Troops to Teachers Grant Study 4: Technical Report

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Abstract

School and educator accountability increasingly depends on measured student achievement. Principals and parents want their schools to identify, hire, and keep teachers who can generate acceptable levels of students' academic growth. Prior research on Troops to Teachers (TTT) from 2005 and 2009 using both principal surveys and measured student achievement affirms that Troops teachers are effective instructors, are likely to work in high-poverty, high-minority schools, teach critical subjects, use research-based instructional and classroom management practices, and plan to stay in the profession longer than traditionally prepared teachers with the same years of teaching experience. The present study finds that the current TTT cohorts are meeting the same high benchmarks in these essential domains, identifies teacher preparation programs factors that helped them succeed in the classroom, and assesses these within the context of recent teacher effectiveness research.

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Executive Summary

TTTs are continuing to provide a stable, high-quality cadre of certified and effective schoolteachers who demonstrate research-based instructional practices and strong classroom management skills to students who really need effective and reliable teachers – and most plan to remain in the teaching profession until retirement. Specifically,

- 4,157 TTTs consented to participate in the initial Teacher Questionnaire
- Nearly 84% of TTTs' first teaching assignments were in high-poverty and/or high-minority schools; 40% of these were minority TTT completers.
- Almost 73% of TTTs have remained in the same high-needs school; 42% of these were minority TTT completers. Of those who change schools, from 95% to 98% now work in schools with the same or higher percentages of low-income and minority students. This is also true for minority TTT completers.
- 43% of Troops teachers are teaching high-needs content areas as compared with 81.7% teaching high-needs content areas in 2005.
- 74% of Troops teachers plan to remain in the teaching profession until retirement as compared with 80% in 2005.
- Troops teachers who were leaving or planning to leave the teaching profession for reasons other than retirement named students, pay, disappointment with the education system, administration, and disrespect, in this order as the primary reasons.
- Over two-thirds of Troops teachers say they are "Always" or "Usually" using 17 research-based instructional practices and are using the most popular ones at higher rates than in 2005.

- Almost 100% of Troops teachers say they are “Always” or “Usually” using four research-based classroom management practices.
- 85% or more of supervising administrators say that Troops teachers are “Always” or “Usually” using research-based instructional practices – about the same percent as in 2005 – and reported TTTs using them at higher levels than they did in 2005.
- 93% of supervising administrators say that Troops teachers are “Always” or “Usually” using the four research-based classroom management practices – as compared with about 90% in 2005 – and reported TTTs using them at higher levels than they did in 2005.
- 96.4% of administrators “Somewhat” or “Strongly” agreed that the TTT completer follows school regulations, policies, and procedures, and 95.5% “Somewhat” or “Strongly” agreed that the TTT completer has a positive impact on student achievement.
- Almost 50% of administrators rated the TTT completers as “About the same” 31% said “More effective,” and over 11% said “Much more effective” in their instructional and classroom management practices as their non-Troops teachers colleagues with similar years of teaching experience – as compared with over 90% of administrators rating their Troops teachers as “More Effective” than their colleagues within similar years of teaching in 2005.
- 69.1% of Troops teachers completed a traditional teacher preparation program, either bachelor’s or master’s degree and either on campus or through distance learning. 92% of supervising administrators rated their TTTs and being well prepared to meet the needs of diverse students in diverse learning environment.

Introduction

Teacher effectiveness – their capacity to generate acceptable levels of student achievement – has become central to the national education debate. Public education policy, such as 2009's $4.35 billion Race to the Top (RttT) grant program, is making student achievement outcomes a "significant factor" in determining teacher and principal effectiveness (Crowe, 2011; U. S. Department of Education, 2009a). Nearly half the states now link teachers' salaries to their effectiveness in increasing students' achievement test scores (Banchero, 2011) and a few states have even begun denying teachers' license renewals to those whose students consistently fail to improve (Banchero, 2013). Clearly, teachers' ability to generate high and measurable levels of student achievement is fundamental to student learning and professional educator accountability, and principals are eager to identify, hire, and retain teachers who can help every child learn to high standards.

Research affirms that teachers who have come through Troops to Teachers programs make a measurably positive impact on student achievement as both teachers and principals, and they tend to work in high-poverty, high-minority schools (Owings, Kaplan, Nunnery, Myran, Marzano, & Blackburn, 2005, 2006; Nunnery, Kaplan, Owings, & Pribesh, 2009; Owings, Kaplan, & Chappell, 2010). Principal surveys (Owings, Kaplan, Nunnery, Myran, Marzano, & Blackburn, 2005, 2006), students' reading and mathematics standardized test achievement scores (Nunnery et al, 2009), and immediate supervisors' ratings of principals' leadership on a *Principal Quality Rubric* (Owings et al, 2011) affirm this. Over 90% of supervising principals say that their TTTs exhibit research-based best instructional and classroom management practices linked with increased student achievement, have a more positive impact on student achievement, and work well within the school environment at a higher rate than do other teachers

with similar years of teaching experience (Owings, et al, 2006, p. 123). Research also finds that school administrators who have entered education as teachers through Troops to Teachers funding make a measurable impact on student learning and tend to work in high-poverty schools (Owings, Kaplan, & Chappell, 2011).

Additionally, research confirms that schools serving low-income, high-minority and low-achieving students have difficulty attracting and keeping effective and experienced educators (Clodfelter, Ladd, & Vigdor, 2005; Iatarola & Stiefel, 2003; Lankford, Loeb, & Wyckoff, 2002). Likewise, transfer and attrition from the teaching positions are more common in schools serving more poor, minority and low-achieving students (Lankford, Loeb, & Wyckoff, 2002; Roza & Hill, 2004). Since TTTs receive financial incentives to teach critical subjects in high-needs, high-minority schools for at least three years, TTTs are providing a stable, high-quality cadre of certified and effective school teachers who demonstrate research-based instructional practices and strong classroom management skills to students who really need effective and reliable teachers.

And while evidence suggests that more than 50% of new teachers leave the profession within the first 5 years, creating a "revolving door" that negatively affects student achievement (Ingersoll, 2002), research indicates that TTT educators are more likely to remain in the education profession than teachers in general. In 2005, 78% of Troops to Teachers report that they expect to be employed in education for the next five years. Sixty-one percent expect to be teaching in K-12 schools while 17% expect to be employed in an educational occupation other than teaching (Feistritzer, 2005). Accordingly, these data confirm that Troops teachers are performing a valuable national service.

Purpose of this Study

This study's purpose was to update and expand upon a previous Troops to Teachers program study (Owings, Kaplan, Nunnery, Marzano, Myran, & Blackburn, 2005, 2006). We examined the extent to which TTT completers are meeting program goals regarding job placement, the extent to which they are teaching critical-needs subjects, and the extent to which TTT program completers – and their supervising administrators – believe they are implementing research-based instructional and classroom management practices. We also examined the teacher preparation program structures and program features and TTTs' and their administrators' perceptions of TTTs' preparation to work with diverse learners in diverse settings. Finally, we examined reasons why TTT completers leave the teaching profession (other than retirement).

Research Questions

Specifically, this research addresses a range of questions:

1. What are the structural features of teacher preparation programs that TTTs complete?
2. What percent of current Troops teachers complete traditional and alternative teacher preparation programs?
3. To what extent do current TTTs tend to work in high-poverty, high-minority schools as compared with these findings in the 2005 study?
4. To what extent do current TTT tend to teach critical needs subject areas (mathematics, science, special education, and career/technical education as compared with the 2005 study?
5. To what extent do current TTTs remain in the classroom longer than traditionally-prepared teachers as compared with these findings in the 2005 study?

6. To what extent do current TTT program completers believe they are using research-based instructional and classroom management practices associated with increased student achievement as compared with these findings in the 2005 study?
7. To what extent do current principals find that TTT program completers use research-based instructional and classroom management practices associated with increased student achievement as compared with these findings in the 2005 study?
8. To what extent does the TTT program contribute to meeting national needs to have more male and minority teachers in high-needs schools currently as compared with TTT in the 2005 study?
9. What reasons do TTT teachers give for why they leave the teaching fields currently as compared with 2005 findings?
10. How well are TTT candidates prepared to meet the needs of diverse learners in their classrooms?

Troops to Teachers Literature Review

In 1994, the Department of Defense established Troops to Teachers funding to help recruit, prepare, and support retiring military personnel make successful transitions into second careers in teaching, and, at the same time, improve public education by providing qualified teachers for work in high-poverty and/or high-need schools throughout the United States. Elementary and secondary teaching applicants are required to have a baccalaureate or advanced degree from an accredited higher education institution. Individuals with educational or military experience in science, math, special education, or vocational or technical subjects and who agree to seek full-time employment as science, math, or special education teachers in public schools receive selection priorities. The program also aims to recruit and place quality role models in

schools throughout the nation and relieve teacher shortages, especially in critical subjects (Hiebert, 2013).

Troops to Teachers was the brainchild of J. H. "Jack" Hexter, a Yale history professor whose own life demonstrated the value of a second career. In 1992, he persuaded U.S. senators John McCain and Mike DeWine to federally fund the Troops to Teachers program through the Department of Education budget with an emphasis on teacher recruitment (Bank, 2007; Gantz, 2013). The National Defense Authorization Act for FY 2000 transferred the responsibility for program oversight and funding to the U.S. Department of Education but continued operation by the Department of Defense. The No Child Left Behind Act of 2001 provided for the TTT program's continuation. More recently, the National Defense Authorization Act for FY2013 transferred the responsibility for the program oversight and funding back to the U.S. Department of Defense. The Defense Activity for Non-Traditional Education Support (DANTES), Pensacola, Florida manages Troops to Teachers (DANTES, 2013).

By 2013, more than 17,000 active duty military veterans have transitioned into teaching positions through Troops to Teachers[1] (W. McAleer, personal communication with William Owings, January 17, 2013; DANTES, 2012; Weisenstein, 2013).

Troops to Teachers is a program that assists veterans in becoming certified teachers. Veterans recognize the value of an alternative teacher preparation route because of its second-career nature rather than because of the qualities of any particular teacher preparation program

[1] The actual number of military persons who transitioned into teaching through Troops to Teachers funding is unclear. While Weisenstein (2013) claims that over 18,000 military personnel have transitioned into classrooms through Troops to Teachers, McAleer (2013) asserts that more than 17,000 have been employed as teacher through Troops to Teachers counseling and referral services and of this about 14,000 have actually received the Troops to Teachers funding for tuition or stipends and 18,000 military service persons have contacted Troops to Teachers about obtaining teacher licensure. A DANTES (Defense Activity for Non-Traditional Education Support) report from September 17, 2012 records approximately 12,000 Troops to Teachers employed.

(Owings, Kaplan, Nunnery, Marzano, Blackburn, & Myran, 2006). To be eligible to receive Troops to Teachers' funding to become a Pre-K, elementary, or secondary school teacher, the candidate must have received a baccalaureate or advanced degree from an accredited institution of higher education. Once accepted into the TTT program, Troops teachers can enroll in the regionally-accredited preparation route of their choice, ranging from university-level master's degree programs in education to shorter-term alternative teacher preparation pathways (DANTES, 2013). To date, the national Troops to Teachers office only tracks the name of the educational institution; it does not indicate whether the program is traditional or alternative (M. Stidd, personal communication, January 8, 2013).

Changes in TTT's governance, funding, eligibility, and subsidies have occurred over the years in response to congressional actions. As originally written, Troops to Teachers applicants were required to have six years of active duty experience or 10 years of National Guard, Reserve, or combined service (U.S. Department of Education, 2013). In contrast, effective January 2, 2013, legislation governing the Troops to Teachers (TTT) program expanded counseling and referral eligibility requirements to all military members, past or present, who have served honorably and are interested in instructional or non-instructional employment Pre-K through high school (DANTES, 2013; Troops to Teachers, 2013). Those who separated from the military services on or after January 8, 2002 with four years of continuous active duty service or six years of National Guard, Reserve may be eligible to receive financial assistance or incentives: a stipend of up to $5,000 for teacher certification expenses and/or a bonus of up to $5,000 to teach for three years in "eligible" public schools (30% Free/Reduced Price Lunch or 13% IDEA students or Bureau of Indian Affairs) or a bonus of up to $10,000 to teach for three years in a "high-need" public school (defined as 13% or more IDEA population, 50% or more

Free/Reduced Price Lunch public elementary or middle school or 40% for public high school) (J. Wargo, personal communication, September 16, 2013). In addition, Troops teachers who teach in critical areas – such as mathematics, science, special education, or foreign languages – in high-needs schools may be eligible for up to a $10,000 bonus (J. Wargo, personal communication, September 17, 2013).

Discussions occurred about changing Troops to Teachers from a government-dependent program into a public/private partnership occurred in early 2013 (Morgan, 2013; Weisenstein, 2013), but these have not yet been translated into national legislation.

Troops' teachers positive impact on student learning published in peer reviewed journals have brought widespread attention. In 2011, the British Broadcasting Corporation interviewed William A. Owings, TTT-as-educators principal investigator, about the qualities retired military bring to the classroom as teachers (Old Dominion University, 2011). The United Kingdom (UK) now has its own Troops to Teachers program up and running based on research reports on U.S. Troops teachers' effectiveness (UK Department of Education, 2012).

Teacher Effectiveness

Teacher effectiveness is seen as the key to increased student learning, a reduced achievement gap among diverse student groups, and, eventually, a better prepared workforce. The U.S. Department of Education (2009a) defines *effective teachers* as those who can generate acceptable student achievement outcomes, that is, at least one grade level of student growth in an academic year. But effective teachers produce more than high student test scores; their efforts to increase students' knowledge and capacity have long-term personal and economic impacts. Scholars agree that although family background continues to predict most of the variation in student achievement (Sawchuk, 2011b), a growing body of research shows that the quality of

teaching in the classroom is the most important school factor in predicting student outcomes. This topic is extensively explored elsewhere (see, for example, Archer, 2002; Darling-Hammond, 2000; Darling-Hammond, Berry, & Thoreson, 2001; Goe & Stickler, 2008; Goldhaber, 2002; Hanushek, Kane, & Rivkin, 1998; Kaplan & Owings, 2003; Hanushek, Kain, O'Brien & Rivkin, 2005; Sanders & Horn, 1995).

Effective teachers can make a measurable difference in student achievement. For example, on average, students with a teacher in the top quartile of the talent pool achieve at levels corresponding to an extra two or three months of instruction per year, compared with peers who have a teacher in the bottom quartile (Miller & Chait, 2008). Similarly, all other things equal, a student with a very high quality teacher will achieve a learning gain of 1.5 grade level equivalents while a student with a low-quality teacher achieves a gain of only 0.5 grade level equivalents (Hanushek, 1992). Even among teachers in a given school with students of similar demographics, the teacher's effectiveness can make the difference of a full year's learning growth in math and reading levels, classroom by classroom, in one academic year (Hanushek, 2011b). Lastly, researchers conclude that a student encountering an above-average teacher for five years in a row could overcome the achievement gap typically found between students qualifying for free or reduced-price lunches and those from higher income backgrounds (Hanushek & Rivkin, 2004). Clearly, high quality, highly effective teachers can make up for the typical educational deficits that economically disadvantaged children bring to school.

In fact, economist Eric Hanushek (2011a) estimates that a teacher who performs one standard deviation above the mean effectiveness in a class of 20 students can annually produce marginal gains of over $400,000 in present value of student future earnings. The greater the class sizes, proportionally larger are the earnings. He also approximates that replacing the lowest 5%

to 8% of teachers with colleagues of average effectiveness could propel the U.S. to near the top of international math and science rankings and a present value of $100 trillion (Hanushek, 2011a).

Earlier research places Troops teachers within the effective teacher cadre. Updating TTT 2005 findings and placing these within the context of current teacher effectiveness research – namely, which preparation programs generate the most effective teachers, how traditional "teacher quality" factors such as certification, advanced education, and experience affect student outcomes, how principals can improve their accuracy in identifying effective teachers from classroom observations, and which teacher characteristics and classroom behaviors are linked to increased student achievement – helps teachers, supervising principals, and policy makers improve their capacity to generate student learning.

Comparing Traditional and Alternate Teacher Preparation

The Troop-to-Teachers Program Act supports innovative teacher certification programs that incorporate alternative approaches to achieve teacher certification (U.S. Department of Education, 2004). The Program seeks varied methods for gaining field-based teaching experiences, recognizes military experiences and training as related to certification or licensing requirements, and conducts coursework via distance education methods or on or near a military base (U.S. Department of Education, 2004). As noted, Troops teachers can enroll in a range of regionally-accredited preparation routes, from university-level master's degree programs in education to short-term alternative teacher preparation pathways (DANTES, 2013). But to date, the national Troops to Teachers office only tracks the educational institution's name, not its designation as traditional or alternative (M. Stidd, personal communication, January 8, 2013).

At the same time, the relative professional status of traditionally and alternatively prepared teachers is changing. Whereas early research on this topic indicated that alternatively prepared teachers were less effective than traditionally prepared teachers in producing student achievement (Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004), current research confirms that effective teachers come from both traditional and nontraditional certification routes (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Gordon, Kane, & Staiger, 2006; Kane, Rockoff, & Staiger, 2006). Teacher experience – rather than the type of certification – tends to make a difference in increasing student achievement, with increased teacher experience and improved student achievement during the first three to five years in the classroom (Boyd, et al, 2005; Kane et al, 2006; Rivkin, Hanushek, & Kane, 2005).

Both traditional and alternative teacher preparation programs vary widely within each pathway. Traditional U.S. teacher education programs – 1,434 state-approved colleges of education – prepare elementary and secondary teachers (Alderman, Carey, Dillon, Miller, & Silva, 2011). These programs can vary widely in rigor of selectivity, design, duration, program content, and clinical, field-based practice – even within institutions (Greenberg & Walsh, 2008; Walsh, Glaser, & Wilcox, 2006).

Alternative teacher preparation programs, also widespread and highly varied, are supplying a growing portion of today's teachers. The National Center for Education Information (NCEI) defines *alternative* paths to teacher preparation as "state-defined routes through which an individual who already has at least a bachelor's degree can obtain certification to teach without necessarily having to go back to college and complete a college, campus-based teacher education program" (National Center for Education Information, 2010, p. 1). In 2010, 48 states and the District of Columbia reported that they had at least some type of alternate route to teacher

certification, making 136 state-defined alternate routes to teacher certification available. Nationally, one-third of first-time public school teachers hired annually now enter the profession through an alternative teacher preparation program (Committee on Education and the Workforce, 2012). Since the mid-1980s, approximately 500,000 teachers have entered the profession through alternative routes (NCEI, 2010).

Alternate teacher preparation routes intend to address varying purposes: reduce teacher shortages, attract individuals with degrees in high-needs areas such as science and math, attract mid-career changers, or as vehicles to challenge the status quo. Alternative programs may be housed within higher education settings, school districts, or in other locations, and they differ from one another in curriculum content, comprehensiveness, duration, and intensity. They have divergent entry and program requirements, completion steps, and candidates' ages or prior experiences. And, their graduates become teachers of record with differing degrees of competence. All these factors pose difficulties for investigators wanting to make comparisons or draw conclusions (Feistritzer & Haar, 2010) – as well as for principals trying to identify and hire effective teachers.

Although alternative teacher preparation programs intend to provide innovate and flexible routes into the teaching profession, the distinctions between traditional and alternative preparation routes are not always clear. For instance, alternative programs located within schools of education are often repackaged traditional preparation programs with adjusted timelines or courses offered at night, online, or on weekends (National Governors Association, 2009). Since traditional teacher preparation programs are extremely diverse in terms of candidate selectivity, amount of required courses, duration and timing of coursework and fieldwork, and training intensity (National Research Council, 2010), overlap in practices within and between the two

approaches are common (Johnson, Birkeland, & Peske, 2005; Perry, 2011). In fact, researchers are concluding that more variation exists *within* the "traditional" and "alternative" categories than *between* them (Grissom & Vandas, 2010; National Research Council, 2010; Sass, 2011). As a result, researchers and education policymakers question whether states' alternative routes to licensure reflect a genuine alternative to the traditional teacher preparation programs (Walsh & Jacobs, 2007).

Any pathway is likely to involve tradeoffs – in rigor of candidate recruitment and selection, depth and amount of curricula related to teaching and learning, program length, and duration and quality of field experiences that tie theory to practice and provide timely and relevant feedback to the novice teacher – with more selective routes and those requiring greater effort and time to complete yielding fewer but more highly effective teachers (National Research Council, 2010).

Within the past decade, research has described the features of alternatively prepared and certified teachers and compared their effectiveness on value-added outcomes for students and to their retention in their schools with traditionally prepared and certified teachers as well as to the unlicensed teachers they replaced (Boyd, Grossman, Lankford, Loeb, & Wykoff, 2006; Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007; Constantine, Player, Silva, Hallgren, Grider, & Deke, 2009; Feistritzer & Haar, 2008; Grossman & Loeb, 2008; Decker, Deke, Johnson, Mayer, Mullens, & Schochet, 2005; Kane, Rockoff, & Staiger, 2006; Nunnery, Kaplan, Owings, & Pribesh, 2009; Xu, Hannaway, & Taylor, 2011). Research has also compared characteristics of alternative and traditionally prepared teachers. For example, 22% of teachers coming through alternate routes are men,

compared with 16% of teachers entering the profession through traditional programs (Feistritzer, 2011).

Both traditional and alternative teacher preparation routes have their critics. Traditional teacher preparation skeptics note that although these programs can produce teachers, they are less successful at ensuring that those teachers are effectively meeting schools' and students' needs (Wilson, Floden, & Ferrini-Mundy, 2001; National Council on Teacher Quality, 2013). Despite the requirement that all states must identify substandard teacher preparation programs, over half of all states have never identified a single program; and those named face few consequences (Alderman, et al., 2011). In turn, alternative teacher preparation detractors argue that most programs offer training that is inadequate to prepare new entrants for the challenges of teaching in urban schools, and their graduates are less effective teachers (National Commission on Teaching and America's Future, 1996, National Council for Accreditation of Teacher Education, 2010).

What this means to Troops to Teachers

The research on teacher preparation pathways and student achievement finds that although traditional teacher preparation can make a measurable difference in student achievement – especially in the teacher's first year in the classroom – with a few years of classroom experience, the differences in teacher effectiveness between traditional and alternative preparation programs may fade. Fairly quickly, graduates of high quality alternative teacher preparation programs may become as effective in generating student achievement as teachers from high quality traditional preparation programs. Troops teachers candidates are best served when they invest time and effort in their coursework and field work – especially the time spent

on learning how to teach their content and doing supervised teaching in real world settings with students similar to those in the type of school to which they plan to work.

Teacher Certification/Preparation, Teacher Effectiveness, and Student Achievement

Just as principals want to identify and hire the most effective teachers, education researchers have long been interested in measuring a teacher's contribution to student achievement (for example, Armour, 1976; Gordon, Kane, & Staiger, 2006; Hanushek, 1971; Mendro, Jordan, Gomez, Anderson, & Bembry, 1998; Murnane & Phillips, 1981; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004; Sanders & Horn, 1998). While empirical approaches have differed, each tries to isolate an estimate of a teacher's contribution to student achievement apart from the student, class, school, and other contributors.

Research on teacher certification

Since 2000, investigators have attempted to determine the relative effectiveness of different teacher preparation and certification routes in producing teachers capable of generating student achievement. Their results are bringing needed clarity.

First, a teacher's certification or licensure – the state's document affirming the holder is qualified to teach certain subjects at identified grade levels in the public schools – is related to their effectiveness in generating student learning as compared with colleagues who lack certification/licensure. One study found that the positive effects of teachers' certification on students' mathematics achievement exceeded those who majored in mathematics, suggesting that what licensed teachers learn in the pedagogical part of their training adds to what they gain from

a strong subject matter background (Goldhaber & Brewer, 2000). Similarly, another study found that students who had a certified teacher for most of their early school experience scored higher in reading than students who did not have a certified teacher (Easton-Brooks & Davis, 2009). Certification or licensure test scores seem to matter more for math than for other subjects, consistently appearing linked to improved student achievement in that subject at both the elementary level and at the high school level for algebra and geometry; but findings are mixed for other subjects (Clotfelter, Ladd, & Vigdor, 2007a, 2007b, 2007c).

A large-scale North Carolina study of high school students' learning gains found that teacher credentials – particularly licensure and certification – affect student achievement in systematic ways (Clotfelter, Ladd, & Vigdor, 2007a, 2007b, 2007c, 2010). Teachers who completed state-approved preparation programs and held a license in the specific field taught were more effective in generating student learning than colleagues prepared in alternative programs, at least during the first year of teaching. Yet, a different investigation in the Los Angeles United School District, K-12 identified a weak relationship between teachers' credentials (such as experience, education, and licensure exam scores) and student achievement in math and reading (RAND, 2011).

Having a license or certification to teach appears to be a necessary, but not a sufficient condition, to ensure teaching effectiveness. And, researchers also conclude that all the gains in student achievement related to teacher experience occur within the first five years of teaching (Clotfelter, Ladd, & Vigdor, 2010).

What this means to Troops to Teachers: The research connecting teacher certifications and student achievement finds that teacher qualifications – degrees, experience, certifications, and teacher test performance – are meaningful but show only modest relationship to student

achievement (Beteille & Loeb, 2009). Certification itself is important only to the extent that it is associated with differences in teachers' instructional practices that reflect teachers' pedagogical and content knowledge and their ability to draw on that knowledge in moment-to-moment classroom interactions (Darling-Hammond, 2000). The message to Troops teacher candidates is that, at a minimum, they should have successfully "completed" a teacher preparation program (traditional and alternative programs may define "completed" differently) and hold certification in the subject to be taught if they want to be hired as teachers. Principals and school human resource personnel now view these criteria as necessary – but not sufficient – conditions for teaching effectiveness. And Troops teachers should look for opportunities to continue learning how to teach during their first few years in the classroom.

Research on traditional and alternative teacher preparation programs and student achievement

Teacher preparation programs differ; not all adequately prepare teacher candidates to be effective classroom instructors. Positive relationships exist between teacher preparation and teacher effectiveness. An influential review of 57 rigorous teacher preparation programs identified positive empirical relationships between teacher qualifications and student achievement across studies using different units of analysis and different measures of preparation as well as in studies controlling for students' socioeconomic status and prior academic performance (Wilson, Floden, & Ferrini-Mundy, 2001). Further, the review found that alternate preparation routes attracted a diverse pool of candidates, with a mixed record for attracting the "best and brightest" whose performance evaluations showed mixed results. Nonetheless, the study concluded that teachers who come through high-quality alternative and traditional teacher preparation routes show some similarities (Wilson, Floden, & Ferrini-Mundy, 2001).

Many alternatively prepared teachers agree that they may not be effective in producing student achievement. A survey by the National Comprehensive Center for Teacher Quality compared responses of randomly sampled first-year teachers from three alternative programs, Teach for America (TFA), New Teacher Project (NTP), and Troops for Teachers (TTT) with those of first-year traditionally prepared teachers also teaching in high-needs schools. Only 46% of the alternate route teachers said they were prepared for their first year of teaching, compared with 80% of the traditionally prepared teachers (Immerwahr, Doble, Johnson, Rochkind & Ott, 2007).

Notably, newer, well-designed investigations have determined that teacher preparation can make a measurable difference in student achievement – especially in the first year in the classroom – and certain teacher preparation programs (TPP) characteristics appear to positively shape teaching effectiveness. But with a few years of classroom experience, the differences in teacher effectiveness from varying preparation programs appear to fade (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006, 2008, 2009; Boyd, Grossman, Lankford, Loeb, Michelli, & Wyckoff, 2006; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007).

One longitudinal study examined individual-level data for three different teacher training programs for New York City teachers – Teach for America (TFA), New York Teaching Fellows (NYTF), and traditional 4-year college preparation programs – and the effect of teachers' qualifications on student achievement. Findings show that graduates of collegiate preparation programs were significantly more effective than teachers lacking certification and performed better than NYTF and TFA teachers during their first year in the classroom (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Kane, Rockoff & Staiger, 2006).

Moreover, in this same study, certain preparation program and teacher characteristics (e.g., curricula that focused more on the work in the classroom, provided opportunities for teachers to study what they will be doing, timing and oversight of student teaching, certification status, teaching experience, graduation from a competitive college, and math SAT scores) predict program and teacher effectiveness in elementary and middle school mathematics and English language arts during their first year teaching while those with stronger content knowledge from an alternative teacher preparation pathway are able to make use of that knowledge by their second or third year (Boyd, Grossman, Lankford, Loeb, Michelli, & Wyckoff, 2006; Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007). In their study, researchers estimated that a one standard deviation move in their preparation's focus on practice was similar to roughly one additional year of teaching experience in terms of teacher effectiveness, a very notable difference (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009).

Similarly, Harvard's Strategic Data Project analyzed the teaching effectiveness of math teachers in Los Angeles schools, using students test score growth measures, grade three through eight (2004-2005 through 2010-2011), and determined that teachers who become certified teachers through Teach for America or the district's career ladder program for paraprofessionals were slightly better, on average, than other math teachers, giving students an increase of about two months of learning in a school year. The difference between top- and bottom- performing elementary math teachers was nearly 8 months of learning (Sawchuk, 2012).

These studies suggest that important variations in effectiveness exist in teachers graduating from different preparation programs – some of which may be large. At the same time, these investigators and others have identified more disparity in teacher effectiveness within

preparation routes than between them (Boyd, Grossman, Lankford, Loeb & Wyckoff, 2006; Gordon, Kane, & Staiger, 2006; Kane, Rockoff, & Staiger, 2006). `

Changes in program accreditation

Despite the variability of teacher preparation outcomes, state approval and voluntary accreditation, the two quality control measures available for program accountability, have been unable to resolve which teacher preparation programs tend to produce more effective teachers. Research has found no difference in the student achievement outcomes of teachers educated at accredited programs versus those educated at non-accredited programs, and half of all institutions are not accredited (Levine, 2006).

This may be about to change. Until 2013, accreditation evaluated only the process of preparing teachers; it did not directly evaluate graduates' instructional skills in relation to their students' actual achievement (Crowe, 2010). In 2013, however, the Council for Accreditation in Teacher Education (CAEP) – the 2010 merger of two former accreditors, the National Council for Accreditation of Teacher Education (NCATE) with the Teacher Education Accreditation Council (TEAC) – unanimously approved a new set of standards that establishes both minimum requirements for teacher preparation program admissions and obliges programs to use "all available [student] growth measures" including "value added" data demonstrating that program graduates can successfully raise their students' achievement (Sawchuk, 2013b). Likewise, for the first time, teacher preparation programs will be expected to guarantee each entering group of candidates averages a specific level of academic credentials (Sawchuk, 2013b).

At the same time, federal and state officials and policy makers are advocating teacher education reform that moves from counting inputs (such as the percent of teacher preparation students who pass state certification exams, number of graduates, and placement rates) to

measuring outcomes such as student achievement (Alderman, et al., 2011). The Obama Administration is supporting initiatives to improve teacher preparation – both traditional and alternative – by connecting the effectiveness of the certified teachers to both their teacher preparation programs and to their students' measured academic achievement (Klein, 2013). The best programs will be scaled up, and the lowest performing will be supported to show substantially improved performance or be closed (Alderman, et al., 2011). To assist this reform, 31 states now require that teacher evaluations be partially based on student achievement growth on standardized tests (Rich, 2013), and in 2012, eight states had policies that included the use of student achievement data to hold teacher preparation programs accountable for their graduates' effectiveness (National Council on Teacher Quality, 2013).

More importantly, educational accountability is starting to rely more on teachers' actual classroom performance and student achievement outcomes than in external credentials (such as professional preparation or certification routes) to determine teacher effectiveness (Crowe, 2011). Preparing and hiring teachers who can regularly generate student learning and achievement is becoming the baseline for teacher employment.

What this means to Troops to Teachers

The choice of preparation routes matters. Selecting the right teacher preparation pathway means looking for programs that emphasize and provide those factors that research demonstrates are related to effective teaching – rather than whether the route is considered to be "traditional" or "alternative." Having the knowledge and skills to regularly generate high levels of student learning with students of every demographic is what gets Troops teachers hired, highly evaluated, and continuously employed.

Principals' evaluations of teacher effectiveness and student achievement

Until recently, principals' evaluations of teacher effectiveness have not been important tools for school management, school improvement, or school reform. State laws and district policies about teacher evaluation vary in their requirements for teachers and for their performance appraisers (National Association of Secondary School Principals, 2011). And, although administrators are responsible for assessing teachers' effectiveness, these evaluations too often have been a perfunctory and inconsequential process (Weisberg, Sexton, Mulhern, & Keeling, 2009).

In fact, Weisberg and colleagues' (2009) coined the term, *widget effect*, to describe a school district's "culture of indifference" to the wide variations in teacher quality, classroom-to-classroom, and the infrequency of dismissing ineffective tenured teachers from employment. In their study of 12 school districts in four states, investigators found that over 99% of tenured teachers in districts using a "satisfactory" or "unsatisfactory" rating system earned a positive rating. Among districts with more than two rating options, 94% of the teachers still earned one of the top two ratings, and less than 1% was rated "unsatisfactory" – even in schools where high percentages of students were failing to meet basic academic standards each year (Weisberg, et al., 2009).

The powerful effect that the rater's overall judgment has on the person being rated has long been recognized (Wells, 1907). It even has a name: the "halo effect" (Rugg, 1922). The *halo effect* means that the teacher who appears to be the most effective receives the highest ratings. Teacher performance ratings scales, therefore, have high face validity. Yet, early empirical studies connecting teacher evaluation results and students' achievement scores find a low correlation (Hill, 1921). Medley and Coker (1987) identified eleven studies from 1921 to 1946 which reached the same conclusion: The correlations between the average principals' ratings of teacher performance and direct measures of teachers' effectiveness were near zero – slightly more accurate than if based on chance. Since the halo effect virtually decides the

teacher's ratings, the ratings' actual validity depends almost entirely on the rater's accuracy in judging the teacher's instructional performance – making suspect both the validity of teacher ratings scales and principals' judgment (Medley and Coker, 1987).

Critiques of these early studies speculate that the small correlations found between principal evaluations and student achievement might be due to small, non-representative samples, not accounting properly for measurement error, and relying on objective measures of teacher performance that were probably biased (Jacob & Lefgren, 2008a; Medley & Coker, 1987; Peterson, 1987, 2000).

In fact, Medley and Coker's (1987) own study examining the relationship between principals' ratings of teachers' effectiveness and their students' achievement in reading and math reached similar conclusions: Principals could not accurately judge teachers' effectiveness in generating student test performance. Similarly, a qualitative literature review concluded that principals are not accurate evaluators of teacher performance, and both teachers and administrators have little confidence in the results of performance evaluations (Peterson, 2000). In attempts to explain this weakness, one investigation of teacher evaluation practices found that relatively few school districts had highly developed teacher evaluation systems; even fewer put the results into action (Wise, Darling-Hammond, McLaughlin, & Bernstein, 1985).

Research suggests that many principals have a difficult time evaluating teachers. Reasons include lack of knowledge of the subject being taught; not wanting to upset working relationships by judging teachers strictly; viewing teacher evaluation as a cumbersome, time-consuming chore; and lack of sufficient training and guidance about how to conduct an effective evaluation (Halverson, Kelley, & Kimball, 2004; Nelson & Sassi, 2000; Peterson, 2000; Stein & D'Amico, 2000; Weisberg, et al., 2009; Wise, et `al., 1985). A 2008 Regional Education Laboratory (REL)

Midwest study on teacher evaluation policies found that fewer than one out of 10 district policies required training for personnel conducting the evaluations (Mathers, Oliva, & Laine, 2008). Consequently, until lately, principals have not seen formal teacher evaluation as a means to build teacher capacity and improved student outcomes.

A study of principals as human capital managers seems to confirm this (Milanowski, Kimball, & Heneman, 2010). Researchers inventoried principals in two large school districts, one on the East coast and one in the Midwest and in schools with consistently upward or flat/highly variable achievement trends. They found no substantial difference in teacher evaluation practices between the principals in achieving and non-achieving or inconsistently achieving schools. With a few exceptions, school leaders did not appear to use the formal teacher evaluation process as an on-going performance management tool to identify, measure, or develop key teaching competencies needed in the school (Milanowski, Kimball, & Heneman, 2010).

This situation is rapidly changing, however. Currently, teacher evaluation is receiving considerable policy, federal, and state attention as a means to identify and develop effective teachers who can increase student achievement. Recent studies have identified an empirical relationship between a teacher's measured effect on student achievement and overall subjective administrator ratings (Jacob & Lefgren, 2008a, 2008b; Rockoff & Speroni, 2010; Rockoff, Staiger, Kane & 2009).

Accordingly, empirical evidence now supports the conclusion that subjective evaluation or the use of objective performance measures in U.S. public schools can be valid and reliable assessments of teacher effectiveness; and principals' evaluations of teachers do predict effectiveness (Gallagher, 2004; Kane, Wooten, Taylor, & Tyler, 2011; Kimball, White, Milanowski, & Borman, 2004; Milanowski, 2004; Milanowski, Kimball, & Odden, 2005).

Complex, longitudinal state data systems coming on-line make it possible to connect classroom teachers to their students' academic progress over a school year, and student-growth components in these data systems allow administrators and other evaluators to assess whether or not teachers are helping students achieve a year's academic progress in a school year (Zinth, 2010).

Now, researchers are consistently finding strong correlations between teacher effect estimates and evaluations made by school principals and other professional educators (Harris & Sass, 2009; Jacob & Lefgren 2008a; Murnane, 1975; Rockoff & Spironi, 2010; Rockoff, Staiger, Kane, & Taylor, 2010, 2011). Several studies have examined the relationship between principals' subjective teacher ratings based on formal standards and extensive classroom observations and the achievement levels of teachers' students (Gallagher, 2004; Kimball, White, Milanowski, & Borman, 2004; Milanowski, 2004; Milanowski, Kimball, & Odden, 2005). All these studies find a positive and significant relationship, despite differences in the way they measure teacher value added and in the degree to which the observations are used for high-stakes personnel decisions.

One study examined the relationship between teacher evaluations and student achievement among second and third graders in the New Haven, CT, public schools, controlling for prior student test scores and demographics. The investigator found that principals' evaluations of teachers were significant predictors of student achievement, but the size of the relationship was modest (Murnane, 1975). Another study compared principal assessments with measures of teacher effectiveness based on gains in student achievement; researchers found that principals using subjective teacher evaluations based on classroom observation protocols ("rubrics") can generally identify teachers who produce the largest and smallest standardized achievement gains but have far less ability to distinguish among 60% of teachers in the middle of

this distribution (Jacob & Lefgren 2008a; National Governors Association, 2011). Researchers also found that a teacher's previous value-added score is a better predictor of current student outcomes than are current principal ratings. The principals in this study did not have to tell the teachers how they were rated, however, and the ratings had no consequences; this may have engendered more accurate, less lenient teacher ratings than might have been observed in an actual evaluation situation (Jacob & Lefgren, 2008a) .

Adding to the growing consensus, a Florida school district study found positive correlations between teacher value-added estimates and principals' subjective ratings (Harris & Sass, 2009). Investigators concluded that principals' evaluations are better predictors of a teacher's future performance than traditional factors such as experience or advanced academic degrees. Even when principals had only one year of value-added data, their evaluations of teachers were actually more accurate and predicted future teacher productivity better than value-added scores alone. Likewise, researchers in New York City measured how principals' subjective and objective evaluations of new teachers predict their future impacts on student achievement (Rockoff & Speroni, 2010). They found that examined separately, both subjective and objective evaluations bear significant relationships with the achievement of the teachers' future students. Each form of evaluation contains information distinct from the others, helping construct a more complete and accurate understanding. Investigators also located evidence of variation in the leniency with which certain evaluators applied the standards (Rockoff & Speroni, 2010).

Finally, one study examined the results of a randomized pilot program in which school principals were given estimates of individual teachers' performance in raising their students' test scores in math and reading (Rockoff, Staiger, Kane, & Taylor, 2010, 2011). Investigators found

high correlations between objective teacher performance estimates based on student data and principals' prior beliefs; the more detailed the objective or subjective data, the stronger the relationship. These results suggest that objective and specific performance data provides useful information to principals in constructing employee evaluations and using these evaluations to improve teacher effectiveness.

These studies, however, use either summary scores or subjective teacher ratings on general attributes and do not identify the specific instructional practices which teachers use to advance student learning. Later investigations would affirm that with training and practice, principals can identify those instructional behaviors related to increased student achievement – and feedback from these observations actually can improve teaching effectiveness (Kane & Staiger, 2012; Kane, Taylor, Tyler, & Wooten, 2010, 2011; Sartain, Stoelinga, Brown, Luppescu, Matsko, Miller, Durwood, Jiang, & Glazer, 2011).

What this means to Troops to Teachers

Principals' ratings and evaluations of teachers' classroom effectiveness are becoming more widespread, reliable, and valid indicators of teachers' effectiveness. Studies find positive, meaningful correlations between principals' detailed ratings of teachers' classroom performance and teachers' ability to generate student achievement. The more specifics that principals have, the more accurately they predict teacher effectiveness. And, the more knowledgeable principals become about which classroom practices incite the most student learning, the more discerning principals can become during teacher applicant interviews and the more accurately they can assess the candidates' sample lessons. Accordingly, the stronger the Troops teachers' instructional skills must be if they are to be hired.

Teacher preparation and teacher retention

If school districts and principals are to invest time and money into identifying, hiring, and developing effective teachers, they want that investment to pay off not only in increased student achievement but also in teachers who will stay around to reinforce and expand the school's learning culture.

Research concludes that alternatively certified teachers are more likely to leave their initial schools and districts than traditionally prepared teachers. Two longitudinal studies in New York City found that by the fourth year, just over 50% of the alternatively prepared New York Teaching Fellows and 80% of Teach for America – but only 37% of college-prepared teachers – had left teaching on New York City Schools (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Kane, Rockoff, & Staiger, 2006). Similarly, a study in Houston found an average of 80% of TFA teachers left their jobs by the third year (Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005). Meanwhile, in the Chicago Public Schools that hire about 100 TFA teachers each year, fewer than half remained in teaching for a third year (Glass, 2008). Earlier national data show that 49% of uncertified entrants left teaching after five years, compared to only 14% of those who entered teaching fully prepared (Henke, Chen, Geis, & Knepper, 2000; Ingersoll, 2002). Of course, the TFA mission focuses on recruiting diverse high achievers to start by "teaching for two years in a low-income community" (Teach for America, 2012) so their quick turnover is to be expected.

But preparation pathway, by itself, does not appear to be the sole factor identifying teachers who exit the profession. In fact, the more effective teachers – regardless of preparation route – tended to remain in teaching while those less effective tended to leave. In the New York City study above, researchers used a detailed teacher database (2000-01 to 2007-08) to look at the long-term retention patterns of alternatively prepared and certified teachers (NYTF and TFA)

as compared with traditionally prepared and certified teachers, all with more than three years of experience (Boyd, Dunlop, Lankford, Loeb, Mahler, O'Brien, & Wyckoff, 2011). Although the alternatively prepared teachers were much more likely to teach students who were poor, African American, or Latino, had been suspended from school, and who had lower math and English language arts achievement test scores, the teachers who were more effective in generating student learning and measured achievement were more likely to stay or transfer – regardless of the preparation route – while the least effective teachers were more likely to exit, regardless of pathway (Boyd, et al, 2011).

What this means to Troops to Teachers

While Troops teachers receive their professional preparation from both traditional and alternative programs, hiring organizations cannot generalize that a particular candidate – other than a TFA individual – will or will not remain in the school or profession for long based on the preparation pathway. Instead, hiring officials might find it useful to ask about and, if possible, observe this applicant's teaching practices in a demonstration lesson because classroom effectiveness is a better indicator of likely commitment to remain in the school and in the profession.

Preparation Factors that Affect Teaching Effectiveness and Student Achievement

Research confirms that not all teacher preparation programs do an equally good job in readying effective teachers for America's classrooms. In 2010, U.S. Secretary of Education, Arne Duncan stepped on a few toes when he recounted the troubled history of schools of education and scolded preparation programs that lacked a focus on increasing student learning and achievement. "To claim, 'I taught it – but the student didn't learn it,'" Duncan related, "…is like a hospital administrator affirming, 'The operation was a success – but the patient died'"

(Duncan, 2010). Duncan recommended that teacher preparation programs use data, including student achievement data, to foster an ethic of continuous improvement for teacher educators, teachers, and students. Currently, researchers are accepting his invitation to do just that.

State-level studies linking teacher preparation, teacher effectiveness, and student achievement

Assessing TPP's efficacy by looking at their graduates' K-12 students' test scores is a complex and challenging endeavor. Few states have the extensive data requirements needed to link TPP graduates with their training programs and their students' achievement (Gansle, Noell, & Burns, 2012). Meanwhile, RttT and Title II, federal and state governments are infusing substantial funds into states to investigate how to produce more effective teachers as measured by their students' achievement. As a result, pioneering studies have occurred in New York (Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007), Florida (Sass, 2008), Louisiana (Gansle, Knox, & Shafer, 2010; Gansle, Noell, & Burns, 2012; Gansle, Noell, Knox, & Schaffer, 2010); Kentucky (Kukla-Acevedo, Streams, & Toma, 2009), Texas (Mellor, Lummus-Robinson, Brinson, & Dougherty, 2010), North Carolina (Henry, Thompson, Fortner, Zulli, & Kershaw, 2010), Missouri (Koedel, Parsons, Podgursky, & Ehlert, 2012), and Washington (Goldhaber & Liddle, 2012). Their findings indicate that teacher preparation programs' effects on student test scores gains can be estimated – and TPPs evaluated – in part, by using their credentialed teachers' own students' test scores. But these program ratings cannot be used to make high-stakes decisions about individuals.

In these studies, certain alternate preparation programs appear to produce teachers who are significantly more effective than teachers from traditional preparation programs (Gansle, Knox, & Schafer, 2010; Gansle, Noell, Knox, & Schafer, 2010; Goldhaber & Liddle, 2011, 2012;

Goldhaber, Liddle, & Theobald, 2012) – and have characteristics that influence their graduates to earn higher value-added scores than veteran teachers (Tennessee Higher Education Commission, 2012). One study found that high productivity within traditionally or alternatively prepared cohorts depended on the subject taught and assessed as well as on the teachers' characteristics (Sass, 2011). One study found small differences between teachers from different preparation programs but high variability of effectiveness within programs (Koedel, Parsons, Podgursky, & Ehlert, 2012; Sass, 2011).

Several conclusions are especially relevant to Troops to Teachers. Researchers speculate that the advantage of certain alternatively prepared teachers may not reflect their preparation pathway so much as their unique nature as second career individuals. For them, teaching is not a first fulltime or professional position; and, as mature adults, they may have received more intensive and meaningful practical training that prepares them for the classroom than do programs that prepare young adult undergraduates to become teachers (Gansle, et al, 2010; Owings, et. al., 2005, 2006). Researchers suggest that where teachers are credentialed explains only a small portion of the overall variation in teacher effectiveness and point to the consensus that the best assessments of teacher effectiveness are based on actual classroom performance (Goldhaber & Liddle, 2011, 2012; Goldhaber, Liddle, & Theobald, 2012). Also, researchers surmised that prior research has overstated differences in teacher performance across preparation programs for several reasons, mostly because some sampling variability in the data has been incorrectly attributed to the preparation programs (Koedel, et al, 2012).

Additionally, researchers advise their audiences to assess their findings within a wider context, reminding readers that classroom and student factors – apart from teacher effectiveness – influence student achievement. These include differences between student demographic

subgroups (such as gender differences, students identified as receiving free and reduced-price lunch, those with reported learning disabilities, those enrolled in limited English proficient (LEP) or special education classes and gifted/highly capable programs); class size; teachers' years of experience (up to 5 years); and teachers' graduate degrees (Goldhaber & Liddle, 2011). Investigators also recommend that consumers of complex research that relies on large data sets and sophisticated modeling proceed with caution and not make high-stakes decisions when drawing conclusions from studies until they can confirm the correct methodology was used (Mihaly, McCaffrey, Sass, & Lockwood, 2011). Even then, conclusions drawn from value-added models can only be used for making high-stakes decisions about individuals when they comprise only part of a more comprehensive set of assessment data (Baker, Barton, Darling-Hammond, Haertel, Ladd, Linn, Ravitch, Rothstein, Shavelson, & Shepard, 2010; Rothstein, 2010).

What this means to Troops to Teachers: At present, few states have the data or technology to connect teacher preparation programs with student achievement to determine teacher and program effectiveness. And, even when studies find that certain TPP programs – traditional and alternative – appear to be measurably more successful in generating effective teachers, depending on the subject and grade level, the measurement and data issues are too fraught to use for making decisions about hiring individual teachers. More likely, principals and other employment officials will generalize from personal experiences about which local or regional teacher preparation programs consistently produce more effective teachers – but even these conclusions may not be correct for the individual applicant. The candidate's own teaching performance is more likely to be a deciding factor in whether or not to hire.

Specific teacher preparation program factors and teacher effectiveness

Many studies affirm the relationship between teacher preparation, teaching effectiveness, and student achievement (Boyd, et al., 2006; Darling-Hammond, et al., 2005; Kane, Rockoff, & Staiger, 2006), but only recently are studies identifying the specific program factors that most influenced teachers' abilities to generate student learning.

Regardless of route, studies are finding that the best teacher preparation programs design their offerings around the goal of teaching teachers how to teach their particular content (Constantine, Player, Silva, Hallgren, Grider, & Deke, 2009; Grissom & Vandas, 2010; Winters, 2011). Likewise, after looking at how teacher education programs practiced accountability, the National Research Council (NRC) (2010) concluded that the evidence points to effective teachers having strong content knowledge (a body of conceptual and factual knowledge) and strong pedagogical knowledge: effective teachers understand both how learners acquire learning in a given subject and how to teach it.

For Troops to Teachers, this means that traditional and alternative pathways to teaching can be equally successful at producing effective teachers, so long as they use approaches geared towards linking preparation to actual teaching practice. Consequently, selecting teacher preparation programs that provide extensive and supervised pre-service teaching experiences – especially with students such as those the candidate intends to teach – help Troops teachers make informed judgments in choosing preparation pathways. Such coursework and pre-professional experiences as evidenced on Troops teachers' transcripts, in their behaviors, and in discussions of instructional practices during employment interviews speak to the candidates' ability to generate student achievement. Being able to credibly and specifically respond to the question, "Describe for me the main focus of your teacher preparation program and give examples of how

these affected what you know about teaching," will serve Troops teachers well in employment interviews and in their classrooms.

Characteristics and Practices That Make Teachers Effective

Although evidence has shown that teachers' instructional practices have differential effects on student learning, knowledge gaps have existed about exactly which teacher characteristics and teaching behaviors led to increased student learning and achievement (Medley & Coker, 1987; Seidel & Shavelson, 2007). This situation, too, is changing.

Research on effective teachers' characteristics and student achievement.

Over the past decade, investigators have been identifying certain teacher cognitive and personality factors (Rockoff, Jacob, Kane, & Staiger, 2008) and classroom-based measures of teaching effectiveness (Kane, Taylor, Tyler, & Wooten, 2010; Kane, Wooten, Taylor, & Tyler, 2011) that are related substantially to student achievement growth.

One study in New York City found that although individual teacher characteristics had no predictive value regarding their students' achievement, when combined into cognitive (such as intellectual ability, teaching-specific content knowledge, scores on a commercially available teacher selection instrument) and non-cognitive (personality traits such as extraversion or introversion and feelings of self-efficacy) factors, they have a modest and statistically significant relationships with student and teacher outcomes, especially with student test scores (Rockoff, Jacob, Kane, & Staiger, 2008).

Similarly, a summary of teacher effectiveness studies finds that, in general, effective teachers bring to teaching a similar set of personal traits, skills, understandings, and dispositions to act in certain ways (Darling-Hammond, 2010b). These include a strong general intelligence

and verbal ability that help them organize and explain ideas, observe analytically, and think diagnostically; solid content knowledge in the areas they teach; expertise of how to teach others to develop higher-order thinking skills in that content; an understanding of students' differences in learning and development and how to assess and support their academic growth; flexible skills in response to students' needs in a given situation; a readiness to support every student's learning; the desire to continue their own professional development; and the willingness to work with colleagues and parents to help individual students and the school (Darling-Hammond, 2010b).

Likewise, in a unique study of fifth grade reading and math teachers that combined teachers' value-added scores, classroom observations, and teacher surveys, Stronge, Ward, and Grant (2011) found that top-quartile teachers had students who achieved higher academic growth, had fewer classroom disruptions, better classroom management skills, and better relationships with their students than did bottom-quartile teachers. Investigators speculated that effective teachers who can generate strong student achievement results have some particular set of attitudes, approaches, strategies, or connections with students that manifest themselves in nonacademic ways (such as positive relationships, encouragement of responsibility, classroom management, and organization) and that lead to higher achievement (Stronge, Ward, & Grant, 2011). The fact that students were not randomly assigned to classrooms and teachers volunteered for the observations and surveys limited the study's generalizability, however.

Given these recent research findings, Troops teachers preparing for hiring interviews might prepare by being able to describe how they would assess and support their most challenging (high and low ability) students' academic growth; be ready to relate their experiences in which they observed analytically and thought diagnostically about an individual

having difficulty learning a new task or content; or tell about a time when they taught another person to develop higher-order thinking skills in a particular content – all ways in which they can provide relevant data about their potential teaching effectiveness.

Research on effective teachers' behaviors and student achievement

Although school district hiring officials cannot control where teacher candidates receive their preparation for licensure nor can they influence teachers' personal traits and dispositions, knowing which specific teaching behaviors can make a measurable difference in increasing student achievement enables employers to better identify effective candidates for their schools. Knowing these can also influence Troops teachers in their selection of preparation programs that will ready them for classroom effectiveness. Recent studies link intentionally-observed teaching practices to student achievement gains in real world classrooms (Kane, Taylor, Tyler, & Wooten, 2011).

Findings from Cincinnati (Kane & Staiger, 2012; Kane, Taylor, Tyler, & Wooten, 2010, 2011; Kane, Wooten, Taylor, & Tyler, 2011) and New York Public Schools (Grossman, Loeb, Cohen, Hammerness, Wyckoff, Boyd, & Lankford, 2010) confirm that teachers who tend to generate higher student achievement growth are actually teaching differently than teachers associated with lower student achievement growth. In Cincinnati (2003-2004 to 2008-2009 and ongoing), externally-trained evaluators used an elaborate set of standards that described the behavioral practices, skills, and characteristics that effective teachers have in domains of "creating an environment for student learning" and "teaching for student learning" and connected these to their students' measured achievement. Investigators found that teachers with higher classroom observation rubric scores had students who learned more. The difference in student learning gains on state math tests between teachers in the top and bottom 24% of teachers'

observation scores amounted to approximately 2.7 months of schooling (Kane & Staiger, 2012) – the equivalent of about 7-percentile points in reading and about 6-percentile points in math (Kane, Wooten, Taylor, & Tyler, 2011). Midcareer teachers even improved their effectiveness in the years after they were evaluated (Sawchuk, 2011a).

Similarly, a New York City pilot study using structured observation protocols (along with teacher logs and student work) compared moderately performing (second quartile) and high-performing (fourth quartile) middle school English language arts teachers on value-added performance in 12 matched pairs. Despite the small sample, investigators found consistent evidence that high value-added teachers use different instructional practices than low value-added teachers on all 16 observed elements of instruction (Grossman, Loeb, Cohen, Hammerness, Wyckoff, Boyd, & Lankford, 2010).

In a comparable Chicago study, a two-year pilot effort found that classroom observation ratings are valid and reliable measures of teaching practice and are related to value-added measures for math and reading test scores (Sartain, Stoelinga, Brown, et al., 2011). In classrooms of highly-rated teachers, students showed the most growth while in classrooms of teachers with low observation ratings, students showed the least growth. Interestingly, principals were able to rate teaching practice reliably at the low and middle ends of the scale while principals were less able or willing to differentiate effective instruction in the scale's upper ranges, tending to give the highest ratings to "good" teachers (commenting to investigators that they do this to maintain their relationships with teachers) (Sartain, Stoelinga, Brown, et al., 2011).

Likewise, a Louisiana study using virtually the same observation rubrics as in Cincinnati and Chicago to assess prospective alternatively prepared teachers for initial certification (2004-2005 through 2008-2009), found a modest correlation between teacher evaluation scores and

student achievement growth in math and reading. These correlations were lower than those found in Kane's (2012) due to low inter-rater reliability (Darling-Hammond, 2010a).

Employing a different approach, investigators conducted a study with secondary school teachers using a web-mediated coaching method employing clear behavioral anchors (based on the Classroom Assessment Scoring System–Secondary (CLASS-S) protocol) to determine the effects of instructional coaching on students' motivation and academic achievement. The interventions focused, in part, on boosting the teachers' use of varied instructional approaches and involved students in higher-order thinking and using the new learning in problem solving. Researchers found that the intervention produced substantial gains in measured student achievement in the year after its completion, equal to advancing the average student from the 50th to the 59th percentile in achievement test scores. Gains appeared to be in response to changes in teacher-student interaction qualities that the interventions addressed. (Allen, Pianta, Gregory, Mikami, & Lun, 2011).

Not surprisingly, students can tell perceive clear difference between more and less effective teachers. The Bill and Melinda Gates Foundation's Measures of Effective Teaching (MET) six district, 3,000 teacher study – with surveys from 44,500 students – discovered that pupils could identify the most effective teachers in a school. Also, researchers can predict roughly how much students would learn if they rated their educators using a formula that put equal weight on student feedback, standardized test scores, and principal and peer observations employing a standards-based rubric (Kane, 2012; Kane & Staiger, 2012; Sawchuk, 2013a; Simon, 2013). While judging teachers mainly by student achievement on state tests proved very unreliable, and depending primarily on principals' observations of classroom practice did not help predict teachers who were able to increase student achievement in reading and math,

combining the three measures into` an appropriately weighted index produced a balanced and accurate profile of teacher performance. Critics of this study note, however, that the MET's lack of students' random assignment to classes, the voluntary nature of the teachers' involvement, and measurement error limit findings to comparisons of teachers within a school – and not generalizable beyond (Rothstein & Mathis, 2013).

Research on teaching behaviors and school environment.

The instructional environment in which teachers work also influences their effectiveness in increasing student achievement. One large-scale study in elementary schools using a multilevel constellation of teacher-related effects (e.g. classroom effectiveness, collective teaching quality, school academic organization) that could be changed to increase educational efficacy found that teachers' effectiveness was a stable and continuing part of the school organization, and teaching processes were positively associated with achievement levels (Heck, 2009). Likewise, a different study surveyed a major national group of preK- 12 teachers and found that school working conditions – in this case, the culture that supports teacher collaboration – appears to be an important factor in teacher effectiveness and improved student outcomes (Berry, Daughtry, & Weiner, 2009).

Another school environment study determined that teachers who switch schools are more effective after a move than before. This North Carolina study, grades three through five (1995 – 2006), examined the extent to which teacher effectiveness, as measured by ability to improve student test scores, changed depending on the schooling environment and quantified the importance of the match between a teacher and a school in determining student achievement (Jackson, 2010). A *match effect* is anything that makes a teacher more or less productive at one school as compared to another (that is not due to a school characteristic that affects all teachers

equally). Using a longitudinal dataset, the investigator found that teachers who switch schools are more effective after a move than before ─ suggesting match effects. In contrast, teachers are less likely to leave their current school when match quality is high. The researcher's conclusion: a sizeable part of teacher effectiveness may be a function of the teacher-school environment match and not portable across schools (Jackson, 2010).

Despite their usefulness when well designed and conducted, classroom observations have their limitations. If this is the only data that school districts use to evaluate teachers, they may discourage innovation and pressure teachers to adopt a certain model of effective practice (Kane, 2012). Even when using standards-based rubrics to identify specific behaviors, observers must be trained to interpret behavior the same way in order to keep inter-rater reliability high and reduce subjective judgments. Also, teachers' performance may change, depending on the content taught and the student audience. Accordingly, multiple trained raters must be available to observe and score different lessons and average them for a more accurate measure of the teacher's practice. Plus, the labor intensive nature of providing frequent, detailed classroom observations is costly in terms of principals' time or peer observers' salaries (Kane, 2012). Finally, even excellent observations can be only one of several valid and reliable means of evaluating teachers.

What this means to Troops to Teachers

Troops teachers who make opportunities in their preparation programs to learn the knowledge and develop the capacity to use highly effective instructional behaviors tied to detailed, standards-based performance rubrics will likely become more effective teachers.

Method

Mode of Inquiry

To answer the research questions, we employed a non-experimental, mixed method design incorporating quantitative and qualitative data collection and analysis. Quantitative survey data provided the main focus for analysis while demographic data helped develop the contextual understanding vital to address the research questions. Together, these different collection approaches allowed investigators to triangulate data, providing a more accurate, complete, valid, and reliable evaluation of results.

After initially gathering quantitative, descriptive data, a round of qualitative data collection followed to gain greater insight and understanding into issues identified in the primary data. All DANTES' TTT completer database members received web-based questionnaires. Administrators of consenting TTT program completers participating in this study received similar web-based questionnaires. All participants were then asked to complete a follow-up questionnaire to clarify responses gathered through the initial efforts.

Data sources

This study used four web-based questionnaires to collect data. The questionnaires derived from the 2005 TTT study (see Owings et al., 2005, 2006) with minor revisions to address the specific goals of this study. The first questionnaire intended for TTT program completers consisted of 17 items focusing on the extent to which participants employed research-based instructional practices and four items focusing on research-based classroom management practices. Respondents were asked to rate on a four-point Likert-type scale the extent they used these practices with responses ranging from "Never" to "Always." The TTT questionnaire also included demographic and job assignment questions and years of teaching experience items.

The second questionnaire was designed to collect data from supervising administrators of TTT program completers. The questionnaire included the same 17 instructional practice and four

classroom management items to allow administrators' to rate (on the same four-point, Likert-type scale) the extent to which their TTT teachers employed the research-based practices as compared to other teachers with the same years of teaching experience. The questionnaire also included items about the school's enrollment of low-income students and the school's community setting to allow for a descriptive analysis of TTT program completers' placement.

The TTT teachers' initial survey's preliminary results provided the basis for their follow-up questionnaire. Participants were asked to provide additional information about the quality of their professional teacher preparation. The questionnaire included 10 items seeking information on teacher preparation programs and courses. The participants were asked to rate the quality of the licensure program they attended on a five-point, Likert-type scale with responses ranging from "Poor" to "Superior." The questionnaire also asked respondents about their intent to remain in the education field for the foreseeable future. Finally, the follow-up questionnaire for TTT teachers included attitudinal items on the respondents' impressions and experiences regarding the TTT-funded program.

The follow-up questionnaire for supervising administrators of TTT program completers expanded on the quality of respondents' professional experiences working with TTT teachers. The questionnaire included seven items designed to evaluate the quality of TTT teachers. The administrators were asked to rate the TTT program completers' effectiveness and preparedness on a five-point, Likert-type scale ranging from "Poor" to "Superior." In addition, the follow-up questionnaire for administrators included attitudinal statements on their experiences supervising T3 program completers. [A copy of the survey instruments appears in Appendix B]

Analytic approach

We employed descriptive statistic methods to answer each of the research questions. Qualitative content analysis of open-ended statements was applied to develop the contextual understanding vital to further address research questions one, two, seven, and eight (Bernard & Ryan, 2010; Manning & Cullum-Swan, 1994). The different data collection approaches allowed investigators to provide a more accurate and complete evaluation of results.

Participants

Since 1994, the Department of Defense's Troops to Teachers funding has recruited, prepared, and supported former members of the U.S. military services to be teachers in high-poverty and/or high-need schools. Elementary and secondary teaching applicants are required to have a baccalaureate or advanced degree from an accredited higher education institution, and individuals with educational or military experience in science, math, special education, or vocational or technical subjects and who agree to seek full-time employment as science, math, or special education teachers in public schools receive selection priorities.

Overall, 7,743 TTT completers received invitations to participate in this study. A total of 4,157 (53.7%) consented to participate in the initial Teacher Questionnaire. About a third of respondents did not disclose gender, ethnicity, or the number of years they have worked as a K-12 teacher. Of participants who indicated gender, 498 (12%) were females and 2,315 (56%) were males (32% of respondents did not identify their gender). About 41% (n = 1,698) of all participants were white, with ethnicities comprising another 28% (n = 1,157) of the sample (31% of respondents did not identify their race or ethnicity). Complete ethnicity information is included in Table one below. Most respondents have worked as a K-12 teacher less than six years (n = 1,008, 24%), with another 22% (n = 906) having six to ten years of experience teaching K-12, 12% (n = 511) teaching for 11 to 15 years, and 9% (n = 372) having more than 15

years' experience teaching K-12 (33% of responders did not identify years of teaching experience). An additional 2,075 T3 completers (49.9% of initial responders) responded to the Follow-up Teacher Questionnaire. Demographic data are not available for those responders.

Table 1. Ethnicities of Participating Troops to Teachers Program Completers.

Ethnicity	*N*	Percentage
Black	780	18.8
White	1,698	40.8
Hispanic/Latino	241	5.8
Asian	28	0.7
Native Hawaiian/Pacific Islander	12	0.3
American Indian/Alaskan Native	50	1.2
Other	46	1.1
Undisclosed	1,302	31.3

Table 2. Grade Levels Currently Taught by Participating Troops to Teachers.[2]

Grade level	*N*	Percentage
Prekindergarten	32	.4
Kindergarten – Third grade	531	6.0
4^{th} – 5^{th} grade	406	4.6
6^{th} – 8^{th} grade (middle level)	1,272	14.3
9^{th} – 12^{th} grade (high school)	6,639	74.8

A total of 517 administrators responded to the initial Administrators Questionnaire. Of those, 355 (69%) were principals and 77 (15%) were assistant principals. Eighty five (16%) served in other roles in their respective schools, including associate principal, director or chief executive officer, department chair, or superintendent. School community settings of those who

[2] Total *n*'s for this item add up to more than 4,157 because some teachers responded to more than one grade category.

responded were distributed among rural (29%), urban (19%) and suburban (40%). About 12% of respondents did not indicate their schools' community settings. Eighty-eight administrators (17% of initial responders) responded to the Follow-up Administrator Questionnaire.

Limitations

This study was originally intended to include only those who had received funding for the Troops to Teachers program from the Department of Defense (DOD). To protect the anonymity of its personnel, the DOD retained control over the participant list and sent out the invitations to participate to those in its Troops to Teachers database. Once data collection had begun, it was discovered that the participant database included about 2,500 troops who did not receive DOD funding. Because our survey did not differentiate those who received funding from those who did not, we were unable to identify only those receiving funding. Therefore, it is possible that some participants in this study did not receive DOD funding for the Troops to Teachers program. However, since the study's intent was to evaluate the program itself and not the funding source, we do not consider this to be a threat to the study's overall validity but rather consider it a limitation worth noting.

Data use agreements between DANTES and the researchers required that data from the 2005 study be discarded at the completion of that study; therefore, comparisons between the prior and current studies could not be explored. We could not run statistical tests comparing the results from 2005 and 2013 to determine any significant differences because the research guidelines require individual subject data to be discarded after any research study is completed.

Results

What are the features of the certification programs attended by TTT completers?

Of the 2,075 TTT completers who responded to the TTT follow-up questionnaire item that focused on the type of certification program attended, the majority identified their preparation program as a traditional on-campus certification program (21.6%), a state specific certification program (18.9%), a traditional on-campus master's program with student teaching (13.9%), a JROTC certification program (11.1%), or a career switcher program (9.2%). Another 10% (n = 213) stated that they attended a non-specified bachelor's degree program, a provisional licensure program, or a state-approved alternate certification program. Responses by program type are reported in Table 3 below.

Table 3. Teacher Preparation Programs Attended by TTT Completers[3]

Program type	*N*	Percentage
Traditional on-campus master's program with student teaching	289	13.9
Traditional on-campus master's program without student teaching	153	7.4
Distance-based synchronous master's program with student teaching	55	2.7
Distance-based synchronous master's program without student teaching	45	2.2
Distance-based asynchronous master's program with student teaching	26	1.3
Distance-based asynchronous master's program without student teaching	23	1.1
Traditional on-campus coursework for certification	449	21.6
Career switchers	190	9.2
State-specific teacher licensure program	393	18.9
State teaching fellows program	24	1.2
JROTC certification	239	11.5
Other alternative certification	31	1.5
Other	213	10.3

[3] *N*'s total more than 2,075 because some respondents indicated more than one type of program.

More than 92% of respondents to the TTT follow-up questionnaire rated the quality of their licensure or certification program as "Fair," "Good," or "Superior," with over 87% rating the quality "Good" or "Superior," the top two categories. Only a small percentage (less than 2%) gave their program quality a "Poor" rating. Quality ratings are listed in Table 4.

Table 4. Quality of the Licensure Programs Attended by TTT Completers

Quality	*n*	Percentage
Poor	29	1.4
Fair	115	5.5
Good	983	47.4
Superior	817	39.4
Undecided	64	3.1

What instructional features of certification programs best prepared TTT completers for classroom teaching?

A majority of respondents to the TTT completer follow-up questionnaire stated that classroom management and discipline coursework was the most beneficial feature of their certification program (*n* = 1,133, 54.6%). Additionally, nearly half of all respondents stated that program features which supported their development of instructional strategies were most beneficial (*n* = 1,020, 49.2%). Other beneficial features of note were hands-on learning (*n* = 743, 35.8%), instructional technology (*n* = 694, 33.4%), student teaching (*n* = 585, 28.2%), reading and writing in the content areas (*n* = 525, 25.3%), and school and community life (*n* = 306, 14.7%).[4]

[4] *N*'s total 4,906 (greater than the 4,157 number of respondents) because some respondents indicated that they teach more than one subject. Percentages are based off the 4,906 overall responses.

Analyses of open-ended questions about respondents' perceptions of instructional features revealed additional areas of certification programs beneficial for their teaching experiences. These included statements such as:

- "Many of our instructors were still in the field in administrative positions and provided real world experience through instruction. The program provided us and opportunity to build on online portfolio, field work in every class, assignments based on reflection during those experiences and internship with exceptional teachers. We learned the value of collaborative and cooperative teaching. The administrators of the program were available to walk us through the challenges and provide insight into the profession."
- "It was a great program, because it was military friendly and considered all my experience in the military."
- "The program thoroughly prepared us for both the content licensure exam and as well as for the classroom. Classroom observations were required. The program assigned an on campus mentor as well as had program instructors observe and mentor us for the first year of teaching."
- "Educational Psychology. The mere introduction of educational psychology as a concept is something that stays in the back my mind. …[O]nce the teacher actually becomes part of the school setting it seems like none [of the traditional teacher preparation curriculum] can prepare you for the social emotional problems that students are dealing with. This is where the use of psychology becomes a tool to motivate students."

TTT respondents also identified educational psychology, curriculum development

and implementation, special education, and alternative educational programs as helping their teaching experiences (see Appendix A).

To what extent is the TTT program meeting its goals in regards to job placement and retention of program completers in high need areas and schools?

A stated goal of the TTT program is to place a large percentage of TTT completers into high-needs schools and/or in high-needs content areas, with a specific interest in placing minority teachers in high-needs schools or content areas. For the purpose of this study, "high-needs schools" are defined as high-poverty and/or high-minority and "high-needs content areas" are defined as math, science, special education, foreign language, and career/technical education. We defined "minority" as any participant who responded to the ethnicity item with any ethnicity other than white.

Results indicated that nearly 84% of respondents' (*n* = 2,330, 83.7 percent) first teaching assignments were in high-poverty and/or high-minority schools. Forty percent of these were minority TTT completers (*n* = 940). At the time this study was conducted, almost 73% (*n* = 1,691) had remained in the same high-needs school; minority TTT completers comprised 42% of those who stayed in the same high-needs school (*n* = 707). Of those who left their initial school, 98.1% (*n* = 627) moved to a school with the same or higher proportion of students who were eligible for free- or reduced-price lunch (the traditional poverty indicator for K12 students) and 95.5% (*n* = 610) moved to a school with the same or higher proportion of minority students. These percentages held steady for minority TTT completers who left their initial school assignment. These results indicate that TTT completers, including a high percentage of minority TTT completers, are remaining in high-needs schools well after completion of their certification programs and even when school placements change.

Results also indicate that a large percentage of TTT completers are filling positions in high-needs content areas. Forty-three percent (*n* = 2016) of respondents identified their content or subject area as being math (*n* = 714), science (*n* = 575), special education (*n* = 332), foreign language (*n* = 49), career/technical education (*n* = 436). Another 19% of respondents (*n* = 946) identified JROTC as their subject, a content area that includes such sciences as aerospace science, naval science, and general military science. Other TTT completers serve in content areas such as English, language arts and reading (*n* = 321, 6.5%), social studies (*n* = 637, 13 percent), and physical education (*n* = 256, 5.2%) (see Table 6). This 43% of TTT teaching high-demand subjects compares with 81% teaching these high-demand subjects in 2005.

Table 6. Content Areas Currently Taught by Participating Troops to Teachers.[5]

Content/subject area	*N*	Percentage
English	321	6.5
Math	714	14.6
Science	575	11.7
Social Studies	637	13.0
Special Education	332	6.8
Language Arts and Reading	362	7.4
Physical Education	256	5.2
Career/Technology	436	8.9
Foreign Language	49	1.0
JROTC/Military science	946	19.3
Other	278	5.7

[5] *N*'s total more than 4,157 because some respondents indicated that they teach more than one subject.

Results for minority TTT completers mirror those of the overall TTT completer sample by content area. Similar to the results for the entire sample, minority TTT respondents teach in the math (12.3%), science (9.6%), and special education (6.8 percent) content areas. Further, minority TTT completers represent at least a third of TTT completers in all content areas, as indicated in Table 7 below, with the largest percentages of minority TTT completers serving in the foreign language and JROTC/military science areas. Figure 1 illustrates the comparison of all TTT completer respondents with minority only TTT completer respondents in the high-needs content areas.

Table 7. Content Areas Currently Taught by Participating Minority Troops to Teachers.[6]

Content/subject area	*n*	Percentage of minority teachers	Percentage of total number of teachers in content area
English	118	6.0	36.8
Math	241	12.3	33.8
Science	187	9.6	32.5
Social Studies	217	11.1	34.1
Special Education	133	6.8	40.1
Language Arts and Reading	145	7.4	40.1
Physical Education	123	6.3	48.0
Career/Technology	181	9.3	41.5
Foreign Language	31	1.6	63.3
JROTC/Military science	488	24.9	51.6
Other	92	4.7	33.1

[6] *N*'s total more than 1,157 because some respondents indicated that they teach more than one subject.

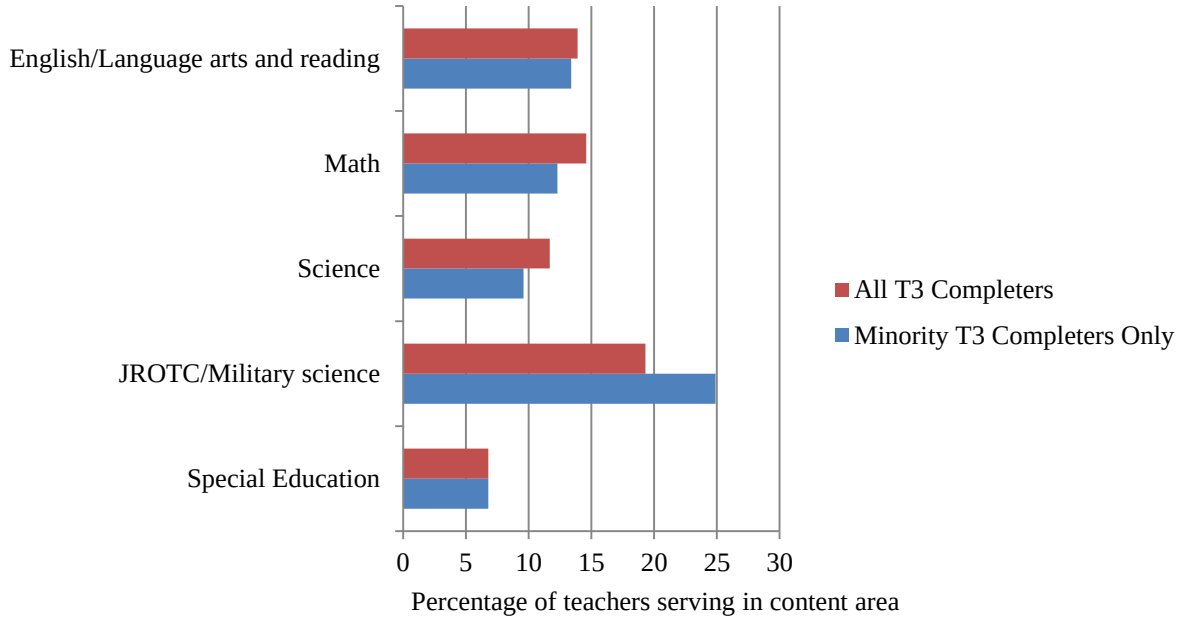

Figure 1. Comparison of All TTT Completers and Minority TTT Completers Serving in High-Needs Content Areas.

To what extent are TTT completers implementing research-based instructional practices?

TTT program completers were asked to rate the frequency with which they use 17 research-based instructional practices. Over two-thirds of respondents stated that they "Usually" or "Always" implement 14 of the 17 practices. The most commonly implemented practices were "emphasize the importance of effort with students" (99.4% compared to 84.2% in 2005), "recognize students who are making observable progress toward learning goals" (96.8%; 82.5% in 2005), "provide students with specific feedback on the extent to which they are accomplishing learning goals" (95.9% compared to 80.8% in 2005), "ask students questions that help them recall what they might already know about the content prior to presenting new content" (95.8%; 83.7% in 2005), and "begin my instructional units by presenting students with learning goals" (94.7% compared to 80.5% in 2005). The most seldom used instructional practices were "ask

students to construct verbal or written summaries of new content" (65.4 percent "usually or "always" implement compared to ---- in 2005), "prescribe in-class activities and homework assignments that require students to generate and test hypotheses regarding content" (53.1 percent "Usually" or "Always" implement compared to 60.5% in 2005) and "prescribe in-class and homework assignments that require students to construct metaphors and analogies" (46.8 percent "Usually" or "Always" implement; 57.0% in 2005). Complete TTT completer responses to the 17 instructional practices, along with their respective frequency ratings, are reported in Table 8.

Table 8. TTT Completers' Perceptions of Use of Research-Based Instructional Practices

Instructional Practice	Never % (*n*)	Sometimes % (*n*)	Usually % (*n*)	Always % (*n*)
begin my instructional units by presenting students with learning goals	0.3 *(9)*	4.9 *(137)*	27.6 (*768)*	67.1 (*1,857*)
provide students with specific feedback on the extent to which they are accomplishing learning goals	0.2 (*6)*	3.8 (*104*)	32.2 (*883*)	63.7 (*1,746*)
ask students to keep track of their own performance on learning goals	5.5 (*153*)	24.7 (*682*)	36.6 (*1,011*)	33.1 (*914*)
recognize students who are making observable progress toward learning goals	0.3 (*8*)	2.9 (*81*)	30.0 (*828*)	66.8 (*1,843*)
emphasize the importance of effort with students	0.1 (*2*)	0.5 (*14*)	11.4 (*315*)	88.0 (*2,421*)
organize students into groups based on their understanding of the content when appropriate	4.8 (*132*)	25.1 (*690*)	37.4 (*1,029*)	32.7 (*900*)
organize students into cooperative groups when appropriate	1.5 (*42*)	16.8 (*461*)	40.2 (*1,106*)	41.5 (*1,142*)
provide specific feedback on the homework assigned to students	2.3 (*62*)	8.2 (*226*)	35.1 (*962*)	54.4 (*1,493*)
end units by providing students with clear feedback on the learning goals	0.5 (*13*)	7.7 (*212*)	34.5 (*953*)	57.3 (*1,581*)

end units by recognizing and celebrating progress on the learning goals	2.6 (*72*)	19.2 (*526*)	45.0 (*1,233*)	33.2 (*912*)
end my units by asking students to assess themselves relative to the learning goals	5.9 (*163*)	27.3 (*755*)	37.0 (*1,023*)	29.8 (*823*)
ask students questions that help them recall what they might already know about the content prior to presenting new content	0.2 (*5*)	4.0 (*110*)	33.6 (*922*)	62.2 (*1,706*)
provide students with direct links with previous knowledge or studies prior to presenting new content.	0.5 (*14*)	8.3 (*227*)	40.9 (*1,120*)	50.3 (*1,377*)
provide ways for students to organize or think about the content (e.g. Use advanced organizers) prior to presenting new content	1.0 (*27*)	16.7 (*456*)	41.0 (*1,120*)	41.3 (*1,130*)
ask students to construct verbal or written summaries of new content	4.3 (*117*)	30.3 (*827*)	38.8 (*1,061*)	26.6 (*728*)
ask students to take notes on new content	3.6 (*96*)	15.5 (*419*)	29.7 (*803*)	51.2 (*1,382*)
ask students to present new content in nonlinguistic ways (e.g., mental image, picture, pictograph, graphic organizers, physical model, enactment)	3.4 (*93*)	29.4 (*804*)	38.9 (*1,065*)	28.3 (*775*)
assign in-class and homework tasks that require students to practice important skills and procedures	0.7 (*20*)	10.1 (*277*)	35.9 (*982*)	53.2 (*1,456*)
prescribe in-class and homework assignments that require students to compare and classify content	2.6 (*72*)	22.2 (*606*)	42.8 (*1,168*)	32.3 (*880*)
prescribe in-class homework assignments that require students to construct metaphors and analogies	13.0 (*356*)	40.2 (*1,100*)	29.1 (*795*)	17.7 (*484*)
prescribe in-class activities and homework assignments that require students to generate and test hypothesis regarding content	10.6 (*289*)	36.3 (*990*)	34.2 (*935*)	18.9 (*516*)

Administrator respondents were asked to complete an agreement scale focusing on TTT completers' use of the same or similar research-based instructional practices. Administrator responses were overwhelmingly positive, with 85% or more "Agreeing" or "Strongly agreeing"

that their respective TTT completers implemented these instructional practices in their classrooms. Even the lowest rated item, "teacher organizes students into groups based on their understanding of the content when appropriate," had an 88.3% "Agree" or "Strongly agree" rating. The most strongly rated instructional practices were, "teacher recognizes students who are making observable progress toward learning goals" (96.3% "Agreed" or "Strongly agreed" as compared to 90.4% in TTT Study 2005), "teacher assigns in-class and homework tasks that require students to practice important skills and procedures" (96.2% "Agreed" or "Strongly agreed" as compared to 89.7% in 2005), and "teacher emphasizes the importance of effort with students" (95.7% "Agreed" or "Strongly agreed" as compared to 93.3% in TTT Study 2005). These responses coincide with TTT completers frequency responses for the same instructional practices, with TTT completers responding that they "Usually" or "Always" implemented these same practices (96.8%, 89.1%, and 99.4%, respectively). Complete administrator responses to the 14 instructional practice items are reported in Table 9.

Table 9. Administrator's Perceptions of Use of Research-Based Instructional Practices

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
Instructional practice	% (*n*)	% (*n*)	% (*n*)	% (*n*)
begins instructional units by presenting students with clear learning goals	2.2 (*10*)	2.4 (*11*)	29.4 (*133*)	66.0 (*299*)
provides students with specific feedback on the extent to which they are accomplishing learning goals	2.0 (*9*)	4.0 (*18*)	32.2 (*145*)	61.9 (*279*)
asks students to keep track of their own performance on learning goals	1.1 (*5*)	8.6 (*39*)	42.6 (*192*)	47.7 (*215*)
recognizes students who are making observable progress toward learning goals	2.0 (*9*)	1.8 (*8*)	30.7 (*138*)	65.6 (*295*)
emphasizes the importance of effort with students	1.8 (*8*)	2.5 (*11*)	16.7 (*75*)	79.0 (*354*)
organizes students into groups based on their understanding of the content when appropriate	2.0 (*9*)	9.7 (*44*)	35.5 (*161*)	52.8 (*239*)

organizes students into cooperative groups when appropriate	2.2 (*10*)	5.5 (*25*)	35.0 (*158*)	57.3 (*259*)
provides specific feedback on the homework assigned to students	1.1 (*5*)	4.7 (*21*)	35.9 (*161*)	58.4 (*262*)
ends units by providing students with clear feedback on the learning goals	0.9 (*4*)	6.5 (*29*)	31.7 (*142*)	60.9 (*273*)
ends units by recognizing and celebrating progress on the learning goals	0.7 (*3*)	7.1 (*32*)	32.3 (*145*)	59.9 (*269*)
asks students questions that help them recall what they might already know about the content prior to presenting new content	0.9 (*4*)	4.2 (*19*)	32.8 (*147*)	62.1 (*278*)
asks students to take notes on new content	0.9 (*4*)	8.5 (*38*)	37.2 (*167*)	53.5 (*240*)
asks students to present new content in nonlinguistic ways (e.g., mental image, picture, pictograph, graphic organizers, physical model, enactment)	1.3 (*6*)	8.2 (*37*)	38.3 (*172*)	52.1 (*234*)
assigns in-class and homework tasks that require students to practice important skills and procedures	1.8 (*8*)	2.0 (*9*)	28.1 (*126*)	68.1 (*305*)

To what extent are TTT completers implementing research-based classroom management practices?

The survey asked TTT completer respondents to rate the frequency with which they implement research-based classroom management practices. Responses indicated that almost 100% TTT completer respondents implemented the four classroom management practices included on the questionnaire, with 98.3 to 99.5% stating that they "Usually" or "Always" implement these practices. Table 10 includes frequency of use by TTT completers for each of the four classroom management practices.

Administrator respondents also rated TTT completers' use of similar classroom management practices on an agreement scale. Administrators' responses were overwhelmingly positive, with more than 93% of administrators stating that they "Agreed" or "Strongly agreed" that their respective TTT program completer used these research-based classroom management

practices. The items with the highest agreement ratings were for "teacher responds to inappropriate behavior quickly and assertively" (96.2% as compared to 90.1% in TTT Study 2005) and "teacher uses specific disciplinary strategies that reinforce appropriate behavior and provides consequences for inappropriate behavior" (95.1% as compared to 88.3% in 2005). The agreement ratings on these two items coincided with the TTT completers' responses that they "Always" or "Usually" implemented these classroom management practices (99.5 % and 99.3%, respectively). Administrator responses for each of the classroom management practices by level of agreement can be found in Table 11.

Table 10. TTT Completers' Perceptions of Use of Research-Based Classroom Management Practices

Classroom management practice	Never	Sometimes	Usually	Always
	% (*n*)	% (*n*)	% (*n*)	% (*n*)
have comprehensive and well-articulated rules and procedures for general classroom behavior, beginning and ending the period or day, transitions and interruptions, use of materials and equipment, group work, and seatwork	0.1 (*4*)	1.0 (*27*)	11.0 (*303*)	87.8 (*2,411*)
use specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior	0.01 (*1*)	0.7 (*18*)	14.6 (*401*)	84.7 (*2,324*)
use specific techniques to keep aware of problems or potential problems in classrooms	0.1 (*2*)	1.6 (*44*)	19.4 (*531*)	78.9 (*2,163*)
respond to inappropriate behavior quickly and assertively	0.01 (*1*)	0.4 (*11*)	11.0 (*302*)	88.5 (*2,420*)

Table 11. Administrator's Perceptions of Use of Research-Based Classroom Management Practices

Classroom management practice	Strongly Disagree % (*n*)	Somewhat Disagree % (*n*)	Somewhat Agree % (*n*)	Strongly Agree % (*n*)
has comprehensive and well-articulated rules and procedures for general classroom behavior, beginning and ending the period or day, transitions and interruptions, use of materials and equipment, group work, and seatwork	1.8 (*8*)	4.2 (*19*)	19.6 (*88*)	74.4 (*335*)
uses specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior	1.3 (*6*)	3.6 (*16*)	23.5 (*105*)	71.6 (*320*)
uses specific techniques to keep aware of problems or potential problems in classrooms	1.8 (*8*)	4.5 (*20*)	26.8 (*120*)	67.0 (*300*)
responds to inappropriate behavior quickly and assertively	1.8 (*8*)	2.0 (*9*)	22.4 (*100*)	73.8 (*329*)
uses specific techniques to maintain a healthy and emotional objectivity when dealing with misbehavior	1.6 (*7*)	4.9 (*22*)	27.8 (*124*)	65.7 (*293*)
independently handles student discipline problems	1.8 (*8*)	3.6 (*16*)	24.0 (*108*)	70.7 (*318*)

To what extent are TTT completers prepared to meet the overall needs of schools?

To address research question number six, we focused on several responses from the initial and follow-up administrator questionnaires. The initial administrator questionnaire included 10 items concerning teacher qualification that covered areas such as general policies and procedures, communications and interactions with parents and other staff, student achievement, and overall preparedness to teach. Seventy-five percent or higher of administrators responded that they "Somewhat" or "Strongly" agreed that the TTT completer serving in their school met these qualifications (see Table 12). The strongest agreements were for the items focused on school policies and student achievement; 96.4% of administrators (n = 430)

"Somewhat" or "Strongly" agreed that the TTT completer follows school regulations, policies, and procedures, and 95.5 percent (n = 424) somewhat or strongly agreed that the TTT completer has a positive impact on student achievement. Additionally, the follow-up questionnaire asked administrators to rate the TTT completer's overall instructional effectiveness as compared to a traditional teacher with similar years of teaching experience. A strong majority of administrators rated the TTT completers as "about the same" (48.9%, n = 43), "more effective" (35.2%, n = 31), or "much more effective" (11.3%, n = 10). In 2005, over 90% of administrators rated their Troops teachers as "More Effective" in instructional and classroom management practices than were traditionally prepared teachers with similar years of teaching experience. Such positive responses to the quality of TTT completers suggest that school administrators believe that TTT completers are well prepared to meet the overall needs of schools.

Table 12. Administrator's Perceptions of TTT Completers' Qualifications

Teacher qualification	Strongly Disagree % (*n*)	Somewhat Disagree % (*n*)	Somewhat Agree % (*n*)	Strongly Agree % (*n*)
is better prepared to teach than other colleagues with similar years of teaching experience	2.9 (*13*)	22.4 (*100*)	38.6 (*172*)	36.1 (*161*)
provides a greater benefit to the school system relative to the salary paid	2.3 (*10*)	11.6 (*51*)	33.1 (*146*)	53.1 (*234*)
deals with parents and community members more effectively	1.8 (*8*)	15.0 (*67*)	33.9 (*151*)	49.3 (*220*)
needs fewer professional development activities for me to consider him/her a competent professional	4.3 (*19*)	23.5 (*105*)	36.3 (*162*)	35.9 (*160*)
properly processes requisitions for purchases	1.6 (*7*)	4.8 (*21*)	31.9 (*140*)	61.7 (*271*)
serves capably as an extracurricular or activity sponsor	2.5 (*11*)	7.5 (*33*)	24.9 (*110*)	65.2 (*288*)
follows school regulations, policies, and	.9	2.7	18.6	77.8

procedures	(*4*)	(*12*)	(*83*)	(*347*)
has a positive impact on student achievement	1.1 (*5*)	3.4 (*15*)	23.4 (*104*)	72.1 (*320*)
keeps parents informed about students' academic and behavior progress	1.1 (*5*)	5.4 (*24*)	28.9 (*129*)	64.7 (*289*)
works well with other teachers and staff	1.1 (*5*)	5.4 (*24*)	20.2 (*90*)	73.3 (*327*)

To what extent are TTT completers prepared to meet the needs of diverse learners and diverse learning environments?

Approximately 92% of administrators rated their TTT completers as being well prepared to meet the needs of diverse learners and diverse learning environments. Forty-three percent (*n* = 37) percent of administrators who responded to this item on the follow-up questionnaire rated their TTT completers' preparedness as "Superior," with another 49.4% (*n* = 43) rating their TTT completers' preparedness as "Good" (Figure 2).

However, when TTT completers were asked to describe unexpected experiences they had encountered in their teaching practices (open-ended item, initial teacher questionnaire), 15.7% identified issues related to diverse learners or diverse learning environments, indicating that these TTT completers may not feel as well prepared to teach diverse learners as their administrators perceive. Nearly five percent of respondents (4.7%, *n* = 194) identified lack of parental support as a challenge, 4.0% (*n* = 168) listed family and emotional issues with students as an unexpected experience in classroom teaching, 3.6% (*n* = 149) noted that student apathy and lack of motivation were unexpected, and 3.4% (*n* = 143) identified classroom management and lack of discipline in students as obstacles to effective teaching.

Analyses of open-ended questions (see Appendix A) about respondents' unexpected experiences in teaching confirmed the above areas of concern: lack of parental support; family

and emotional issues; students' apathy; and issues with classroom management and discipline. Selected answers illustrate the identified themes:

- "The unexpected experiences I have encountered mostly revolve around the unwillingness of parents to do important things necessary to allow their children to benefit from a good education."
- "The unexpected experience that I have encountered in my teaching practices is the students that just give up. They let their different situations outside of school dictate their mood, lifestyle and their future. Many of them have no support at home which makes it difficult and sometime impossible to reach them."
- "The lack of motivation of the students. Most have the 'I don't care' attitude, they think they will fail at whatever they attempt to do."
- "One of the biggest unexpected experiences I have encountered is having to deal with such a great lack of disrespect and behavioral issues from the students."

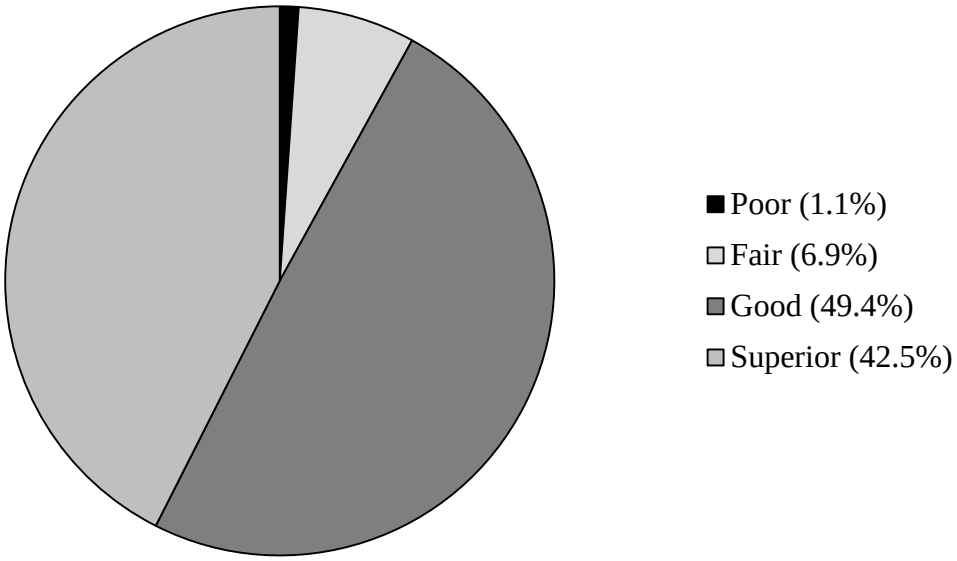

Figure 2. Administrators' Perceptions of TTT Completers' Preparedness to Teach in Diverse Learning Environments

Why do TTT completers leave the teaching profession?

A total of 2,788 (67%) TTT completers responded to the initial teacher questionnaire item that asked how long they plan to remain in the education field as a teacher. Most respondents stated that they planned to remain in the teaching profession for more than 10 years (40.5%, *n* = 1,129), with the remaining respondents split about evenly between 1 and 5 years (20.2%, *n* = 563), 6 and 10 years (20.5%, *n* = 572), and undecided (18.8%, *n* = 523) (see Figure 3). Noting that about a third of respondents to the initial questionnaire did not respond to this item, we included an item on the follow-up teacher questionnaire that asked TTT completers their plans about staying in the education field. About 97% of those who completed the follow-up questionnaire responded to this item, with 74% (*n* = 1,483) indicating that they did not plan to leave the teaching profession (compared with 55.6% in 2005 saying they would stay as long as possible and 24.9% who said they would stay until retirement), 19.2% (*n* = 384) responding that

they were thinking of leaving the teaching profession (compared with 4% in 2005 saying they would stay in teaching until a better opportunity arises and 11.7% undecided), 3.7% (n = 74) stating they were definitely planning to leave the teaching profession (compared with 1.2% in 2005 who said they would leave the teaching profession), and 3.1% (n = 63) responding that they had left the teaching profession between the time that the initial and follow-up questionnaires were administered (Table 13).

Further, we asked those who responded that they were leaving or thinking about leaving the teaching profession for reasons other than retirement to provide the rationale for their decision. Seventy-seven percent (n = 352) of those leaving or thinking of leaving responded to this item, with the most common reasons as "students" (cited by 18.2%, n = 64), "pay" (cited by 12.2%, n = 43), "overall disappointment with the educational system" (cited by 11.9%, n = 42), "school administration" (cited by 7.4%, n = 26), and "disrespect" (cited by 4.8%, n = 17).

Those who cited "students" stated that they had experienced "unmotivated, entitled, apathetic students," "discipline issues with students," and "lack of work ethic on the part of the student body." Respondents who stated that "pay" was the reason for leaving said "teacher pay has been frozen for the last several years," and "I can make more money working less hours and having much less responsibility." One respondent who identified overall "disappointment with the educational system" as the reason for leaving cited, "the current dismantling of public education by state and federal mandates" as the catalyst for his/her decision. Another believed that "education has been ruined by standardized testing, school ranking, and the absolute lack of student accountability," with another stating that "the education system in this country is headed in the wrong direction. We pay too much attention to test scores. We don't spend enough time instilling values and principles." Those who stated that "school administration" is to blame for

their decision to leave cited, “lack of support from administration,” “poor leadership skills of administrators,” “lack of vision by educational leaders,” and, ultimately, a “lack of effective leadership in school administration.” Finally, TTT respondents who are planning to leave the teaching profession listed “disrespect” as the primary reason for their departure. The disrespect is multi-pronged; from the administration: “There is no respect from the administration to the teacher. They treat you like a child;” from the students: “the children are very disrespectful and lack self-control;” and from the parents: “the parents…have become increasingly disrespectful and apathetic.” One respondent summed up most common reasons in one statement: “I will find something where the compensation, workload, and customer respect is better.”

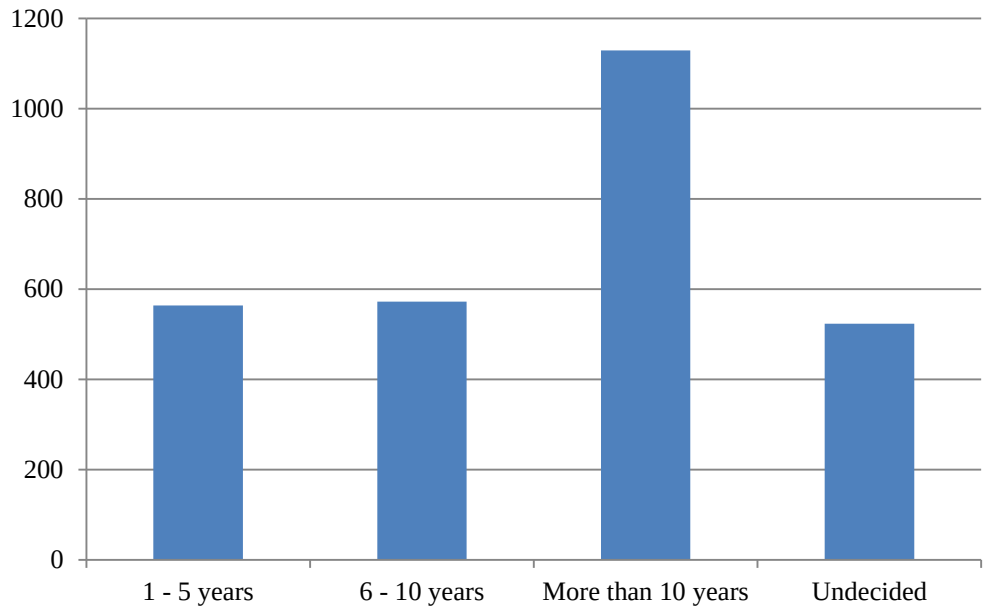

Figure 3. Length of Time TTT Completer Respondents Plan to Remain in Teaching Profession

Table 13. TTT Completers' Intentions to Remain in Education Field

Intention to remain	*n*	Percentage
I'm not interested in leaving the teaching profession	1,483	71.5
I am thinking about leaving the teaching profession	384	18.5
I'm definitely planning on leaving the teaching profession	74	3.6
I have left the teaching profession.	63	3.1

Discussion

The 2012-2013 TTT study updated and expanded the TTT 2005 investigation. The update found continued success with Troops teachers' placement and retention in high-needs schools, teaching high-demand subject areas, continued plans to remain in the teaching profession, and continued use of research-based instructional and classroom management practices affirmed by both teachers and their administrators. In new data, we determined that over half the Troops teachers successfully completed traditional master's degree teacher preparation programs as compared with alternative teacher certification programs, and we identified the curricular characteristics of these programs which Troops teachers' say aided their transition to effective classroom teaching. While in open-ended questions some Troops teachers express lack of preparation to successfully teach diverse students in diverse learning environments, their administrators affirm that they do and previous TTT research (Nunnery, Kaplan, Owings, & Pribish, 2009) affirm that they do.

First, current data show that the TTT program continues to meet its goals for job placement in high-needs schools. In 2012-2013, 73% of TTTs remain in their original high-needs school placements – rather than the 84% who were originally placed in high-needs schools – but 95.5% - to - 98.1% are either working at a school with similar or higher percentages of low-income or minority students, respectively. Yet although 43% of Troops teachers are still

teaching in high-demand fields (mathematics, 14.6%; science, 11.7%; special education, 6.8%; foreign language, 1%; and career/technical education, 8.9%) – and minority TTT completers are doing likewise – this compares with over 81% of Troops teachers in 2005 teaching high-demand subjects. The only high-demand content area with noticeable decline among TTT completers is special education, fallen from 25.6% in 2005 to 6.8% in 2012-2013.

Not only do large numbers of Troop teachers continue to work in low-income, high minority schools, many also plan to remain in the teaching profession. Seventy-four percent of current Troops teachers say they plan to remain in the teaching profession as long as possible or until they retired (as compared with 55.6% in 2005 who said they would "stay as long as possible" and 24.9% who said they would "stay in teaching until retirement").[7] This is an impressive retention rate, since studies have found that half of all urban teachers in the United States exit the profession within their first three to five years,[8] and a 2012 study finds that half of the most effective teachers – those ranking in the top 20% of effectiveness – leave within five years.[9]

In 2012, 19.2% of Troops teachers say they are "thinking of leaving the teaching profession" (as compared with 4% in 2005 who said they would "remain in teaching until a better opportunity arises and 11.7% in 2005 who were "undecided"). And, of those planning to leave the teaching profession, 3.7% in 2012 say they plan to leave (as compared with 1.2% in 2005 who say they plan to leave). Despite the past decade's reduced community respect for teachers and fewer resources directed at public education, the percent of TTTs in 2012 who want

[7] Direct comparisons were not possible on this item because of wording differences between the 2005 and 2012 surveys.

[8] National Center for Education Statistics. (2008). *Schools and staffing survey*. Washington DC: Author. Retrieved from http://nces.ed.gov/surveys/sass/tables/sass0708_011_t12n_02.asp

[9] The New Teacher Project. (2012). *The irreplaceables. Understanding the real retention crisis in America's urban schools.* Brooklyn, NY: Author. Retrieved from http://tntp.org/assets/documents/TNTP_Irreplaceables_2012.pdf

to leave the profession is not much different as compared with 2005. And, the rate of Troops teachers leaving the profession is far fewer than the nearly 50% of new teachers who leave the profession within their first five years (Ingersoll, 2002, 2003). They remain, therefore, a strong cadre of effective teachers, many of whom are minority, working in high-needs schools.

Of the 384 (18.5%) troops teachers who were thinking of leaving the teaching profession for reasons other than retirement, 18.3 percent pointed to "students" (called unmotivated, entitled, apathetic, discipline issues), 12.2 percent identified "pay" ("frozen" salaries, can make more money with fewer hours and less responsibility in another field), 11.9 stated "overall disappointment with the educational system" (state and federal mandates, overemphasis on standardized testing and accountability), 7.4 percent named "school administration" (lack of support, poor leadership skills), and 4.8 percent cited "disrespect"(from administrators, students, and parents) as the reasons for their exits. Since this question reflects the study's expansion in 2012, this question did not appear on the 2005 survey and is not available for comparison

Likewise, TTT teachers continue to be effective in the classroom. In the 2012-2013 study, Troops teachers report that they "Always" or "Usually" use the research-based instructional and classroom management practices at higher levels than they did in 2005. Specifically, they "emphasize the importance of effort with students" (99.4%, as compared to 84.2% in 2005), "recognize students who are making observable progress toward learning goals" (96.8%; 82.5% in 2005), and "ask students questions that help them recall what they might already know about the content prior to presenting new content" (95.8%; 83.7% in 2005). Interestingly, two frequently-used research-based instructional strategies in 2012 did not appear in the top five in 2005. These include, "provide students with specific feedback on the extent to which they are accomplishing learning goals" (95.9%), and "begin my instructional units by

presenting students with learning goals" (94.7%). These are important procedures to help students focus on the class's objectives for the day and may increase students' mastery of content and raise their achievement.

The same is true for classroom management. For classroom management, 98.3% to 99.5% of responders stated that they "Usually" or "Always" implement these research-based practices. From these studies, it appears that large numbers of Troops teachers are completing preparation programs that deeply ground them in information and real-world skills that translate into effective classroom practices.

Principals' ratings of teachers' classroom effectiveness have become more reliable. Over the past decade, studies have identified an empirical relationship between a teacher's measured effect on student achievement and overall subjective administrator ratings (Jacob & Lefgren, 2008a, 2008b; Rockoff & Speroni, 2010; Rockoff, Staiger, Kane & Taylor, 2009). Empirical evidence now supports the conclusion that principals' evaluations of teachers do predict teacher effectiveness (see, for example: Harris & Sass, 2009; Jacob & Lefgren 2008a; Murnane, 1975; Rockoff & Spironi, 2010; Rockoff, Staiger, Kane, & Taylor, 2010, 2011). For these reasons, soliciting administrators' feedback on the Troops teachers' effectiveness is more than a courtesy; it is a meaningful activity.

Administrators continue to be happy with their Troops teachers' performance in the classroom and throughout the school. Over 85% or more of administrators "Agree" or "Strongly agree" that their respective TTT completers implemented these research-based instructional practices (in 2005, between 88% and 92% of administrators "Agreed" or "Strongly agree" that TTTs' use research-based instructional practices), and more than 93% of administrators "Agree" or "Strongly agree" that troops teachers were using these research-based classroom management

practices in their classrooms (as compared with between 86% and 90% in 2005). In addition, 86.2% of administrators "Somewhat" or "Strongly agree" that Troops teachers provide a greater benefit to the school relative to the salary paid, 95.5% said they have a positive impact on student achievement, 93.5% say they work better with other teachers and staff, and 93.6% say they keep parents informed about students' academic progress and behaviors. As compared with teachers with similar years of teaching experience, administrators in 2012-2013 rated the Troops teachers as "about the same" (48.9%), "more effective" (35.2%), or "much more effective" (11.3%). These ratings are similar to those from administrators in the 2005 study.

In an expansion of our prior research, this study also surveyed new areas of TTT effectiveness. We asked TTT program completers to identify the types of teacher preparation and certification programs they attended and to identify several key features of these programs. Most TTT completers took their teacher preparation and certification programs in traditional on-campus programs (42.9 percent) or in distance master's programs (traditional programs delivered on-line) (7.3 percent), or in state specific teacher licensure programs (18.9%) for a total of 69.1 percent completing "traditional" programs. Those completing "alternative" preparation programs were 33.7 percent.[10] Recent research finds, however, that the distinctions between traditional and alternative preparation routes are not always clear and overlap in practices are common (Johnson, Birkeland, & Peske, 2005; Perry, 2011). In fact, researchers are concluding that more variation exists within the "traditional" and "alternative" categories than between them (Grissom & Vandas, 2010; National Research Council, 2010; Sass, 2011). Nonetheless, TTTs were overwhelmingly satisfied with their teacher preparation programs: Over 87 percent rated their

[10] Percentages total more than 100 percent because some participants responded to more than one program category.

certification program's quality in the top two categories, "Superior" or "Good." Only a small percentage (less than 2 percent) gave their program quality a "Poor" rating.

The research also finds that certain teacher preparation programs (TPP) characteristics – a curricula focused more on the work in the classroom, provides opportunities for teachers to study what they will be doing, timing and oversight of student teaching, for example – appear to positively shape teaching effectiveness in English and math (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006, 2008, 2009; Boyd, Grossman, Lankford, Loeb, Michelli, & Wyckoff, 2006; Boyd, Lankford, Loeb, Rockoff, & Wyckoff, 2007). In this vein, most Troops teachers' preparation programs included learning experiences in these field-based areas. Most Troops teachers (54.6%) identified coursework in classroom management and discipline and developing instructional strategies (49.2%) to be the most beneficial to their classroom teaching. Hands-on learning (35.8%), instructional technology (33.4%), student teaching (28.2%), and reading and writing in the content areas (25.3%). also received TTTs' praise as coursework contributing to their classroom effectiveness. Additional factors that troops teachers identified in their preparation program that positively influenced their classroom effectiveness included courses (in educational psychology, curriculum development and implementation, special and alternative education) as well as field-based experiences (including internships with "exceptional" teachers, assignments based on reflection during field-based experiences, classroom observations, gaining insights from practitioners, and receiving mentoring before and during the first year of teaching).

Only 17.9 percent TTTs reported that they completed teacher preparation programs that included student teaching (traditional on-campus master's program with student teaching 13.9

percent, distance-based synchronous master's programs with student teaching, 2.7 percent; and distance-based asynchronous master's program with student teaching, 1.3 percent).[11]

In another expansion to our 2005 survey, we surveyed Troops' teachers' and their administrators' perceptions of their preparation to meet the learning needs of diverse students in diverse learning environments. In the administrators' questionnaire, 43% rated their TTT completers' preparedness as "Superior" and another 49.4% rated it as "Good" in this area. Surprisingly, in the open-ended question section about unexpected issues encountered in their teaching practice, 15.7% of Troops teachers identified issues related to diverse learners or diverse learning environments in which they do not feel as well prepared to teach diverse learners as their administrators believe. Since this question was not included on the TTTs' survey, it is difficult to compare this finding with the administrators' perceptions in this area. Nonetheless, this response from TTTs is surprising, because the 2009 study found TTTs to be highly effective in generating student learning among minority children as compared with their non-Troops colleagues (Nunnery, Kaplan, Owings, and Pribish, 2009). From our current data, it is difficult to know whether the TTTs' perceptions of their preparedness to work with low-income and minority students is based their humility at the task's challenge and their own high expectations for success with all their students, whether it reflects an objective lack of specific cultural diversity knowledge and cultural pedagogy skills (Gay, 2000; Ladson-Billings, 1994; Nieto, 2002/2003), whether it relates to their experienced (or absence of experience with) student teaching, whether their administrators' high ratings reflect a TTT "halo" effect from TTTs' other strengths, some other factor – or some of each. Yet, since such large numbers of Troops teachers

[11] The conflict in student teaching responses (28.3 percent responding that the student teaching component was helpful but only 17.9 percent stating that they had completed a program that included student teaching) is attributable to alternative programs that included student teaching, though the student teaching component was not included in the programs' definitions used in this study.

are working in high-poverty, high-minority schools, helping them select preparation programs that clearly address culturally competent teaching would help TTTs feel – and perhaps, be – more effective in generating learning in diverse classrooms.

Research supports the belief that teaching diverse students effectively involves relationship-building and compatible learning goals (for example, Baler, 1999; Boykin & Noguera, 2011; Hamre & Pianta, 2005; Irvine, 2003; Lipman, 1995). Since teaching effectiveness – teachers' ability to generate at least one year of student learning for each academic year – is becoming the basis for teacher employment and school accountability, those guiding and advising TTTs about selecting teacher preparation programs would do well to point them towards programs that include the factors such as working effectively with diverse students; develop culturally competent pedagogy; having varied, sustained, and supervised field based classroom experiences, mentoring, and other preparation experiences that are likely to help them be more comfortable and successful in diverse classrooms.

Recommendations for Further Study

1. It would be helpful to conduct a new study of the program results after changes have been made to the Troops to Teachers organization.
2. It would be beneficial to assess Troops teachers' effectiveness in generating student learning and achievement should be expanded to multiple states.
3. It would be helpful to take a closer look at Troops' teachers' perceptions of their effectiveness with diverse students in diverse setting with a formal survey rather than elicit responses solely in open-ended questions.

4. It would also help to assess Troops teachers' effectiveness in generating student learning outcomes in all student demographic groups in a new study involving several states.
5. It would be useful to determine reasons for the large drop-off of Troops teachers working with special needs students, from 25.6% in 2005 to 6.8% in 2012-2013 so obstacles to Troops teachers' study and involvement in this area can be overcome.

Conclusions

Findings in this Troops to Teachers completers study affirm TTTs' continued high level of placements in high-needs schools teaching high-demand subjects while using research-based instructional and classroom management strategies. Their supervising administrators confirm their contributions to the school as a whole and their instructional and classroom management effectiveness. In large numbers, TTTs plan to continue teaching until retirement. Over half the Troops teachers complete their teacher preparation in traditional master's degree programs, and their comments about their programs' strengths – a curricular and experiential focus on working effectively with students in classrooms – mirrors the curricular strengths noted in the professional literature.

In the last decade, much has been learned about the varied factors which make teachers effective. These studies suggest that important variations in effectiveness exist in teachers graduating from different preparation programs – some of which may be large. At the same time, these investigators and others have identified more disparity in teacher effectiveness within preparation routes than between them (Boyd, Grossman, Lankford, Loeb & Wyckoff, 2006; Gordon, Kane, & Staiger, 2006; Kane, Rockoff, & Staiger, 2006).

Teaching effectiveness is related to increased student achievement, and we now know some of the specific instructional and classroom behaviors that generate student learning. As a result, Troops teachers have substantially more data to consider when making informed decisions about preparation programs and in securing the types of knowledge and skills they will need to develop during their teacher training if they are to be employed as effective teachers.

Research finds that teacher qualifications – degrees, experience, certifications, and teacher test performance – are meaningful, but they show only modest relationship to student achievement. Certification is important to the extent that it is associated with teachers' instructional practices, content knowledge, and their ability to draw on that knowledge in moment-to-moment classroom interactions. Holding a current teaching license or certification in the content to be taught is a necessary – but not sufficient – condition for effective teaching.

Similarly, knowing that a candidate completed a traditional or alternative preparation program, taken by itself, will not help school district hiring personnel differentiate a potentially effective from an ineffective teacher. The distinctions between traditional and alternative preparation routes are not always clear, and more differences exist within teacher preparation pathways than between them. Rather, research finds that the best teacher preparation programs – traditional and alternative – design their courses and experiences around the goal of teaching teachers how to teach. Depending on the specific program considered, alternative certification programs can be just as effective – if not more effective – than traditional programs in producing teachers who can generate student learning. Hence, teacher candidates who come through high-quality traditional or alternative preparation routes show certain similarities. In the end, effectiveness depends on the particular program and its curriculum as well as on the individual

teacher's characteristics and instructional practices – in addition to the particular employing school and student factors.

Well-designed investigations have determined that teacher preparation can make a measurable difference in student achievement – especially in the first year in the classroom. But with a few years of experience, the differences in teacher effectiveness between certain traditional and alternate preparation programs fade. Also, the more effective teachers – regardless of preparation pathway – tended to remain in teaching while the least effective teachers were more likely to exit, regardless of pathway.

Therefore, for principals wanting to build sustainable learning cultures with a cadre of effective teachers, looking for teaching candidates with the characteristics, behavior qualities, and experiences associated with student learning – rather than depend mainly on traditional "teacher quality" credentials such as degrees, education, and licensure – are more likely to find teachers who will keep students making at least one year's worth of learning gains in a school year and remain in the profession. Teacher candidates who are ready to speak knowledgably and demonstrate ably these identified professional skills related to student learning are best positioned to receive employment offers.

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Appendix A: Teacher Survey Questionnaire

Troops to Teachers National Evaluation Questionnaire 2012-2013

Thank you for taking the time to complete this survey. We want to better understand your professional teaching practices. It is important that you fill the survey out completely, honestly, and accurately in order to provide data that are meaningful and representative of your experience.

SECTION 1

1. What is your status in education?

□ Working in K-12 as a teacher

□ Working in education as a building administrator or as a central office administrator or non-instructional personnel (if 'Yes', proceed to the next and submit)

□ Retired from teaching (if 'Yes', proceed to the next and submit)

□ Unemployed and seeking work (if 'Yes', proceed to the next and submit)

□ None of the above (if 'Yes', proceed to the next and submit)

2. Race/Ethnicity (check all that apply)

□ Black

□ White

□ Hispanic or Latino

□ Asian

□ Native Hawaiian/Pacific Islander

□ American Indian/Alaskan Native

□ Prefer not to disclose

□ Other (please specify)

6. Gender

□ Female

□ Male

7. Including the current year, how many years have you worked in elementary or secondary education?

□ I have never worked in elementary or secondary education

□ 1-5 years

□ 6-10 years

□ 11-15 years

□ More than 15 years

8. This school year, in which grade levels are the students in the classes you currently teach? (check all that apply)

□ Ungraded

□ Prekindergarten

□ Kindergarten

□ 1st grade

□ 2nd grade

□ 3rd grade

□ 4th grade

□ 5th grade

□ 6th grade

□ 7th grade

□ 8th grade

□ 9th grade

□ 10th grade

□ 11th grade

□ 12th grade

9. What school subjects/areas do you currently teach? (check all that apply)

□ English

□ Math

□ Science

□ Social Studies

□ Special Education

□ Language Arts and Reading

□ Physical Education

□ Career/Technology

□ Foreign Language

□ Other (please specify)

10. How long do you plan to remain in education as a classroom teacher?

□ 1-5 years

□ 6-10 years

□ More than 10 years

□ Undecided at this time

11. Did you participate in the 2005 Troops to Teachers Study? (Completed a survey about your preparation to teach effectively and had your supervisor complete a survey about your teaching effectiveness as compared with a teacher with similar years of teaching experience but prepared traditionally)

□ Yes

□ No

□ Not certain

12. Is the school where you are presently employed your original placement?

□ Yes

□ No

13. How many years have you worked at this school?

□ 1-5 years

□ 6-10 years

□ 11-15 years

□ More than 15 years

14. Since coming to work in this school, has your position changed within the school?

□ Yes

□ No

15. How has your position changed? (check all that apply)

□ Different grade level

□ Different subject

□ Other**(specify)**

16. When you began teaching after entering the profession with Troops to Teachers funding, did you first work in a high-poverty, high-minority school?

□ Yes

□ No

17. If you began teaching at a high-poverty, high-minority school (with Troops to Teachers funding) have you left this school for a new school?

□ Yes

□ No

18. If you have changed schools, is the proportion of minority students higher or lower in your new school?

□ Higher

□ Lower

□ Same

□ Not sure

19. If you have changed schools, is the proportion of students eligible for free and reduced-price lunch higher or lower in your new school?

□ Higher

□ Lower

□ Same

□ Not sure

SECTION 2

Classroom Practice

20. In my professional practice as a teacher, I …	**Never**	**Sometimes**	**Usually**	**Always**
1. begin my instructional units by presenting students with clear learning goals.	☐	☐	☐	☐
2. provide students with specific feedback on the extent to which they are accomplishing learning goals.	☐	☐	☐	☐
3. ask students to keep track of their own performance on learning goals.	☐	☐	☐	☐
4. recognize students who are making observable progress toward learning goals.	☐	☐	☐	☐
5. emphasize the importance of effort with students.	☐	☐	☐	☐
6. organize students into groups based on their understanding of the content when appropriate.	☐	☐	☐	☐
7. organize students into cooperative groups when appropriate.	☐	☐	☐	☐
8. provide specific feedback on the homework assigned to students.	☐	☐	☐	☐
9. end my units by providing students with clear feedback on the learning goals.	☐	☐	☐	☐
10. end my units by asking students to assess themselves relative to the learning goals.	☐	☐	☐	☐
11. end my units by recognizing and celebrating progress on the learning goals.	☐	☐	☐	☐

12. ask students questions that help them recall what they might already know about the content prior to presenting new content.	☐	☐	☐	☐
13. provide students with direct links with Previous knowledge or studies prior to presenting new content.	☐	☐	☐	☐
14. provide ways for students to organize or think about the content(e.g., use advance organizers) prior to presenting new content.	☐	☐	☐	☐
15. ask students to construct verbal or written summaries of new content.	☐	☐	☐	☐
16. ask students to take notes on new content.	☐	☐	☐	☐
17. ask students to represent new content in nonlinguistic ways (e.g., mental image, picture, pictograph, graphic organizer, physical model, enactment).	☐	☐	☐	☐
18. assign in-class and homework tasks that require students to practice important skills and procedures.	☐	☐	☐	☐
19. prescribe in-class and homework assignments that require students to compare and classify content.	☐	☐	☐	☐
20. prescribe in-class and homework assignments that require students to construct metaphors and analogies.	☐	☐	☐	☐
21. prescribe in-class activities and homework assignments that require students to generate and test hypotheses regarding content.	☐	☐	☐	☐

Section 2

Classroom Management

21. In my professional practice as a teacher, I …	**Never**	**Sometimes**	**Usually**	**Always**
1. have comprehensive and well-articulated rules and procedures for general classroom behavior, beginning and ending the period or day,transitions and interruptions, use of materials andequipment, group work, and seatwork.	☐	☐	☐	☐
2. use specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior.	☐	☐	☐	☐
3. use specific techniques to keep aware of problems or potential problems in classrooms.	☐	☐	☐	☐
4. respond to inappropriate behaviors quickly and assertively.	☐	☐	☐	☐

22. In the space provided below please describe how your experience in the military may have prepared you for your career in teaching.

23. What unexpected experiences have you encountered in your teaching practices?

Appendix B: Administrator Survey Questionnaire

Troops to Teachers National Evaluation
School Administrator Questionnaire 2012-2013

One of your teachers has agreed to participate in a study of Troops to Teachers. You are being requested to provide information about that individual's teaching practices so we might obtain important information that will be used to evaluate and improve the Troops to Teachers program. Thank you for taking the time to complete this survey.

SECTION 1

School Demographics

1. What is your role in the school?

□ Principal

□ Assistant Principal

□ Other (please specify)

2. Approximately what percentage of students in your school are eligible for free or reduced-price lunch?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More that 90%

3. How would you classify the community setting of your school?

□ Inner city, urban

□ Suburb of a major metropolitan area

□ Medium sized city (50,000 to 100,000)

□ Small city (25,000 to 49,000)

□ Small town (under 25,000)

□ Rural

4. What is the approximate total enrollment of your school?

□ Less than 400

□ 401-800

□ 801-1,200

□ 1,201-1,600

□ More than 1,600

5. Approximately what percentage of students in your school are African American?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More than 90%

6. Approximately what percentage of students in your school are Asian/Pacific Islander?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More than 90%

7. Approximately what percentage of students in your school are Caucasian?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More than 90%

8. Approximately what percentage of students in your school are Latino?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More than 90%

9. Approximately what percentage of students in your school are Native American?

□ 0 to 10%

□ 11% to 25%

□ 26% to 50%

□ 51% to 75%

□ 76% to 90%

□ More than 90%

SECTION 2

As one who observes and evaluates the TTT Subject of this study, I find that he/she exhibits these behaviors to a greater degree than other, traditionally-prepared teachers with similar years of experience.

10. In instruction, the teacher…	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1.begins instructional units by presenting students with clear learning goals.	☐	☐	☐	☐
2. provides students with specific feedback on the extent to which they are accomplishing the learning goals.	☐	☐	☐	☐
3. asks students to keep track of their own performance on the learning goals.	☐	☐	☐	☐
4. recognizes students who are making observable progress toward learning goals.	☐	☐	☐	☐
5. emphasizes the importance of effort with students.	☐	☐	☐	☐
6. organizes students into groups based on their understanding of the content when appropriate.	☐	☐	☐	☐
7. organizes students into cooperative groups when appropriate.	☐	☐	☐	☐
8. provides specific feedback on the homework assigned to students.	☐	☐	☐	☐
9. ends units by providing students with clear feedback on the learning goals.	☐	☐	☐	☐
10. ends their units by recognizing and celebrating progress on the learning goals.	☐	☐	☐	☐

–

11. prior to presenting new content, asks students questions that help them recall what they might already know about the content by providing direct links with previous knowledge or studies.	☐	☐	☐	☐
12. asks students to construct verbal or written summaries of new content and to take notes.	☐	☐	☐	☐
13. asks students to represent new content in nonlinguistic ways (e.g., mental image, picture, pictograph, graphic organizer, physical model, enactment).	☐	☐	☐	☐
14. assigns in-class and homework tasks that require students to practice important skills and procedures.	☐	☐	☐	☐

11. In classroom management, the teacher…	**Strongly Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**
1. has comprehensive and well-articulated rules and procedures for general classroom behavior, beginning and ending the period or day, transitions and interruptions, use of materials and equipment, group work, and seatwork.	☐	☐	☐	☐
2. uses specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior.	☐	☐	☐	☐
3. uses specific techniques to keep aware of problems or potential problems in their classrooms.	☐	☐	☐	☐
4. responds to inappropriate behaviors quickly and assertively.	☐	☐	☐	☐
5. uses specific techniques to maintain a healthy andemotional objectivity when dealing with student misbehavior.	☐	☐	☐	☐
6. independently handles student discipline problems	☐	☐	☐	☐

12. Other

This teacher…	**Strongly Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Strongly Agree**
1. is better prepared to teach than other colleagues with similar years of teaching experience.	☐	☐	☐	☐
2. provides a greater benefit to the school system relative to the salary paid.	☐	☐	☐	☐
3. deals with parents and community members more effectively.	☐	☐	☐	☐
4. needs fewer professional development activities for me to consider him/her a competent professional.	☐	☐	☐	☐
5. properly processes requisitions for purchases.	☐	☐	☐	☐
6. serves capably as an extracurricular or activity sponsor.	☐	☐	☐	☐
7. follows school regulations, policies, and procedures.	☐	☐	☐	☐
8. has a positive impact on student achievement.	☐	☐	☐	☐
8. keeps parents informed about students' academic and behavioral progress.	☐	☐	☐	☐
10. works well with other teachers and staff.	☐	☐	☐	☐
11. After working with this Troops to Teachers teacher I would seek out other TTT applicants to teach in my school.	☐	☐	☐	☐

Appendix C: Follow-Up Teacher Questionnaire

Troops to Teachers National Follow-Up Evaluation Questionnaire 2012-2013

Thank you for taking the time to complete this survey. We want to better understand your professional preparation as a teacher.

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1. Did you receive any funds from TTT as a stipend to start teaching?

□Yes

□ No

□ Not certain

2. Please identify the teacher preparation program you went through to enter the teaching field (select the best answer):

□ Traditional on-campus master's program with student teaching

□ Traditional on-campus master's program without student teaching

□ Distance-based synchronous master's program with student teaching

□ Distance-based synchronous master's program without student teaching

□ Distance-based asynchronous master's program with student teaching

□ Distance-based asynchronous master's program without student teaching

□ Traditional on-campus coursework for certification, not leading to a master's degree

□ Career switchers (workshops, one-year probationary teaching)

□ Any state-specific teacher licensure program:

- under 6 months

- more than 6 months to under one year

- more than one year

□ State Teaching Fellows program

□ Other (please specify)

3. How would you describe the quality of the licensure program you attended to enter the teaching field?

□ Poor □ Fair □Good □Superior □Undecided

Please specify or explain your choice:

4. What features/courses of your teacher preparation program were the most beneficial in preparing you for classroom teaching? (Please select all that applies)

□ Reading and writing in content areas

□ Instructional technology

□ Developing instructional strategies

□ Classroom management and discipline

□ School and community life

□ Hands-on learning

□ Student teaching

□ Other (please specify)

5. Which of the following statements best describes your current feelings about staying in education:

□ I am not interested in leaving the teaching profession.

□ I am thinking about leaving the teaching profession.

□ I am definitely planning to leave the teaching profession within the next 12 months.

□ I have left the teaching profession.

Please explain your choice:

6. If you are leaving or thinking about leaving for reasons other than retirement, what are those reasons?

7. If there were one feature you could change about your TTT program, what would it be?

Troops to Teachers National Follow-Up Evaluation

School Administrator Questionnaire 2012-2013

Thank you for taking the time to complete this survey. We want to better understand the professional preparation of the Troops teacher serving at your school. We appreciate your thoughts about your Troops teacher's preparation experiences. It is important that you will fill the survey out completely, honestly, and accurately in order to get data that are meaningful and representative of your experience.

---

1. How would you rate your TTT teacher's instructional effectiveness as compared to a "traditional" teacher with similar years of teaching experience?

□ Much more effective

□ More effective

□ About the same

□ Less effective

□ Much less effective

□ Other (please specify)

2. How would you describe the Troops To Teachers individual's preparedness to teach in a diverse learning environment?

□ Poor

□ Fair

□ Good

□ Superior

□ Undecided

□ Other (please specify)

3. How often does your school's TTT teacher implement research-based instructional practices that are appropriate for the content area and age/grade level they are teaching?

□ Never □ Sometimes □ Usually □ Always

Please specify or explain your choice:

4. Have you had other TTT individual(s) who left your school?

□Yes

□ No

5. If 'Yes', do you know why they have left?

□ Left for another school

□ Left the profession

□ Left to become a school administrator

□ Other

6. What statement(s) would you like to make about your experience working with a TTT teacher?

Appendix D: Responses to Open-Ended Questions

Unexpected experiences

Analyses of open-ended questions about respondents' unexpected experience in teaching revealed several themes: lack of parental support; family and emotional issues; students' apathy; and issues with classroom management and discipline. Selected answers show the areas of concern:

- "The unexpected experiences I have encountered mostly revolve around the unwillingness of parents to do the important things necessary to allow their children to benefit from a good education."

Troops to Teachers Open Ended Questions

Themes

1. Unexpected Experiences **a. Lack of Parental Support**	"It continually amazes me that so many parents don't seem to care, or be engaged in their child's education." "Lack of parental involvement. Apathy from parents with regard to their child's education and expecting the teacher to parent the child during and after school." "I've always known that some parents are better than others, but it always surprises me when a parent doesn't consider the long term future of their child when they make poor academic decisions." "The biggest surprise for me in teaching was that we have many parents who are not parenting their children and show little interest in them and their studies." "The only thing I feel I am always trying to find more answers to is to how to get more parent involvement and ownership in their child's education."
b. Family and Emotional Issues	"None other than these children need a lot of help. They come from broken homes and families, this makes the job tough so new teachers need to be aware." "I did not expect the negative and severity of problems my students face in their homes. I have students whose families are broken, homeless, or deal with mental illness." "I have learned that school is a safe haven for many children and that it may be the most attention they get during the day as well as a stable environment." "I was unprepared for the impact that broken homes and families have had on our nation's young people." "Finding such a high number of my students are from extremely broken or dysfunctional homes and truly look to me for daily guidance and support."

c. Students' Apathy	"The general apathy that parents and students have towards bettering themselves though education was surprising to me." "Dealing with student apathy is the toughest of all. Students come to class tired, worn out from staying up late and yet they feel school is time to rest or just have fun." "I get frustrated with apathetic students. I change around the way I present material to them to try to spark their imaginations and generate interest, but some kids are just blank slates it seems." "I was surprised by the number of students that have given up on themselves or feel that society has given up on them and that they have no hope of success." "I was unprepared to deal with the amount of apathy thatstudents and parents have about attending and passing school and I was unaware that I would be held responsible for their apathy or non-completion."
d. Issues with Classroom Management and Discipline	"The most unexpected experience I have encountered is the amount of disruptive kids you have to deal with on a daily basis." "The lack of discipline with students and parents. Rules are not being enforced at home and when students arrive at school the lack of self-discipline effects the school environment." "Personally, I wasn't prepared for the attitudes and the amount and behavior problems I encountered." "During my first year of teaching I was surprised by the defiance and disrespect that some middle school students had towards teachers and administrators." "I had to recalibrate my classroom management in order to deal with the children that did not care about school, did not respect you or their fellow students and had no discipline in their life."

2. Teachers' Perception of the Quality of T3 Program	"The college I went through was exceptional in preparing me for my license in my state." "It was a great program, because it was military friendly and considered all my experience in the military." "Many of our instructors were still in the field in administrative positions and provided real world experience through instruction. The program provided us and opportunity to build on online portfolio, field work in every class, assignments based on reflection during those experiences and internship with exceptional teachers. We learned the value of collaborative and cooperative teaching. The administrators of the program were available to walk us through the challenges and provide insight into the profession." "The program thoroughly prepared us for both the content licensure exam and as well as for the classroom. Classroom observations were required. The program assigned an on campus mentor as well as had program instructors observe and mentor us for the first year of teaching."
	"The teacher education program was good because it allowed me to acquire the skills and training to enter the career field of education. It failed to be a superior program because although it was introduced as a program for initial certification, the life experience and prior training did not seem to be highly valued in the classroom or in group discussions." "Limited field experience but very detailed class instruction and assistance from instructors." "Distance learning is expedient, however, I believe actual classroom participation is more beneficial. In addition, the program was too "theory based" vice reality based or hands on activities."

	"The program helps us prepare for teaching but not understanding of student problems and issues. Also, lack of good classroom management classes." "I don't think the program really prepared me to do the job of teaching. I got more of the philosophy of pedagogy and history when what I really needed (I figured this out after I started teaching) was lessons on how to actually do the job. Classroom management, lesson planning and administrative stuff are what they need to teach in college." "Much of the required coursework appeared to be just fill with no specific practical use in a classroom. Some of the coursework didn't even match the title/objectives of the requirement such as classroom management."
	"The Teacher Ready Program at the University of… did not prepare me for teaching. The course gave me an understanding of what to do; however, it was not a program designed to really train as a teacher. The result of that is me being bounced from one school to the next and no longer able to teach in … County due to its so called teacher mentoring program." "Not their fault, but any teaching cert program should include classroom experience, early and often. Reading about the classroom is one thing, experiencing it is something very different." "Too much focus on academic theory and not enough practical advice."

3. Helpful T3 Program Features identified by T3 participants	"Educational Psychology. The mere introduction of educational psychology as a concept is something that stays in the back my mind. Depending on the climate and culture of the public school that you work in today, a new teacher may have received some classroom preparation in all of the areas above but once the teacher actually becomes part of the school setting it seems like none of the above can prepare you for the social emotional problems that students are dealing with. This is where the use of psychology becomes a tool to motivate students."
	"I was teaching full time as I took classes. What I learned in the university classes I was able to apply immediately." "Curriculum preparation, developing camaraderie with other local teachers in training."
	"Teaching students with disabilities."
	"I specialized in Alternative Educational methods that included the NSF-supported Science approach based on exploration/formalized (read Graduate School-level approach) experimentation and the Metropolitan Museum "Big Picture" programs. These are more holistic and based on student-driven learning and less geared to the "drill and spill" necessary to ensure students "top" the State standardized testing that is largely driven by specific textbook content. I know when I prepped the students using "old test questions" they uniformly did better than students I taught with the new methods who actually were stronger thinkers and better "scientists"."