Alternative Route Special Educators' Perceptions of Preparation toward Virginia Teaching Standards

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Abstract

Special education teachers enrolled in a Virginia-based alternate route certification program were surveyed to determine if they perceived the program was valuable for creating effective special educators, and the focus of the study was on the effectiveness of alternative route programs for teacher preparation. The literature review showed scant research existed regarding the effectiveness of alternate route special education programs. A sample of alternate route special education teachers rated their perceptions of the preparation they received, based on state and national standards and the extent the program met their needs. Findings showed participants perceived the program was highly effective in preparing them to become special education teachers in addition to participants noting high satisfaction with the program.

Keywords: alternative route programs; alternative teacher certification

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Introduction

A significant need for qualified educators exists, specifically in the field of special education. The shortage of special education teachers is greater than other teacher shortages in any area, including when teachers enter the profession because the level of attrition is high (Boe & Cook, 2006; Helms-Lorenz, van de Grift, & Maulana, 2016). Most special educators do not feel prepared to meet the ongoing demand of the profession (Kerr & Brown, 2016). The research suggests a strong need for effective programs that can meet the needs of future special educators (Goldhaber & Cowan, 2014; Brownell, Ross, Colón, & McCallum, 2005). To meet the shortage within the field, administrators of universities, schools, and state and local education agencies seek alternative route programs (ARPs) for teachers to become certified (Connelly, Rosenberg, & Larson, 2014; Karge & McCabe, 2014).

Impact of Alternative Route Programs

Alternative route programs (ARPs) can be used to address teacher shortages through teacher education programs that involve the teachers, school administrators, and educators' prior experiences (Baeten & Meeus, 2016; Humphrey & Wechsler, 2007). Humphrey and Weschler (2007) suggested special educators certified through ARPs are more likely to remain in the profession compared to special educators who are uncertified. Some experts questioned the value ARPs have in training special educators to meet the challenges of supporting students with special needs (Nougaret, Scruggs, & Mastropieri, 2005; Robertson & Singleton, 2010). Experts were concerned with some factors including concerns about the effectiveness of teachers prepared through ARPs and/or the retention of teachers in high need areas, such as special education (Robertson & Singleton, 2010).

Although thorough comparative studies have been completed (McDonnell, et al., 2011; Robertson & Singleton, 2010; Sindelar, et al., 2012), research is limited regarding determinations if ARPs or traditional teacher preparation programs best prepare the most effective teachers (Brownell, Ross, Colón, & McCallum, 2005; Cochran-Smith & Villegas, 2016). Research has indicated that teachers trained within ARPs can become as highly effective as teachers prepared within traditional programs (Humphrey & Wechsler, 2007; Haj-Broussard, et al., 2016), while other research indicated that teachers prepared in traditional programs outperform teachers from ARPs (Koedel, Parsons, Podgursky, & Ehlert, 2015; Nougaret et al., 2005). Other researchers found that ARP programs are able to meet the demands of the field (Ingersoll, Merrill, & May, 2014, Robertson & Singleton, 2010), creating a more diverse workforce with higher retention rates. Other researchers found no differences existed on standardized measures (McDonnell, et al., 2011). The unclear findings indicated that further research is needed to determine the effectiveness of alternative versus traditional route programs.

Teacher Perceptions of Programs Matter

One method of authenticating the effectiveness of teacher preparation programs involves surveying program participants about their experiences and outcomes (e.g., skills and knowledge) of the program (Coggshall, Bivona, & Reschly, 2012). Esposito and Lal (2005) examined special education teachers enrolled in a California-based ARP across specific

components of the program (e.g., program perceptions and preparation based on National Council on Accreditation of Teacher Education, NCATE, standards), and questions specific to the special education program. The participants indicated that the program courses and field experiences prepared them to meet the demands of multiethnic, multilinguistic, and urban settings. Additionally, the participants were asked to rate the effectiveness of the preparation on a limited set of program goals (e.g., ability to perform job, meet the standards of the profession, and utilize technology effectively). Generally, the participants indicated that the ARP program effectively prepared them to meet the goals. Esposito and Lal (2005) and other related ARP researchers provided suggestions for how participants perceive the effectiveness of their preparation in special education ARPs.

Teacher Retention

The participant selection included teachers who were teaching full time and had insights into the components of the program that impacted their retention. Haj-Broussard and colleagues (2016) evaluated teacher retention rates for individuals trained in alternative route programs, indicating approximately 75% remained in teaching in their third year. Karge and McCabe (2014) found that, when specific components were incorporated into the program, retention was 96%. While researchers have evaluated teacher retention, few published studies exist in which researchers have examined special education teachers' perceptions of ARP programs and the training received. Some studies have been conducted surrounding ARPs and teacher shortages investigating teachers' licensure, employment, and retention, as well as effectiveness of ARP programs (Cobia, Stephens, & Sherer, 2015; Haj-Broussard, et al., 2016; Ross & Lignugaris-Kraft, 2015), but the researchers did not investigate how participants perceived the effectiveness of their preparation in special education ARPs.

A replication of the study by Esposito and Lal (2005) was conducted with a sample of teachers from an alternative pathway program located at a Virginia-based university to understand whether participants perceived that the program met their needs to become effective special education teachers. The study was extended to include more descriptive information about who (e.g., the characteristics of participants) was entering the ARP program and their perceptions based on more current national and state standards. Since the study by Esposito and Lal (2005), little research has been conducted regarding how teachers perceive their ARPs in special education. In fact, the present study was part of a larger study that focused on a national representation of teachers in alternative and traditional special education programs. More specifically, researchers of the larger study investigated overall special education teacher perception of preparation programming (Scott & Puglia, 2017). The current study was conducted with a subgroup of participants and researchers focused on how participants rated their experience in the Virginia-based ARP program and the extent that this program prepared them to meet national and state standards. Responses to the survey allowed for the investigation of the relationship between the variables.

Theoretical/Conceptual Framework

In order to gain a better understanding of who is entering ARPs, the perception of their effectiveness in the classroom, how the ARP prepared them, and what program characteristics

were beneficial and effective, the current research was grounded in two established learning theories: Bandura's (1977) social learning theory (SLT) and Shulman's (1987) teaching reform.

Bandura's (1977) social learning theory was grounded in the following three areas: (a) observation, (b) imitation, and (c) modeling, highlighting the idea that individuals learn through interaction with their environments. The learning experiences and support provided in teacher preparation programs are used to influence how educators gain their skills, dispositions, and beliefs (Zimmerman & Schunk, 2001). Part of the beliefs are related to how effective teachers feel they are in the classroom.

Self-efficacy is defined as teachers' attitudes toward helping students and their satisfaction and motivation while working with students (Tschannen-Moran & Hoy, 2001). Teacher preparation programs can influence teacher efficacy immensely, indicating a need to measure teachers' perceptions and thoughts of the program and their beliefs regarding their teaching in the field.

Bandura's (1977) theory was related to the development of the individual and people's beliefs in a social context, while Shulman's (1987) work on teaching reform indicated for teachers to be effective, they must have a strong knowledge base, with an emphasis on reasoning, comprehension, transformation, and reflection. As individuals progress through the teacher preparation program, they learn varying ideals, including pedagogy, content, and curriculum knowledge (Shulman, 1987). Shulman suggested leaders of teacher preparation programs can prepare teachers with the content knowledge, but when in the classroom, further knowledge is required, including (a) knowledge of the individual learners, (b) the educational contexts, and (c) the overall learning outcomes that are expected. To be effective, teachers must continually increase their knowledge base (Shulman, 1987). The evaluation of teachers after their preparation programs gives an opportunity to identify how well prepared they felt, including methodological and social knowledge (Shulman, 1986). The two theories of learner development and growth over time were used to develop the following research questions that addressed the focus of the current study:

RQ$_1$. Who is entering the ARP program (i.e., age, race, gender, and reasons for entering)?

RQ$_2$. Do special education teachers who are seeking or have earned an alternative licensure in special education perceive that their training prepared them to meet teaching standards that are also designed to meet teacher effectiveness?

RQ$_3$. What program characteristics, including (a) program features, (b) courses, and (c) costs, do participants find as effective features of the ARP program?

RQ$_4$. To what extent do participants feel satisfied with the preparation received in the program? The following variables were used to evaluate the teacher preparation program: (a) demographic data, (b) effectiveness, (c) program characteristics, and (d) satisfaction with the ARP.

About the ARP Program

The ARP that was examined in the current study is aimed at providing special educators with high-quality programs, as defined by the Virginia Department of Education, to complete requirements leading to eligibility for a five-year renewable license in special education-general curriculum K-12. For participants to qualify for the ARP, they must hold an active provisional license in special education-general curriculum K-12, allowing them to work as teachers in classrooms serving students with high incidence disabilities (e.g., specific learning disability, mild/moderate intellectual disability, and emotional disturbance). The ARP is designed to assist school districts within the state that need to hire and effectively prepare provisionally licensed special educators.

Thirteen cohorts of participants have been established, serving approximately 148 special educators with 90% earning full licensure. Scholars in the ARP complete 27 credit hours focused on special education content, methods and strategies, cultural diversity, and foundations of education. While the ARP seeks to fill shortages in a local urban setting, scholars can teach anywhere in the state of Virginia.

Essential Features of the ARP Program

Three essential features exist in the ARP program. The features include online format and online learning, training to meet state and national preparation standards, and costs.

Online format and online learning. The coursework for the program is delivered fully online and used to offer participants an opportunity to work while obtaining their licenses. All coursework follows a standardized cohort model for online instructional delivery. The program integrates synchronous and asynchronous teaching and learning opportunities to students with online courses. Coursework is arranged so that participants can learn in flexible ways: Via different modalities in how information is presented (e.g., video lectures, readings, and journals), how students can choose to respond or demonstrate knowledge and skills (e.g., discussion boards, formative assessments, and field work), and through the ways they are engaged with content (e.g., digital and multimedia content).

Training to meet state and national preparation standards. The program is an approved special education personnel preparation program for special education-general curriculum K-12. Developers of the program also aligned the curriculum to meet national preparation standards from the Council for Exceptional Children (CEC, 2015). Officials from the CEC guide what specialized curriculum, skills, and knowledge special educators must have in order to be effective professionals in the field (Griffin, van Garderen, & Ulrich, 2014).

Costs. The costs of the program have been reduced significantly for participants, compared to traditional campus programs at the university and within the state. Additionally, students receive a financial stipend to reduce costs each semester. Students must take a minimum of three credit hours each semester to receive the financial stipend.

Methodology

A two-part survey was created to collect answers to the research questions. The Special Education Teacher Preparation toward Standards (SETPT) survey was developed using the Virginia Standards for the Professional Practice of Teachers of Special Education, the Virginia Standards for the Professional Practice for All Teachers, and the CEC's Initial Specialty Set for the Individualized General Curriculum National Standards (CEC, 2015). Standards were compared across all areas using a cross matrix (see Appendix A). Questions were created from commonalities between all standards, as well as incorporating national standards not addressed in the Virginia standards or vice versa. The results showed 55 competencies across seven standards, which were used to develop 26 survey questions. The next part of the survey was used to focus on program characteristics, where five questions with multiple components were developed. The questions targeted participants' perceptions about program features, courses, experiences, and costs.

To help establish content validity, the draft of the SETPT was sent to three experts in the field who are familiar with teacher preparation standards and five doctoral candidates. The survey was pilot-tested by 28 students enrolled in the graduate-level special education course to minimize error in survey implementation. The expert reviewers, doctoral candidates, and students who were enrolled in the course provided feedback about the clarity of each question and each section of the survey, length of the survey, and ways to get potential participants motivated to participate in the survey. Based on the feedback, three questions were removed from the final survey based on repetition and interpretation of the content. The final survey consisted of 26 items, with many questions having multiple components.

Reliability was calculated using Cronbach's Alpha to measure the internal consistency of the different focus areas, specifically, how closely related a set of items are as a group, and these are reported below in Table 1. Reliability scores of .7 or higher are considered acceptable in social science research (Creswell & Creswell, 2018), and all focus areas have a reliability of .9 and above, which suggests that the items have high internal consistency.

Table 1
Measure of Internal Consistency for Teacher Certification Survey

Focus Area	Cronbach's Alpha
Knowledge	.973
Planning	.961
Delivery	.937
Assessment	.963
Environment	.969
Professionalism	.965

The final SETPT survey instrument for the study consisted of two sections. Section A included (a) demographic characteristics of the participants (e.g., age, gender, education level); (b) the route sought to complete teacher license; (c) the overall satisfaction with their teacher preparation program; and (d) the courses participants found most useful in their teacher preparation programs. Section B of the survey was entitled Preparation Standards and documented the sets of standards derived from the Virginia and CEC standards. The section consisted of only six subsections that had multiple components categorized by each standard. A Likert scale for questions in Section B ranged from 1–5, with 1 = *strongly disagree*, and 5 = *strongly agree*.

The first subsection, knowledge, was used to focus on the ability of participants to understand curriculum, content, and the developmental needs of students with disabilities. The second subsection, planning, was used to focus on participants' abilities to use state standards, school curriculum, and the abilities to use effective strategies, resources, and data to make decisions and meet student needs. The third subsection, delivery, was used to focus on instructional strategies to meet students' needs. The fourth subsection, assessment, was used to focus on the participants' abilities to gather and analyze data to track academic progress, guide instructional content and delivery methods, and provide feedback to teachers and families. The fifth subsection, environment, was used to focus on the participants' abilities to use and provide a safe, productive, and student-centered learning environment. The sixth and final subsection, professionalism, was used to focus on the participants' abilities to provide professional practice (e.g., ethics, communication, and responsibility) to enhance student learning.

Procedures

The survey was sent electronically between November and December of 2016 to the ARP program graduates. In the current study, 382 potential participants were identified, based on email addresses that were accessible. Of the potential email addresses, only 267 were active once surveys were distributed. With the questions, the survey included a brief introduction message that explained the Institutional Review Board (IRB) approval and intent of the study. Two weeks after the initial survey was distributed, an email reminder was sent to the individuals who did not have a chance to participate in the study. A second reminder notice was sent approximately 30 days after the initial survey. Two months following the initial distribution, a final request was sent to potential participants. Ultimately, 93 participants responded to each survey, representing a 34.8% return rate, which is a typical response rate for an online survey (Dillman, 2007; Fowler, 2008). The demographic data of this sample are presented below in Table 2.

Table 2
Demographic Data Results of Participants

Demographic Data	*n*	%
Age		
Under 30	15	16
30-40	32	34
41-50	28	30
51-60	14	15
61-70	4	4
Gender		
Female	83	89
Male	10	11
Ethnicity		
White, Non-Hispanic	70	75
Black, Non-Hispanic	22	23
Asian/Pacific Islander	1	2

Note. *n* = number of participants; % = percentage of total participants.

Data Analysis

To answer Research Question 1 (RQ_1), the electronic records of the participants were reviewed. Archived records for participants dated to 2010. Participants' responses to the survey were used to answer Research Questions 2, 3, and 4. More specifically, descriptive statistics were used to analyze the demographic content of the survey, and to determine rankings for perceptions of preparation on standards, satisfaction, and frequency. Means and standard deviations were analyzed from the quantitative data.

Results

RQ_1. Who is entering the ARP program (i.e., age, race, gender, and reasons for entering)?

Demographic data from the review of records are shown in Table 3. The demographic data of the review of records of those who entered the program are based on a review of records dating to 2010. Those who participated in the survey differ slightly than the demographic data that were analyzed for Table 2. The final total consisted of 148 records. Please see Table 3.

Table 3
Demographic Data of Program Records

Demographic	*n*	%
Age		
Under 30	68	45.9
30-40	45	30.4
41-50	26	17.6
51-60	5	3.4
61-70	4	2.7
Gender		
Female	106	72.1
Male	42	27.9
Ethnicity		
White, Non-Hispanic	75	50.6
Black, Non-Hispanic	60	40.5
Asian/Pacific Islander	3	2.0
Other	10	6.6

Note. n = number of participants; % = percentage of total participants.

RQ2. Do special education teachers who are seeking or have earned an alternative licensure in special education perceive that their training prepared them to meet teaching standards that are also designed to meet teacher effectiveness?

Program Standards. Table 4 shows the mean and frequency of the Professional Knowledge Standards participants perceived as most effective in meeting their preparation needs.

Table 4
Professional Knowledge Standards

Standard	*N* = 93	*M*	*SD*
Understand how students learn and develop.		4.34	.760
Design, implement, and evaluate instructional methods that enhance social participation & make subject matter meaningful.		4.19	.924
Review data, assessments, and diagnostic information to develop and modify appropriate IEPs.		4.25	.924
Maintain confidentially and respect privacy of students, families, colleagues, and administrators.		4.40	.825
Identify, assess, use, and maintain assistive technologies.		3.72	1.136
Understand the causes, diagnoses, and medical aspects of disabilities.		3.94	1.009
Understand the similarities and differences of varying disabilities.		4.23	.960
Understand the educational implications of disabilities as they relate to varying areas of development.		4.19	.970
Understand the characteristics and effects of culture and environment.		4.09	.905
Understand the laws, regulations, and policies.		4.34	.731
Understand the historical background of special education.		4.20	.743
Plan, implement, and assess standards specifically in math and reading.		4.09	.905
Know how to implement age and ability appropriate research-based, instructional strategies.		4.13	.947
Use research-supported methods for transition and other nonacademic instruction.		3.96	1.053
Understand the barriers to accessibility and promote access of related services.		4.09	.974
Encourage social and emotional growth by acknowledging the effect of peers on social-emotional development.		4.12	.908
Understand the effects of language development and listening comprehension on academic and nonacademic learning.		4.00	1.083
Understand communication and social interaction alternatives for individuals who are nonspeaking.		3.74	1.132
Recognize and understand typical language development and how it may differ.		3.94	1.009

Note. Scale: 5 = *strongly agree*, 1= *strongly disagree*, *SD* = standard deviation, *N* = number of participants, *M* = mean.

Table 5 shows the means and standard deviations of the participants' responses to the Planning Standard.

Table 5
Planning Standards

Standard	*N* = 93	*M*	*SD*
Design lessons focused around subject matter, community, IEP goals, and student's needs.		4.07	.975
Collaborate with colleagues to develop and implement instructional programs focused on transition.		4.00	.988
Plan, differentiate, modify, and adapt instruction in a variety of settings.		4.15	.788
Use sources of specialized materials, curricula, and resources.		3.87	1.046
Select, plan, and coordinate activities with related services.		3.76	.993
Implement methods for increasing accuracy and proficiency in math.		3.58	1.069
Implement methods for guiding individuals in identifying and organizing content.		3.72	.935
Interpret sensory, mobility, and perceptual information to create and adapt appropriate lessons.		3.63	1.103
Understand how to design and implement instructional strategies for medical self-management.		3.33	1.034
Understand prevention and intervention strategies for students at risk for a disability.		3.80	1.014

Note. Scale: 5 = *strongly agree*, 1= *strongly disagree*, *SD* = standard deviation, *N* = number of participants, *M* = mean.

Table 6 shows the means and standard deviations of the participant responses to both the Delivery Standard and Assessment Standard. For the Delivery Standard, participants rated each standard as effective in meeting their preparation needs.

Table 6
Delivery and Assessment Standards

Standard	*N* = 93	*M*	*SD*
Delivery			
Use appropriate instructional strategies and practices to foster positive interactions.		4.15	.788
Use a variety of materials, technologies, and resources that promote independence, self-determination, problem solving, and study skills.		4.02	.954
Understand the effects of cultural and linguistic differences on student growth, development, behavior, and communication.		4.04	.868
Use varying strategies to elicit responses across settings.		4.11	.795
Assessment			
Communicate expectations, while using a variety of assessment strategies to monitor student progress and provide feedback.		4.17	.879
Use functional assessments to set measurable and appropriate goals for students and monitor progress.		4.27	.854
Use data to guide instructional decisions, make placement or eligibility decisions, and provide feedback.		4.11	.875
Select, adapt, and modify assessments to accommodate each student while recognizing limitations of assessments.		3.91	.985
Recognize, develop, and modify individualized assessments.		4.00	.943
Use multiple sources of data when making a decision.		4.13	.786
Assess and recognize methods of early identification of students who may be at risk for a disability.		3.96	.893

Note. Scale: 5 = *strongly agree*, 1= *strongly disagree, SD* = standard deviation, *N* = number of participants, *M* = mean.

Table 7 shows the means and standard deviations of the participants' responses to how Environment Standards and Professionalism Standards were used to prepare them effectively while in programming. As with earlier standards, participants indicated high ratings within each standard.

Table 7
Environment and Professionalism Standards

Standard	*N* = 93	*M*	*SD*
Environment			
Establish a consistent classroom routine.		4.17	.797
Create a learning environment that students learn self-determination, discipline, and feel empowered.		4.17	.761
Use non-aversive techniques to control targeted behavior.		4.00	.933
Establish and maintain rapport with students and families.		4.26	.820
Organize, design, and sustain a safe, supportive environment that allows student be actively engaged.		4.15	.908
Create a learning environment that shows effective management skills.		4.15	.834
Use and implement appropriate behavior management procedures for assessing social behaviors.		4.17	.842
Professionalism			
Collaborate with administrators, colleagues, families, students, and community members.		4.19	.798
Communicate effectively and in a timely manner with families.		4.11	.961
Collaborate with team members and use resources to plan transitions at all levels that encourage inclusion & participation.		4.09	.880
Reflect on what, how, and whom you teach to improve their practice.		4.26	.919
Keep up on the current research-based practices in education.		3.96	.955
Model professional and ethical standards.		4.15	.859
Engage in professional activities that benefit individuals, families, and colleagues.		4.04	.908
Understand the roles of professional groups, agencies, and related service providers.		4.02	.897

Note. Scale: 5 = *strongly agree*, 1= *strongly disagree, SD* = standard deviation, *N* = number of participants, *M* = mean.

RQ3. What program characteristics, including (a) program features, (b) courses, and (c) costs, do participants find as effective features of the ARP program?

Program Features. Participants were asked to report on the various program features that they found as effective in supporting their participation in the ARP program. In descending order, Table 8 shows participants' responses.

Table 8
Most Useful Program Features

Program Feature	*M*
Online Format	4.47
Field Experiences	4.43
Mentoring from Faculty	4.08
Program Communication with Students	3.91
Induction Support	2.97

Note. M = mean score based on a 5-point rating scale.

Courses. The next item asked participants to rate the most useful courses toward preparation while enrolled in their program. Table 9 shows the seven types of courses that were included, and the number and percentage of participants who reported the course as most useful.

Table 9
Courses Found Most Useful

Course	*N* = 112	%
Characteristics of students with disabilities	20	17.9
Assessment and evaluation	19	17
Collaboration	15	13.4
IEP implementation	18	16.1
Transition	8	7.1
Behavior and classroom management	21	18.7
Content (math, science, reading, etc.) focus course	11	9.8

Notes. N = number of participants, % = percentage of total answers.

Cost of the program. To gain information about how cost influenced participants' decisions to enroll in the program, participants were asked the following four questions: (a) Did the cost of the program impact your final decision to enroll?; (b) Do you find the cost of the program affordable?; (c) Would you be able to afford enrolling in a higher cost program if it also leads to certification in special education?; and (d) Would you pursue certification in special education if costs were higher? Overall, slightly more than 75% of the participants indicated that the cost of the program influenced their decisions to enroll, and another 85% reported that they found the program affordable. Of the participants, 90% indicated they could not afford a higher cost program and would not pursue certification in special education if costs were higher.

RQ4. To what extent do participants feel satisfied with the preparation received in the program?

When participants were asked about their satisfaction with the program, 42% indicated an extremely positive rating; followed by 29% with a very positive rating, 28% with a positive rating, and only 1% with a not-at-all positive rating of their preparation in the program.

Discussion

The importance of evaluating teachers' beliefs in their effectiveness in the field from the perspective of Bandura's social learning theory and Shulman's teaching reform was critical in

identifying the ways ARPs address the needs of practicing teachers. CEC (2015) has standards related to environmental and content characteristics, indicating that teachers need to be fully prepared and have a strong knowledge base socially and methodologically to be effective. While evaluating teacher effectiveness based on the new CEC preparation standards, teachers felt they were prepared to be effective teachers, especially from their field experiences and mentoring, indicating these social opportunities shaped how the teachers gained their skills and dispositions. Alternatively, teachers rated the content-focused courses lower than other courses that were most effective in the ARP, and similarly, the analysis of teacher knowledge in standard planning (related to content) from the CEC standards were scored lower than environmental characteristics. It seems that teachers place a larger emphasis for effectiveness on classroom management and environmental characteristics rather than content knowledge.

The ARP's diverse pool of special education teachers was a positive reflection of the program, and the ARP did not specifically target candidates of color. In fact, ARP's have been willing to provide preparation to any candidate able to meet acceptance requirements. Finding a diverse recruitment pool was a positive and unintended outcome. The findings appeared to align with previous reports showing ARP's ability to recruit and retain a more diverse candidate pool (Robertson & Singleton, 2010). Scott (2017) researched reasons Black men found interest in alternate route programs and indicated that the participants enrolled in ARPs for reasons associated with lowered tuition costs and on-the-job training, which led to the ability to apply what they were learning in their online courses while working on the job. Since essential features of the current ARP provide lowered tuition costs and learning while on the job, it may be used to help explain why candidates of color or Black candidates enrolled in the ARP at higher rates over national averages in traditional teacher preparation programs.

Gender findings were also comparable to Robertson and Singleton's (2010) findings that 20% of candidates in ARP's were male. Unlike Robertson and Singleton's study, the current study was not used to investigate the employment length and rate between the genders. Although slightly higher for the current ARP program, the similarities of male participants was an expected finding considering national averages, and showed that perceptions about the adequacy of the ARP to recruit and retain male special education teachers are typical.

Changes in CEC's preparation standards in 2015 and Virginia's preparation standards in 2012 did not appear to impede ARP participants' perceptions regarding being trained to meet the standards. Overall, ARP participants reported that the program prepared them to meet CEC and Virginia preparation standards. With these findings, Appendix A identifies how the Virginia preparation standards align with the CEC standards. Results from the survey identified that most teachers felt prepared to meet standards in the areas of planning, delivery, and assessment, which are the areas where the Virginia standards closely align with the CEC standards. The findings of the current study were similar to findings reported by Esposito and Lal (2005) in several ways. In the current study, ARP participants' perceptions of program effectiveness were analyzed as preparing them to meet the standards, similar to the findings described by Esposito and Lal (2005). The finding indicated in both studies the participants were satisfied with the training they received in their ARP and in becoming effective special education teachers, despite the fact that the participants in Esposito and Lal's study were reviewing a different set of standards. In both studies, a majority of participants reported having very positive views about the preparation

received in their programs. The positive findings were used to help counter the questions about the effectiveness of ARPs (Nougaret, Scruggs, & Mastropieri, 2005). The findings indicated that despite concerns, teachers trained in ARPs were not only satisfied with their respective training, but they also had confidence that the training effectively prepared them to teach students with disabilities in the classroom.

Specifically, the participants were asked about features of the ARP program and if the features contributed to their success within the program. Generally, the findings showed agreement that many of the features of the ARP program contributed to their success in becoming an effective special education teacher. Specifically, field experiences were highly rated ($M = 4.43$) as a positive component of the program. Similar to Esposito and Lal (2005), field experiences positively influenced participants' preparations. Participants also highly rated other features of the program (e.g., mentoring). Interestingly, induction ($M = 2.97$) was not as highly rated as the other program features, which may indicate that although participants rated that they agreed that the feature of the program was essential, they may have believed that more may be needed to support their introduction to the classroom fully. The reasons participants rated this lower were not investigated and may be an area for further study.

Finally, participants were asked about costs related to the ARP program and whether it had an impact on their decision to enroll and stay in the program. In the current study, participants stated clearly that cost influenced their decisions to enroll in the ARP program. A majority of the participants (90%) stated that costs would influence their decisions to pursue certification in special education, which is a thought-provoking finding and indicated that financial support is a significant reason a participant may commit to teacher training programs.

Limitations of the Study

Findings from the current study provided an understanding about participant perceptions of the current ARP program and the critical issue of the impact of ARPs, particularly within special education. Nonetheless, interpretation of the findings should be regarded with some caution based on the following limitations. First, the current study was limited to one program and one state, which may influence the generalizability of the study, because other ARPs in and out of the state may be dissimilar in program goals. Another limitation of the current study was the number of participants included in the study. The response rates were based on access to participants dating to 2010. The current ARP program began in 2003. However, records were not preserved on participants between the years of 2003 to 2009. Therefore, it was not possible to determine the perception of participants who trained in the ARP program prior to 2010. Since the study was not used to address the perception of participants prior to 2010, the factor may affect the overall evaluation of the ARP program in the current study. Lastly, recency effect may have influenced the findings, considering induction into the program happened before the participants participated in the research. With participants in the program dating to 2010, perceptions may have changed depending on when they exited the program and when they participated in the survey. Nevertheless, based on the limited research on the overall performance of ARPs, it was believed that the findings reported were of value to the field of research concerning alternate route teacher preparation.

Implications for Future Practice and Research

The findings of the current study corroborated the effectiveness of ARPs regarding the preparation of special education teachers, as perceived by the participants. Overall, the participants expressed positive views regarding the program. Despite the positive views, several recommendations could be noted from the findings. First, ARPs seemed to be an effective way of recruiting, preparing, and retaining diverse candidates in teaching, particularly in special education. As a result, it is important that the programs are supported by stakeholders (i.e., administrators of state and federal programs). Second, ARPs deserve credit from the field for addressing shortages in special education and providing different pathways that have been proven to prepare teachers effectively, as perceived by the participants. Finally, costs to fund ARPs and the candidates enrolled in them should be considered when addressing shortages in teachers of special education. Based on the finding that 75% of participants noted costs had a significant factor in their decision to enroll in the current APR program, state and federal funds to lower tuition cost and/or fund tuition support as provided in the current ARP program should continue to be allocated to safeguard the future of the programs.

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Appendix A: Virginia and CEC Cross Matrix

CEC Core Concepts	VA Standards for All Teachers VA Special Educator Core Concepts						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Learner Development and Individual Learning Differences							
Etiology/Causes							
Characteristics	◆			◆			
Effects of Disabilities	◆				◆		
Communication deficits							
Levels of support	◆			◆	◆ ●	◆	
Learning Environments							
Barriers	◆	◆	◆	◆			
Adaptation	◆		◆ ●		◆		
Methods			◆		◆		
Variety of settings	◆		◆		◆		
Routine					◆		
Assessment							
Procedures for assessing and reporting behaviors				◆	◆		
Specific assessment instruments	●	●		◆ ●			
Select, adapt, modify assessments	◆	●	●	◆ ●			
Early identification of students who may be at risk							
Instructional Planning & Strategies							
Research supported methods	◆					◆	
Subject specific methods	●	◆ ●		●			
Methods for increasing accuracy and proficiency in math calculations and application							
Methods for guiding individuals in identifying and organizing content							
Interpret sensory, mobility and perceptual information to create/adapt appropriate learning plans							
Understand how to design and implement instruction strategies for medical self-management							
Adaptations and technology	◆	●					
Use information to guide instructional decisions	●	◆ ●	◆	◆ ●	◆		
Teach strategies for varying content areas		●	◆		◆		
Specialized instructional and assessment strategies			◆ ●		◆		
Age & ability appropriate instruction		◆	◆	●	◆		
Select, design, and use technology and materials		●	◆	●			
Curriculum & instruction that address independent living and career education		◆					
Understand prevention and intervention strategies for students at risk for a disability							
Professional Learning and Ethical Practice							
Definitions and issues related to identifying students with disabilities	◆			◆			
History of special education (laws & current issues)	◆					◆ ●	
Placement of students with exceptionalities	◆						
Organizations and services available	◆		●			◆	
Advocacy						◆	

(continued)

CEC Core Concepts	VA Standards for All Teachers VA Special Educator Core Concepts
Collaboration	
Collaborate with students and families	◆ ◆ ● ◆ ◆ ◆ ●
Co-planning and co-teaching methods to strengthen content knowledge	● ◆ ◆ ● ◆ ●
Collaborate with team members to develop transition plans	◆ ◆
Select, plan, and coordinate related services	● ◆ ◆

Note. ◆ = VA standards for special educators. ● = VA standards for all educators.