

## **The Preparation of Novice Special Education Teachers for Instructional Planning and Strategies: Viewpoints Among Teacher Educators and Preservice Teachers**

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### **Abstract**

High-quality teacher preparation is vital to ensure novice special education teachers are prepared for the multiple aspects of instructional planning and strategies. In order to gain an understanding of related preparation practices, the current study employed a cross-sectional research design to ascertain the viewpoints of teacher educators and preservice teachers. Data were collected via web-based surveys disseminated among teacher educators and preservice teachers affiliated with special education teacher preparation programs located in a state located in the Southern region of the United States. Quantitative data were analyzed with independent samples *t*-tests, and qualitative data were analyzed with three levels of coding. Quantitative data analyses revealed two statically significant findings with teacher educator-preservice teacher viewpoints. Qualitative data analyses revealed three themes for teacher educators and two themes for preservice teachers. Findings and implications for special education teacher preparation programs were discussed, along with study limitations and areas for future research.

*Keywords:* teacher preparation, instructional planning, instructional strategies, teacher educators, preservice teachers.

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Among current school contexts, novice special education teachers (SETs) must be skilled professionals with multiple aspects of instructional planning and strategies. While working among students with disabilities, novice SETs must know how to adapt teaching practices that address individual student differences (Mason-Williams, Frederick, & Mulcahy, 2015; Robertson, et al., 2017); including students who are supported with technology (Hasselbring & Williams Glaser, 2000) or specific assistive technology devices (Bausch & Hasselbring, 2004; Costigan & Light, 2010; Edyburn, 2013; Judge & Simms, 2009). Novice SETs must also know how to develop individualized education and transition plans in collaboration with others to jointly determine a student's needs, appropriate resources and services, and anticipated outcomes (Kamens, 2004; Kamens, et.al., 2003; Pellegrino, et al., 2015; Ricci, et al., 2017; Seabrooks-Blackmore & Patterson, 2013). Furthermore, novice SETs must be content experts in multiple subject areas, such as reading (Brownell et al., 2009; Leko & Brownell, 2011) and mathematics (Powell, 2015), and promote high-levels of content learning in an interdisciplinary manner (Kennedy, et al., 2015) while fostering the development of communication and language skills (More, et al., 2016).

High-quality teacher preparation is vital to ensure novice SETs enter school contexts sufficiently prepared for the multiple aspects of instructional planning and strategies (Leko, et.al., 2015). Teacher preparation programs must encompass “well-aligned and carefully structured coursework and field experiences” to prepare preservice teachers (PSTs) for the “multiple roles” required of novice SETs (Leko, et.al., 2012, p. 14). With this in mind, special education teacher educators must harmonize course- and field-based learning experiences to cultivate understandings for instructional planning and strategies among PSTs that generalize

into authentic school contexts (Leko et al., 2015; Leko et al., 2012; Markelz, et. al., 2017; McLesky & Brownell, 2015).

The Council for Exceptional Children (CEC, 2015) published a revised set of standards that provide a guide for high-quality SET preparation. These seven standards delineate 28 key elements that describe requisite knowledge and behaviors of novice SETs for learner development and individual learning differences, learning environments, curricular content knowledge, assessment, instructional planning and strategies, professional learning and ethical practice, and collaboration. Despite the articulation of a national set of professional standards, SET preparation has evolved substantially in response to trends associated with politics, teacher quality, and student demographics (Brownell, et.al., 2010; Cochran-Smith & Villegas, 2014), thereby losing a uniform focus. In an attempt to establish SET universals, Darling, Dukes, and Hall (2016) noted, “Teacher preparation is the core of the profession” and contended that SET preparation beliefs and practices required further clarification (p. 217).

A central component for student performance is effective instruction (Cleary, et al., 2018). Effective instruction requires instructional planning that considers the learning needs of all students and the use of specially designed strategies to individualize learning experiences (Turnbull, et al., 2016). Within the CEC’s (2015) initial preparation standards, the Instructional Planning and Strategies standard and key elements focus upon how novice SETs “select, adapt, and use a repertoire of evidence-based instructional strategies” to promote learning among students with disabilities (p. 25). Although extant literature was replete with research on SET preparation (Cochran-Smith & Villegas, 2014; Cochran-Smith et al., 2015), there remains a strong emphasis on improving SET preparation practices (Billingsley, 2004; Brownell et al., 2010; Leko et al., 2015; Markelz et al., 2017; McLeskey & Ross, 2004; Shepherd, et al., 2016).

With this in mind, the purpose of the current study was to gain an understanding of SET preparation practices for instructional planning and strategies by examining the viewpoints of teacher educators and PSTs. Specifically, the current study addressed the following research questions:

Research Question 1: How do teacher educators and PSTs view preparedness for instructional planning and strategies?

Research Question 2: How do teacher educators cultivate understandings for instructional planning and strategies among PSTs?

Research Question 3: What concerns do PSTs have concerning instructional planning and strategies?

By examining the viewpoints of teacher educators and PSTs, the present study provides teacher preparation programs with information on the coherence of current SET preparation practices for instructional planning and strategies and identifies specific areas for improvement (Canrinus, et al., 2017).

## **Method**

### **Context**

We (i.e., the first and second author) conducted a cross-sectional study to understand the viewpoints of teacher educators and PSTs regarding SET preparation (Ruel, et al., 2016). Specifically, we ascertained viewpoints from teacher educators and PSTs regarding preparedness with the CEC's (2015) initial preparation standards. We invited the third author to contribute content expertise for special education instructional planning and strategies once we completed data analyses.

## **Research Sample**

We used purposive sampling techniques to establish a research sample of teacher educators and PSTs affiliated with teacher preparation programs in a state located in the Southern region of the United States. We first identified all university-based SET preparation programs that were approved by the state's education agency ( $n = 55$ ). Then, we consulted information published on each university's website and accessed course schedules that were publically available. Using this information, we constructed a database that included the names and email addresses of each SET preparation program director ( $n = 55$ ) and teacher educators who specialized in special education ( $n = 283$ ).

## **Data Collection**

We created two separate web-based survey instruments using Google Forms to collect data among teacher educators and PSTs. Each survey instrument included closed-ended items that collected demographic information (e.g., gender, age range, etc.) and ratings for viewpoints of preparedness with each of the CEC's (2015) standards and key elements using a 5-point Likert scale (i.e., Not At All Prepared, Slightly Prepared, Somewhat Prepared, Very Prepared, or Extremely Prepared). Each survey instrument also included open-ended items for each standard with which teacher educators indicated how they cultivate understandings and PSTs described their concerns. We performed pilot tests with both survey instruments to establish reliability and validity (Ruel et al., 2016). Pilot testing took place among a group of 20 special education experts who were either faculty member colleagues or practicing SETs. Each expert completed both surveys and provided feedback for survey administration, organization, and content.

After making minor revisions with wording on our survey instruments, we collected data among teacher educators and PSTs simultaneously during a four-month period. With respect to

teacher educators, we sent an initial email explaining the purpose of the current study and included the web link to the teacher educator survey. We tracked responses in our database and sent monthly follow-up emails to encourage participation. With respect to PSTs, we contacted each SET preparation program director by email to explain the purpose of the current study and request permission to disseminate the PST survey among PSTs enrolled in their programs. Of these program directors, 35 did not respond to our email inquiry, four declined to share information with PSTs, and four indicated that their programs no longer offered SET certification. The remaining 12 program directors agreed to disseminate information about the study and the corresponding web survey link among PSTs.

### **Data Analyses**

To answer the research questions for the current study, we retrieved and analyzed quantitative and qualitative survey data related to instructional planning and strategies (see Figure 1). First, we retrieved quantitative data from the seven closed-ended survey items and calculated Cronbach's alpha to determine internal consistency with the quantitative items. We inspected quantitative data to ensure all assumptions for normality were satisfied and performed independent samples *t*-tests using IBM SPSS Statistics software to conduct mean comparisons of viewpoints between teacher educators and PSTs (Muijs, 2011). We established statistical significance at  $\alpha < .05$ ,  $\beta = .20$ , and effect sizes of small (.20), medium (.50), or large (.80) for statistically significant findings (Cohen, 1992).

Next, we retrieved qualitative data from the two open-ended survey items and analyzed data as two separate data sets by conducting three levels of coding (Corbin & Strauss, 1990). In the first level, we used open coding to label initial concepts in the data. In the second level, we used axial coding to confirm the accuracy of codes and group similar codes into themes. In the

third level, we reviewed codes within each theme to identify the presence of subthemes. We coded each data set independently and then met as a group to discuss and confirm accuracy with codes and themes (Saldaña, 2016). We also maintained a codebook for each data set that contained all codes, along with a description and data example of each code that emerged during analyses.

**Figure 1**

*Survey Items for Teacher Educator and PST Surveys*

| Teacher Educator Survey  | PST Survey  |
|--|---|
| <p><u>Closed-ended Items:</u><br/>                     After completing your teacher preparation program, how prepared are special education teaching professionals with:<br/> <i>(Not At All Prepared, Slightly Prepared, Somewhat Prepared, Very Prepared, or Extremely Prepared)</i></p> <ul style="list-style-type: none"> <li>• Considering individual abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities?</li> <li>• Using technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities?</li> <li>• Familiarity with augmentative and alternative communication systems and a variety of assistive technologies to support the communication and learning of individuals with exceptionalities?</li> <li>• Using strategies to enhance language development and communication skills of individuals with exceptionalities?</li> <li>• Developing and implementing a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams?</li> <li>• Teaching to mastery and promoting generalization of learning?</li> <li>• Teaching cross-disciplinary knowledge and skills such as critical thinking and problem solving to individuals with exceptionalities?</li> </ul> <p><u>Open-ended Item:</u><br/>                     Specifically, how do you promote special education teaching professionals' understandings with instructional planning and strategies?</p> | <p><u>Closed-ended Items:</u><br/>                     How prepared do you feel with:<br/> <i>(Not At All Prepared, Slightly Prepared, Somewhat Prepared, Very Prepared, or Extremely Prepared)</i></p> <ul style="list-style-type: none"> <li>• Considering individual abilities, interests, learning environments, and cultural and linguistic factors in the selection, development, and adaptation of learning experiences for individuals with exceptionalities?</li> <li>• Using technologies to support instructional assessment, planning, and delivery for individuals with exceptionalities?</li> <li>• Familiarity with augmentative and alternative communication systems and a variety of assistive technologies to support the communication and learning of individuals with exceptionalities?</li> <li>• Using strategies to enhance language development and communication skills of individuals with exceptionalities?</li> <li>• Developing and implementing a variety of education and transition plans for individuals with exceptionalities across a wide range of settings and different learning experiences in collaboration with individuals, families, and teams?</li> <li>• Teaching to mastery and promoting generalization of learning?</li> <li>• Teaching cross-disciplinary knowledge and skills such as critical thinking and problem solving to individuals with exceptionalities?</li> </ul> <p><u>Open-ended Item:</u><br/>                     What concerns do you have about instructional planning and strategies?</p> |

## Results

Data collection efforts resulted in responses from 46 teacher educators and 31 PSTs. As shown in Table 1, the majority of teacher educator respondents were female and between the ages of 40-69 years. Almost all PST respondents were female and between the ages of 20-29 years. We have presented our findings from data analyses below by research question.

**Table 1**

*Demographics for Teacher Educator and PST Respondents*

| Characteristic | Teacher Educators<br>( <i>n</i> = 46) | PSTs<br>( <i>n</i> = 31) |
|----------------|---------------------------------------|--------------------------|
| Gender         |                                       |                          |
| Female         | 36                                    | 28                       |
| Male           | 10                                    | 3                        |
| Age            |                                       |                          |
| 20-29 years    | 1                                     | 30                       |
| 30-39 years    | 7                                     | 1                        |
| 40-49 years    | 13                                    | --                       |
| 50-59 years    | 9                                     | --                       |
| 60-69 years    | 14                                    | --                       |
| 70-79 years    | 2                                     | --                       |

### Research Question 1

To understand how teacher educators and PSTs view preparedness for instructional planning and strategies, as well as the congruence between their reported viewpoints, we analyzed quantitative survey data. We calculated Cronbach's alpha for the teacher educator and PST survey instruments, which were  $\alpha = 0.95, 0.96$ , respectively. As shown in Table 2, teacher educators reported higher viewpoints of preparedness for every key element associated with



instructional planning and strategies than PSTs. After comparing means with inferential testing, we found that teacher educators and PSTs were congruent in their viewpoints of preparedness with the following five key elements:

- Supports the teaching and learning process among students with exceptionalities with technology.
- Knows of augmentative and alternative communication devices that support learning among students with exceptionalities.
- Implements strategies to foster communication skills and language development among students with exceptionalities.
- Works with others to develop and implement individualized education and transition plans for students with exceptionalities across a variety of contexts.
- Addresses cross-disciplinary knowledge and skills among students with exceptionalities.

Inferential testing also revealed the presence of statistically significant findings with the following two key elements:

- Considers individual differences among students with exceptionalities to select, develop, and adapt learning experiences,  $t(75) = 3.35, p = .00$ . Cohen's  $d$  was calculated at 0.76, which was considered a medium effect (Cohen, 1992).
- Promotes generalized and mastery learning among students with exceptionalities,  $t(75) = 2.48, p = .02$ . Cohen's  $d$  was calculated at 0.60, which was considered a medium effect (Cohen, 1992).

**Table 2***Mean Comparisons of Viewpoints for Instructional Planning and Strategies*

| Survey Item   | M    | SD   | t    | p    | 95% CI |      |
|---|------|------|------|------|--------|------|
|   |      |      |      |      | LL     | UL   |
| Considers individual differences among students with exceptionalities to select, develop, and adapt learning experiences.                                 |      |      | 3.35 | .00* | .25    | .97  |
| Teacher educators   | 3.80 | .72  |      |      |        |      |
| PSTs  | 3.19 | .87  |      |      |        |      |
| Supports the teaching and learning process among students with exceptionalities with technology.  |      |      | 1.35 | .18  | -.14   | .73  |
| Teacher educators   | 3.52 | .94  |      |      |        |      |
| PSTs  | 3.23 | .96  |      |      |        |      |
| Knows of augmentative and alternative communication devices that support learning among students with exceptionalities.                                   |      |      | .58  | .57  | -.35   | .63  |
| Teacher educators   | 3.11 | .99  |      |      |        |      |
| PSTs  | 2.97 | 1.14 |      |      |        |      |
| Implements strategies to foster communication skills and language development among students with exceptionalities.                                       |      |      | 1.54 | .13  | -.11   | .83  |
| Teacher educators   | 3.46 | .94  |      |      |        |      |
| PSTs  | 3.10 | 1.11 |      |      |        |      |
| Works with others to develop and implement individualized education and transition plans for students with exceptionalities across a variety of contexts. |      |      | 1.36 | .18  | -.15   | .81  |
| Teacher educators   | 3.46 | .94  |      |      |        |      |
| PSTs  | 3.13 | 1.18 |      |      |        |      |
| Promotes generalized and mastery learning among students with exceptionalities.   |      |      | 2.48 | .02* | .12    | 1.11 |
| Teacher educators   | 3.87 | .72  |      |      |        |      |
| PSTs  | 3.26 | 1.24 |      |      |        |      |
| Addresses cross-disciplinary knowledge and skills among students with exceptionalities.   |      |      | 1.34 | .19  | -.14   | .71  |
| Teacher educators   | 3.54 | .81  |      |      |        |      |
| PSTs  | 3.26 | 1.66 |      |      |        |      |

Note. CI = confidence intervals; LL = lower limit; UL = upper limit; PSTs = preservice teachers

\*  $p < .05$

## **Research Question 2**

To understand how teacher educators cultivate understandings among PSTs for instructional planning and strategies, we analyzed qualitative data retrieved from the teacher educator survey. Thirty-three teacher educator respondents addressed the open-ended question, which resulted in 642 words. Qualitative data analyses generated three themes: Required Coursework, Field Experiences, and Learning Activities.

### ***Required Coursework***

Teacher educator respondents expressed a myriad of ways in which they address instructional planning and strategies through required coursework in their respective SET preparation programs. For example, one respondent listed the general and specialized coursework required among PSTs who sought special education teacher certification, “[PSTs] take general education methods courses in all content areas and special education courses in inclusive classroom strategies, life skills classroom strategies, classroom management, and behavior management.” Another respondent described an integrated coursework approach utilized in their SET preparation program: “We are beginning to integrate special education practices into planning across the content areas and identifying interventions and teaching methods that support the state curriculum.”

Teacher education respondents also named specific courses in their SET preparation programs that address instructional planning and strategies within university classrooms and authentic school contexts. For example, one respondent stated:

We offer a required course in Assistive Technology where preservice teachers actually use software to make picture schedules, communication boards, and apps for specific

student needs. During the course, preservice teachers engage with simulated scenario situations at the university and field experiences in the public schools.

Similarly, another respondent noted that PSTs “take a class specifically designed to look at adaptive technology and are placed in settings where they can see these in action.”

Within this theme, teacher education respondents also indicated specific pedagogical techniques that they use in the courses they teach to promote understandings with instructional planning and strategies. Pedagogical techniques included “modeling,” “examples,” “class activities,” “direct instruction,” and “situational lessons.” Two respondents specified that they foster connections between “texts and research to field-based experiences” and “assessment data with learning activities.” Additionally, one respondent explained that PSTs “receive guided experiences in the university classroom, followed by extensive experiences first in the general education settings and then in special education settings.”

### ***Field Experiences***

Teacher educator respondents also acknowledged that field experiences were a vital component within their SET preparation programs that developed competence with instructional planning and strategies among PSTs. Field experiences encompassed “multiple observations,” “field work,” and semester-long “student teaching” placements. Respondents expressed that field experiences were opportunities for PSTs to “observe in their school placements and then practice what they have learned.” Some respondents customized field experiences to have a specific focus, such as “lesson planning and implementation of the plan,” “planning for students with high incidence disabilities in the general education classroom,” “transition planning,” and the use of “assistive technology in a variety of settings

to gain an understanding of how to enhance learning opportunities for students with special needs.” One respondent described a project that PSTs complete while student teaching:

[PSTs] do a project to collect data on the effectiveness of teaching and technology to make data-based decisions. They follow special education students to general education classes and other settings to encourage generalization of skills. They also construct measures to look at student progress across all domains of learning.

### ***Learning Activities***

Lastly, teacher educator respondents described a wide range of learning activities that they used to foster robust learning for instructional planning and strategies among PSTs. Respondents indicated that “parent panels” and “guest speakers” were effective learning activities for PSTs. Respondents also identified effective learning activities that were required course tasks, such as “course assignments,” “case studies,” “authentic assessments,” and “projects.” According to respondents, these types of learning activities provide opportunities for PSTs to apply “knowledge and skills” that “focus on levels of learning and working in a cross-disciplinary manner” through the use of “real or fictitious student data.” For example, one respondent stated that PSTs “complete lesson plans and O&M [orientation and mobility] evaluation reports of students who are blind.” Another respondent detailed their use of learning activities in a course required among all PSTs who sought SET certification:

[PSTs] have multiple projects embedded across their coursework that address individualized instructional planning. Specifically, for AAC [augmentative and alternative communication] and other communication-focused strategies, I try to address it using scenario-based assignments and as part of their development of a BIP

[behavior intervention plan] for students with little to no functional communication skills.

### **Research Question 3**

To understand the concerns that PSTs have concerning instructional planning and strategies, we analyzed qualitative data retrieved from the PST survey. Eight PST respondents addressed the open-ended question, which resulted in 298 words. Qualitative data analyses generated two themes: Limitations with Practical Knowledge and Limitations with Practical Experiences.

#### ***Limitations with Practical Knowledge***

PST respondents expressed concerns regarding limitation with practical knowledge. For example, one respondent shared a concern of holding a limited understanding of “the wide variety of different disabilities and being able to aid to all of them at once.” Similarly, another respondent shared a feeling of being underprepared “to modify the same instruction to students with different disabilities.” One respondent voiced that limitations with practical knowledge was a widespread issue:

I do not feel very prepared, especially with the reading content material. I do not see a lot of instruction going on in our program to prepare us for the field. I also see a lack of proper special education instruction. For example, what is a 504 student? I hear that all the time in the field, but I never heard it in the university classroom before I started student teaching. I feel that I have to learn a lot of things that should have been taught to me prior to embarking on the journey of student teaching. Thank goodness I have a wonderful mentor that helps me fill in the gaps that have been left open.

### ***Limitations with Practical Experiences***

PST respondents also expressed concerns regarding limitations with practical experiences. One respondent shared, “I am not getting the experience I need to be successful before graduating.” Without sufficient practical experience, PSTs indicated they were not equipped to “work with a lesson plan for the student” or implement “obvious or well-known techniques.” One respondent emphasized the value of frequent and meaningful practical experiences in SET preparation programs:

I have little experience with this population in the educational setting. So, I feel like once I have more opportunities to get involved in actual classrooms, I will be fine. It feels like this profession is very situational and requires much learning on your feet.

### **Discussion**

Improving SET preparation is a priority (Billingsley, 2004; Brownell et al., 2010; Leko et al., 2015; Markelz et al., 2017; McLeskey & Ross, 2004; Shepherd et al., 2016) and was the central focus of the current study. We ascertained the viewpoints of teacher educators and PSTs regarding the preparation of novice SETs for instructional planning and strategies (CEC, 2015). Our findings have added new insights to this area of research and pointed to three implications for stakeholders affiliated with SET preparation programs, such as program administrators, staff members, and teacher educators.

First, we examined congruence between the viewpoints reported by teacher educators and PSTs concerning preparedness with the seven key elements associated with instructional planning and strategies (CEC, 2015). Our findings showed that teacher educators viewed preparedness higher than PSTs for every key element, which also included two statistically significant findings. Eliciting teacher educator-PST viewpoints provides SET preparation

program stakeholders with valuable information regarding the impact of learning on PSTs' thinking (Thomas, 2014), particularly since a lack of congruence with viewpoints may exist (Carrinus et al., 2017). Teacher educators should ascertain and compare viewpoints for preparedness regularly to verify that what is taught is learned and identify possible shortcomings with established preparation standards. By identifying “matches or mismatches” with viewpoints (He & Levin, 2008, p. 37), teacher educators are equipped to strengthen SET preparation curricula and practices that support PSTs' mastery of content that leads to improved future teaching practices (Pajares, 1992, 1993).

Second, we surveyed teacher educators to determine how they cultivate understandings among PSTs for instructional planning and strategies. Our findings presented a wide range of preparation approaches that described required coursework, field experiences, and learning activities. It was clear in our review of extant literature that high-quality SET preparation programs harmonize special education coursework at the university with related field experiences in authentic school contexts to promote the generalization of teaching skills (Leko et al., 2015; Leko et al., 2012; Markelz et al., 2017; McLesky & Brownell, 2015). However, McLesky and Brownell (2015) pointed out that current preparation practices predominantly focus upon developing PST's knowledge “*about* instructional practices” instead of how to “*use* instructional practices” in a systematic manner (p. 10). With this in mind, SET preparation program stakeholders must conduct comprehensive program reviews periodically to ensure and evaluate their effectiveness. If subsequent revisions are necessary, Fuchs, Fahsl, and James (2014) suggested using the following Backward Design approach:

- (1) Determine goals using the most current professional standards and certification requirements.



- (2) Designate assessments to judge performance with identified goals.
- (3) Design teaching and learning activities to support PSTs attain desired performance levels.

Sayeski and Higgins (2014) emphasized that SET preparation program reviews “cannot be a one-time process” and encouraged “periodic rebalancing . . . to remain relevant, focused, and productive” (p. 103). By doing so, SET preparation program stakeholders may discover innovative ways to address the extensive content and practices required among novice SETs (Kennedy et al., 2015).

Third, we surveyed PSTs to ascertain their concerns with instructional planning and strategies. These findings articulated concerns related to limitations with practical knowledge and experiences, which were much more telling than their reported viewpoints of preparedness with the seven key elements for instructional planning and strategies (CEC, 2015). With this in mind, SET preparation program stakeholders should regularly facilitate a variety of communication platforms, such as panel presentations, seminars, and workshops concerns (Cevher-Kalburan, 2014), to gain an understanding of the concerns PSTs have that may not be immediately apparent. Communication platforms should provide a safe and supportive space for PSTs to ask questions, express concerns, and share experiences. In this same manner, SET preparation program stakeholders may also facilitate communication platforms among current practitioners, such as school administrators and SETs, to gain insights concerning the daily work of professionals within the field (Young, 2018). SET preparation programs stakeholders should use information obtained from communication platforms during subsequent program reviews.

### **Limitations and Areas for Future Research**

As with any research endeavor, there were methodological limitations with the current study that may affect generalizability of findings. First, we recognize that the number of teacher educator and PST survey respondents were low. With respect to teacher educators, we used purposive sampling techniques that were limited by accuracy of publically available information posted on each university's website. With respect to PSTs, a small number of SET preparation program directors agreed to disseminate the PST survey. Although small, we feel the respondents were representative of the desired populations and provided valuable insights that can lead to improved SET preparation practices. We recommend that future studies utilize other sampling techniques that increase sample sizes and encourage greater participation.

Second, we limited participation to individuals associated with teacher preparation programs approved by a single state education agency. However, we determined this limitation was necessary due to differences with teacher certification requirements. We recommend that future studies replicate our methodology to ascertain the viewpoints of teacher educators and PSTs on a state-by-state basis. These studies should then compare findings from individual state analyses to identify patterns and trends.

Third, we employed a research design that relied upon self-reported data. In order to reduce the potential for response biases, we used multiple strategies to enhance the reliability and validity of our findings. We recommend that future studies employ research designs that permit more carefully controlled comparisons between teacher educator and PSTs, as well as more in-depth and longitudinal examinations of SET preparation practices.

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