

**What Teacher Candidates Have to Say:
Analyzing Perceptions of Program Effectiveness
across 14 Universities**

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Abstract

The purpose of this study was to identify common areas of strength and weakness in teacher preparation programs based on the perceptions of teacher candidates and novice teachers from 14 higher education institutions across three states. The areas investigated included perspectives on teacher preparation related to *Instructional Practice, Diverse Learners, Learning Environment, and Professionalism*. The Exit Survey results of 691 Elementary and 501 Secondary Teacher Candidates and the Transition to Teaching Survey results of 306 Elementary and 283 Secondary Novice Teachers were analyzed. Results across the 14 institutions demonstrated that serving the diverse needs (Special Education, English Language Learners, Mental Health, Gifted & Talented) of learners, effective communication with parents and incorporating the effective use of digital technology are common challenges across teacher preparation programs. This study can help inform teacher preparation and teacher induction programs to better respond to the professional development needs of teacher candidates and novice teachers. Implications for the results, including this study's limitations and further research, are discussed.

Keywords: teacher education programs, diverse learners, elementary, secondary, teacher candidates, novice teachers, pre-service teachers, special education, English language learners, mental health, gifted and talented, parent communication

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Since the launch of No Child Left Behind (NCLB) in 2002, teacher effectiveness and teacher preparation have been a focus of much political and professional discussion. In fact, there has been an international trend in teacher education that has brought “unprecedented and politicized attention to teacher preparation/certification and the policies and accountability systems that govern them and measure their effectiveness” (Cochran-Smith & Villegas, 2015, p. 10). This has been especially true in the U.S. where there has been a call to improve teacher preparation so that all American classrooms are led by effective teachers (Cleveland, 2008). The U.S. Congress asked the National Research Council to “synthesize data and research on teacher preparation programs as well as note whether the coursework and preparatory experiences of pre-service teachers were consistent with research findings about effective practice” (Cochran-Smith, 2006, p. 20). Independent liberal arts colleges enroll over 20% of all college students (Hussar et al., 2020) and play a significant role in the preparation of effective teachers in American classrooms. All university teacher preparation programs, public and private, face similar challenges and public scrutiny as they prepare teacher candidates for the increasingly complex job of teaching.

Effective practice is clearly a desirable goal but how does a teacher candidate become an effective teacher? Research has identified teacher pedagogical content knowledge, content knowledge, and experience as key components of being an effective teacher (Darling-Hammond, 2006) and high quality teacher preparation is central to candidates gaining that important knowledge and those essential teaching skills (Darling-Hammond & Bransford, 2005). When teacher candidates are well prepared, students benefit with increased success. P–12 student achievement is highly correlated with teachers who are well prepared in teacher education programs (Darling-Hammond, 2000). Despite that finding, there is little research that disaggregates the experience of teachers as they prepare for and enter the teaching profession.

Although high quality teacher preparation programs have been found to be central to the development of effective teachers, research that demonstrates or evaluates the effectiveness of such programs is lacking. Since well-prepared teachers are essential to

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P–12 student achievement, it is important to assess teacher candidates' perspectives about how well they were prepared. In light of the challenges associated with the recruitment, preparation and retention of teachers, it is especially important to understand the perceptions of teachers as they exit teacher preparation programs and begin their teaching careers. Thus, this study examines the perceptions of teacher candidates regarding their preparedness to teach at the end of student teaching and at the end of the first year of teaching to identify key successes and challenges faced by teacher preparation programs.

This research has two aims. First is to investigate teacher candidates' and novice teachers' perspectives on teacher preparation related to four categories foundational to teacher effectiveness: *Instructional Practice*, *Diverse Learners*, *Learning Environment*, and *Professionalism*. The second is to examine common strengths and weaknesses in teacher preparation across 14 institutions. The following research question guided this inquiry: Based on the use of common metrics assessing teacher candidates and novice teachers across 14 universities, what patterns of strengths and weaknesses can be identified?

Literature Review

Teacher education programs need to prepare effective teachers to support high quality education for K–12 students. According to Wright, Horn, and Sanders (1997), “the most important factor affecting student learning was the teacher and that the clear implication of this finding was that more can be done to improve education by improving the effectiveness of teachers than by any other single factor” (p. 63). Teacher self-efficacy has been shown to positively impact a wide range of teacher behaviors and attitudes (Zee & Koomen, 2016). Teachers who have a high level of self-efficacy based on their preparedness have more positive feelings towards their students and the teaching profession (Darling-Hammond, Chung, & Frelow, 2002). Teacher preparedness and self-efficacy are affected by the quality of teacher education programs (Cochran, Van Buren, & Westerfield, 2016) and teacher self-efficacy is strongly related to important outcomes, such as student achievement, teacher retention and

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job satisfaction (Bandura, 1993; Darling-Hammond et al., 2002; Klassen & Chui, 2010; Sivri & Balci, 2015).

Universities need to collect data from their graduates on their preparedness and self-efficacy as they begin their professional life (Duncan, 2011). If teacher preparation is an important component of teacher effectiveness, then understanding the strengths and weaknesses of those programs is pivotal to improving teacher preparation and teacher self-efficacy. Studies demonstrate that teacher candidates generally report a high level of satisfaction regarding their teacher education programs and feel responsibility for their classroom (Bowsher, Sparks, & Hoyer, 2018; Cochran et al., 2016). In one study, for example, 93% of novice teachers rated their preparation from teacher education programs as proficient or exemplary (Cochran et al., 2016).

Despite overall satisfaction with teacher preparation programs, there are aspects of teaching for which teacher candidates do not feel as well prepared. Teaching is a complex and challenging job for seasoned veterans so it is no surprise that teacher candidates and novice teachers can be overwhelmed by the challenges of teaching students with diverse needs (Bowsher et al., 2018; Meister & Jenks, 2000; Melnick & Meister, 2008). Among the areas most frequently identified as especially challenging include students with Individualized Education Programs (IEPs), English Language Learners (ELLs), and Gifted and Talented students (Tygret, 2018). Mental Health (Merz, 2018) and Childhood Trauma (Alisic et al., 2012; Stratford et al., 2020) have also been recognized as important classroom factors for which teachers receive inadequate preparation. Additionally, novice teachers feel unprepared to effectively communicate with parents to support the needs of diverse learners (Melnick & Meister, 2008; Tygret, 2018). Added to those challenges is the fact that many categories of need overlap and students often present multiple areas of need.

English Language Learners

The number of students receiving ELL services has grown steadily over the past two decades. Almost 5 million students were classified as ELL in 2016 (deBrey et al., 2019) and over 77% of those students are Hispanic. Over a fifteen-year period

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(2000-2015), the percentage of Hispanic students in public schools increased from 16% to 25% (NCES, 2019) and the percentage of Asian students increased from 3% to 5%. Nearly one in three Hispanic students and one in five Asian students receive ELL services (deBrey et al., 2019). Over 20% of public school students have a language other than English spoken in the home and many of these students struggle with speaking, reading and writing English (Aud, Fox, & KewelRamani, 2010). The challenges for ELLs are additionally impacted by poverty and race as well as a teacher quality gap (Samson & Collins, 2012).

Teacher preparation programs have not always been up to the challenge. As Gándara and Santibañez (2016) note, “Because teacher certification programs provide so little preparation for those who will teach ELLs, it’s up to professional development to fill in the gaps” (p. 34). Predictably, one of the biggest challenges for teachers of ELLs is communication and it is important to note that the biggest frustration for elementary teachers are the obstacles to communicating with the parent (Gándara, Maxwell-Jolly, & Driscoll, 2005). Especially relevant to teacher educators is the recent finding that only 35% of teachers felt that their pre-service program had prepared them to engage with parents of ELLs (Gándara & Santibañez, 2016).

Exceptional Learners: Gifted & Talented and Special Education Students

Inclusion is often identified as a goal for students with special needs and exceptionalities, but it is not uncommon for students and specialists to feel they are outsiders (Henley et al., 2010). Even veteran mainstream teachers often feel unprepared to deal with the array of student disabilities (Melnick & Meister, 2008) and a lack of collaborative planning time contributes to a lack of communication between the mainstream teachers and the special education teachers (Friend, Cook, Hurley-Chamberlain, & Shamberge, 2010). While providing time to collaborate falls on the school, initial responsibility for preparing teachers to work with exceptional learners and to collaborate with specialists rests upon the shoulders of teacher preparation programs.

Even though 13% of students in public schools receive special

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education services (deBrey et al., 2019), research has shown for decades that pre-service teachers are not provided adequate preparation to address the needs of those students (Forlin, Jobling, & Carroll, 2001; Harvey, Yssel, Bauserman, & Merbler, 2010; Kearney & Durand, 1992; Reed & Monda-Amaya, 1995) or Gifted and Talented students (Berman, Schulz, & Weber, 2012) nor have they been trained to effectively collaborate with specialists and parents, yet that collaboration is fundamental to success for the P–12 students (Gillies, 2014). Given the fact that the challenges have been evident for at least 25 years, the lack of research on preparation of teachers to work with special education needs (Cochran-Smith et al., 2015) is cause for concern.

Mental Health

There is a growing awareness among P–12 teachers and teacher preparation programs that more attention is warranted in regards to the skills and knowledge needed to support student mental health. The statistics regarding mental health disorders and illnesses bear out the significance of the challenge. One in six children are reported to have a mental health disorder and half of them do not receive help from a mental health professional (Whitney & Peterson, 2019). It is estimated that 17.4% of children ages 2-8 present with a Mental, Behavioral, or Developmental Disorder and over 10% of children ages 3-17 are reported to have anxiety and/or depression (Ghandour et al., 2019). Nearly eight million students come to class with a mental health disorder and teachers often feel unprepared or unequipped to respond to those challenges (Merz, 2018). In a survey conducted by the Education Week Research Center (Kurtz, Lloyd, Harwin, & Blomstrom, 2019) only 29% of teachers reported that they received training related to mental health.

Related to mental health, childhood trauma is a growing area of concern for educators. More than half of the students enrolled in public schools have faced traumatic or adverse experiences and one in six struggles with complex trauma (Felitti & Anda, 2009). Since adverse childhood experiences tend to have significant long-term effects (Shonkoff & Garner, 2012), the need for training in trauma-informed instruction has become more evident.

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Parent Communication

Communicating and collaborating with parents is a central tenet of effective teaching, but it often remains on the periphery of teacher preparation programs (Hiatt, 2001; Walker & Dotger, 2012). Several studies have noted the lack of focus on parent communication within teacher education (Ferrara & Ferrar, 2005; Flanigan, 2007; Hiatt, 2001) and the challenge persists into the teaching career. Meister and Melnick (2003) conducted a survey of 273 first and second year teachers for their concerns when they entered the profession and those teachers identified communication with parents as one out of four areas needing additional support and training. That finding was strengthened in a 2012 MetLife Survey of the American Teacher that identified parent communication and involvement as the top challenge identified by novice teachers (Markow & Pieters, 2012).

Summary

Teaching has always been a challenging profession but increasing expectations for student achievement across all groups of students (NCLB, 2002) and changing demographics (Aud et al., 2010; deBrey et al., 2019) have made it even more challenging. Darling-Hammond, Bransford and LePage (2005) set the bar higher for current teacher candidates to address the needs of diverse learners: “Beginning teachers today need a new perspective; one that goes beyond covering the curriculum to actually enabling learning for students who need to learn in different ways” (p. 2). Meeting the diverse needs of learners and communicating with parents in support of those learners have been monumental challenges for many novice teachers (Melnick & Meister, 2008; Tygret, 2018). The greater complexity and diversity present in today’s classrooms require teacher preparation programs to dedicate more attention and a coherent approach in contrast to the superficial and fragmented efforts of the past (Mills, 2008).

Method

The Network for Excellence in Teaching (NExT), a partnership of 14 institutions of higher education (IHEs) and the Bush Foundation, aims to transform how university-based teacher

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education programs prepare effective new teachers in the Midwest region. NExT has collaborated to develop and administer a set of four common surveys to measure their progress toward this goal. Teacher candidates and graduates at each of the IHEs complete three surveys: upon entry into the teacher education programs; at exit; and one year after graduation (Transition to Teaching Survey). A fourth survey is sent to the novice teacher's supervisor at the end of the first year of teaching. The Exit Survey and Transition to Teaching Survey (TTS) were the two surveys analyzed in the study.

Participants

For the Exit Survey, 691 Elementary and 501 Secondary Teacher Candidates' responses were analyzed; and for the TTS, 306 Novice Elementary and 283 Secondary Teacher responses (Middle or Junior High, High School) were analyzed. For the TTS, only those employed as teachers full time or part time in an educational setting were considered for the purpose of the study.

The racial/ethnic and gender composition of the teacher candidates did not vary widely from national averages. Almost 90% of the teacher candidates were White, 3% were Asian, 3% were African-American, 3% were Hispanic, 1% were American Indian and 1% were "other." Nearly 80% of the novice teachers were employed in traditional public schools, 9% were employed in charter schools, 6% in private schools and 4% in other educational settings.

Data Sources

Common metrics data (Exit and TTS) were analyzed for all teacher candidates and novice teachers to identify areas of strength and areas for improvement across the institutions in NExT. The Exit Survey was administered across 14 universities to assess teacher candidate perceptions of the degree to which their teacher education programs prepared them for teaching upon completion of student teaching. Among the 14 universities participating, six were independent liberal arts universities, five of which were located in an urban setting. The TTS was used to assess the same perceptions after a year of classroom teaching

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experience. The 2015-16 Exit Survey and the 2016-17 TTS were used to capture the same participant responses on both surveys. Both surveys are aligned overall and are nearly identical.

There are a few minor differences in specific survey items but the content is nearly identical. An individual item on the Exit Survey for 2015-16 was changed into two items for the 2016-17 TTS and those items were excluded from this analysis. The surveys encompassed four broad areas of teacher preparation: *Instructional Practice*, *Diverse Learners*, *Learning Environment*, and *Professionalism*. Please see the Table 1 below for the total number of the items and some sample items in each broad area.

Table 1

The Total Number of the Items and Some Sample Items in Each Broad Area in Exit Survey and TTS

Broad Area	Total # of Items	Some Sample Items
Instructional Practice	21	Effectively teach subject matter. Align teaching strategies with learning goals.
Diverse Learners	9	Effectively teach students from culturally diverse backgrounds. Differentiate for gifted and talented students.
Learning Environment	9	Convey expectations for student behavior. Relate content to students' lives.
Professionalism	7	Identify opportunities for professional growth. Partner with parents and guardians to support student success.

2015-16 Exit Survey. This survey was administered to teacher education program graduates during fall 2015 and spring 2016. The Exit Survey collects information on graduates' perceptions of and satisfaction with their teacher education programs and student teaching experiences, as well as their backgrounds and future plans. The overall reliability, Cronbach's Alpha, for the Exit Survey is 0.98.

2016-17 Transition to Teaching Survey. This survey was administered to first-year teachers during the spring of 2017. The TTS collects information on recent graduates' licensure and job

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status, perceptions of their teacher preparation programs, current school contexts, and personal demographics. The overall reliability, Cronbach's Alpha for the TTS is 0.98.

Data Analysis

Index analysis, which measures perceptions of survey respondents about a question relative to the average of all responses, was used in the study to allow a more detailed analysis of notable trends and differences. Common Metrics Data (Exit and TTS) were analyzed for all elementary and secondary teacher candidates and novice teachers separately to identify potential improvement areas across institutions in the network.

Initially, data was cleaned by deleting missing or invalid data. The survey responses were converted from a 1-4 Likert scale to 0-1 (dissatisfaction or satisfaction); 1 and 2 were encoded as "0"; 3 and 4 were encoded as "1." The Index for 4 broad areas (*Instructional Practice, Diverse Learners, Learning Environment, and Professionalism*) and individual items were calculated as shown in the following formulas:

$$\text{Index of an Individual Item} = \frac{(\text{Average Satisfaction Score of Individual Item})}{(\text{Average Satisfaction Score of All Broad Areas})} \times 100$$

$$\text{Index of a Broad Area} = \frac{(\text{Average Satisfaction Score of Broad Area})}{(\text{Average Satisfaction Score of All Broad Areas})} \times 100$$

An index simply shows satisfaction of an individual survey item relative to overall survey satisfaction. An index of 105 or higher is classified as high, whereas 95 or lower is classified as a low index in comparison to overall ratings. In other words, high index scores indicate candidates feel very satisfied with their preparation in a given area and low index scores indicate a lower level of satisfaction as compared to overall average.

Results

In this study, we aim to identify common areas of challenge and success in perceptions of program effectiveness across universities in NExT. The surveys encompassed four broad areas of teacher preparation: *Instructional Practice, Learning Environment,*

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Diverse Learners and *Professionalism*. While overall, the teacher candidates and novice teachers exhibited a high level of satisfaction with their programs, the index analysis allowed the researchers to identify relative strengths and weaknesses.

The results indicate that the teacher candidates and novice teachers feel least prepared to address the diverse needs of learners and most prepared to create an effective learning environment (Table 2). The category of *Diverse Learners* was a low index score for elementary and secondary teacher candidates and novice teachers on both the Exit Survey and the TTS and by far the lowest score among all categories. *Learning Environment* was the highest score for elementary teachers in the Exit Survey and the TTS and a high index score for the TTS. *Learning Environment* was a high index score and the highest category score for secondary teachers in the Exit Survey and the second highest score on the TTS. There was solid uptick in scores on the TTS in comparison to the Exit Survey in the area of *Instructional Practices*, but overall results were mixed. Scores on the TTS for both elementary and secondary teachers were lower than the Exit Survey in *Professionalism*, secondary teachers had lower scores on *Learning Environment* and elementary teachers had a slight decrease in *Diverse Learners*.

Table 2
Index Scores for Broad Areas in 2015-16 Exit Survey and 2016-17 TTS for all Elementary and Secondary Teacher Candidates and Novice Teachers

	Exit	TTS
Elementary	Instructional Practice (100.2) Diverse Learners (94.7)* Learning Environment (104.7) Professionalism (100.4)	Instructional Practice (102.5) Diverse Learners (94.4)* Learning Environment (105.1)** Professionalism (98)
Secondary	Instructional Practice (101.2) Diverse Learners (90.7)* Learning Environment (106.8)** Professionalism (101.2)	Instructional Practice (104.5) Diverse Learners (91.8)* Learning Environment (103.9) Professionalism (99.8)

Note: Low index broad categories were designated by a single asterisk and high index broad categories were designated by a double asterisk.

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The scores on individual items generally reflect the category scores. There are no high individual index items in the Exit and TTS across teacher candidates and novice teachers for the *Diverse Learners* and *Professionalism* broad categories, but there are four high index items in *Instructional Practice* and five high index items in the *Learning Environment* categories. The highest individual index item for all elementary and secondary teacher candidates and all novice elementary and secondary teachers is related to designing lessons with clear learning outcomes in the *Instructional Practice* category. Within that category, individuals also felt well prepared to effectively teach the subject matter, align instructional strategies with goals and standards, and engage students with subject matter from a variety of perspectives. Within the *Learning Environment* category, teacher candidates and novice teachers felt well prepared to use effective communication strategies, help students to work together, connect content to real-life, and promote student engagement. Given the low overall scores for *Diverse Learners*, it is notable that teacher candidates and novice teachers rated their preparation highly in regards to creating an environment where differences are respected.” High index individual items in Exit and TTS for all elementary and secondary teacher candidates and novice teachers are listed in Table 3.

Table 3

Focus of High Index Individual Items in 2015–16 Exit Survey and 2016–17 TTS for all Elementary and Secondary Teacher Candidates and Novice Teachers

Broad Categories	Survey Item Topic
Instructional Practice	Effectively teach subject matter. (108.15, 112.45)
	Align teaching strategies with learning goals. (109.4, 109.75)
	Engage students with subject matter from multiple perspectives. (105.9, 106.85)
Learning Environment	Design lessons with clear learning outcomes. (110.5, 114)
	Convey ideas and information to students. (109.9, 111.05)
	Relate content to students' lives. (107.2, 108.85)
	Coordinate students working together to learn. (109.75, 108.2)
	Create an engaging classroom environment. (107.6, 107.3)
Foster an environment where differences are respected. (108.55, 109.55)	

Note: The first number demonstrates the mean of elementary and secondary teacher candidates' scores for Exit Survey. The second number demonstrates the mean of elementary and secondary novice teachers' scores for the TTS.

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Survey responses that were high or low on at least one survey but not all surveys are classified as unique. Using formative and summative assessments and accounting for students' prior knowledge are high index items in the Exit Survey for secondary teacher candidates and are high index items in the TTS for both elementary and secondary novice teachers. Regularly adjusting instructional plans to meet student needs was a high index item for elementary and secondary teachers in the TTS. Effectively responding to student behavior is a high index individual item for secondary teacher candidates in the Exit Survey. Unique high index scores for the Exit Survey and TTS follow in tables 4 and 5.

Table 4

Focus of Uniquely High Index Individual Items in 2015–16 Exit Survey

Broad Categories	Survey Item Topic
	Only Elementary
Diverse Learners	Differentiate based on socioeconomic status. (105.8)
	Only Secondary
Instructional Practice	Incorporate students' prior knowledge in planning instruction. (105.0)
	Effectively use formative and summative assessments. (107.6)
Learning Environment	Convey expectations for student behavior. (105.0)
Professionalism	Collaborate with other teachers to increase student achievement. (105.0)
	Act on peer feedback for professional growth. (107.1)

Table 5

Focus of Uniquely High Index Individual Items in 2016–17 TTS

Broad Categories	Survey Item Topic
	Both Elementary and Secondary
Instructional Practice	Incorporate students' prior knowledge in planning instruction. (109.5, 111.1)
	Adapt instruction to meet learner needs. (106.1, 107.6)
	Effectively use formative and summative assessments. (107.2, 112.4)
	Only Secondary
Instructional Practice	Create assessments that align with learning outcomes. (105.8)

Note: The numbers following the survey items for "Both Elementary and Secondary" demonstrate elementary and secondary teacher candidates' index respectively.

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Overall, the *Diverse Learners* category has the lowest index score in the Exit Survey and TTS for both elementary and secondary. Regarding low index items, there are four individual items for the category of *Diverse Learners* and one individual item for *Professionalism* in the Exit and TTS. The lowest individual item score for all elementary and secondary teacher candidates and novice teachers is focused on differentiating based on mental health needs. Additional low individual scores were found for Gifted & Talented students, ELLs and students with IEPs. All of these individual items scored well below the cut score for low index items. Only one low index individual item did not increase between the Exit Survey and the TTS and that was the item under *Professionalism*: “Partner with parents and guardians to support student success.” Low index individual items in the Exit and TTS for all elementary and secondary teacher candidates and all novice teachers are listed in Table 6.

Table 6

Focus of Low Index Individual Items in 2015–16 Exit Survey and 2016–17 TTS for all Elementary and Secondary Teacher Candidates and Novice Teachers

Broad Categories	Survey Item Topic
Diverse Learners	Differentiate for Special Education students. (82.05, 84.95) Differentiate based on mental health needs. (74.3, 75.65) Differentiate for gifted and talented students. (77.5, 84.9) Differentiate for English-language learners. (84.7, 88.45)
Professionalism	Partner with parents and guardians to support student success. (91.7, 87.3)

Note: The first number demonstrates the mean of elementary and secondary teacher candidates' scores for Exit Survey. The second number demonstrates the mean of elementary and secondary novice teacher candidates' scores for TTS.

The items related to using digital and interactive technology tools are unique low index items for both elementary and secondary teacher candidates in the Exit Survey and a low index item for elementary novice teachers in the TTS. The item focusing on involving students in self-assessment is a low index item for both elementary and secondary teacher candidates in Exit Survey and a low index item for secondary novice teachers in TTS.

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Even though there are no low index items related to classroom management in the Exit Survey, in the TTS the item focusing on helping students self-regulate behavior is a low index item for both elementary and secondary novice teachers and effectively responding to student behavior is a low index item for secondary novice teachers. These findings might reflect the increased challenges of classroom management as the novice teacher assumed full responsibility for the classroom. The unique low index individual items in the Exit and TTS are listed in Tables 7 and 8.

Table 7

Focus of Uniquely Low Index Individual Items in 2015–16 Exit Survey

Broad Categories	Survey Item Topic
	Both Elementary and Secondary
Instructional Practice	Involve students in self-assessment. (92.5, 87.9) Use digital technologies to attain learning goals. (90.1, 92.8) Use a variety of technologies to support student learning. (87.1, 94.4)
	Only Elementary
Instructional Practice	Access resources that help promote global awareness and understanding. (94.7)

Note: The numbers following the survey items demonstrate elementary and secondary teacher candidates' index respectively.

Table 8

Focus of Uniquely Low Index Individual Items in 2016–17 TTS

Broad Categories	Survey Item Topic
	Both Elementary and Secondary
Learning Environment	Help students self-regulate behavior. (91.8, 86.3)
	Only Elementary
Instructional Practice	Use digital technologies to attain learning goals. (93.6) Access resources that help promote global awareness and understanding. (93.3)
	Only Secondary
Instructional Practice	Involve students in self-assessment. (91.1) Promote student problem solving skills. (94.6)
Diverse Learners	Differentiate based on socioeconomic status. (90.2)
Learning Environment	Effectively respond to student behavior. (89.8)

Note: The numbers following the survey items demonstrate elementary and secondary novice teachers' index respectively.

Conclusions and Implications

This study examined common strengths and weaknesses in teacher preparation across 14 institutions including six liberal arts colleges. The results can be used to help all teacher preparation programs recognize common challenges and successes and can lead to program improvement. With a few notable exceptions, the 14 teacher preparation programs overall did especially well in the broad categories of instructional practices and learning environment.

In general, the greatest need for improvement for elementary and secondary teacher candidates and novice teachers across 14 universities is in the category of *Diverse Learners* and it includes differentiation across a variety of learner needs (mental health, ELL, G & T, IEPs/504). It should be noted that there are nine individual items within *Diverse Learners* and the four lowest item scores for the whole survey are found within this category. Students across 14 institutions felt least prepared to meet the needs of students related to mental health and trauma. Preparing teachers for meeting the needs of students who present mental health and trauma issues has emerged more recently and it is an area of limited research. Consistent with past research and despite efforts over the past decades to improve teacher preparation, beginning teachers still feel relatively unprepared to differentiate learning for their Gifted & Talented students, their ELLs and students with IEPs.

In addition, the results point to a need to focus on communication and collaboration with parents, as well as the use of technology. Parent Communication is critical to student achievement and teacher candidates and novice teachers are seeking more preparation to do this well. Even though this generation of teachers has grown up in a digital environment, they do not feel well prepared to translate those experiences into effective classroom instruction. The carryover of differentiation needs, parent communication and technology challenges into the first year of teaching reinforces the need for coordination between the teacher education programs and school district induction to ensure continued attention and professional development related to very challenging classroom needs.

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Limitations

This study identified program needs based on the teacher candidates' and novice teachers' perception of their own preparation. The Exit and TTS rely on self reporting from the teacher candidates/novice teachers and interpretation of the results should reflect the limitations of that kind of data. The 14 universities that participated in the study are part of a consortium of schools focused on improving teacher preparation. All are located within three Midwestern states and they include a mix of public and private colleges, large and small. The inclusion of six private colleges in this study adds relevance and significance for independent liberal arts universities, but restrictions within the consortium did not allow for disaggregation and comparison of the survey data. Generalization beyond the 14 institutions should take into account the composition of the consortium and its focus. Comparisons between the Exit Survey and TTS should be done with caution due to the fact that the Exit Survey included all teacher candidates and the TTS data analyzed in this study only included those employed full time or part time in an educational setting.

Suggestions for Further Research

The clustering of concerns in the broad category of the *Diverse Learners* points to a need for further research. Despite decades of research, progress has been slow in preparing teacher candidates to meet the needs of students with special needs, G & T students and ELLs. Further research into the effectiveness and confidence of experienced teachers in addressing these needs is warranted.

Preparation for student needs related to mental health and trauma is an area of limited research and much more is needed to guide programs. The Common Metrics survey questions did not distinguish between mental health and trauma and having separate items may better inform teacher preparation programs. Given the complex challenges of meeting all learner needs, more research on effective teacher collaboration with specialists and paraprofessionals could benefit pre-service and in-service teachers.

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Teacher candidates and novice teachers did not identify differentiating for racially and culturally diverse classrooms as an area of need, yet this is repeatedly identified within the education literature. Further research should explore this contradiction between the perception of teacher candidates and novice teachers and the needs identified by districts and the profession. This study did not disaggregate results based on race and ethnicity and it would be worthwhile to do that to examine whether non-white teacher candidates experience teacher preparation and induction differently than white teacher candidates.

Classroom management has often been identified as a major challenge for novice teachers, but it did not emerge here near the top of concerns. What did emerge was that teacher candidates feel less confident about students taking ownership of their learning (self-assessment) and behavior (self-regulation). This could be another fertile area for more research.

The surveys used in this research are available to institutions through the Network for Excellence in Teaching (NExT). Any individuals or institutions wishing to replicate or extend the study should contact NExT. For more information about the surveys and how to become an affiliate with NExT, see <https://www.nextteachers.org/> and select “Contact Us”.

Summary

Although teacher candidates and novice teachers feel well prepared overall, the results of this study point to specific areas of improvement across teacher preparation programs. In particular, teacher preparation programs should strive to improve the preparation of pre-service teachers related to the diverse needs of the classroom, including mental health, Gifted & Talented students, ELLs and students with IEPs. Parent communication skills and strategies and incorporating digital technology into the classroom were additional areas of need. Those areas provide opportunities for collaboration across programs, as well as opportunities for individual program improvement. They also provide direction for district staff development and teacher induction programs to aid novice teachers in areas they feel least confident.

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Appendix A

Focus of Individual Items in 2015–2016 Exit Survey and 2016–2017 TTS

Broad Category Instructional Practice: The Ability to:

-1. Effectively teach subject matter.
-2. Align teaching strategies with learning goals.
-3. Engage students with subject matter from multiple perspectives.
-4. Incorporate students' prior knowledge in planning instruction.
-5. Develop long-range instructional plans.
-6. Adapt instruction to meet learner needs.
-7. Design lessons with clear learning outcomes.
-8. Create assessments that align with learning outcomes.
-9. Provide effective feedback.
-10. Involve students in self-assessment.
-11. Effectively use formative and summative assessments.
-12. Knowledge of reliability and validity in assessment.
-13. Analyze assessments to identify learning needs.
-14. Differentiate assessments.
-15. Use digital technologies to attain learning goals.
-16. Use a variety of technologies to support student learning.
-17. Promote critical thinking in students.
-18. Promote student problem solving skills.
-19. Relate interdisciplinary themes to subject matter.
-20. Access resources that help promote global awareness and understanding.
-21. Teach students to analyze evidence and reach a logical conclusion.

Broad Category Diverse Learners: The Ability to:

-1. Effectively teach students from culturally diverse backgrounds.
- 2. Differentiate across the spectrum of learning needs.
-3. Differentiate based on student's developmental level.
- 4. Differentiate based on socioeconomic status.
-5. Differentiate for Special Education students.

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- 6. Differentiate based on mental health needs.
-7. Differentiate for gifted and talented students.
- 8. Differentiate for English-language learners.
-9. Access resources to support students with diverse needs.

Broad Category Learning Environment: The Ability to:

-1. Convey expectations for student behavior.
- 2. Convey ideas and information to students.
-3. Relate content to students' lives.
- 4. Coordinate students working together to learn.
-5. Create an engaging classroom environment.
- 6. Effectively respond to student behavior.
-7. Foster an environment where differences are respected.
- 8. Help students self-regulate behavior.
-9. Organize the physical environment to support learning.

Broad Category Professionalism: The Ability to:

-1. Identify opportunities for professional growth.
- 2. Identify professional research and resources to enhance teaching and learning.
-3. Partner with parents and guardians to support student success.
- 4. Collaborate with other teachers to increase student achievement.
-5. Act on peer feedback for professional growth.
- 6. Understand and uphold laws defining student rights and teacher responsibilities.
-7. Advocate for all learners.