Perceptions of teacher preparation for classroom diversity

Abstract

Preparing P-12 educators to effectively teach and support diverse learners is increasingly important, yet the characteristics of today's P-12 classrooms vary greatly compared to preservice and in-service teacher demographics. Therefore, training regarding cultural competence and experiences teaching diverse learners are an essential part of teacher preparation. This secondary data analysis explored perceptions regarding teacher training program effectiveness to prepare teachers for diverse classrooms. The dataset was derived from survey responses from exiting program graduates, those same graduates after one year of teaching, and their supervisors who responded to standards-based, four-point Likert surveys. Descriptive statistics were used to examine results longitudinally and from each perspective. Results indicated that preservice teachers may not be as prepared as they originally thought they were after facing diverse classroom realities. Yet, these first-year teachers' supervisors perceive a higher level of preparedness than the teachers claim. Reasons for the noted decline in perception of preparedness and difference of ratings are explored, and suggestions are offered for continuous improvement of educator preparation as well as for support of new teacher induction practices.

Keywords: teacher preparation, teacher perceptions, diverse learners, teacher induction, self-efficacy

Introduction

Preparing teachers to provide effective instruction in an environment of equity, high expectations, and cultural competence is ever more important given the increasing diversity of P-12 learners. United States (U.S.) classrooms reflect demographics that encompass high levels of learner diversity. As defined by the Council of Chief State School Officers (CCSSO) diverse learners are those, "who, because of gender, language, cultural background, differing ability levels, disabilities, learning approaches, and/or socioeconomic status may have academic needs that require varied instructional strategies to ensure learning" (CCSSO, 2013). In the CCSSO's introduction to the model core teaching standards, a vision is outlined for teachers to positively impact diverse learners.

> The explosion of learner diversity means teachers need knowledge and skills to customize learning for learners with a range of individual differences. These differences include students who have learning disabilities and students who perform above grade level and deserve opportunities to accelerate. Differences also include cultural and linguistic diversity and the specific needs of students for whom English is a new language. Teachers need to recognize that all learners bring to their learning varying experiences, abilities, talents, and prior learning, as well as language, culture, and family and community values that are assets that can be used to promote their learning. To do this effectively, teachers must have a deeper understanding of their own frames of reference (e.g., culture, gender, language, abilities, ways of knowing), the potential biases in these frames, and their impact on expectations for and relationships with learners and their families. (CCSSO, 2011, p. 3)

However, many teachers have acknowledged that students' learning capabilities have become so varied that they struggle to each effectively (MetLife, 2008). While this definition of learner diversity is broad, and the vision clearly articulated, a discrepancy exists regarding diversity of learners and teacher preparation which forms the focus of this secondary data analysis regarding preparation for instructing diverse learners. Teacher preparation programs are responsible for preparing graduates to design and implement quality learning experiences for all students, and teachers are expected to acknowledge variance in learner needs and differentiate instruction accordingly. Unfortunately, research shows that first year teachers may not be entirely prepared to teach diverse P-12 students effectively (Feiman-Nemser, 2001; Ford, 2007; Garcia, Arias, Murri, & Serna, 2010; Kumar & Hamer, 2013). Underprepared teachers could result in diverse learners experiencing an overall poor-quality education and even student abandonment of their own cultural values (Kahn, Lindstrom, & Murray, 2014).

Exploring classroom diversity

Research shows that there are "racial and ethnic disparities" within the educational systems that teachers can help to reduce (Bottiani, Larson, Debnam, Bischoff, & Bradshaw, 2017). P-12 teachers need cultural competency skills to work with diverse learners, to use effective teaching strategies that address learning differences, as well as the belief in themselves to do so. National census data indicates a gap in the racial make-up of school-aged children and their teachers, and this gap has widened over the last 20 years from what researchers such as Feiman-Nemser (2001) recognized in the early 1990s. The National Center for Educational Statistics (NCES, 2018) drew on census estimates to present demographic data of school enrollment among children ages 5 – 17 nationwide. Those estimates show a decline in numbers of white children – 65% in 1995 to 50% in 2015 and the largest demographic increase occurring

within the Hispanic population –14% in 1995 to 26% in 2015 (NCES, 2018). However, these students' teachers do not follow the same demographic ratios: 80% of teachers are white and 8.8% of the remaining minority identify as Hispanic (NCES, 2017). The growing racial diversity impacts what teachers see in the classroom – especially in terms of language barriers. This increase of Hispanic student population coincides with the increase in English Language Learner (ELL) students, which grew from 8.1% in 2000 to 9.5% in 2015 nationwide (NCES, 2017). This increase of ELL students indicates an increase in language barriers between students and teachers and functions as another layer of diversity for which the teacher must prepare.

The racial and ethnic gap between students and teachers creates issues within K-12 education (Garcia et al., 2010); for example, research shows that a racial/ethnic congruity between teacher and student positively impacts student achievement (Dee, 2004). It can be deduced that a racial/ethnic disparity can negatively impact student achievement, and it is imperative to address potential implications. A common approach is to provide opportunities for pre-service teachers to work with diverse populations early in their training program. In addition, it is imperative to offer continued professional learning experiences to help teachers understand the learner differences they encounter in the classroom.

Students from variable economic backgrounds represent another layer of diversity that influences teachers' preparation as "socioeconomic status (SES) is a major predictor of educational achievement" (Dietrichson, Bøg, Filges, & Klint Jørgensen, 2017, p. 243). From 2000-2015, students eligible for free and reduced school lunches rose nationwide from 38% to 52% (NCES, 2018) representing an increasing number of students living in poverty. Students from low-income homes can be disadvantaged as they are likely to have less access to resources (i.e., books and technology) and parental support – especially if their caregivers work multiple

jobs and do not express high academic expectations (Dietrichson et al., 2017). Consequently, it is important that teachers know how to adapt instruction for these students' unique learning needs.

Diverse aspects also include students with varying levels of physical and intellectual abilities, and the percentage of students with disabilities also continues to increase. According to data gathered by the NCES (2017d), students ages 6 – 21 with some form of disability increased by about 200,000 from 2000 – 2015. Furthermore, students with unique abilities are spending more time in traditional classrooms. Learners with disabilities who spend 80% or more of their day in a traditional classroom increased from 47% in 2000 to 63% in 2015 (NCES, 2017).

Diversity in intellectual abilities not only includes students with cognitive impairments but also learners who are gifted; gifted and talented students make up 6.7% of all students across the U.S (NCES, 2018). Teachers support students with unique learning needs according to the National Association for Gifted Children (NAGC) and the Council for Exceptional Children (CEC) who recognize the importance of collaborations with parents, colleagues, and students (NAGC-CEC, 2013). General classroom teachers must be prepared to differentiate instruction and collaborate well so all students may learn regardless of their physical or intellectual ability.

Finally, childhood mental health disorder diagnoses has increased over time (Centers for Disease Control and Prevention [CDC], 2019) – and are more prevalent for students living in poverty, dealing with other health challenges or disabilities, or who experience challenging life events or environments (Merikangas, Nakamura, & Kessler, 2009). Stagman and Cooper (2010) noted that "one in five children birth to 18 has a diagnosable mental disorder [and] one in ten youth have serious mental health problems that are severe enough to impair how they function at home, in school, or in the community. Such disorders or problems can include depression and anxiety, substance abuse, and other diagnosed or undiagnosed disorders (Brown, Phillippo,

Weston, & Rodger, 2018). Behavior problems, ADHD, depression, and anxiety are among the most common disorders which often exhibit as secondary symptoms of other problems or exist comorbidly (CDC, 2019; Koller & Bertel, 2006). Since mental disorders often present themselves at an early age and negatively impact cognitive, social, and emotional development (Balow, 2018), teachers must be prepared to address needs of affected students in the classroom. Yet, teaching standards do not directly and explicitly prepare teachers to address mental health challenges in the classroom (Buchanan & Harris, 2014) and teachers exhibit under preparedness. With the level of classroom diversity and complexity increasing, thorough training and continued teacher support is essential.

Teacher preparedness

Although some research is available regarding preparedness for instructing diverse P-12 classrooms, a research gap exists regarding new teacher's perspectives of their preparation for the challenging context of today's classrooms. To address the needs of diverse learners and build cultural competence, educator preparation programs (EPP's) work to develop knowledge, skills, and dispositions that best prepare candidates (Lee & Hemer-Patnode, 2010). EPP's thread professional standards of practice for teaching diverse learners into curricula to produce certifiable teachers, prepare them for these diverse classrooms and maintain accreditation (Hollins, 2011). Programs adopt and assess aspects of diversity-related teaching skills based on national accreditation standards. Currently in the U.S., the Council for the Accreditation of Educator Preparation (CAEP, 2013) and the Association for Advancing Quality in Educator Preparation (AAQEP) serve this purpose, which infuse diversity throughout preparation expectations. Accreditation standards guide teacher preparation program development and maintenance, so EPP's can train new teachers accordingly.

This skill set requires development through several varied experiences (Kahn et al., 2014). Training most often occurs in the form of dedicated multicultural classes, imbedded diversity content, plus field work in diverse classrooms (King & Butler, 2015). Training teachers for diverse classrooms must begin early in their teacher education program, follow through internships and student teaching, and continue through professional development when graduates enter the field as new teachers (Lee, Hemer-Patnode, 2010; Feiman-Nemser, 2001). In a study conducted by Boyd, Grossman, Lankford, Loeb & Wycoff (2008), initial indicators showed that preservice preparation could influence the effectiveness of teachers, particularly those in their first year. The study estimated the effects of preparation program features on teachers' value-added to student test-score performance; findings linked the amount of practice teaching during preparation as a benefit to first-year teachers.

Kumar and Hamer (2013) found that "when preservice teachers' learning is put to the test, the stresses associated with first-time field experiences in schools diminish their capacity for critical thinking and self-reflection" (p. 173). Simply put, new teachers felt inadequate when confronted with these cultural challenges in the classroom. Additionally, McDonough (2009) concluded that much research exists on pre-service teachers who begin their diversity training through single courses and internships. However, professional development, and research of these experiences, must continue as graduates enter the field and fine-tune their knowledge and dispositions (McDonough, 2009). One of McDonough's cases followed a classroom teacher post-graduation who had supports and school-wide frameworks that helped address classroom diversity (2009); this case provided an exemplar of a transition-focused approach. The study indicated that novice teachers' knowledge and dispositions concerning learner differences must continue to be developed and supported through training and mentorship. In Feiman-Nemser's

(2001) article, the importance of well-designed induction programs for successfully preparing quality P-12 teachers is again brought to the discussion.

When teacher training has gone well, many new teachers still discover their pre-service education did not entirely prepare them for their own classrooms. The reality exists that students introduce uncertainty in the form of behaviors, abilities, needs, or daily life struggles. Uncertainty also exists in what to expect from students, student engagement and discipline, students' skills and preparedness, and the limits of teacher responsibility (Johnson, 2004). New teachers must rapidly adjust to a group of learners with instructional competence and confidence while simultaneously assimilating into a school culture. Furthermore, new teachers find themselves questioning how to effectively apply knowledge and skills to teach diverse learners. This act of questioning is particularly true for those teaching in schools outside of the communities most familiar to them (Johnson, 2004). Researchers estimate that 44% of teachers will leave the profession within the first five years if they are not well supported (Whitaker, Good, & Whitaker, 2019). This statistic makes it vital to nurture new teacher capacities for using the skills learned within their EPPs to succeed in unique and diverse classroom environments.

Purpose of the study

The purpose of this secondary data analysis was to explore graduates' perspectives regarding preparedness to teach diverse learners when compared to their perspectives one year later after their first year of teaching, as well as those of their supervisors. This study drew from existing survey data where questions regarding diverse learners were explored as per the research questions:

- How confident do completers feel as they exit a teacher training program in their preparation to teach diverse learners?

- In what ways do these perspectives change after one year of teaching?
- How do employers perceive the quality of first year teachers' abilities to teach diverse learners?
- What are the similarities and differences between perceptions of preparedness of completers, first year teachers, and their employers?

Conceptual framework of professional standards

The Interstate Teacher Assessment and Support Consortium (InTASC) model core teaching standards (CCSSO, 2013) provide a framework for pre-service teacher training and new teacher development. As well, InTASC standards conceptualize assumptions, expectations, and beliefs about learner differences foundational to this study (Maxwell, 2005). The framework acknowledges the increasing complexity and sophistication of core teaching practices and understandings necessary to teach all learners. Most U.S EPPs, including the one in this study, base teacher training curriculum and evaluation of candidates' knowledge, skills, and dispositions upon the ten InTASC teaching standards established by the CCSSO (Hollins, 2011). The standards define what teachers should know or be able to perform upon entering a P-12 classroom and encompass aspects of teaching diverse learners. Specific elements of the standards related to teaching diverse learners are identified in Table 1.

[Table 1 here]

Additionally, InTASC standard learning progressions describe graduated levels of teaching practices as new teachers gain experience and expertise, moving along a continuum from directive and procedural (Snow, Griffin, & Burns, 2005) to facilitative, and eventually – collaborative. EPPs assess preservice teachers according to InTASC standards in order to monitor candidates' during training and then into classrooms after graduation. This

developmental approach is supported by five key assumptions: (a) teaching and learning are complex, (b) expertise is not linear and can be learned, (c) growth occurs through reflection upon experiences, (d) development depends on context and levels of support, and (e) the focus is on the practice and performance of teaching, not the teacher (CCSSO, 2011). The standards also align to survey constructs in this study establishing continuity and criterion validity. Considering these standards for effectiveness, it is compelling to consider the importance of evaluating whether EPPs adequately prepare teachers to address learner differences.

Methods

This study was a secondary statistical analysis of survey data regarding perceptions of preparedness and performance of first year teachers to instruct diverse learners. Teachers graduated from a regional Midwestern university. The study utilized a systematic, data-driven approach to develop research questions, identify and evaluate the dataset, then draw meaningful conclusions (Johnston, 2014). The approach included the use of descriptive statistics to relate teachers' perceptions at the time of completing a training program and one year after teaching, as well as supervisors' evaluation of new teachers' performance. The raw data used in this study was previously collected by the EPP for program assessment and accreditation purposes and readily accessible to researchers in the context of self-study.

Identifying the dataset

Established methods and a systematic process of a secondary analysis were followed to ensure appropriate dataset congruency. The researchers included two EPP faculty members and the EPP data manager who had access to the original data. Close access to adequate documentation of the original dataset, including protocols and procedures followed, added to validity of the collection process (Johnston, 2014). The dataset represented 51 teachers who

graduated over four academic years – from the spring 2016 semester through the spring 2019 semester.

[Table 2 here]

Teachers completed training at the early childhood (n = 4), elementary (n = 34), or secondary grade levels (n = 13). In the spring of 2019, the university inclusive of the EPP had an approximate enrollment of 1,200 – of which 33% were education majors; approximately 150 teacher candidates were formally admitted to the EPP.

The dataset represented an aggregate of completers across all levels and areas of preparation and four academic years in order to maintain an adequate sample size for comparison (n = 165). Participation was limited to teachers from these cohort years for whom Exit Survey (ES), first-year Transition to Teaching Survey (TTS), and Supervisor Survey (SS) results were all available (see Table 2). First-year teachers for whom all three surveys were not available were excluded from analysis. Therefore, the data set was representative of 30.9% (n = 51) of completers during the established timeframe. The first set of data from the spring of 2016 included exit surveys of graduates (n = 26) from only one semester of the 2015-2016 academic year instead of both semesters (n = 42) as the instruments used to collect data were first implemented during that spring semester. However, it is representative of all first-year teachers who completed the program in 2014-2015 who responded to the TTS (n = 40) in 2016 as well as their supervisors (n = 27). Participation was limited to those surveys entirely answered, which eliminated variability of the dataset and allowed for comparisons.

Instruments

Data from three surveys were gathered and examined: Exit Survey (ES), Transition to Teaching Survey (TTS) and Supervisor Survey (SS). The surveys were part of the common

metrics project by the Network for Excellence in Teaching (NExT Consortium, 2016) and were utilized by all EPPs in the state. NExT developed the surveys using rigorous processes to ensure validity and reliability, including multiple psychometric analyses, focus groups, pilot testing, revision, and careful alignment with accreditation standards (available at next.org). The surveys were also aligned with one another establishing concurrent validity, as well as the InTASC standards establishing construct validity. Survey items were rated by participants on a four-point Likert scale using leveled descriptors: agree (4), tend to agree (3), tend to disagree (2), and disagree (1). While the surveys were administered in their entirety, only results from questions in the construct of diverse learners (i.e., nine items) were analyzed to answer the research questions. The nine items about diverse learners correlated to the following concepts: cultural backgrounds, varied learning needs, different developmental levels, socioeconomic backgrounds, learners with special needs (i.e., Individualized Education Programs and 504 plans), mental health needs, giftedness, ELL, and accessing resources for student support. Comparing the survey results while controlling question variation retained validity and reliability of the dataset. Since all surveys were aligned and criterion validity established through InTASC standards, comparisons of items were possible.

Exit Survey (ES)

The EPP surveyed graduates at the end of their student teaching experience just prior to exiting the program; this occurred at the end of the fall or spring semester. Student teachers represented in the dataset (n = 165) were required to complete the survey as part of the senior seminar graduation requirement, thus achieving a consistent 100% response rate. The ES was deployed using the Qualitrics online survey tool. Completers were queried to respond to items

with the prompt, “To what extent do you agree or disagree that your teacher preparation program gave you the basic skills to do the following?”

Transition to Teaching Survey (TTS)

The TTS survey completion request was sent to first-year teacher cohorts who had completed the exit survey. Contact information after graduation was attained from the ES, state employment data, school websites, personal emails, social media, and collaboration with the institutional alumni office. The request for survey completion was sent via email with instructions and a password protected link approximately one year after program completion. Teachers responded to the same general questions they completed on the ES with the prompt, “To what extent do you agree or disagree that your teacher preparation program prepared you to do the following”?

Supervisor Survey (SS)

The SS was deployed using the same process as the TTS to all supervisors of respondents who completed the TTS. The survey asked supervisors to assess the quality of graduates’ teaching abilities with the prompt, “To what extend do you agree or disagree that this teacher does the following?” Supervisors were given the same Likert scale for responses, with the added option of “Not Able to Observe”. Supervisor participation was dependent upon the response of first-year teachers. The entire SS was administered, however, as with the other two surveys, only the sections regarding diverse learners were utilized in this study.

Procedures

Data were collected for nine semesters across four academic years. The original data were stored as spreadsheets of raw data, pdf files for initial download of descriptive results, and as prepared annual reports in the password protected intuitional OneDrive database. Following

approval from the institutional review board, data were obtained for the secondary analysis from the stored files by the data manager in the fall of 2019. The original dataset was not altered, but only graduates for whom the ES, TTS and SS were all available were included in the study (see Table 2). Researchers recoded the original variables in order to properly handle missing responses. Missing data from incomplete surveys eliminated results from inclusion. Recoded responses were stored in a new dataset and codes documented. A spreadsheet was created to organize demographic information and survey item responses to meet the needs of the current project. Since survey data were longitudinal and stored in different datasets from cohort years, the accuracy of the identifiers was matched and checked when the datasets were merged. Institutional graduation data was used to confirm exit and first-year teacher lists for each academic year.

Analysis

Descriptive statistics were employed to summarize and analyze the dataset as well as to examine variance over time and across perspectives (Pyrczak & Oh, 2018). Descriptive statistical methods included frequency calculations, response agreement percentages, means, score change values, and standard deviations for survey items regarding teaching diverse learners (see Tables 3 and 4). Frequency distribution was computed to summarize results according to Likert-level responses on a one-to-four scale and to show how frequencies were distributed over values. Frequency tables and cross-tabulations of all items were included in the analysis as well as maximums and minimums to examine how much scores varied from one grouping to another. Percentages were calculated to gauge the percent of responses corresponding with the frequencies. Means were calculated to identify measures of central tendency and provide findings representative of the entire set of scores. Change score values for each question and

aggregate results per level of preparation were calculated to examine the difference between ES and TTS responses as well as TTS and SS responses. Standard deviation for items was also determined to measure the average difference between mean values in the dataset and identify survey items with greater variation. Data was organized according to question, survey type, and level of teacher preparation. Data was analyzed both longitudinally, that is graduates' scores compared to their own one year later and their supervisor, as well as by aggregate (see Table 4). Comparative analyses of descriptive results was used to examine patterns of similarities and differences.

Results

Utilizing the Exit Survey (ES), Transition to Teaching Survey (TTS), and Supervisor Survey (SS) yielded comparable results to explore perspectives regarding preparedness of new teachers to instruct diverse learners. Results for each of the nine survey questions as well as the diverse learner construct (i.e., composite mean of nine questions) for all three surveys are presented in Table 3. Comparative results for the aggregate cohort for the diverse learner construct, as well as disaggregated by level of preparation, are also provided (see Table 4). The convergence of data represents an understanding of preparing and supporting teachers to instruct diverse learners.

[Table 3 here]

[Table 4 here]

Exit Survey (ES)

Overall, ES results indicated that preservice teachers graduate feeling confident in their training to teach diverse learners in their classrooms (M = 3.33, SD = .65) with a mean rating between tends to agree (M = 3.0) and agree (M = 4.0); see Table 3. Percentage of individual

question agreement ranged from 73.1% (*mental health*) to 96.2% (*cultural backgrounds* and *varied learning needs*) with a high level of agreement indicated for the diverse learner construct (85%). The minimum score indicated was *mental health* (M = 3.04) and the maximum item was *different developmental levels* (M = 3.63). Of the nine survey questions, means ranged 0.59. The item with the lowest standard deviation occurred in the area of *varied learning needs* (SD = 0.53) and the highest in the area of preparation for *mental health* (SD = 0.80). When examined at the individual level, reported graduate means at program completion ranged from 2.33-4.0.

Transition to Teaching Survey (TTS)

Results of the TTS revealed that after their first year in the classroom, teachers perceived their preparation as slightly less effective than when they first completed their training program. A mean of 3.15 (SD = 0.80) was indicated, a 0.18 decrease from the ES (see Table 4). Furthermore, results on all nine items indicated a decrease from the ES to the TTS with a range of 0.24 (0.06-0.30). The TTS was the only survey on which any single item mean dropped below a tendency to agree (M = 3.0). The item mean for *English Language Learners* (M = 2.88), *gifted* learners (M = 2.94), and *mental health* (M = 2.98) occurred marginally into the range of tend to disagree (M = 2.00-2.99).

Percentage of item agreement ranged from 63.5% (*English Language Learners*) to 90.4% (*varied learning needs*) with a generally high level of overall diverse learner construct agreement indicated (78%). The TTS level of agreement was a 7% decrease from the ES one year prior. The minimum score indicated was *English Language Leaners* (M = 2.88) and the maximum item was *varied learning needs* (M = 3.43), which was also the item with the lowest standard deviation (SD = 0.64). Of the nine survey questions, means ranged 0.55. The highest standard deviation occurred in the area of preparation for *gifted* learners (SD = 0.97).

When examined at the individual level, reported teacher means ranged from 1.33-4.0. Of these, 41% (n = 21) demonstrated the same or higher means compared to the ES indicating their preparation continued to be perceived at a commensurate or improved level after one year of teaching experience. Positive score change values from the ES to the TTS ranged from +0.11 to 1.00. Results displayed a calculated mean of 3.58 and an average positive increase of +0.41. For those teachers who noted no change (n = 5), four had means of 4.0 and one a mean of 3.0. In addition, 59% (n = 25) demonstrated lower results on the TTS. The mean score for those teachers with lower scores was 2.71 (range = -0.12 to -1.67) and an average decrease of -0.71.

Supervisor Survey (SS)

According to the SS, supervisors indicated that first year teachers demonstrated the ability to teach diverse learners (see Table 3). Results of the SS revealed a diverse learner construct mean of 3.56 (SD = 0.64). This mean is a +0.40 increase from the TTS, in which teachers after their first year in the classroom perceived their preparation as less effective (see Table 4). Furthermore, results on all nine items indicated an increase from the TTS to the SS with a range of +0.71 (0.03-0.74). Percentage of item agreement varied from 48.1% (*English Language Learners*) to 90.4% (*varied learning needs*) with a generally high level of overall construct agreement indicated (79%). This SS level of agreement indicated a 1% increase when compared to the TTS. On the question related to teaching ELL, a skip pattern was noted as supervisors were provided with an option to mark the item as "Not Able to Observe". Of the 51 respondents, 49% indicated this choice (see Table 3). Neither this option, nor a comparable alternative was provided on the ES or TTS. Of the nine survey questions, means ranged 0.21; the minimum score indicated was *gifted* learners (M = 3.43) and the maximum item was *cultural backgrounds* (M = 3.64), which was also the item with the lowest standard deviation (SD =

0.52). The highest standard deviation occurred in the area of preparation for *gifted* learners (SD = 0.74).

When examined at the individual level, reported supervisor means ranged from 1.67-4.0. Of these, 61% (n = 31) demonstrated the same or higher means compared to the TTS indicating supervisors perceived teachers' abilities to work with diverse learners higher than the teachers themselves felt prepared to do so. Positive score change values from the TTS to SS ranged from +0.11 to 2.67. Results displayed a calculated mean of 3.73 and an average positive increase from TTS ratings of +0.88. There were four supervisors who reported the same result as the teachers. Of these, three had means of 4.0 and one a mean of 3.0. In addition, 30% (n = 15) demonstrated lower results from supervisors on implementation than teachers rated their preparation on the TTS. The mean score for those with lower scores was 2.96 (range = -0.08 to 1.25) with an average decrease of -0.64.

Summary of comparative findings

Means scores across the three surveys were similar ranging from 3.33 to 3.56. All means remained in the range of "tend to agree" to "agree" (i.e., from 3.0 - 4.0). The highest means were reported by the supervisors regarding teachers' abilities to work with diverse learners, and the lowest means by the teachers themselves after one year in the field (see Table 4). The question item related to teaching students with *varied learning needs* had the highest level of agreement and lowest standard deviation across all three surveys. Teacher perspectives changed slightly as they entered the classroom and faced the complex realities of instructing P-12 students. A pattern of minor decrease of the diverse learner construct occurred when comparing the ES to TTS (-0.18). The question of highest change from the ES to the TTS occurred for the item related to working with students at *different developmental levels* (-0.30). In addition, there was a marked

difference between the response of supervisors compared to the teacher responses regarding their own preparedness; supervisors perceived teachers' abilities to work with diverse learners higher than the teachers themselves felt they were prepared, most notably in the area of *English Language Learners* and *mental health* needs. There was no significant difference in means when data was disaggregated by program level preparation.

Discussion

These findings indicate that preservice teachers graduate feeling confident in their preparation for diverse classrooms, however their confidence wanes during their first year in the field as they face the complex realities that P-12 students bring. Yet, this finding contradicts an emergent element that supervisors in this study were satisfied with first year teachers' abilities to teach diverse learners. The difference of perspectives support investigating suggestions of the continuum of teacher skill development from pre-service preparation through the first years of teaching, the factor of focused induction support, efficacy of new teachers' instructional skills attained during training, and the relationship of these to preparation program improvement. This dialogue is particularly critical given implications to accelerate new teacher effectiveness for reaching an increasingly diverse student population and enhancing understanding of teaching about teaching.

Professional learning continuum and induction support

A key comparative finding was that all means remained in the range of "tend to agree" to "agree" (i.e., from 3.0 - 4.0) with the highest means reported by the supervisors and the lowest means by the teachers themselves after one year in the field (see Table 4). New teachers both immediately after preparation and after one year of teaching reported being well prepared to teach students with *varied learning needs* and those from different *cultural* backgrounds; their

supervisors also agreed. However, when it came to the specific areas of teaching *English Language Learners* and students with *mental health* needs, teachers felt less prepared indicating a need to build confidence, skills, and abilities. Prior research confirmed that new teachers often indicate they feel less prepared to work with students with diverse needs (Eberly, Joshi, Konzal & Galen, 2010), and may not be prepared for diverse classrooms (Feiman-Nemser, 2001; Ford, 2007; Garcia et al., 2010; Kumar & Hamer, 2013). Teachers' perspectives have been found to change from the time they are in a teacher preparation program to when they are in the field due to lack of independent experience (Whipp, 2013), suggesting even after EPPs address InTASC preparation standards, adequate pre-service preparation may still not be enough. This finding correlates with that of Kahn et al. (2014), who noted that dispositions for and knowledge of cultural sensitivity and understanding are developed through experiences.

An important consideration is revealed regarding expectations of new teachers to be experts in the most complex aspects of teaching increasingly diverse learners. Barnes and Smagorinsky (2016) noted that often both EPPs and school districts expect beginning teachers to be highly skilled after a few semesters of coursework, practica, and a semester of student teaching. However, teachers in their first three years of teaching build on their pre-service training, stabilize their strategies, and gain adaptive expertise (Feiman-Nesmer, 2001), often creating a gap between employer expectations and EPP proficiency requirements.

Addressing the complex nature of preparing new teachers for diverse classrooms through a combination of coursework and relevant experience expands the responsibility of preparation to both EPPs and partnering school districts. During the induction stage, teachers have more occasions to practice and apply skills for teaching diverse learners in authentic classroom settings. In fact, numerous studies cite a progression on this continuum of professional learning

with skills achieved sometime in the fourth year of teaching or beyond (Liston, Whitcomb & Borko, 2006). Danielson (2007) acknowledged that new teachers should expect at least five years of experience in order to exhibit proficiency in all areas of teaching, and even longer to exhibit skills at the highest level. Clearly the first five years of a teacher's experience and continued training in the field are critical. Furthermore, Ericsson, Krampe, and Tesch-Römer (1993) concluded, ten years of determined, deliberate practice and negotiation of external constraints is required to reach expert status; teachers are motivated to gain expertise through recognition of their effort and skills, a prospect in which EPPs are uniquely situated to assist their alumni.

Preparing teachers for diverse classrooms requires a continuum of training spanning from the EPP, to induction support, then sustained through professional development so that new teachers develop the self-efficacy required to teach diverse learners confidently (Bastian & Marks, 2017; Feiman-Nemser, 2001; Johnson, 2004; McDonough, 2009; Zee, M., & Koomen, H., 2016). As Lee and Hemer-Patnode (2010) and McDonough (2009) further found, training for teaching in diverse classrooms must continue beyond teacher preparation programs. Yet, development of teaching expertise is nonlinear, and as teachers gain experience, they demonstrate increasingly complex and sophisticated methods. It is clear that "teachers need time to process new ideas, consolidate skills, and begin to make changes to their teaching practice" (Kutaka et. al, 2017, p. 150). Novice teachers need continued support in order to properly utilize the skills and knowledge they learned through the EPP (Skeen, 2019), building confidence for teaching diverse learners according to the InTASC standards.

Some researchers have recommended that to reach diverse learners, teachers should focus on high leverage practices that cut across grades, subjects, and diverse student populations, but

others have pointed out that concerns exist in this model regarding issues of social justice and cultural responsivity that could be overlooked (Richmond, Salazar, & Jones, 2019). This dilemma of specificity versus generality in how to reach diverse learners might be managed by encouraging teachers to approach the variety of learners in their classroom as a resource, rather than thinking particular skills for each category of student are needed. Thus, a preservice training focused on high impact practices to teach all learners is advised.

And while teacher preparation is a broad scope of training involving the knowledge, skills, and dispositions of all ten InTASC standards, skill development in areas of teacher responsibility, such as ELL and mental health, gifted education does require a focused effort. Marzano, Frontier, and Livingston (2011) proposed that focused feedback and practice for specific strategies as well as opportunities to observe and discuss expertise could advance teachers on the continuum of professional learning. Strategies such as instructional rounds, expert coaching, expert videos, teacher-led development, and virtual communities are proposed strategies to assist teachers in skill development. Opportunities to observe the moment-to-moment adaptations a veteran teacher makes regarding the use of specific strategies and to discuss effective teaching are an important part of developing expertise. Without it, new knowledge about teaching is often limited to personal trial and error (Marzano et al., 2011), leaving many teachers feeling underprepared, even though their supervisors find their abilities to be acceptable. Because it is impossible to anticipate or replicate every possible classroom encounter, developing teacher abilities should not conclude at graduation from an EPP. Proper induction support relies on communication and collaborations between EPPs and schools so that on the job training and professional development can continue where EPPs left off (Johnson, 2004).

To systematically develop teacher expertise, induction support is a purposeful approach to enrich teachers' pedagogical skills and enhance student achievement. Prior research shows that supporting teachers through induction and mentorship can improve their ability to teach diverse learners by increasing their confidence and self-efficacy in addition to their knowledge and skills (Liston, Whitcomb, & Borko, H., 2006; Skeen, 2019; Zee, & Koomen, 2016). The principles of andragogy (Knowles, 1984) further remind schools and EPPs alike that new teachers need to be involved in the planning and evaluation of their instruction. Experiences, including mistakes and areas in which they lack confidence, as well as teaching tasks that have immediate relevance to solving classroom challenges should provide the basis for professional learning activities. Specifically, Marzano et al. (2011) suggested that mentors provide induction support through teacher self-rating of performance, classroom walkthroughs, mentor observations, cueing teaching of new strategies, and surveying learners to gain feedback. Identification of which skills to target using these induction processes can be a key contribution of EPPs, as suggested by [Author, 2019]. Data for accreditation and continuous improvement, efforts, such as the survey results of this study, often identify areas for targeted skill development of new teachers.

One distinct finding of interest necessitated unique consideration regarding induction support survey items in which TTS and SS responses were the most different. That is, the items related to teaching ELLs, students with mental health needs, and those who are gifted. Analysis showed that supervisors perceived teachers' abilities to work with diverse learners at higher scores than the teachers themselves felt they were prepared in these areas. On one specific question related to teaching ELLs, an interesting skip pattern occurred in which 49% of supervisors marked the item as "Not Able to Observe" (see Table 3). This brings into question

whether new teachers actually felt less prepared in this area, if supervisors did indeed perceive teacher's skills as adequate, or if first-year teachers even had the occasion to use skills to teach ELLs in the classroom. Although it is not possible to fully ascertain causation for the large score change values on these responses via secondary data analysis, this result does inform induction support when considering recency effects. As teacher candidates enter the field, they retain knowledge and skills from preparation that make sense or have immediate application to their classroom; the longer period of time between when pre-service training addresses skills to teach specific groups of diverse learners and the need to recall and use said skills in the classroom could reduce pedagogical fidelity or a teacher's trust in their own ability to perform specific teaching tasks.

The focus of preservice training and induction practices need to keep pace with the enormous shifts in the student population and the increasing diversity of their learning needs. As Marzano et al. (2011) acknowledged, changes are not easily implemented by schools and often require a redistribution of resources. As suggested by Bastian and Marks (2017), this change is also needed for EPPs at the university level. Provision of induction supports through partnerships connecting pre-service preparation to comprehensive early-career support in schools could become a natural extension of EPP efforts, particularly given the "rise in evaluation systems that hold teacher education programs accountable for the performance and retention of program graduates" (p. 389). These partnerships have the potential to increase teacher retention, improve classroom effectiveness, and increase teacher capacity to address the needs of all learners (Haynes, Maddock, & Goldrick, 2014). New teachers deserve a sustained investment in their development, so they feel well equipped to become highly skilled in their field, and EPP's are well-situated to serve as induction support by working with graduates through the growth

process. And as Skeen (2019) indicated, induction programs independent of teachers' employers may be an important aspect of program success. Professional development should occur in areas defined by graduates as weaknesses in their preparation and by supervisors in the lack of implementation. This communication with P-12 partners about areas of focus for induction support may leverage the value of the EPP outcomes data for P-12 schools in addition to EPPs accreditation and improvement processes.

Findings from longitudinal outcomes of data survey data could contribute to refining EPP's processes of annually assessing program results against the professional standards of InTASC as well as program improvement goals. The findings from this study support literature demonstrating that perspectives from the ES, TTS, and SS can, and do, inform teacher preparation programs about perceptions according to the InTASC standards. They also indicate that training for diverse student learners must be explicitly tied throughout the teacher education program and extend beyond. The goal is to help EPPs and districts use the available longitudinal survey data to develop coherent improvement strategies that connect real-life teaching and learning experiences with effective pre-service and induction initiatives.

Efficacious new teachers

Kumar and Hamer (2013) found upon program completion that some preservice teachers felt prepared to teach in diverse classrooms, and indeed, candidates in this study at completion of teacher training indicated the same. The current study revealed that pre-service teachers left their EPP feeling prepared to teach diverse learners, then within their first year of teaching, they felt notably less prepared. A potential response to this finding may be to explore conceptualization of teacher confidence or self-efficacy. According to Zee and Koomen (2016), "self-efficacious teachers have been shown to be less anxious about and to have more positive attitudes toward

inclusive education and sociocultural diversity than inefficacious teachers" (p. 994). As Darling-Hammond (2006) observed, even small cases of teaching success are related to a sense of efficacy which in turn is linked with a teacher's effectiveness and dedication to teaching. EPPs and P-12 schools need to collaborate in supporting preservice teachers to feel comfortable and confident to implement the promising teaching practices they learned through the EPP and first year of experience.

Since self-efficacy compounds to build collective efficacy, exploration of this influence is essential. As Haynes et al., (2014) identified, "improvement of teaching is a collective rather than individual enterprise" (p. 5). How do pre-service teachers build awareness and skills of both self-efficacy and collective teacher efficacy during preparation? Specific actions used by school leaders to build collective efficacy (Brinson & Steiner, 2007) can help advance both pre-service and induction processes: (1) build instructional knowledge and skills; (2) create opportunities for candidates to reflect on performance feedback and share their skills and experiences with peers; and (3) involve teachers in program decision making. In addition, resources such as the General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) could provide an opportunity for pre-service self-evaluation using the GSE as they exit the program, providing the EPP and the hiring P-12 school with important information to inform professional skill development.

Study limitations

Although secondary data analysis is well positioned to investigate complex aspects of teacher education, limitations have been identified. Efforts were made to address bias through discussions, yet bias remains an inherent issue in interpretation of results. Furthermore, the available data were not collected directly to address the research questions of this study, and thus a potential limitation is that some important information or factors were not available for

analysis. Additionally, participants were not representative of all completers as only respondents for whom all three surveys had been completed were included. Connecting with completers who did not submit a TTS or following up with supervisors who did not complete the SS even though the first-year teacher did respond might yield additional insights. Furthermore, the small number of completers for early childhood and the mix of content area preparation for secondary teachers restricts generalizability to those levels of preparation in particular. Finally, findings are limited to self-study of the EPP and not necessarily beyond.

Conclusion

The survey instruments and triangulated data that correlate with accreditation standards is a viable method for assessing other institution's teacher preparation programs for diversity effectiveness preparation. Establishing the need for induction support for teaching diverse learners was a key accomplishment of this study. Teacher candidates should not be expected to graduate from a preparation program completely prepared for diverse classrooms. Instead, they should possess a general understanding of the diversity they will encounter and know what should be expected of them as teachers. Then, new teachers should have access to additional training and mentorship that helps them to appropriately address specific needs of diverse learners. This study also added perspectives not readily available in the research: those of first-year teachers and their supervisors, which are key viewpoints for examining teacher preparedness and effectiveness.

Furthermore, a key strength lies within the fact that the survey instrument was deemed valid and reliable by a third-party team of research experts. Utilizing teacher supervisor feedback adds a unique element that future researchers should consider. Several institutions in the same state completed these survey cycles; therefore, EPP results can also be compared with the

collective aggregate. Researchers could also analyze statewide survey results and even compare across states or regions. Comparison of rural versus urban teacher results would also offer impactful insight to preparation programs, as would further investigation of the predictive validity of school context factors as they relate to new teachers' perception of preparedness for the responsibilities they face. The beginning years are crucial in a teacher's growth, but even more critical in the lives of the diverse learners they teach. They all need to know that they have support in their journey.

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Table 1

InTASC Standards That Address Diverse Learners

InTASC Standards	InTASC Elements	Description
Learner Development	1(a-b)(d-i)	Modifies instruction to meet developmental needs; Accounts for individual learners' strengths & interests; respects learner differences
Learning Differences	2(a-k)	Individual learning needs – including ELL
Learning Environments	3(f)(g)(l)	Communicates with respect & responsiveness to cultural backgrounds; Promotes learning locally & globally; Diversity affects on communication
Content Knowledge	4(b)(m)	Delivers content in different ways; Integrates culturally relevant content; Recognizes & addresses personal biases
Application of Content	5(d)(g)(p)(q)	Helps students develop diverse social & cultural perspectives of local & global issues; Accesses resources for building global awareness & understanding
Assessment	6(g)(h)(k)(p)	Differentiated learning experiences & assessments; Accommodations for learners with disabilities & language learning needs
Planning for Instruction	7(b)(e)(i)(k)(m)(n)	Plans instruction for diverse learning needs; Collaborates with specialists when appropriate; accesses resources to support student learning
Instructional Strategies	8(a)(h)(k)(l)	Adapts instruction for learners' needs; Addresses all learning styles; Differentiates instruction
Professional Learning & Ethical Practice	9(a)(c)(e)(i)(m)	Build skills to teach all learners; Use data to adapt plans and practices; Reflect on personal biases and accesses to resources to increase understanding of identity, worldview and perceptions
Leadership & Collaboration	10(a)(b)	Shared responsibility for student learning; collaborates to meet the needs of diverse learners

Note. Adapted from the Interstate Teacher Assessment and Support Consortium (InTASC) model core teaching standards: A resource for state dialogue Council of Chief State School Officers (CCSSO, 2013).

Table 2

Dataset and Response Rate of ES, TTS, and SS

Year	Exit Survey	Transition to Teaching Survey	Supervisor Survey	Individuals with ES, TTS and SS	Individuals with usable ES, TTS and SS
2015-2016	26*	40	27	13	12
2016-2017	42	32	21	18	13
2017-2018	41	26	11	8	6
2018-2019	40	36	21	20	20
Total	**165**	**134**	**80**	**59**	**51**
Response (%)	**100%**	**81%**	**49%**	**36%**	**31%**

Note. *Includes only spring 2016 completers

Table 3

Exit Survey, Transition to Teaching Survey, and Supervisor Survey: Descriptive Statistics

	Question	N	Disagree (1)	Tend to Disagree (2)	Tend to Agree (3)	Agree (4)	% of Agree	M	SD
	Exit Survey (ES) (M = 3.33)								
1.	Cultural backgrounds	51	1	6	20	24	96.2	3.45	0.54
2.	Varied learning needs	51	0	4	21	26	96.2	3.61	0.53
3.	Different developmental levels	51	0	5	24	22	94.2	3.63	0.56
4.	Socioeconomic	51	0	8	22	21	82.7	3.53	0.59
5.	Special needs	51	2	8	24	17	75.0	3.16	0.78
6.	Mental health	51	3	13	17	18	73.1	3.04	0.80
7.	Gifted	51	4	13	16	18	75.0	3.10	0.76
8.	English Language Learners	51	3	15	18	15	78.8	3.12	0.77
9.	Resources	50	2	6	25	17	94.2	3.35	0.56
	Transition to Teaching Survey (TTS) (M = 3.15)								
1.	Cultural backgrounds	51	0	1	26	24	85.0	3.31	0.76
2.	Varied learning needs	51	0	1	18	32	90.4	3.43	0.64
3.	Different developmental levels	51	0	2	15	34	86.5	3.33	0.65
4.	Socioeconomic	51	0	2	20	29	84.6	3.25	0.72
5.	Special needs	51	0	12	19	20	78.8	3.10	0.81
6.	Mental health	51	1	12	22	16	67.3	2.98	0.93
7.	Gifted	50	0	12	21	17	65.4	2.94	0.97
8.	English Language Learners	51	1	9	24	17	63.5	2.88	0.91
9.	Resources	51	0	2	29	20	80.8	3.14	0.78
	Supervisor Survey (SS) (M = 3.56)								
1.	Cultural backgrounds	45	0	1	14	30	84.6	3.64	0.52
2.	Varied learning needs	50	0	3	21	26	90.4	3.46	0.61
3.	Different developmental levels	48	0	2	15	31	88.5	3.60	0.57
4.	Socioeconomic	46	0	2	15	29	84.6	3.59	0.58
5.	Special needs	48	1	3	14	30	84.6	3.52	0.71
6.	Mental health	43	1	2	10	30	76.9	3.60	0.70
7.	Gifted	42	1	3	15	23	73.1	3.43	0.74
8.	English Language Learners	26	1	0	7	18	48.1	3.62	0.70
9.	Resources	46	0	2	17	27	84.6	3.54	0.59

Note. Missing items were coded as intentional skips.

Table 4

ES, TTS, and SS Question, Survey, and Level of Preparation Change Score Values

	Question	ES M	TTS M	ES to TTS Change Value	SS M	TTS to SS Change Value
1.	Cultural backgrounds	3.45	3.31	-0.14	3.64	+0.33
2.	Varied learning needs	3.61	3.43	-0.18	3.46	+0.03
3.	Different developmental levels	3.63	3.33	-0.30	3.60	+0.27
4.	Socioeconomic	3.53	3.25	-0.28	3.59	+0.34
5.	Special needs	3.16	3.10	-0.06	3.52	+0.42
6.	Mental health	3.04	2.98	-0.06	3.60	+0.62
7.	Gifted	3.10	2.94	-0.16	3.43	+0.49
8.	English Language Learners	3.12	2.88	-0.24	3.62	+0.74
9.	Resources	3.35	3.14	-0.21	3.54	+0.40
	Diverse Learners Construct	**3.33**	**3.15**	**-0.18**	**3.56**	**+0.40**
	Early Childhood (n = 4)	3.53	3.10	-0.43	3.69	+0.59
	Elementary Education (n = 34)	3.36	3.18	-0.18	3.42	+0.24
	Secondary Education (n = 13)	3.21	3.09	-0.12	3.63	+0.54