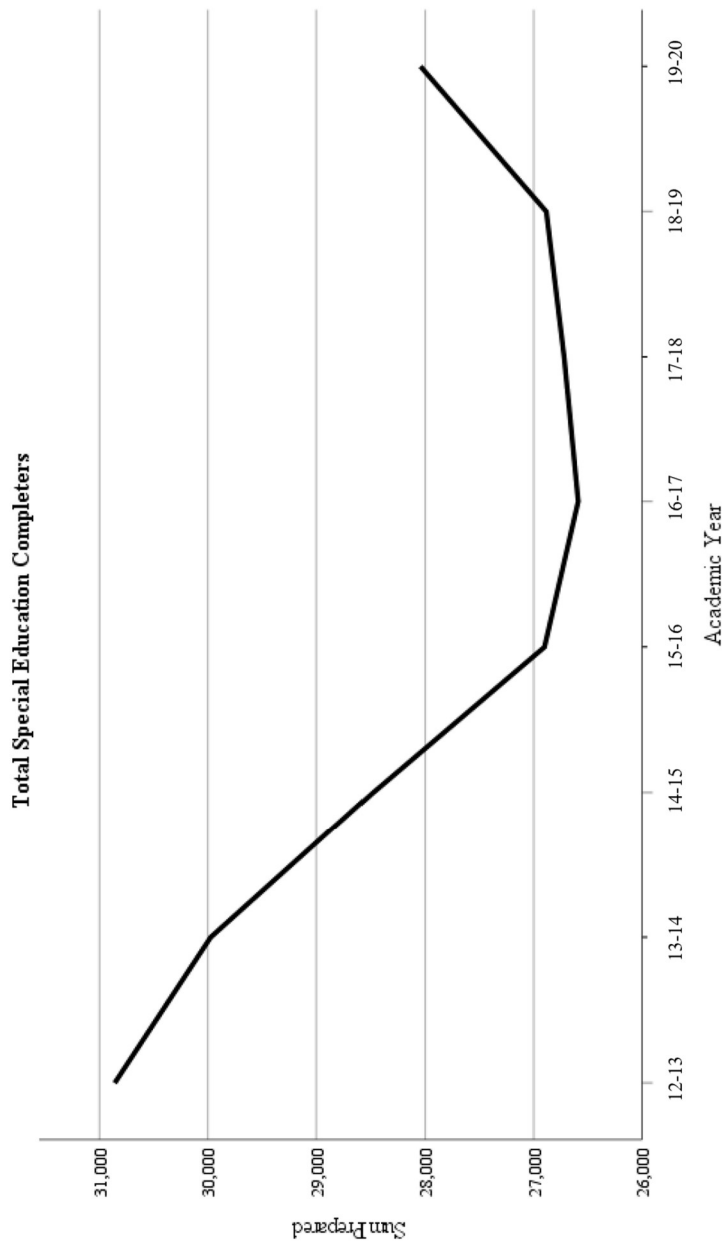


**Figure 4.3**

*Total Preparation Program Enrollment by Race from Title II: 20*

*Note.* Title II:20 = Title II Reports from the U.S. Department of Education in academic year 2019-2020; IHE = institutions of higher education.

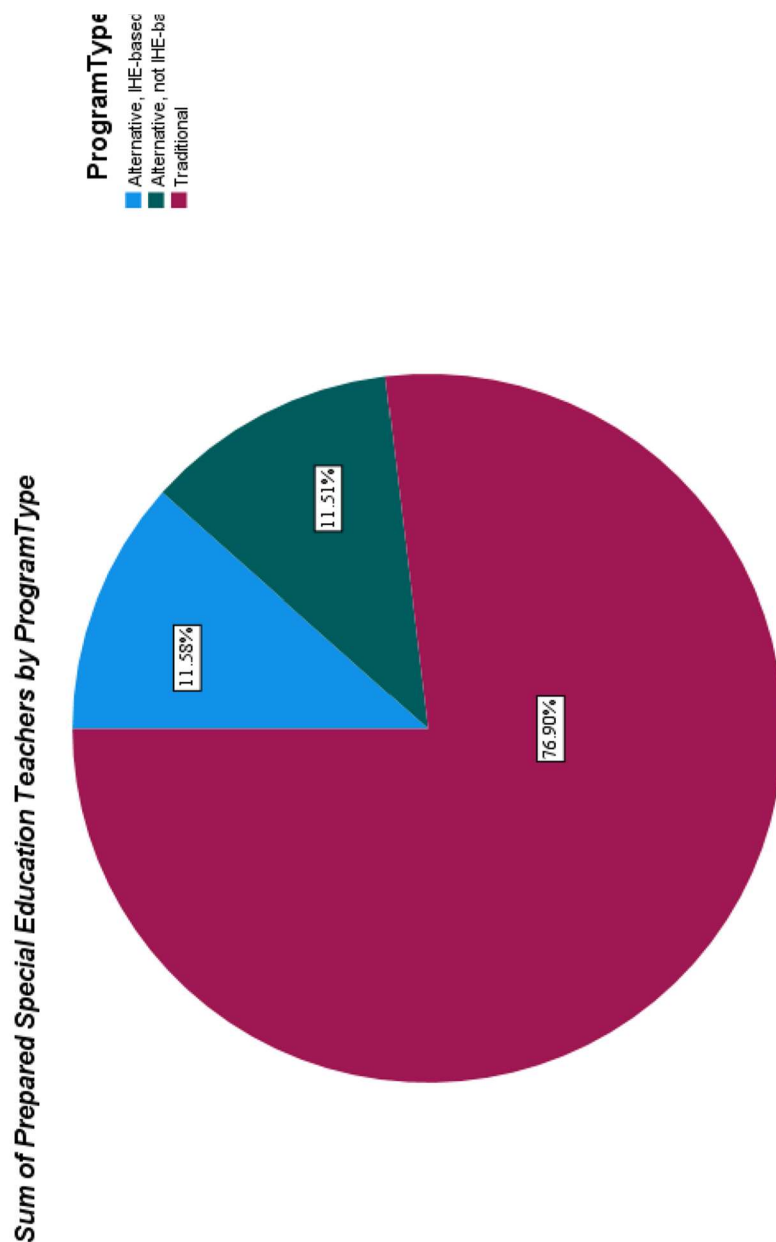




**Figure 4.4**

*Total Special Education Completer Trends from Title II: 12-20*

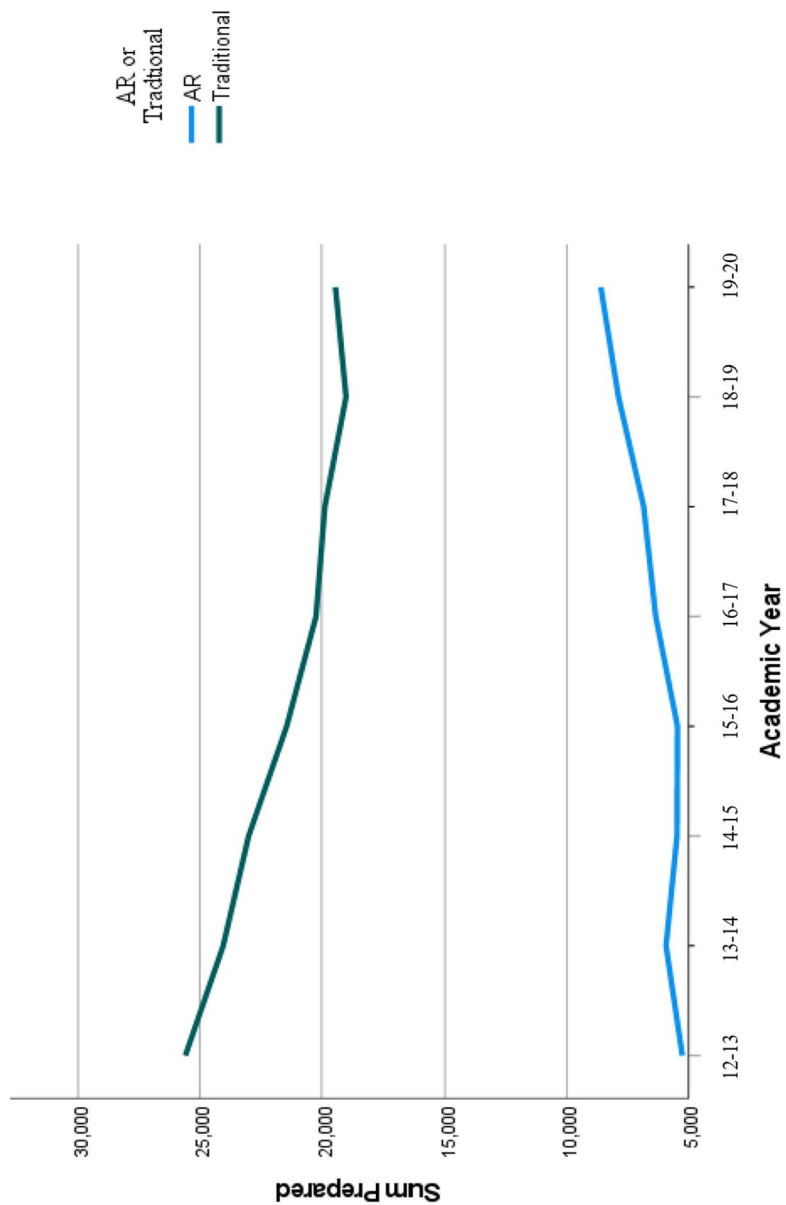
*Note.* Title II:12-20 = Title II Reports from the U.S. Department of Education in academic year 2012-2013 through 2019-2020



**Figure 4.5**

*Special Education Completers by Preparation Program from Title II: 12-20*

*Note.* Title II:12-20 = Title II Reports from the U.S. Department of Education in academic year 2012-2013 through 2019-2020; IHE = institution of higher education

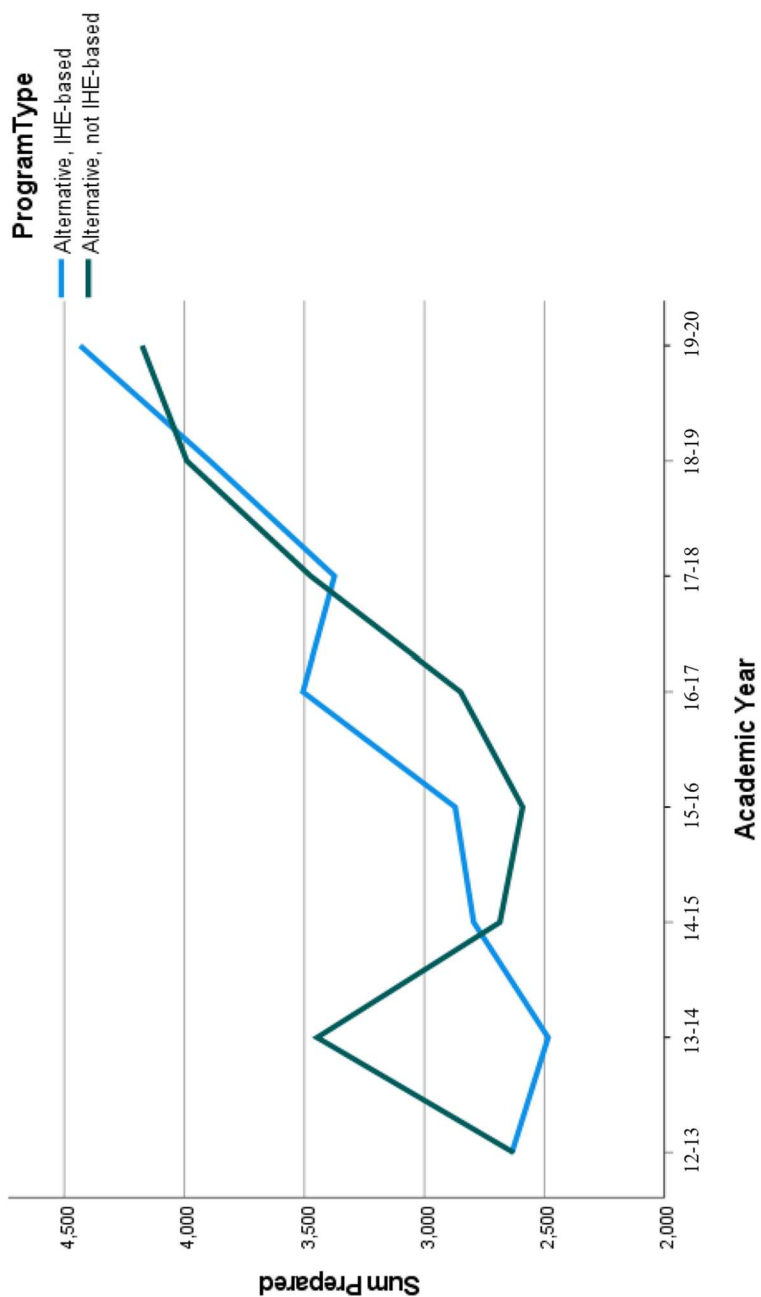


**Figure 4.6**

*Sum of Special Education Completers by Traditional and Alternative Preparation*

*Program from Title II: 12-20*

*Note.* Title II:12-20 = Title II Reports from the U.S. Department of Education in academic year 2012-2013 through 2019-2020; AR = alternative route



**Figure 4.7**

*Sum of Special Education Completers by Alternative Preparation Program Type from Title II: 12-20*

*Note.* Title II:12-20 = Title II Reports from the U.S. Department of Education in academic year 2012-2013 through 2019-2020; IHE = institution of higher education

**Table 4.1***Preparation Program Requirements from Alternative Route Pathways in Title II: 20*

*Note.* Title II:20 = Title II Reports from the U.S. Department of Education in academic year 2019-2020; IHE = institution of higher education, \* $p < .05$ , \*\* $p < .01$  with Bonferroni's adjustment.

	Alternative Route		Alternative			
	IHEs		Route non-IHEs			
	(N = 56)		(N = 57)			
Requirement	%	N	%	n	$\chi^2$	Cramer's V
Pedagogy	91.1	51	71.9	41	6.841**	.246**
Credit Hours	58.9	33	38.6	22	4.674*	.203*
Clinical Supervision	83.9	47	61.4	35	7.199**	.252**
Employment	57.1	32	66.7	38	1.087	.098
Mentoring	78.2	44	56.1	32	6.147*	.239*

## **Chapter Five**

The shortage of special education teachers is a historical dilemma that threatens the legal rights of students with disabilities (Billingsley & Bettini, 2019; CEEDAR Center, 2020; Monnin et al., 2021) and recent reports indicate that the issue is not dissipating (U.S. Department of Education, 2022). As the supply of qualified special education teacher dwindles and the student with disability population continues to rise, a detrimental special education teacher shortage exists across the United States (Boe, 2006; Dewey et al., 2017; Peyton et al., 2021). As a result, OSEP has focused on combating the teacher shortage by examining evidenced-based strategies to attract, prepare, and retain highly effective personnel. Often referred to as policy leverage briefs, OSEP highlights these strategies that are essential for stakeholder groups to build an effective special education teacher pipeline (U.S. Department of Education, 2020). One of these policies is alternative route (AR) preparation programs, which are generally defined from the federal government as nontraditional preparation paths for teachers to obtain a state license.

Despite previous investigations illuminating the role of various ARs in preparing culturally diverse special education teachers, the experiences of linguistically diverse AR teacher candidates have not been investigated in prior studies. Furthermore, previous studies have investigated the characteristics of special education ARs in a specific geographic region, yet no studies to date have analyzed the national trends of special education ARs. Therefore, the purpose of these investigations was to (a) examine the

experiences of multilingual special education teacher candidates in a specific Grow Your Own alternative route program, and (b) analyze the national trends of alternative route programs and their affiliated pathway preparation requirements. In the following sections, empirical contributions to the field regarding the importance of including linguistically diverse teacher experiences within special education teacher preparation, and the national special education preparation program trends with their affiliated research-based preparation requirements are discussed. Finally, the implications for future research and policy derived from these studies will be discussed.

### **Empirical Contributions**

#### **Multilingual Teacher Candidates in Grow Your Own Programs**

Multilingual paraprofessionals who work with students with disabilities, (a) reported specific working experiences within their school community, and (b) reported barriers and successes on their journey to become licensed special education teachers/specialist within their Grow Your Own program. Although researchers have suggested that paraprofessionals hold an important role in the education of students with disabilities (Dai et al., 2007; Giangreco et al., 2010; Stockall, 2014) and were often connectors between the school and community (Chopra, 2004; French, 2004), this is the first study that illuminated the working experiences of multilingual paraprofessionals serving students with disabilities. Furthermore, a previous policy brief reported the potential of multilingual paraprofessionals becoming certified teachers through Grow Your Own programs (Williams et al., 2016), yet no studies to date have empirically

examined the experiences of multilingual paraprofessionals becoming certified special education teachers or perceptions of their school district's Grow Your Own program.

Consistent with prior research conducted on paraprofessionals in special education, I found that multilingual paraprofessionals reported unstandardized working roles, hierarchical differential powers, and express the importance of faculty collaboration to successfully perform their job within their schools. However, this study was the first to posit that multilingual paraprofessionals specifically servicing students with disabilities serve as linguistic connectors between (a) students and teachers; (b) families and teachers; and (c) families and the comprehensive school community. These findings extend on previous research that reports paraprofessionals serve as connectors within the school community, with specific regard to their multilingual attributes (e.g., language acquisition knowledge, culturally linguistic lived experiences, communicating with families in their home language).

Regarding the AR IHE Grow Your Own (GYO) program, multilingual paraprofessionals' perceptions align with previous research in that they expressed facing bureaucratic and financial obstacles during their career advancement to become certified teachers. However, contrary to previous literature, these multilingual paraprofessionals did not express academic obstacles but rather pride and success in their teacher preparation coursework. This transformative finding is essential in viewing multilingual paraprofessionals' linguistic abilities as an asset in teacher preparation. Policy stakeholders need to move away from the harmful deficit assumption that an individual's multilingualism will impair success in an academic teacher preparation program.



Overall, these participants reported plans to continue servicing students with disabilities. However, all disclosed they would remain in their current paraprofessional role, as they expressed doubts about becoming teachers. They reported high retention rates within the special education field but were wary to fulfill these critical teacher vacancies which their AR IHE program aimed to do. It should be noted that multilingual GYO participants had not completed their AR program at the time of the study, which was inclusive of continued mentorship and additional teacher preparation coursework at their affiliated universities. Based on these findings, it can be concluded these multilingual paraprofessionals are valuable personnel within special education and the overall school community. Additional research is needed to evaluate the career advancement of multilingual paraprofessionals within Grow Your Own Programs and the extent to which multilingual paraprofessionals fulfill high-needs special education teacher vacancies after their preparation completion.

### **National Trends of Alternative Route Programs and their Requirements**

To evaluate the extent AR programs produced certified special education teachers, the second study employed a large-scale descriptive analysis on evaluating teacher preparation program trends across the United States. My longitudinal findings extended on previous special education AR studies as it was the first to evaluate (a) AR special education programs across the United States; (b) special education teacher preparation program trends over time; and (c) disaggregate current trends on program affiliation: alternative routes with institutions of higher education (AR IHE) and those that are not (AR non-IHE). Overall, traditional preparation programs continue to

produce the largest amount of licensed special education teachers eligible for classroom placements. However, traditional preparation enrollment and completer trends are decreasing over time, whereas both AR IHE and AR non-IHE enrollment and completer trends are steadily increasing over time. Additionally, in terms of the proportion of their teacher candidate enrollees, AR programs recruited a more diverse teacher candidate population in terms of race (e.g., Hispanic, Black/African American, Asian, Multi-Race) and gender (e.g., male) compared to traditional preparation programs. Consistent with previous literature in the early 2000s (Rosenberg & Sindelar, 2005), findings suggest the proliferation of ARs continues to be accurate but not in regards to longitudinal increases of teacher candidate enrollees or AR special education completers.

Furthermore, AR pathway preparation requirements were evaluated to serve as a proxy for the quality of special education teacher preparation. The purpose was to compare AR IHEs and AR non-IHE pathways regarding the extent they required research-based preparation requirements (e.g., pedagogy courses, minimum coursework hours, clinical supervision, and mentoring) and if holding true to previous literature, evaluate the percent of AR pathways that required teacher candidates to be employed (e.g., provisionally licensed special education teachers). The magnitude of preparation differences between AR type was significantly strong ( $p < .01$ ) regarding requiring pedagogy coursework and clinical supervision for special education teacher candidates. Furthermore, AR types differed ( $p < .05$ ) according to their mentorship and minimum coursework hours, but not significantly strong when accounting for Bonferroni's adjustments. It is likely that significant outcomes would occur for mentoring and

coursework hours if future investigations are conducted on individual AR programs to elicit a larger sample and statistical power. Regarding if AR pathways require teacher candidates to be employed special education teachers, the AR types were similar in that most of them both required teachers to be employed while participating in the preparation program (AR IHE = 57%; AR non-IHE = 66%).

Based on the second study's findings, it was concluded that it is imperative to analyze longitudinal trends in special education teacher preparation that compares the outcomes (e.g., quantity of teacher candidates) and characteristics (e.g., quality of preparation) of different program types. Monitoring trends in special education teacher preparation provides useful information about the current teacher recruitment needs and the projected long-term supply of qualified teachers.

### **Future research**

The notion of multilingual paraprofessionals expressing retention in their current role servicing students with disabilities, but not wanting to become teachers was an unexpected finding in this qualitative study. Future research is needed to investigate if this phenomenon holds true with other multilingual paraprofessionals participating in Grow Your Own programs, and if so, analyzing why multilingual paraprofessionals are hesitant to fulfill special education teacher vacancies. This analysis consisted of a small population ( $n = 3$ ) within one school and examined a specific GYO program. Therefore, before any generalized conclusions are made, it is recommended that future research continues investigating these exploratory findings. Additionally, it is recommended that future research examines the role of multilingualism/linguistic diversity within special

education teacher preparation. To date, no investigations that examined multilingual special education teacher candidates in AR programs have been noted. To fully evaluate the role of cultural and linguistic diversity in special education teacher preparation, it is recommended that future studies investigate the intersectionality of race and multilingualism in various preparation models. Future research needs to center multilingual teachers' voices and knowledge about language in culture within special education teacher preparation.

In addition, the results indicated that there is an increasing trend of certified AR special education teachers who earn certification in AR non-IHEs. There is little research that investigates these AR non-IHEs in special education teacher preparation. Therefore, it is recommended that future studies investigate whether these produced AR non-IHE teachers progress in the special education teacher pipeline by fulfilling teacher vacancies. In this study, variables representing special education completers signified that teacher candidates had graduated from their preparation program and were eligible for special education teacher licensure. Additional longitudinal research is needed to determine if (a) they fulfill special education teacher vacancies; (b) their teaching quality in the classroom from applying their preparation; and (c) their retention in the special education teacher workforce. Furthermore, it is recommended that future research explores a specific AR non-IHE program that prepares special education teacher candidates. By researching an individual AR non-IHE special education program, a robust analysis could be conducted on its program characteristics, infrastructure, and recruited participants. An in-depth analysis of an AR non-IHE could also analyze the extent to which the localness of

teacher labor markets is driven by stakeholder relationships between an LEA and private organization that is exclusively outside institutions of higher education.

Lastly, continued future research is recommended within special education that explores multiple federal, state, and local policies that aim to combat the special education teacher shortage. Additional research requires many policy examinations that aim to attract, prepare, and retain highly qualified special education personnel. Alternative routes are just one piece of the teacher shortage crisis puzzle, as it takes multiple distinct efforts to alleviate this national workforce issue.

### **Policy Implications**

The results of these studies suggest that alternative routes are prevalent and are projected to continue producing ample amounts of eligible special education teachers. There are policy implications involving successful collaboration of various stakeholders at federal, state, and local government agencies in alternative route programs. These policy implications include alternative route program recruitment and implementation to adequately prepare and retain highly effective special education teachers.

### **Recruitment Considerations**

Alternative route programs generally aim to recruit “nontraditional” special education teacher candidates who do not have a degree in education (U.S. Department of Education, 2022). When recruiting nontraditional teacher candidates into ARs, stakeholders should consider identifying multiple funding sources to support the enrollees (e.g., Title II and IDEA funds, state and federal grants, community organizations). For example, The University of Utah alternative teacher pathway, recruited AR special

education teacher candidates through both OSEP and state-funded programs. Enrollees benefited from the grant stipends and reported that they would not have been able to manage the financial burden without them (Jameson et al., 2019). Next, to publicize the recruitment efforts, it is recommended that stakeholders (a) raise awareness of the AR amongst teacher preparation personnel (e.g., faculty members, school district leaders, state certification officers, webmasters); (b) maintain a strong digital presence with an updated website, online advertisements, and affiliated links on state websites (Abell et al., 2006); and (c) offer online AR programs (e.g., asynchronous, synchronous) to recruit individuals in rural areas (Ault et al., 2019; Hollo et al., 2019).

Furthermore, there are specific recruitment considerations for attracting culturally and linguistically diverse individuals into special education ARs. Consistent with previous literature, (Carver-Thomas, 2018; Scott et al., 2019; Quigney, 2010) findings showed that many alternative routes have attracted a diverse pool of applicants. Therefore, policy implications include the continued effort to recruit culturally and linguistically diverse personnel through financial incentives (e.g., tuition waivers) and additional pathways to earn an advanced degree that may lead to other leadership roles in special education (Scott, 2019). Moreover, recruitment policy implications also include alternative route programs disclosing supports that are sensitive to the needs of diverse personnel. For example, it is recommended that ARs include mentorship from a professional of a similar background (Chin & Young, 2007). To successfully prepare recruits to become highly qualified special education teachers, policy implications on

program implementation must be addressed to improve the coursework, field work, and mentorship they receive.

### **Components for Implementation**

Due to participants expressing feelings of unpreparedness (see Chapter 3) and the variety of preparation requirements amongst ARs (see Chapter 4), it is essential for stakeholders to consider several components for implementation. First, it is recommended that AR programs initially identify individuals who will administer the teacher preparation supports to the participants. Supports may consist of, but are not limited to, (a) IHE faculty providing pedagogical coursework; (b) LEA experienced special education teachers providing mentorship; and (c) SEA officers providing state licensure support to verify completion (Rosenberg et al., 2007). In providing a strong and organized initial start-up, the AR program is better prepared to meet the needs of their candidates through stakeholder collaboration.

Additionally, OSEP recommends further guidelines to increase continuous AR program improvement. Recommendations consist of stakeholders (a) reviewing preliminary data on teacher candidate outcomes (e.g., completion rates, state test scores, field placement observations); (b) gathering feedback from the AR faculty, teacher candidates, and affiliated LEA personnel; and (c) developing guidance tools to communicate with various personnel. Continued refinements to the AR program should be made based on multiple data sources to ensure continuous implementation success. Alternative route special education teacher recruitment, preparation, and retention in the field should be longitudinally evaluated to meet the needs of students with disabilities.

## **Conclusion**

In conclusion, as the special education teacher shortage continues to be problematic, it is imperative to examine recruitment and preparation efforts through alternative route preparation programs. During the COVID-19 era, special education teacher shortages are anticipated to further exacerbate, while students within the special education population continues to rise. Furthermore, as the PK–12 student population with disabilities become increasingly more diverse, special education teachers' cultural and linguistic backgrounds are policy relevant. As a result, it is an opportune time to investigate the effectiveness of various alternative route preparation programs and state pathways. We must combat the national special education teacher shortage, which threatens the educational rights legally entitled to students with disabilities.



## Appendix A

### Chapter Three IRB Approval Letter



#### Office of Research Integrity and Assurance

Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030  
Phone: 703-993-5445; Fax: 703-993-9590

DATE: December 14, 2020

TO: Sarah Nagro  
FROM: George Mason University IRB

Project Title: [1691499-1] The Experiences of Multilingual Paraprofessionals in the Assistant to Teacher Program

SUBMISSION TYPE: New Project

ACTION: APPROVED  
APPROVAL DATE: December 14, 2020  
REVIEW TYPE: Expedited Review

REVIEW TYPE: Expedited review category #7

Thank you for your submission of New Project materials for this project. The George Mason University IRB has APPROVED your submission. This submission has received Expedited Review based on applicable federal regulations.

**You are required to follow the George Mason University Covid-19 research continuity of operations guidance. You may not begin or resume any face-to-face interactions with human subjects until (i) Mason has generally authorized the types of activities you will conduct, or (ii) you have received advance written authorization to do so from Mason's Research Review Committee. In all cases, all safeguards for face-to-face contact that are required by Mason's COVID policies and procedures must be followed.**

Please remember that all research must be conducted as described in the submitted materials.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form unless the IRB has waived the requirement for a signature on the consent form or has waived the requirement for a consent process. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by the IRB prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to the IRB office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed (if applicable).



## Appendix B

### Chapter Four IRB Approval Letter



#### Office of Research Integrity and Assurance

Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030  
Phone: 703-993-5445; Fax: 703-993-9590

DATE: March 25, 2022

TO: Sarah Nagro  
FROM: George Mason University IRB

Project Title: [1890951-1] Alternative Route Preparation Programs and the Special Education Teacher Supply

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF NOT HUMAN SUBJECT RESEARCH

DECISION DATE: March 25, 2022

Thank you for your submission of New Project materials for this project. The Institutional Review Board (IRB) Office has determined this project does not meet the definition of human subject research under the purview of the IRB according to federal regulations.

**You are required to follow the George Mason University Covid-19 research continuity of operations guidance. You may not begin or resume any face-to-face interactions with human subjects until (i) Mason has generally authorized the types of activities you will conduct, or (ii) you have received advance written authorization to do so from Mason's Research Review Committee. In all cases, all safeguards for face-to-face contact that are required by Mason's COVID policies and procedures must be followed.**

Please remember that if you modify this project to include human subjects research activities, you are required to submit revisions to the IRB prior to initiation.

If you have any questions, please contact Kim Paul at (703) 993-4208 or [kpaul4@gmu.edu](mailto:kpaul4@gmu.edu). Please include your project title and reference number in all correspondence with this committee.

Please note that department or other approvals may be required to conduct your research.

GMU IRB Standard Operating Procedures can be found here: <https://oria.gmu.edu/topics-of-interest/human-subjects/>

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.

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## **Biography**

Jamie Day has worked in the K-12 education sector for over 10 years. She earned her Bachelor of Science in Psychology from Virginia Tech in 2010. After her undergraduate studies, she was an Americorps service member and worked on a state funded literacy program for at-risk elementary students. Jamie then went on to earn her Master of Education in English of Speakers of Other Languages at George Mason University in 2013. Since earning her M.Ed., Jamie has worked as an English Learner teacher and served as a lead teacher for most of her K-12 teaching career. Jamie is passionate about multicultural education, disability rights, and the affiliated economic impacts in her work and research.