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Supervisor Perceptions of the Quality of *Troops to Teachers* Program Completers and Program Completer Perceptions of Their Preparation to Teach: A National Survey

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A National Survey

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Virginia Office of Troops to Teachers

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Executive Summary

During winter/spring, 2005, 2,103 *Troops to Teachers* (T3) program completers and their school administrators from 49 states and the District of Columbia were surveyed to determine whether T3s were more effective in the classroom than traditionally prepared teachers who had comparable years of teaching experience. Respondents also returned information about their schools' demographics, views about their teacher certification preparation program, and information about themselves, their teaching behaviors, and future plans. Sixty-one percent of the respondents returned completed surveys.

Specifically, T3s rated the extent to which they believed their Troops to Teachers preparation programs equipped them to use 21 research-based instructional practices associated with increased student achievement and 4 effective classroom management strategies. Likewise, their school administrators rated the extent to which the T3s exhibited these instructional and classroom management practices in comparison to other teachers prepared through traditional training programs and had similar years of experience. In addition, school administrators answered whether the T3s provided better benefit to the school system relative to the average annual salary paid as compared with non-T3s with similar years of teaching experience. Respondents also answered an open-ended question about how their military experiences prepared them to become teachers.

A summary of the findings includes the following:

> ➤ Principals overwhelmingly (over 90%) reported that Troops to Teachers are
> more effective in classroom instruction and classroom management/student

discipline than are traditionally prepared teachers with similar years of teaching experience.

➢ Principals stated (89.5%) that T3s have a positive impact on student achievement to a greater degree than do traditionally prepared teachers with similar years of teaching experience.

➢ T3s strongly agreed or agreed that their preparation program equipped them to use research-based instructional practices associated with increased student achievement and effective classroom management behaviors.

➢ School administrators overwhelmingly "strongly agreed" or "agreed" that Troops to Teachers exhibited research-based instructional behaviors to a greater degree than traditionally prepared teachers with comparable years of teaching experience.

➢ T3s teach in high poverty schools, teach high-demand subjects (special education, math, science), plan to remain in teaching as a career, and increase the teaching pool's diversity.

➢ T3s write in open-ended questions how their military experiences prepared them to be successful classroom teachers and school leaders in terms of organization and time management, personal and student discipline, working with diverse populations, and leadership and motivational skills.

Introduction

Since the early 1980's, alternative certification programs (ACPs) have become a major source of new teachers. Begun in New Jersey, Texas, and California as a way to mitigate projected teacher shortages and end the disturbing increase of emergency certificates, forty-seven states and the District of Columbia now implement approximately 538 alternative route programs that produced approximately 35,000 newly certified teachers in 2004 (Feistritzer, 2005a). The National Center for Education Information estimates that more than 250,000 persons have been licensed through alternative routes to teacher certification programs, with most of the growth occurring within the last decade. More than half (54%) of those entering teaching from a professional occupation through alternative routes indicated that they would *not* have become teachers if an alternative certification route had not been available (p. 20). "Now the movement has become a respectable, prime source for recruiting highly qualified individuals who wouldn't have entered teaching otherwise."[1]

Moreover, nearly all the individuals who completed an alternative route to teacher certification program are teaching the following year, compared with only 40 percent of the 200,000 graduates who took the traditional route, received a bachelor's degree, and were identified as qualified to teach (Feistritzer, 2005a).

In addition, alternative certification programs have drawn increasing amounts of policy and political interest as a promising way to recruit more highly qualified teachers into the classroom. *The Secretary's Third Annual Report on Teacher Quality*, noted, "…as a nation, we must hold true to two key principles: the need to continue to raise academic

standards for teachers, while, at the same time working to lower barriers that are keeping many talented people out of the teaching profession." [2]

Although many alternatively certified teachers are entering America's K-12 classrooms, including Troops to Teachers, research does not yet clearly affirm that students are gaining as much or more from these teaching professionals as from traditionally prepared teachers. This study attempts to assess the teacher quality or instructional effectiveness of T3s compared with traditionally trained teachers with similar years of teaching experience.

Alternative Certification Programs

Alternative certification programs (ACP) are generally defined as pathways to a teaching certificate that fall outside the full-time, four or five year traditional teacher preparation programs. While the ACPs' components vary widely from state to state and region to region, they typically involve some period of intensive, condensed academic course work or training, a period of supervised, on-the-job training in which new teachers are expected to learn their teaching skills in the classroom. New teachers are expected to eventually pass certification tests and become fully licensed teachers.

Most ACPs are geared towards mid-career switchers who already have a bachelor's degree, who are employed as teachers while they complete the program, and who earn a regular teaching certificate or license when they complete the program. Alternative certification programs allow these individuals to receive fast-track minimum pre-service

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[1] Feistritzer, C.E. (2005b). "Overview. Profile of Alternative Route Teachers." p. 2. Retrieved June, 2005 and available on-line at: http://www.ncei.com/part.html.

training, on-going professional development coursework and mentoring during the initial years of employment. The candidates are normally eligible for a regular teaching license after a 2-3 year probationary period. Alternative certification programs range in duration, intensity, and effectiveness. Quality ACPs have tightly supervised internships, extensive mentoring by expert teachers, and corresponding coursework in teaching and assessment strategies as well as in child and adolescent psychology. Prospective teachers who have the content knowledge now learn how to organize it and make it accessible to students, many who learn in different ways.

No two alternative certification programs are identical. ACPs can be national, state, regional, or local. National programs, such as Troops to Teachers, provides the funding for preparing a particular type of candidate for teaching, such as retiring military professionals. Another national program, Teach for America, recruits recent high achieving college graduates. State programs typically focus on addressing statewide shortages as well as creating a diverse candidate pool. District-run programs usually focus on specific shortages, often in urban areas. Furthermore, only individual states can certify or license individuals to teach. To date, no national teacher certification exists.

Tell (2001), Berry (2001), Darling-Hammond (2001) and Legler (2002) find that common themes emerge in effective ACPs:

1. High standards and proper screening of candidates for entry into the ACPs.

2. Sufficient time, usually from nine to 15 months of professional learning experiences before entering the classroom as an independent teacher.

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[2] Levin, D., Honeggar, S., and Duncan, T.G. (2004 July). "The Secretary's Third Annual Report on Teacher Quality," Washington, D.C.: U.S. Department of Education. Office of Postsecondary Education 2004, p. 3. Retrieved July 2004 and available on-line at: http://www.edpubs.org.

3. Solid academic instruction in pedagogy, subject matter, classroom management, and child development – preferably before the teacher candidate begins to teach.

4. Intensive field experience with internships or student teaching under an expert teacher's direct daily supervision.

5. An organized and comprehensive support system from experienced, trained mentors once the candidate begins working in a school.

6. Ongoing training, professional development, and reflection once the candidate assumes control of a classroom.

7. Continuous monitoring, evaluation, and feedback of individual and group performance to allow for adjustment and improvement in teaching and program management.

8. The expectation that new teachers gain full state teacher certification within a specified time.

Troops to Teachers Role in Alternative Licensing Programs

The Department of Defense established the Troops-to-Teachers Program in 1994 to help improve public school education by providing funds to recruit, prepare, and support former members of the military services as teachers in high-poverty schools.[3] Since then, more than 7500 retired military personnel have entered the teaching profession through this program.

Recognizing and expanding this successful work, Congress passed the Troops-to-Teachers Program Act in 1999 (Title XVII of the National Defense Authorization Act for

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[3] "Troops to Teachers Program." "Purpose" U.S. Department of Education, Retrieved June 2004 from: http://www.ed.gov/programs/troops/indix.html

Fiscal Year 2000) to assist eligible members of the Armed Forces to obtain certification or

licensing as elementary or secondary school teachers, vocational or technical teachers, to

become highly qualified teachers, and to facilitate their employment as teachers.[4] Eligible

candidates include military retirees, members of the active duty armed forces with an

approved retirement date within one year of applying to the Program or honorably

discharged service members with six or more years of service and willing to obligate in the

Selected Reserves for three years.

Elementary and secondary teaching applicants are required to have a baccalaureate

or advanced degree from an accredited institution of higher education. 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 elementary or secondary schools receive selection priorities.[5]

Similarly, the Troop-to-Teachers Program Act funds innovative teacher certification

programs that incorporate alternative approaches to achieve teacher certification. The

Program seeks inventive methods for gaining field-based teaching experiences, recognizing

military experiences and training as related to certification or licensing requirements, and

conducting coursework via distance education methods on or near a military base.

In Section 2307, Reporting Requirements, the Act requires that Congress receive a

report on the Program's effectiveness in the recruitment and retention of qualified

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[4] "Troops-to-Teachers Program." 2004. "Part C – Innovation for Teacher Quality, Transitions to Teaching." U.S. Department of Education, Retrieved June 2004 from http:www.ed.gov/policy/elsec/leg/esea02/pg27.html

[5] Moreover, candidates agreeing to become highly qualified teachers and accept full-time employment as an elementary or secondary teacher or vocational or technical teacher for not less than three school years in a high-need school (at least 50 percent of enrolled students came from low-income families and had a large percentage of students with disabilities) become eligible to receive a $10,000 bonus.

personnel by local educational agencies and public charter schools no later than March 31, 2006.

Study Focus

After the significant interest and financial investment in Troops-to-Teachers, and as the number of individuals participating in the T3 Program increases, it is important to determine whether these individuals are receiving the professional education essential to positively impact student achievement. Moreover, it is time to gain solid evidence that T3s are as effective, if not more effective, than traditionally trained educators with comparable years of teaching experience. With ESEA reauthorization approaching, Congress seeks clear evidence that Troops-To-Teachers Program deserves continued support.

Specifically, this study addresses several questions:

1) Are T3s as effective in instructional and classroom management practices as traditionally prepared teachers with the same years of teaching experience in public schools?

2) To what extent do T3 participants' believe their certification program prepared them to use research-based instructional practices associated with increased student achievement?

3) To what extent do school administrators believe their T3s exhibit instructional behaviors associated with increased student achievement to a greater degree that traditionally prepared teachers with similar years of experience?

In short, given the money invested in preparing T3s to enter America's classrooms, do these participants deliver the "most bang for the buck"?

Additionally, it is important to identify the routes that T3s have taken to earn teacher certification. Most T3 participants used alternative certification programs that vary from state to state. Gaining evidence that this ACP is producing quality teachers could help support Troops to Teachers programs as valuable avenues to increase the number of highly qualified teachers in the public schools.

National Profile of Alternatively Certified Teachers

Understanding the demographic and perceptual profile of alternatively certified teachers provides an essential context for understanding their teaching effectiveness. First, alternatively certified teachers, in general, tend to represent a broader range of ages, genders, and racial/ethnic backgrounds – more like today's student demographics – than traditionally trained teachers. Feistritzer's 2005 national survey of almost 2,700 alternatively certified teachers found they reflected a higher percentage of males (37% compared with 25% males of the current U.S. teaching force) and nonwhite (32% compared with 11% of the current U.S. teaching force) and nearly 80% holding a bachelor's degree or higher in a field other than education, contributing to the teacher workforce diversity (Feistritzer, 2005a, p. 9).[6] This compares with Troops to Teachers' profile of 80% male and 40% minority (Curris, 2003). The Feistritzer survey also finds that alternatively certified teachers are teaching subjects in greatest demand (mathematics, special education, sciences) with 20% of alternative route teachers – compared to 6% of all public school teachers – teaching math (p. 13).

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[6] Feistritzer's 2005 findings include completed surveys from 419 Troops to Teachers, a 55.9% return rate and representing 9% of the overall sample. See page 15, 57. Eighty-eight percent of Troops to Teachers say they would recommend an alternative route to teacher certification to others (p. 55).

Without a doubt, teaching effectiveness is the critical issue in teacher quality. Many studies attest to the positive effect of specific instructional practices on students' learning and measured achievement (Guyton and Farokhi, 1987; Monk and King, 1994; Munro, 1999; Weglinsky, 2000; Marzano, Pickering, and Pollock, 2001; Marzano, 2003;). Most alternatively certified teachers in Feistritzer's study (39%), however, did *not* take education courses in order to get their teaching certificate. Forty-three percent of those who indicated that they did not take college education courses say, nevertheless, that they did take off-campus courses in instructional methodology or pedagogy; 71% indicated that they took school-based courses/seminars in education; and 21% that they had completed online education courses (Feistritzer, 2005a, p. 41). Interestingly, individuals who indicated that they did not take college education courses report reported competent to teach in every area questioned at a higher rate than those who took college education courses during their ACP. Of the 61% who reported that they took education methods courses, only 40% reported them very valuable in developing teaching competence (p. 49).

Unfortunately, research tells us that many alternatively certified teachers cannot handle the job. Studies find that teacher recruits with bachelors' degrees and who have completed short-term alternative certification programs but have not completed full certification requirements tend to have difficulties with curriculum development, teaching methods, classroom management, student motivation, organizing and sequencing lessons, responding to students' learning needs, and encouraging higher level thinking (Berry, 2001; Feiman-Nemser and Parker, 1990). Jelmberg's (1996) study found that principals surveyed rated traditionally prepared teachers higher in teaching effectiveness than alternatively certified teachers, even after three years of teaching experience.

Understandably, many alternatively certified teachers question their competence to teach. After completing their ACP, 80% of Feistritzer's respondents now (as compared with 39% when they started their program) feel "very competent" in their ability to teach subject matter, 66% able to motivate students, 66% able to enforce classroom discipline, and 70% able to organize instruction (Feistritzer, 2005a, p. 37).

Likewise, one in five (19%) of Feistritzer's respondents strongly disagree and 30% somewhat disagree that students' academic progress as measured by standardized test scores is a good measure to use in determining whether or not a teacher is qualified to teach (p. 51). Only 10% strongly agree that students' measured achievement is a good measure of a teacher's teaching qualifications (p. 51). Similarly, only 5% of ACPs use increases in student achievement as a criteria for granting teaching certification (p. 70).

In addition, teacher retention is an important educational issue, since more than 50% of new teachers tend to leave the profession within the first five years, and teacher turnover creates a "revolving door" that negatively impacts student achievement (Ingersoll, 2002). Most alternatively certified teachers plan to remain in education. Sixty-two percent of Feistritzer's respondents say they plan to remain in K-12 teaching in five years while 17% indicated that they plan to be employed in an education occupation other than teaching in five years (p. 31). Sixteen percent of the T3s in Feistritzer's study plan to be employed in an education career other than teaching, such as administration (p. 32). Longitudinal studies have not yet confirmed whether this intention to remain in education has become a reality.

Research on Teacher Quality and Student Achievement

Student achievement reflects the cumulative effects of a wide range of factors including family, peers, community, teachers, school inputs, and the student ability. Typically, researchers look for causal relationships between teacher characteristics (such as education levels, content knowledge, instructional practices, experience, certification status) and measured student achievement on standardized tests. Likewise, Kaplan and Owings (2003a) further clarified the difference between teacher quality (the content knowledge, credentials, and skills that teachers bring to the classroom) and teaching quality (what strategies and techniques teachers use with what they know once they get inside the classroom) as essential contributors to student learning.

Today, teacher quality has a different meaning than was understood previously. Mitchell and colleagues (2001) write that past teacher quality definitions emphasized teachers' virtue, stressing their importance as role models, demonstrating high standards of personal behavior, and transmitting worthy cultural and educational values. While these characteristics remain important, most current definitions of teacher competence come from the National Board for Professional Teacher Standards (NBPTS), the Interstate New Teachers Assessment Support Consortium (INTASC), and the National Council for Accreditation of Teacher Education (NCATE), organizations that formally assess teacher knowledge and competence. These contemporary understandings of teacher quality consider teaching in light of student learning, i.e., as measured by indicators of student achievement. Today's teachers lack quality unless their students are learning and achievement is verified through assessments. Teacher quality standards are extremely complex and "illustrate the wide range of knowledge, skills, abilities, and dispositions that

contemporary educators believe competent teachers must possess and demonstrate in the classroom" (Mitchell, Robinson, Plake, and Knowles, 2001, p. 31).

A growing body of research continues to affirm that classroom teacher quality is the most important school factor in predicting student achievement outcomes (Goldhaber, 2002; Goldhaber, et.al. 1999; Kaplan and Owings, 2003b; Wright, Horn, and Sanders, 1997). High quality teachers' impact on student learning can be considerable. Value-added assessment studies in Tennessee show that the achievement differences between students in classes taught by high quality as compared with low-quality teachers for three consecutive years show gains of approximately 50 percentile points on standardized tests (Sanders and Rivers, 1996). Such studies determine students' average annual rates of improvement as measured by test scores and estimate how much value a teacher has contributed to that student achievement, factoring in the gains that the student was expected to make based on past performance. Texas and Massachusetts' studies show similar achievement gains from students working with high quality teachers (Archer, 2002; Haycock and Huang, 2001).

Furthermore, Texas economists have gathered added evidence that emphasizes the measurable influence that teachers have on student achievement (Hanushek, Kain, and Rivkin, 1998). Hanushek (1992) finds that, all other things equal, a student served by a very high quality teacher will achieve a learning gain of 1.5 grade level equivalents while a student with a low-quality teacher will achieve a gain of only 0.5 grade level equivalents. In essence, the teacher's quality can make the difference of a full year's learning growth. Similarly, the Rivkin et.al. (2001) estimates of teacher performance suggest that having five consecutive years of good teachers (one standard deviation above the average) could

overcome the average 7th grade mathematics achievement gap between lower income students (those on free or reduced price lunch) and those from higher income families. High quality teachers can partially compensate for the home and educational deficits apparent in the preparation of disadvantaged students.

While researchers tend to agree that teacher quality is an important factor influencing student outcomes, little consensus exists regarding the relationship between specific teacher credentials (such as experience, degree level, certification status) and characteristics (such as age, race, ethnicity) and teacher effectiveness.[7] Unfortunately, we still lack evidence of specific teacher characteristics that systematically and with certainty affect student achievement.

Evidence, however, does exist concerning particular teacher characteristics and student achievement. Teachers' own academic achievement and verbal skills are consistently related to student achievement. Teachers' performance on measures of their own academic proficiency (higher college entrance scores, better general academic skills, better content knowledge, higher licensing exam scores) find strong correlations with student outcomes (Darling-Hammond, 2000; Darling-Hammond,Berry, and Thoreson, 2001; Ferguson, 1998; Ferguson and Ladd, 1996; Goldhaber, 2002; Greenwald et.al. 1996; Whitehurst, 2003) . Darling-Hammond (2000) writes that teachers' verbal ability has been found positively related to student achievement and may be a more sensitive measure of teachers' abilities to convey ideas in clear and convincing ways.

Although teacher achievement test scores have been more frequently correlated with student outcomes than any other explicit teacher attribute, this is a small portion of the

overall variation in teacher effectiveness (Hanushek and Rivkin, 2003). While a teacher's own academic achievement can positively affect student learning, however, beyond a certain point, the amount of a teacher's education has no significant impact on student achievement. Hanushek and Rivkin (2003) report that a master's degree has no systematic relationship to teacher quality as measured by student outcomes.

Nevertheless, deep-content knowledge is another teacher attribute that positively affects student achievement (Monk, 1994). He found a positive relationship between the number of subject-related courses in a teacher's background and later performance of these teachers' students within the identified subject area. This appears to be especially true for math and science teachers. Additionally, Monk and King (1994) examined the revealed interactions and found that "low-pretest students' performance gains in mathematics were more sensitive to the mean level of their previous teachers' preparation than were the high-pretest students" (p. 56). This suggests that lower achieving students likely profit more from teachers well-prepared in their subject matter than do higher achieving students.

Likewise, a review of research by the Education Commission of the States finds moderate support for the importance of teachers having strong content knowledge in their subject areas. The review notes, however, that the research is not detailed enough to clarify how much subject matter is crucial for teaching specific course levels and grades (Allen 2003). The same review also finds less support for the importance of pedagogical coursework or field experiences for teachers, although subject-specific courses (focused, for example, on how to teach math or science) and courses designed to develop classroom management skills, student assessment, or curriculum development may contribute to

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[7] For example, Hanushek (1986, 1997) and Goldhaber and Brewer (2000) suggest there is little relationship between teacher credentials and student outcomes while Darling-Hammond (2000, Darling-Hammond, et.al.

effective teaching.   Less clear, however, is how such knowledge and skills are best acquired – through coursework, field experience, on the job, or a combination of all (Allen 2003).

Alternately, Hanushek and Rivkin (2003) note that while research finds that teacher experience has a more positive relationship with student achievement, few studies find statistically significant results. They speculate about whether experienced teachers cause increased student achievement, whether higher student achievement causes teachers to become more experienced, whether more experienced teachers are typically assigned to teach higher achieving students, or whether the two factors are merely correlated, since it is known that experienced teachers frequently have more options to teach in schools and courses of their choice (and tend to take advantage of this by moving to higher achieving schools and teaching higher status courses to well-prepared, high achieving students). Moreover, Rivkin, Hanushek, and Kain (2001) have found that the experience effects are concentrated in the first few years of teaching, with teachers in their first two years performing significantly worse in the classroom. Studies have shown that the benefits of experience on student achievement level off after the first five years.

While states' aim to increase teacher quality by setting certification requirements, the literature on teacher certification and student achievement is mixed and controversial. Darling-Hammond's (2000) data from a 50-state survey find that teacher preparation and certification are the strongest correlates of students' math and reading achievement and reasserts this claim to certification challengers with more recent data (Darling-Hammond, 2002). Goldhaber and Brewer (2000) find that teachers with subject-matter certification in mathematics perform better than other teachers, while teachers with emergency

2001) and others assert a clear positive relationship.

certification perform no worse than teachers with standard certification. Darling-Hammond, Berry, and Thoreson (2001) disagree. Others reviewing the research find that certification in math may result in more effective teaching and learning (Wayne and Youngs, 2003).

After reviewing studies linking teaching training and/or licensing to student achievement, Podgursky (2003) further asserts that little research on teacher testing or licensing meets the standard for scientific evaluation of randomized experimental study design or non-experimental longitudinal data on participants. The research that does meet the standard, he adds, is tentative and inconclusive. The overall weight of the teacher certification evidence suggests that existing credentialing systems do not distinguish very well between effective and ineffective teachers.

Even as researchers and policy makers disagree about whether teacher certification status, degree held, and experience are strongly correlated to student learning gains, all agree that teacher quality unmistakably matters. Its relationship to observed teacher credentials, however, remains contested.

Research on Alternatively Certified Teachers and Student Achievement

At present, no research definitively answers the question of how well students achieve with alternatively certified as compared with traditionally certified teachers. Overall, the research to this point has been unable to clearly substantiate these programs' effectiveness. Several studies have found positive or mixed results, but a significant portion of the research on ACPs have drawn negative conclusions (North Central Regional Educational Laboratory, 2004). In addition, few published studies meet the standards of

scientific rigor that would permit drawing conclusions about the effects of ACPs on student achievement (Podgursky, 2004).

Methodology problems that make it difficult to draw unambiguous conclusions from these ACP studies include using a variety of research procedures, outcome variables, and operational definitions. Confounding ACP research, writes Legler (2002), is the inappropriate comparisons of ACP teachers to non-equivalent groups from different regions or states. Since each state determines its own teacher certification criteria, state-to-state comparisons are analogous to comparing the proverbial "apples to oranges." Likewise, comparing ACP teachers' qualifications to traditionally prepared teachers is misleading since ACP teachers' higher GPAs may reflect higher screening standards and high numbers of applicants to job openings. Further, comparing ACP teachers to traditionally trained teachers is inappropriate because teachers used for comparisons most likely graduated from education schools before the more recent shift towards an emphasis on standards and student learning outcomes. Moreover, some studies employ weak or unsystematic approaches to assessing teacher performance. Other studies have relied on district or state data to assess classroom teaching and have a measured student, not teacher, performance and have aggregated test score data which have proven unsuitable for the assessment of individual teacher behavior. All in all, these factors make drawing meaningful conclusions from these studies problematic.

However, while noting the relevant limitations, reviewing ACP studies can inform current understanding and practice. In one of the first studies of alternatively certified teachers, Goebel (1986) found that Houston principals and administrators surveyed perceived that alternatively trained teaching interns were equal to traditionally certified first

year teachers and student achievement scores were similar for both groups. In another Texas study, Brown, Edington, Spencer, and Tinafero (1989) found that while the GPA of alternatively certified teachers was highest, the classroom performance of traditionally prepared, alternatively certified, and emergency permitted teachers was similar.

Likewise, Natriello and Zumwalt (1992) collected data over several years in their New Jersey study and found that the ACPs were able to maintain the same level of teacher quality at entry into teaching as traditional programs, with ACP candidates having lower GPAs from more selective colleges and scoring higher on the National Teacher Examination tests than traditionally prepared candidates. Unfortunately, these researchers also found that while ACPs contributed to staffing urban schools, many of these teachers left those schools, and their placement and hiring ended similar to those of traditionally prepared counterparts.

In another study examining the assumption that alternatively certified (AC) teachers can learn "on the job," McDiarmid and Wilson (1991) surveyed ACP and traditionally prepared teachers during their first few years of teaching. Investigators found that the AC math teachers may learn some concepts while teaching math; other essential teaching concepts are not easily learned through teaching. In fact, researchers found that the elementary school AC teachers' limited knowledge of math did not increase substantially by teaching it.

Similarly, Jelmberg (1996) analyzed survey data from 136 recently certified teachers and their principals' corresponding rating of their performance. While he found no difference between ACP and traditionally educated teachers in terms of their academic

credentials, he did find that even after three years of teaching experience, the traditionally prepared teachers' overall performance ratings were higher than those for AC teachers.

Attempting to avoid methodology weaknesses, Miller, McKenna and McKenna (1998) designed a series of qualitative and quantitative studies using multiple sources to examine ACP effectiveness. Data included observations of teaching behaviors, student test scores, and teacher perceptions to determine whether differences existed between ACP and traditionally educated teachers. Their results found that after three years of experience and mentoring, the two groups were basically the same. Authors suggested that the intensive three year mentoring and support were central to AC teacher effectiveness.

Despite occasionally positive and often mixed reviews from the field and research, alternative certification receives much criticism. Darling-Hammond (2000, 2002) and Darling-Hammond, Berry, and Thoreson (2001) have strongly supported traditionally prepared teachers that includes rigorous undergraduate academic coursework, highly structured and supervised internships, full licensure before a teacher candidate can be assigned as "teacher of record" to a classroom, and on-going professional development. Similarly, Darling-Hammond, Wise, and Kline (1999) broadly reviewed the teacher preparation literature and cited substantial research linking preparation in education and subject matter with student ratings, effectiveness of instruction in math and science, ratings of instructional effectiveness at the elementary level, and students' reading achievement. These authors also reviewed several studies that found that alternatively certified teachers had problems with curriculum development, pedagogical knowledge, classroom management, and attention to learning styles.

Finally, Allen's (2003) literature review finds limited support for the conclusion that there are ACPs producing teacher cohorts as effective as traditionally trained teachers although they may experience more difficulties that traditionally trained teachers at the start of their teaching assignment.

In summary, the divergent findings on AC teachers' effectiveness compared with traditionally prepared teachers shows limited support that the classroom performance and student outcomes of AC teachers can be similar to that of traditionally certified teachers in some programs. Since alternative certification is a political as well as an educational issue, it is wise to learn from the research about the characteristics of successful and unsuccessful AC teachers and ACPs so alternative certification programs can be as effective as possible.

Teach For America Studies on Alternative Certification and Student Achievement

One well-known alternative certification program, Teach for America (TFA), has been a focus of study. TFA recruits college seniors and graduates with strong academic backgrounds who are not planning on teaching careers, trains them in an intensive five week summer institute, and places them in schools that are generally disadvantaged and face substantial teaching shortages. Raymond et.al. (2001) and Laczko-Kerr and Berliner (2002) attempted to assess Teach for America's impact on student achievement using nonexperimental methods on samples drawn from single regions and generated mixed findings regarding TFA teachers' effectiveness.

Decker et.al.'s (2004) national study[8] on Teach for America's effects on student achievement compared student outcomes in grades one through five on math and reading

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[8] The final study sample included 17 schools, 100 classrooms, and nearly 2000 students in Baltimore, Chicago, Los Angeles, Houston, New Orleans, and the Mississippi Delta during the 2002-2003 school year.

tests in randomly assigned classes among TFA teachers and control teachers.[9] Researchers

controlled for teaching experience, with control novice teachers, all in their first three years

of teaching. Results showed TFA teachers had a modest positive but statistically

significant impact on their students' math achievement, a growth rate worth roughly one

additional month of math instruction. TFA teachers had no impact on average reading

achievement. These impacts were similar across different student subgroups and across

locations. Ironically more TFA teachers were actually certified than the novice control

teachers (51% to 38%). Moreover, 40% of the TFA teachers had earned a master's degree,

mostly in education, by the end of their second year teaching. This may account for their

greater impact on student achievement as compared with 1st year TFA teachers, who did

not perform as well. Again, research presents mixed findings for alternatively certified

teachers.

In policy terms, Berry (2004) argues that TFA as an alternative certification

program to fill hard-to-staff urban schools is little more than a "stop-gap measure" in

addressing urban education issues.   Most TFA teachers leave their classrooms long before

they learn to be truly effective, leaving former students facing a revolving door of under-

prepared teachers who cannot help them reach high academic standards. Urban students

need to succeed at the level required by today's society "rather than rely on strategies that

only help them tread water until they drown in the sea of poor teaching they experience"

(Berry, 2004, p.2).

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[9] Control teachers included traditionally certified, alternately certified, and uncertified teachers – any teacher who was not a TFA.

The Current Study

This study considered previously mentioned studies and their methodologies before conceptualizing the design and developing the instrument to measure teacher quality. It was decided to use Marzano's behaviors listed in *What Works in Schools: Translating Research Into Action* (2003).

Methodology

Defining the problem. This study compares Troops to Teachers' classroom effectiveness to that of traditionally prepared teachers with the same number of years teaching experience as perceived by the T3s and their principals through use of an author-designed survey instrument.

The study has two dependent variables that affect student achievement.

1.   Troops to Teachers' classroom practices that impact student achievement as compared with traditionally prepared teachers with the same years of teaching experience.

2.   School administrators' view of the cost effectiveness of preparing Troops to Teachers in comparison with traditionally trained teachers with the same years of teaching experience.

Limitations of The Study. The grant supporting this study specifically focused on examining the T3s' self-perceptions and observed teaching behaviors associated with increased student achievement. Although the end product of teacher quality is measurable

student learning, investigators did not study actual student achievement scores at this time for several reasons. These include the difficulty obtaining valid, reliable, and comparable student test scores; the variance of testing instruments used throughout the country; and the grant's time frame.   Moreover, a grant supporting such a study would require considerable funding to employ the staffing and time required to perform the value-added examination of student achievement data necessary to determine the students' learning gains attributable to the teachers' instructional impact.

Constructing the Instrument.   The principal investigator received permission from and worked with Robert J. Marzano (Marzano, 2003; Marzano, Pickering, and Pollock, 2001) to use items from his *What Works in Schools: Translating Research Into Action* (2003) in this study's survey instrument to determine whether the Troops to Teachers were using research-based best instructional practices.   Marzano and associates had researched best instructional practices and determined the empirical effect size of different instructional practices on student achievement and published the findings.

The survey format asked the T3 teachers to answer questions about their teaching and classroom management practices. Answers to questions about teaching practices ranged from Strongly Agree to Strongly Disagree on a five-point Likert-type scale. Finally, T3 respondents also provided a free-response to the question, "In the space provided below please describe how your experience in the military may have prepared you for your new career in teaching." School administrator respondents completed demographic information and answered questions about the T3's observed teaching practices as compared with other teachers, again using the five-point scale.

Originally, the survey's first draft included all of Marzano's items. Initial field-testing during fall, 2004 with five locally selected Virginia principals and five teachers, however, determined that the original survey was too long for respondents to thoughtfully complete and obtain a satisfactory response rate. Accordingly, the principal investigator and Marzano reduced the number of questions while maintaining the survey's validity and reliability. The revised survey was again submitted to field-testing. After a series of item revisions and subsequent four separate field tests, the principals and teachers agreed the resulting survey was a comfortable length for busy professional educators to complete and return. Likewise, Marzano confirmed that the remaining items retained the essence of his research findings on instructional practices that positively affect student achievement.

The final T3 survey had 21 instructional practices questions and 4 classroom management questions. The final principals' survey had 19 instructional practices questions and 11 classroom management questions.

Participants. During the winter and spring, 2005, researchers mailed surveys to all T3 program participants identified in the national database. Letters included an Informed Consent Statement, T3 survey, a principal survey, and a stamped, self-addressed envelope to facilitate returning completed forms. Researchers sent three separate mailings to T3 individuals. In addition, researchers also followed up non-respondents with 2 emails, using web-based surveys.

Participants included 875 supervisors of T3s and 1,282 T3 teachers. This study surveyed a total of 2,103 T3 program completers, and 1,282 returned Program Completer Questionnaire (Teacher Survey) instruments, yielding a 61% overall response rate. T3 teachers from 49 states and the District of Columbia provided responses. Of those who

returned a Teacher Survey, 69% (n = 883) also had their supervisor return a completed

School Administrator Questionnaire (Administrator Survey).

A comparison of respondents' gender and ethnicity demographics versus non-respondents indicated no systematic differences between the respondent sample and the non-respondent sample (see Table 1). On gender, respondents were 82.0% male and 18.0% female versus 85.2% male and 14.8% female for non-respondents. Differences in sample composition within ethnic categories were even smaller, generally less than 1%. Of the participating supervisors, 54% (n=471) were principals, 39% (n=338) were assistant principals, and 7% (n=66) were department chairs, instructional supervisors, or program directors.

Measures. A Troops to Teachers Program Completer Questionnaire (Teacher Survey) and a School Administrator Questionnaire (Administrator Survey) were constructed. The Teacher Survey solicited the following information from teachers: (a) current occupational status; (b) reasons for leaving teaching if pertinent; (c) description of current teaching assignment if pertinent; (d) future plans regarding teaching; (e) degree to which the certification program attended prepared the respondent to implement 21 research-based instructional strategies that have been associated with increased student achievement; and (f) degree to which the certification program attended prepared the respondent to manage the classroom.

	Respondent Percentage	Non-Respondent Percentage	Total Percentage	Total n
Gender				
Female	18.0	14.8	16.7	351
Male	82.0	85.2	83.3	1,752
Ethnicity				
Native American	0.8	1.8	1.2	25
Asian/Pacific Islander	1.0	1.2	1.0	22
Black, Non-Hispanic	25.7	27.6	26.4	556
Hispanic	7.8	7.5	7.7	162
Other	2.9	3.0	2.9	62
Unknown	1.6	1.3	1.5	31
White, Non-Hispanic	60.3	57.6	59.2	1245

The Teacher Survey included an open-ended item that asked the respondent to describe how his or her military experience provided preparation for a career in teaching.

The Administrator Survey solicited the following from T3s' supervisors: (a) role of the supervisor in the school; (b) school demographic information; (c) whether T3s exhibit 14 research-based instructional behaviors to a greater degree than other teachers with similar years of teaching experience; (d) whether T3s use 5 research-based classroom management and student discipline practices to a greater degree than other teachers with

similar years of teaching experience; (e) general assessment of T3 teacher quality on 12

dimensions of teaching relative to other teachers with similar years of experience; and (f)

whether the administrator would seek to hire other T3 applicants based on their experience

with the respondent.

All closed-ended item responses were on a 5-point Likert-type scale: 1 = "Strongly

Disagree (SD)," 2 = "Disagree (D)," 3 = "Neutral (N)," 4 = "Agree (A)," and 5 = "Strongly

Agree (SA)." Two scales were created from the Teacher Survey: Instructional Practices-

Teacher Survey (21 items), which measures the overall level of preparation respondents

reported to implement instructional practices that have been linked to increased student

achievement, and Discipline and Classroom Management-Teacher Survey (4 items), which

measures respondent perceptions of their preparation to effectively manage student

behavior. The internal consistency reliability estimates of each scale were $\alpha = 0.98$ and

$\alpha = 0.95$, respectively.

Three scales were created from the Administrator Survey: Instructional Practices

(14 items), which measures supervisors' perceptions of whether the T3 teacher exhibits

research-based instructional behaviors to a greater degree than other teachers with similar

years of teaching experience; Discipline and Classroom Management (5 items) which

measures supervisors' perceptions of whether the T3 teacher uses effective classroom

management and student discipline practices to a greater degree than other teachers with

similar years of teaching experience; and Overall Teacher Quality (12 items), which

provides the supervisor's general assessment of T3 teacher quality relative to other teachers

with similar years of experience. Cronbach's alpha internal consistency reliability

estimates for the Administrator Survey scales were $\alpha = 0.95$, $\alpha = 0.93$, and $\alpha = 0.93$, respectively.

Analyses. Response frequencies were computed for all items. Means and standard deviations were computed for all items on the Instructional Practices and Classroom Management scales on both the Teacher and Administrator Surveys, as well as for items on the Overall Teacher Quality-Administrator Survey scale. To identify states with above-average and below-average mean ratings, the 5 scale scores were factor analyzed, and regression-based factor scores were generated. Principal components extraction and direct oblimin rotation were used. Factor scores have a mean score of 0 with a standard deviation of 1 across the entire sample. The means of the factor scores on retained factors were computed for each state with 15 or more responses. For each factor, states with mean factor scores less than –0.199 were labeled "below average," those with factor scores between –0.199 and +0.199 were labeled "average," and those with factor scores higher than +0.199 were labeled "above average." Thus, states whose aggregate rating scores were one-fifth or more of a standard deviation from the mean aggregate rating were considered "below" or "above" average. Thus, states whose aggregate rating scores were one-fifth or more of a standard deviation from the mean aggregate rating were considered "below" or "above" average. A mean factor score more than one-fifth of a standard deviation from the average is generally interpreted as a small but non-trivial difference (Cohen, 1988).

Results

Program Completer Questionnaire

Current occupational status. About 95% of respondents were currently working in elementary or secondary education. Of those employed as teachers, 92.4% (1102 of 1192) were employed full-time, 6.9% were employed half time or more, and 0.6% were employed less than half time. About 3% (n=40) had returned to active duty in the military, and about 5% (n=59) had become school administrators.

Reasons for leaving teaching. A total of 51 respondents (3.8%) indicated that they were not currently teaching. Of these 51 respondents, 25% (n = 12; 0.9% of the total) had sought but could not obtain a teaching position, 25% (n = 12) had pursued a better career opportunity outside education, 18% (n = 9) had returned to active duty, 14% (n = 7) did not find teaching to be a satisfying career option, 12% (n = 6) elected to pursue more education, and 6% were providing care for a family member. Respondents whose main occupation was not in education (n = 82) were more likely to say that their current position offered a better salary, better opportunities for advancement, better benefits, and a more manageable workload than teaching (see Table 2). However, they found that teaching offered more opportunities for learning from colleagues and that the professional caliber of their teaching colleagues was higher (see Table 2). Those currently not teaching found that teaching and their current occupation were similar with respect to recognition and support from administrators, control over their own work, and prestige (see Table 2).

Table 2

How Respondents Whose Main Current Occupation is Outside Education Rate Their Current Positions Relative to Teaching

How would you rate teaching relative to your current MAIN occupation in terms of each of the following aspects?	Better in teaching	Better in current position	No difference
Salary	32.9	39.0	28.0
Opportunities for advancement	24.7	44.4	30.9
Opportunities for learning from colleagues	45.2	23.8	31.0
Recognition and support from administrators	35.4	34.1	30.5
Control over your own work	39.0	37.8	23.2
Prestige	34.1	36.6	29.3
Benefits	28.8	43.8	27.5
Manageability of workload	30.8	42.3	26.9
Professional caliber of colleagues	39.0	28.0	32.9

n = 82. Note: Number of cases is greater than total number who indicated they were not currently teaching because it includes those who are teaching part-time or as substitutes who also have other jobs.

Current teaching assignment. The main subject areas taught by T3s were special education (25.6%), Mathematics and Computer Science (15.6%), Social Sciences (12.4%), Elementary Education (11.7%), and Natural Sciences (11.6%; see Table 3). Smaller proportions taught either vocational/technical education (7.7%) or English/Language Arts (5.1%). Two-thirds (67%) of those who were teaching Elementary Education were males. Less than 3% taught Arts and Music (1.2%), English as a Second Language (1.3%), Foreign Languages (1.2%), or Military Science/ROTC (2.6%). About 15% (n = 321) indicated that they had a major additional assignment at the school in which they taught.

Table 3

Percentage of Respondents Teaching by Subject Area

Subject Area	n	Percentage
Elementary Education	111	11.7%
Special Education	242	25.6%
Arts and Music	11	1.2%
English and Language Arts	48	5.1%
English as a Second Language	12	1.3%
Foreign Languages	11	1.2%
Health Education	11	1.2%
Mathematics and Computer Science	147	15.6%
Natural Sciences	110	11.6%
Social Sciences	117	12.4%
Vocational/Technical Education	73	7.7%
Military Science/ROTC	25	2.6%
Other	27	2.9%

Total valid n = 945.

Of these, about 40% indicated they were athletic coaches, 15% indicated they were administrators, 5% indicated they were counselors, and 41% indicated "other professional staff."

   Future plans regarding teaching. For those who reported teaching as their primary current occupation, 55.6% (n=675) indicated they would remain in teaching as long as they were able, and 24.9% (n = 319) indicated they would remain until eligible for retirement.

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Only 1.2% (n = 14) indicated that they "definitely planned to leave education", and 11.7% (n = 150) were undecided. About 4% (n=55) said they would probably continue unless they had a better career opportunity. For those whose primary occupation was something other than teaching, 62.7% (n=52) said they were "very likely," 20.5% (n=17) said they were "somewhat likely," and 16.9% (n = 14) said they were "not likely" to seek a teaching position within the next three years.

Level of preparation to use research-based instructional practices. The majority of respondents indicated that they "agreed" or "strongly agreed" that their teacher preparation program prepared them well to implement every research-based instructional practice assessed by the Teachers Survey. Nevertheless, there was substantial variation across the specific items. The strongest areas of preparation included: "emphasizing the importance of effort with students" (M=4.19, % agree = 84.2%), "asking students questions that help them recall content" (M=4.10, % agree = 83.7%), "providing students with direct links to previous knowledge" (M = 4.09, % agree = 82.4%), "recognizing students who are making observable progress toward learning goals" (M=4.08, % agree = 82.5%), and "assigning tasks that require students to compare and classify content" (M = 4.07, % agree = 80.2%; see Table 4). Areas of relative weakness included "asking students to keep track of their own performance" (M=3.58, % agree = 56.4%), "prescribing assignments that require students to construct metaphors and analogies" (M=3.60, % agree = 57.0%), "prescribing assignments that require students to generate and test hypotheses" (M = 3.64, % agree =60.5%), and "ending units by asking students to assess themselves relative to the learning goals" (M = 3.64, % agree = 60.2%; see Table 4).

Table 4

Program Completer Response Frequency Percentages: Research-based Instructional Practice Items

The Troops to teachers program I completed prepared me well to…	SD	D	N	A	SA	Mean	SD	n
begin my instructional units by presenting students with clear learning goals.	3.7	3.1	12.7	47.4	33.1	4.03	0.96	1211
provide students with specific feedback on the extent to which they are accomplishing learning goals.	3.2	3.5	12.6	49.7	31.1	4.02	0.93	1216
ask students to keep track of their own performance on learning goals.	3.8	9.0	30.9	38.4	18.0	3.58	1.00	1215
recognize students who are making observable progress toward learning goals.	3.5	3.0	11.0	47.3	35.2	4.08	0.95	1222
emphasize the importance of effort with students.	3.7	2.1	10.0	39.9	44.3	4.19	0.96	1221
organize students into groups based on their understanding of the content when appropriate.	3.6	5.9	19.8	44.7	26.0	3.84	1.00	1223
organize students into cooperative groups when appropriate.	3.6	3.7	14.8	46.4	31.5	3.99	0.97	1226
provide specific feedback on the homework assigned to students.	3.3	3.7	20.2	42.2	30.6	3.93	0.98	1224
end my units by providing students with clear feedback on the learning goals.	3.4	3.3	16.0	46.6	30.7	3.98	0.95	1222
end my units by asking students to assess themselves relative to the learning goals.	3.3	8.1	28.4	41.8	18.4	3.64	0.98	1227
end my units by recognizing and celebrating progress on the learning goals.	3.6	4.8	21.3	44.8	25.4	3.84	0.95	1222
prior to presenting new content, ask students questions that help them recall what they might already know about the content.	3.3	2.4	10.6	48.4	35.3	4.10	0.92	1224
prior to presenting new content, provide students with direct links with previous knowledge or studies.	3.2	2.7	11.7	46.7	35.7	4.09	0.93	1228
prior to presenting new content, provide ways for students to organize or think about the content (e.g., use advance organizers).	3.1	4.0	18.2	46.3	28.3	3.93	0.95	1224
ask students to construct verbal or written summaries of new content.	3.5	5.8	27.3	41.5	21.8	3.72	0.98	1223
ask students to take notes on new content.	3.1	5.4	19.6	41.3	30.6	3.91	1.00	1220
ask students to represent new content in nonlinguistic ways (e.g., graphic organizers)	3.4	5.4	20.1	42.0	29.2	3.88	1.00	1220
assign tasks that require students to practice important skills and procedures.	3.3	3.4	12.7	44.2	36.4	4.07	0.96	1225
prescribe assignments that require students to compare and classify content.	3.4	4.2	17.2	44.6	30.6	3.95	0.98	1218
prescribe assignments that require students to construct metaphors and analogies.	3.6	8.2	31.3	38.8	18.2	3.60	1.00	1223
prescribe assignments that require students to generate and test hypotheses regarding content.	3.9	8.0	27.6	40.9	19.6	3.64	1.00	1220

Level of preparation to effectively manage the classroom. Respondents generally believed themselves to be very well prepared to effectively manage the classroom and discipline students. Item means ranged from 4.10 to 4.25, and nearly 80% or more of respondents agreed with each item (see Table 5). The vast majority (85.5%) believed themselves well prepared to have comprehensive and well-articulated rules for behavior, respond to inappropriate behaviors quickly and assertively (81.5%), use specific strategies to reinforce appropriate behavior and provide consequences for inappropriate behavior (81.3%), and use specific techniques to keep aware of problems or potential problems in the classroom (79.3%).

Table 5

Program Completer Response Frequency Percentages:
Classroom Management and Student Discipline Items

The Troops to teachers program I completed prepared me well to…	SD	D	N	A	SA	Mean	SD	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.	3.5	2.9	8.8	35.0	49.8	4.25	0.98	1230
use specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior.	3.4	3.5	11.8	34.4	46.9	4.18	1.00	1230
use specific techniques to keep aware of problems or potential problems in classrooms.	3.8	3.8	13.1	37.1	42.2	4.10	1.02	1225
respond to inappropriate behaviors quickly and assertively.	3.8	3.8	11.0	32.2	49.3	4.20	1.03	1222

School Administrator Questionnaire

School demographics. The majority of T3s taught in high-poverty schools: about one-fifth (20.7%) taught in schools in which 51 to 75% of students were eligible for free or reduced-price lunch, and about one-third (33.2%) taught in schools in which more than

75% of students were eligible for free or reduced-price lunch (see Table 6). Less than half

(43.4%) taught in majority White schools (see Table 6). Most T3s taught in either

suburban schools (28.6%) or schools located in medium-sized cities (20.0%; see Figure 1).

Over one quarter (27.5%) taught either in small towns (12.1%) or rural schools (15.4%),

while 14.3% taught in small cities (under 50,000 population) and 9.6% taught in inner-city

schools.

Table 6

Pupil Demographics of Schools Employing T3 Teachers

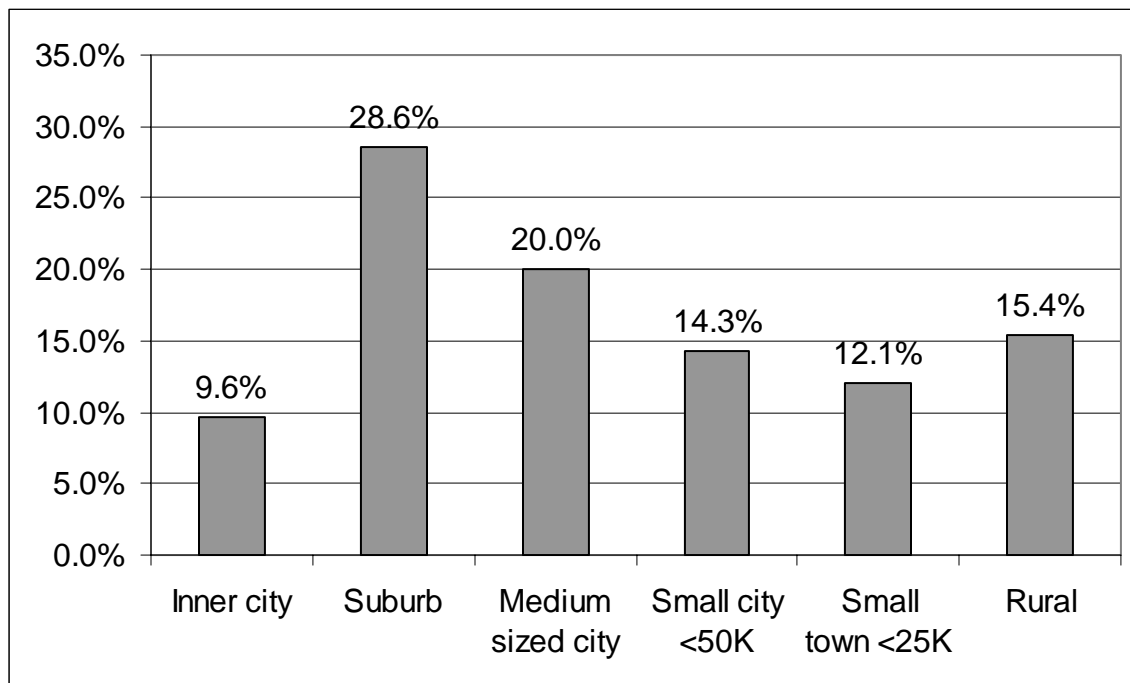| Approximately what percentage of students in your school are…	0 to 10%	11 to 25%	26 to 50%	51 to 75%	76 to 90%	91+%
Free or reduced-price lunch eligible	28.1	6.3	11.8	20.7	19.7	13.5
African-American	11.8	38.4	17.7	18.7	7.3	5.9
Asian/Pacific Islander	3.3	91.4	4.9	0.2	0.1	0.0
Caucasian	20.0	22.3	14.3	22.0	12.9	8.5
Latino	9.5	49.7	16.7	13.8	5.8	4.5
Native American	3.7	91.7	2.6	0.6	0.1	1.3

Figure 1. Percentage of T3 Candidates by School Locale

Instructional practices. Supervising administrators overwhelmingly indicated that T3s performed better in all instructional areas than traditionally prepared teachers with comparable teaching experience. Item means ranged between 3.96 to 4.52 (see Table 7). The strongest performance areas were "emphasizing the importance of effort with students" (M =4.52; % agree = 93.3%), "recognizing students who are making observable progress toward learning goals" (M = 4.35, % agree =90.4%), "assigns tasks that require students to practice important skills and procedures" (M = 4.32, % agree = 89.7%), "asking questions that provide students with direct links to previous knowledge" (M = 4.27, % agree =88.3%), and "providing students with direct feedback on the extent to which they are accomplishing learning goals" (M = 4.26, % agree = 89.1%). Areas of relative weakness

included "asking students to keep track of their own performance on learning goals"

(M=3.96, % agree = 74.6%), "asking students to represent new content in nonlinguistic

ways" (M = 4.03, % agree = 77.7%), and "asking students to construct verbal or written

summaries of new content" (M=4.03, % agree = 78.2%; see Table 7).

Table 7

School Administrator Response Frequency Percentages:
Research-based Instructional Practice Items

This T3 teacher exhibits the following behavior to a greater degree than other teachers with similar years of experience:	SD	D	N	A	SA	Mean	SD	n
begins their instructional units by presenting students with clear learning goals.	2.0	5.4	7.0	43.3	42.3	4.19	0.92	876
provides students with specific feedback on the extent to which they are accomplishing the learning goals.	1.7	3.3	5.9	45.0	44.1	4.26	0.85	876
asks students to keep track of their own performance on the learning goals	2.1	4.6	18.8	45.0	29.6	3.96	0.92	876
recognizes students who are making observable progress toward the learning goals.	1.6	2.0	6.0	40.7	49.7	4.35	0.81	876
emphasizes the importance of effort with students.	1.2	1.4	4.1	31.2	62.1	4.52	0.74	876
organizes students into groups based on their understanding of the content when appropriate.	1.5	4.1	13.6	44.4	36.4	4.10	0.89	876
organizes students into cooperative groups when appropriate.	1.5	2.4	10.9	44.6	40.5	4.20	0.84	876
provides specific feedback on the homework assigned to students.	1.6	2.2	11.9	44.9	39.5	4.18	0.85	876
ends units by providing students with clear feedback on the learning goals.	1.7	2.4	10.1	45.2	40.5	4.20	0.85	876
ends their units by recognizing and celebrating progress on the learning goals.	2.1	2.9	15.1	41.5	38.4	4.11	0.91	876
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.	1.7	1.7	8.2	44.5	43.8	4.27	0.82	876
asks students to construct verbal or written summaries of new content and to take notes.	2.1	2.5	17.3	47.1	31.1	4.03	0.88	876
asks students to represent new content in nonlinguistic ways (e.g., mental image, picture, pictograph, graphic organizer, physical model, enactment).	2.1	4.0	16.2	44.1	33.6	4.03	0.92	876
assigns in-class and homework tasks that require students to practice important skills and procedures.	1.7	1.6	7.0	41.9	47.8	4.32	0.81	876

Classroom management and student discipline. Supervising administrators rated T3s as extremely effective relative to teachers with comparable experience on all five classroom management and student discipline items. Item means ranged from 4.29 to 4.43 (see Table 8). The overwhelming majority of administrators agreed or strongly agreed that T3s were more effective in terms of having comprehensive and well-articulated rules for behavior (90.2%), responding to inappropriate behaviors quickly and assertively (90.1%), using specific strategies to reinforce appropriate behavior and provide consequences for inappropriate behavior (88.3%), using specific techniques to keep aware of problems or potential problems in the classroom (86.2%), and maintaining a healthy emotional objectivity when dealing with student misbehavior (87.8%).

General assessment of T3 teacher quality. As with Instructional Practices and Classroom Management, supervising administrators rated T3s very high relative to other teachers in terms of overall teaching effectiveness. The strongest areas for T3 teachers were: follows school regulations, policies, and procedures (M = 4.50, % agree = 91.1%), has a positive impact on student achievement (M = 4.44, 89.5%), works well with other teachers and staff (M=4.44, % agree = 88.8%), and independently handles student discipline problems (M=4.35, % agree = 88.0%; see Table 9). Compared to other items, administrators were somewhat less likely to agree that T3s "need fewer professional development activities" (M = 3.77, % agree = 61.9%) than their colleagues with similar years of teaching experience.

Table 8

School Administrator Response Frequency Percentages:
Classroom Management and Student Discipline

This T3 teacher exhibits the following behavior to a greater degree than other teachers with similar years of experience:	SD	D	N	A	SA	Mean	SD	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.	2.0	2.4	5.4	30.5	59.7	4.43	0.86	875
uses specific disciplinary strategies that reinforce appropriate behavior and provide consequences for inappropriate behavior.	1.7	3.6	6.4	33.3	55.0	4.36	0.89	875
uses specific techniques to keep aware of problems or potential problems in their classrooms.	1.8	3.5	8.5	36.4	49.8	4.29	0.90	875
responds to inappropriate behaviors quickly and assertively.	2.0	2.6	5.3	31.4	58.7	4.42	0.87	875
uses specific techniques to maintain a healthy and emotional objectivity when dealing with student misbehavior.	2.4	2.8	7.0	35.4	52.4	4.33	0.91	875

State Comparisons

State comparisons refer to the states where T3s received their teacher training. The teacher and administrator scores were used to determine how well prepared teachers believed they were and administrators observed them to be. Through the national database, these scores were attached to the state from which T3s received their teacher preparation.

Two factors accounted for 84.8% of the variance in the five scales. Scale scores loaded on factors based upon the respondent; i.e., one factor was comprised of the scale scores from the two Teacher Survey scales, and one factor was comprised of the scale scores from the three Administrator Survey scales. On the Teacher Survey, four states scored above average on the Teacher Survey factor: New Mexico (+0.30), Missouri (+0.29), Mississippi (+0.23), and Louisiana (+0.20; see Table 10). These states all had

mean scores above 4.00 on the Instructional Practices and Classroom Management scales, recording particularly high scores on classroom management (at or above 4.40). An examination of item-level responses showed that, for New Mexico, between 60% and 95% of respondents

Table 9

School Administrator Response Frequency Percentages: General Assessment of Teaching Effectiveness

In comparison with non-TTT teachers with similar years of experience, this teacher:	SD	D	N	A	SA	Mean	SD	n
is better prepared to teach than other colleagues with similar years of teaching experience.	1.4	6.8	24.9	35.8	31.2	3.89	0.97	875
provides a greater benefit to the school system relative to the salary paid.	1.5	4.7	20.5	35.2	38.1	4.04	0.95	875
appears to deal with parents and community members more effectively.	1.4	4.9	20.9	33.5	38.6	4.04	0.96	875
needs fewer professional development activities for me to consider him or her a competent professional.	2.1	11.2	24.9	31.5	30.4	3.77	1.06	875
properly processes requisitions for purchases.	2.6	1.6	23.7	38.8	33.2	3.98	0.93	875
serves capably as an extracurricular or activity sponsor.	2.1	4.0	23.4	31.2	39.3	4.02	0.99	875
follows school regulations, policies, and procedures.	1.4	0.9	5.5	30.4	60.7	4.50	0.76	875
has a positive impact on student achievement.	1.2	1.0	8.3	31.6	57.9	4.44	0.78	875
independently handles student discipline problems.	1.3	3.9	7.7	32.9	54.1	4.35	0.88	875
keeps parents informed about students academic and behavioral progress.	1.2	2.9	8.6	37.8	49.6	4.31	0.84	875
works well with other teachers and staff.	2.3	2.2	6.7	26.6	62.2	4.44	0.89	875
After working with this Troops to Teachers teacher, I would seek out other TTT applicants to teach in my school.	1.9	0.8	7.4	30.2	59.7	4.45	0.82	875

indicated "agree" or "strongly agree" across items. Six states scored below average on the Administrator Survey factor: New York (-0.25), Colorado (-0.26), Kentucky (-0.27), Maryland (-0.35), Oklahoma (-0.42), and Washington (-0.56; see Table 10). These states all scored below a mean of 4.00 on both the Instructional Practices and Classroom

Management scales, with means on both scales approaching 3.5 (between "neutral" and

"agree") for the lowest four scoring states.

Table 10

Mean Factor and PCQ Scores:
States Scoring Below or Above Average on Factor Scores

State	Mean Factor Score	Instructional Practices Mean	Classroom Management Mean	n
Above Average				
New Mexico	.30	4.04	4.62	25
Missouri	.29	4.20	4.49	34
Mississippi	.23	4.14	4.44	47
Louisiana	.20	4.40	4.38	29
Below Average				
New York	-.25	3.76	3.89	24
Colorado	-.26	3.64	3.83	61
Kentucky	-.27	3.58	3.60	34
Maryland	-.35	3.52	3.61	7
Oklahoma	-.42	3.65	3.79	25
Washington	-.56	3.48	3.56	41

An examination of item-level responses showed that, for Washington state, between 40%

and 60% of respondents indicated "agree" or "strongly agree" across items.

Two states scored above average on the Administrator Survey factor: New Mexico

(+0.21) and Tennessee (+0.20; see Table 11). Means on the Instructional Practices,

Classroom Management, and Overall Teaching Effectiveness scales were between 4.25 and

4.56 for these two states. An examination of item-level responses showed that, for New

Mexico, between 84% and 100% of administrators agreed or strongly agreed that the T3

candidate they were evaluating performed better than traditionally prepared teachers with

comparable experience across all items. Three states scored below average on the

Administrator Survey: Illinois (-0.21), Michigan (-0.30), and Washington state (-0.54; see

Table 11). An examination of item-level responses showed that, for Washington state,

between 38% and 80% of administrators agreed or strongly agreed that the T3 candidate

they were evaluating performed better than traditionally trained teachers with comparable

experience across all items.

Table 11

Mean Factor and SAQ Scores: States Scoring Below or Above Average on Factor Scores

State	Mean Factor Score	Instructional Practices Mean	Classroom Management Mean	Overall Teaching Effectiveness Mean	*n*
Above Average					
New Mexico	0.21	4.40	4.46	4.34	25
Tennessee	0.20	4.25	4.56	4.36	46
Below Average					
Illinois	-.21	3.94	4.20	3.93	26
Michigan	-.30	3.52	3.45	4.23	16
Washington	-.54	3.64	3.84	3.54	41

Note: Reference group is other teachers in the state. May not reflect relative effectiveness of programs as much as relative differences in typical teacher quality in the state.

Analyses of open-ended questions (see Appendix A) regarding how respondents

perceived that their military experiences prepared them for their new career in teaching

revealed several themes: organization for time and resource management; discipline for self

and students; working with diverse groups or populations, collaboration; leadership skills;

and motivational skills.   Selected answers clearly show that the T3s perceived how their

military skills transfer effectively to the classroom:

- ➢ "I learned to study my troops, and figure out what makes each and everyone tick, what their goals were and then convince them that I can help them reach their goals. Once motivated, now I needed to find their learning style, and match that style with my training style. After 15 years I ended up with a great bag of tools, thoughts and tricks to help others to succeed."

- ➢ "Dealing with the diverse races and personalities has helped me to deal with and understand the different attitudes and personalities in special education. Many of the attitudes and personalities that I ran into in the army, I run into in school, only in younger bodies."

- ➢ "My military experience provided me with extensive people and communication skills and opportunities that my colleagues with no military experience were often lacking."

Findings and Discussion

Troops to Teachers respondents exhibit a very high retention rate—95% of those surveyed were currently working in education, and of those who were not currently teaching, nearly two-thirds planned to seek a teaching position within the next three years. Of those who were teaching, more than half indicated they would remain in teaching as long as they were able, and one-quarter said they would remain in teaching until eligible for retirement. The few who had left teaching responded that their current position offered greater material rewards than teaching, such as salary, benefits, easier workload, and opportunities for advancement. However, they indicated that teaching had greater intrinsic rewards, such as opportunities to learn and working with colleagues of a higher professional caliber.

The majority (55.3%) of T3s are filling teaching positions in areas of national critical need: special education, mathematics, natural sciences, foreign languages, and English as a Second Language. T3s are also contributing a high percentage of male elementary teachers, of which there is a national shortage. About 1 in 7 have taken on substantial additional roles in the schools in which they serve, including coaching and administration.

Most T3s believe themselves well-prepared to implement research-based instructional strategies. Their supervisors overwhelmingly agree that T3s were more likely to use effective instructional strategies than other teachers with similar years of experience. Both T3s and their supervisors indicate the same areas of strength and relative weakness. Strengths include emphasizing the importance of effort to their students, asking questions to help students recall content and link with previous learning, recognize students

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who make progress, and assigning tasks that focus on important skills and concepts. Relative weaknesses include encouraging student self-assessment, representing content in non-linguistic ways, and assigning higher-level tasks that require students to generate and test hypotheses.

Both T3s and their supervisors indicate that T3s are well-prepared and more effective than other teachers in the areas of classroom management and student discipline.

About 90% of supervisors agree or strongly agree that T3 teachers are superior to other teachers with similar teaching experience in terms of: (a) having a positive effect on student achievement, (b) working well with other teachers and staff, (c) independently handling student discipline problems, (d) following school policies and regulations, and (e) keeping parents informed about their child's academic and behavioral progress.

Ninety percent of supervisors agree or strongly agree that, after working with the T3s they were evaluating for this study, they would seek out other T3 applicants to teach in their school.

T3s perceived that their military experiences helped prepare them for their new career in teaching in several ways, including: organization for time and resource management; discipline for self and students; working with diverse groups or populations; collaboration with colleagues; leadership skills; and motivational skills.

In comparing T3s' ratings and supervisor ratings of T3s across states, one state (New Mexico) emerges as being above average and one state (Washington) emerges as being below average on both T3 teachers' perceptions of their level of preparation to teach and supervisor ratings of teaching effectiveness. This finding should be interpreted

cautiously, however, because all ratings were generally high, and supervisor ratings were made in reference to other teachers within the same state. Differences among states could reflect differences in the perceived quality of comparison teachers rather than absolute differences in the perceived quality of T3 teachers.

Discussion

This study provides empirical evidence that T3s perceive themselves as well prepared to use instructional practices linked to increased student achievement. Furthermore, their principals view them as effective, if not more effective, than traditionally trained educators of similar years of teaching experience. Using many instructional, classroom management, and other professional factors, principals rate T3s as having a high degree of Teacher Quality. These data affirm that across the U.S., the T3s are successfully meeting the critical needs for which they were designed: to prepare eligible former military service members to be effective educators for U.S. public schools through an alternative certification route, to build an successful teacher pool for high poverty schools, to make available competent teachers for high demand subjects.

Troops to Teachers Have Teacher Quality.

School administrators' assessment of T3s' quality is a critical component in determining classroom effectiveness. Principals exert a measurable though indirect impact on student achievement (Hallenger and Heck, 2000) and Waters, Marzano, and McNulty (2003) found a significant, positive correlation of .25 between effective school leadership and student achievement. Principals control the most important factors affecting a school's teaching and instructional quality, including attracting, selecting, and keeping outstanding teachers (Kaplan, Owings, and Nunnery, 2005). Especially in an era of high public accountability for student learning, effective principals are very involved with how effectively their teachers are contributing to student achievement.

In this study, school administrators overwhelmingly indicate that the T3s exhibit research-based instructional practices linked to student achievement better in all instructional areas as compared with other teachers of similar years of experience. School administrators agree or strongly agree (89.5%) that T3s have a positive impact on student achievement. In addition, 73.3% of principals report that T3s provide greater benefit to the school system relative to their salary paid in comparison with traditionally prepared teachers of similar years experience. This strong endorsement affirms that Troops to Teachers are quality teachers for today's classrooms and schools.

Troops to Teachers Funding Provides a Highly Effective Alternative Route to the Classroom.

Not all alternative certification programs are alike and many produce new classroom teachers unable to meet high quality instructional and classroom management expectations (Berry, 2001; Feiman-Nemser and Parker, 1990; Jelmberg, 1996). Numerous alternative teachers in other studies express their lack of confidence and readiness to teach (Feistritzer, 2005a).

This Troops to Teachers study, however, finds evidence that differs from previous research. T3 respondents indicate that they believe they have strong preparation to use a variety of specific research-based instructional and classroom management practices, and their principals confirm that the T3s exhibit these instructional and classroom management behaviors to a greater degree that other teachers with similar experience. Accordingly, Troops to Teachers funds a population entering alternative certification programs that uses

effective professional strategies and educational components to prepare its teacher
candidates for today's classrooms.

Troops to Teachers Places Teachers in High Poverty Schools, Teaches High-Demand Subjects, and Brings Additional Benefits.

Increasing Number of Effective Teachers in High-Poverty Schools.

Consistent placement in a high-quality teacher's classroom is the most critical
factor in student learning. Unfortunately, poor and minority students, who are most
dependent on their teachers for academic success, are most likely to be taught by teachers
with the least content knowledge, weakest instructional practices, and lowest licensure
levels (Kaplan and Owings, 2003a). For example, students in high schools in which 90%
or more of the students are African American or Hispanic are more than twice as likely to
be taught by teachers uncertified in their subjects as are students in schools that are 90%
Caucasian.   Likewise, students attending secondary schools with large (75%)
concentrations of poor children are 1.8 times as likely to be taught by teachers without a
major in their fields as are students attending low-poverty (10%) schools (Haycock, 2000).
In addition, teachers in high-poverty schools are more likely to be inexperienced and to
transfer to another school (Haycock, 2000).

This study finds that the majority of Troops to Teachers teach in high-poverty
schools. About one-fifth (20.7%) teach in schools in which 51 to 75% of students were
eligible for free or reduced price lunch and about one-third (33.2%) teach in schools in
which more than 75% of students were eligible for free or reduced price lunch. Little more
than one-third (34.9%) teach in majority White schools. Furthermore, 9.6% teach in inner-
city schools and 15.4% teach in rural schools.

When combined with the fact that over 80% of these teachers intend to remain in teaching, results suggest that T3s provide a stable, high quality cadre of certified teachers, strongly knowledgeable in their teaching content, employ research-based instructional practices and strong classroom management skills, and provide instruction to our neediest students.

Increasing Pool of Teachers in High-Demand Subjects.

Nationally, school districts have difficulty finding effective teachers in certain high-demand subjects, including special education, mathematics, natural and physical sciences. First, Ingersoll (2002) finds that teacher turnover is strongly affected by academic field, noting that special education, mathematics, and science are typically found to be fields of highest turnover. Next, fewer persons knowledgeable in math and sciences are available for public school teaching. Today, education careers compete with business and industry for individuals with strong math and science backgrounds, the latter fields offering these individuals well-paying jobs with opportunities for advancement and attractive benefits packages. Finally, teaching these subjects means developing both extensive content knowledge and appropriate instructional strategies. As noted earlier, studies find that teachers of upper level math and science need a deep understanding of both their subject matter and effective teaching strategies if their students are to make measurable learning gains.

Troops to Teachers candidates bring these important content specialties into the classroom along with "exhibited" research-based instructional practices linked to student achievement. Of this study's T3 respondents, 25.6% teach special education, 15.6% teach

mathematics or computer science, and 11.6% teach natural sciences. In addition, T3s are

effectively addressing the learning needs of special students. T3s are fulfilling a vital need

for students to have a solid education in math and science. Not only are T3s bringing these

critical subjects to the classroom, their plans to remain in the classroom means a stable

teaching force that can successfully address student achievement.

Increasing Number of Minority Teachers in the Classroom.

Equity and excellence are compatible goals. Recruiting prospective educators to

meet strict professional standards for content knowledge and certification is fully

compatible with the aim of providing today's diverse students with a diverse teaching

force. At present, the percent of minority teachers in the United States does not match the

percent of minority students. While the National Center for Education Statistics (2003)

writes that minorities constitute approximately 42% of U.S. public school students, Lee

(2003) notes that only 15.7% of U.S. teachers in 2000 are minorities.

Although a teacher does not have to be a racial or ethnic minority in order to

effectively teach minority students, this dimension can contribute to student learning. All

students gain when they see and interact with successful adults who "look like themselves";

it gives hope to their own aspirations to succeed within the cultural mainstream. This is

especially true for minority male students, who tend to see or personally know fewer

successful minority men in the mainstream. In addition, minority educators may better

understand and confront their minority students' attitudes and behaviors that interfere with

learning. What is more, non-minority students gain respect and understanding for persons

of color when they are able to interact successfully and repeatedly with confident, helpful,

and knowledgeable adult workers on a daily basis.

Troops to Teachers in this study are 83.3% male and 39.2% minority. About 59% are White, Non-Hispanic. T3s increase the pool of effective male and minority teachers available in U.S. public schools, increasing the likelihood of reducing the "minority achievement gap." In 2004, the National Education Association notes that only 21% of U.S. teachers were men, a 40-year low. In addition, only 16% of U.S. teachers in 2004 were ethnic minorities. Forty-two percent of public schools have no minority teachers on their faculties. What is more, 11.7% of the T3 respondents are teaching in elementary school, 67% of whom are males. This rich infusion of T3 male and minority educators helps deepen and enrich all students' educational experience.

Increasing Teacher Retention.

The national attrition rate for alternatively certified teachers runs as high as three times that of traditionally certified teachers (Silberman, 2001). In recent years, Ingersoll (2002) writes that data indicate that well over 90% of new teachers are replacements for recent departures, reflecting not retirements or increases in student enrollment but a "revolving door" in which teachers leave "difficult" schools to seek employment in "more successful" schools. In fact, the rate of teacher turnover appears to be higher than in many other occupations. While nationwide, 11% of employees leave their jobs each year, teachers leave at a 14.5% annual turnover rate – 17% in 2000-2001 (p. 21). Ingersoll (2002) finds that after just 3 years, 29% of all those in the typical beginning teacher cohort leave teaching altogether, and after 5 years, 39% (more than one-third) have left teaching (p. 23).

Teacher retention is a critical issue in student achievement. Ingersoll (2002) concludes that employee turnover has special, unfortunate consequences for schools: they require extensive interactions among employees and depend on their commitment, continuity, and cohesion to build the achievement culture and practices that positively impact student learning. High teacher turnover disrupts school functioning and hurts teacher morale and student achievement. Without the professional commitment to remain at one school, to improve their own professional practice within that context, and to understand and find the practical means to help "at-risk" students achieve at high levels, schools cannot build the cadre of mature, effective teachers who develop and sustain effective teaching climate and behaviors.

In this study, however, T3 respondents indicate that 80.5% plan to remain in teaching as long as they are able (55.6%) or until they retire (24.9%). More than half are already teaching in high-poverty schools and likewise teaching high-demand content that, usually by default, are assigned to uncertified new teachers. By these findings, by their attitudes, expertise, and career plans, Troops to Teachers contributes notably to the highest needs students' education.

Recommendations for Further Study

The following recommendations are made for further study.

1. ***Continue the Troops to Teachers Study Annually to Build a State Database.***

This study provides much useful information about which military retirees are becoming teachers, where they are working, what they are teaching, their perceived contributions to student achievement, and their future plans. In addition to the demographics, available data include the degree to which its graduates believe the certification program prepared them to teach specific research-based instructional practices that increase student achievement and classroom management behaviors. Likewise, data include ratings from the T3s' school administrators about the candidates' effectiveness on varied instructional, classroom management, professional behaviors, and overall contribution to the school.

Continuing this study annually would provide state-by-state information and give each training site specific, usable data to employ when reviewing and revising their licensing programs.

2. ***Develop a T3 Study that Looks at Actual Student Achievement***

Student achievement is the true benchmark for determining teacher quality. Teacher quality, in part, is assessed by its measured impact on student learning and achievement. Although this study developed an instrument using previously identified research-based teaching practices closely tied to measured student achievement, the present study did not directly assess student achievement.

While surveying varied aspects of T3's teacher quality – T3s' self- report of the degree to which their teacher training prepared them to use research based instructional

practices and principals' recall of the degree to which T3s exhibited these research-based instructional behaviors – the study does not provide evidence of T3's self-reported or actual teaching behaviors. Neither does it provide empirical observations of school administrators watching T3s' actual teaching behaviors. Nor does it provide evidence of students' learning gains as a result of working for a period of defined time with T3s as compared with other teachers of similar experience. Further study of the actual teaching practices from T3 self-report or assessment of their students' measured achievement, although very complex and difficult studies to undertake, would provide important information about T3s' quality as well as feedback about how to strengthen T3 preparation.

3.   Develop a Study to Assesses the Principal Quality of T3s Who Become School Leaders

Michael Fullan (2003) writes that, "what standards were to the 1990s, 'leadership' is to the 2000s….[L]eadership is *the* strategy of the decade" (p. 16).   Two decades of school effectiveness research reliably conclude that successful schools always have dynamic, knowledgeable, and focused leaders who bring together teachers, students, and parents to improve teaching and learning (Kaplan, Owings, and Nunnery, 2005; Owings, Kaplan, and Nunnery, 2005). According to one national analysis of 15 years' research on school leadership, an outstanding principal "exercises measurable though indirect effect on school effectiveness and student achievement" (Hallinger and Heck, 2000, p. 10). Although indirect, the principals' effect on student achievement is crucial.

Unfortunately, foundations and educational policy groups observe that while many individuals desire to become principals, few possess the skills or knowledge needed to succeed at a time when expectations for student performance have never been higher

(Archer, 2003). Likewise, a Public Agenda survey (2001) finds that school superintendents in large urban districts are more likely to experience an insufficient supply of principal applicants. In addition, superintendents across the country express concern about their current principals' skills (Public Agenda, 2001).

This present study finds that 5% of Troops to Teachers responding to the Teacher Survey have become principals. Similarly, in Feistritzer's 2005 study, 17% of these alternatively certified teachers (and 16% of Troops to Teachers in her study) answered that they plan to be employed in an education occupation other than teaching in five years; it is likely that many of these individuals may also plan to be school leaders. Moreover, this study's T3 respondents' written comments in the open-ended question clearly illustrate how they believe that their military leadership experiences can transfer effectively into the school environment. As practicing teachers, they are learning to act successfully within the school culture, so their desire to become principals has the credibility of relevant experiences.

Studying the efficacy of Troops to Teachers who advance their education careers into school leadership positions can provide many benefits. Assessing and communicating the extent of T3 movement from teaching to school leadership can be a potent marketing tool to attract a broader pool of T3 candidates seeking education careers in public schools. Also, assessing the effectiveness or principal quality of T3 principals can help Troops to Teachers programs review their curriculum and education experiences to determine how to strengthen the preparation for T3s seeking this professional direction. Such data can also provide clear, specific criteria for principal quality for T3s to use for their own professional growth as they work within educational settings.

Conclusions

This study finds that Troops to Teachers funding is producing an effective cadre of teaching professionals who believe their teacher training programs have prepared them well to use research-based instructional practices that increase student achievement. Similarly, their school administrators report that Troops to Teachers exhibit these best instructional and classroom management practices and work well within the school environment at a higher rate than do other teachers of similar years experience. Almost 90% of principals say that their T3s have a positive impact on student achievement.

As a result, Troops to Teachers appears to be a successful funding vehicle for alternative teacher certification programs, placing effective teachers in high-poverty schools teaching high-demand subjects who plan to remain in teaching. In addition, Troops to Teachers increases the number of men and minorities in education, widening the diversity of teachers for our increasingly diverse student population.

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Appendix A

Troops to Teachers Open Ended Questions
<u>Themes</u>

1. **Organization**
    a.   **Time Management**
    b.   **Resources management**
	"I believe the organizational skills and leadership skills I learned in the military helped me tremendously during my transition into teaching. My military training also helped me be able to consistently do the most important things first."

	"With only 10 months to cover a curriculum, test, evaluate students (approximately 150) and interact with their parents/guardians, I learned how to use my time and organizational skills, acquired via the military, to my advantage. I can sit down and map out visually a lesson plan and put it into action before putting it on paper. That's something institutions of higher education don't teach."
	"Many of the classroom management techniques that I use with the students come from my military experience. A visual signal, a preparatory remark and getting each student actively involved with the learning process is the routine I've adopted from the military."
	"The training and education that the Air Force provided is second to none. I have used all my managerial and leadership skills and employed them in the classroom.'
	"My Army leadership training/experience prepared me to effectively teach and organize my classroom. I am more organized and goal oriented than I would have been without my military training."
	"A effective teacher is one that can manage his/her classroom , creating an environment that is conducive to the learning of the students."

	"My military experience taught me organizational/time management skills that have proven to be invaluable. The discipline instilled from the military has helped tremendously with regard to balancing a career, home life and graduate level course work. Such life experiences can't be gained through text book study."

2.	**Discipline**
	   a. **Personal**
	   b. **Student**
		"I believe that my experience has given me an appreciation for the value of discipline as well as a sense of patience while remembering that there is a deadline for the successful completion of any objective."

		"I have learned to transfer military attention to detail and cohesiveness to the classroom."
		"My disciplinary skills have helped many students in our program to begin to make the right choices that will benefit their academic and social status in the future."
		"Self discipline is the utmost important experience that prepared me for teaching. Structure to organize the environment around me and thinking safety while participating as a team player in order to enhance coordination for teamwork to fulfill and complete the assigned mission."
		"My students know my rules, my procedures and they know I am in charge in the classroom. I have very few, if any, discipline problems. My military background has helped me to establish myself in the classroom."
		"A teacher must have a sense of discipline when dealing with our youth today. Being an individual who likes to lead by example I model the behavior that I was taught in the military daily for my students."

3. **Working with Diverse groups/population** **a. Collaboration**	"My military experience provided me with extensive people and communication skills and opportunities that my colleagues with no military experience were often lacking."
	"The biggest asset that my military experience has been is the fact that I am used to working with many different types of people. This has been helpful in not only working with the students but also parents."
	"My travel experience taught me about diversity in other cultures and also was a source for stories that I pass along to my students. While in leadership positions in the service I got a good look at the environment from which my subordinates hailed. That has been invaluable in understanding problems plaguing my students. I teach in a high poverty community and my military experience gave me insight to young people from impoverished backgrounds."
	"Dealing with the diverse races and personalities has helped me to deal with and understand the different attitudes and personalities in special education. Many of the attitudes and personalities that I ran into in the army, I run into in school, only in younger bodies."
	"My worldwide travels prepared me for a new career in teaching by exposing me to different cultures. I'm now able to accept and work with students and parents with diverse backgrounds, religious preferences and changing social attitudes."
	"I got a great lesson on how people who are totally different can work together for one cause during my time in the military. I learned not to judge a person because of their background. I know that every person has the right to an education and should be given the chance to pursue that. The military gave me the experience of becoming an individual who has the ability to see that my students are unique individuals who deserve a quality education."

	"As an NCO, I had to deal with many different soldiers with different backgrounds. I tried to motivate them and discipline them when appropriate. I always treated them with respect. This is how I deal with students. I understand they are coming to me with different problems or concerns, I always try to treat them with respect."

4.	Leadership Skills	"My military career prepared me to teach by giving me training in leadership, teamwork and interpersonal communication skills. I learned how to work together with counterparts to as a team, which is vital in the educational setting."
		"Most of the time because of our leadership ability, we are able to make hard judgments to ensure success for our students at home and school."
		"The military taught me to effectively interact with people. I also learned the art of leadership which is directly transferable to the teaching profession."
		"The experiences of active duty leadership have certainly allowed me the opportunity to serve in my community as a public school teacher and vocational director for Tennessee School for the Blind."
		"As a leader, I was always looked to for educational advice. For the kids I work with now on a daily basis, I am one of the few positive role models that is in their lives."
		"My experience in the military was very helpful in preparing me for a new career in teaching because of the responsibilities and leadership opportunities throughout my military career."
		"My leadership and planning abilities are strong because of my life and military experiences. I am very comfortable standing in front of my classroom and leading my athletic teams. Parents comment on my strong personality. My philosophy is to be firm, yet fair!"

5.	**Motivational Skills**	"Military training also gave me group and interpersonal skills to encourage students to do their best and to confront when that is not evident."
		"The military provides a vast knowledge of people and places that provides an extensive base for any teacher, it excites, involves and stimulates the students to achieve more than they have before. As an ex-military officer, I am more apt to take calculated risks that result in benefits to the school and students."
		"I've used my military experience to be consistent in teaching students to be motivated and productive citizens. Teaching has helped me to have a positive influence over young people's lives."
		"I have made efforts to present myself both professionally and assertively in my new career. I take pride in the BE, KNOW, DO, example I project to the students and school. Striving for professional development and student impact are my goals."
		"I learned to study my troops, and figure out what makes each and everyone tick, what their goals were and then convince them that I can help them reach their goals. Once motivated, now I needed to find their learning style, and match that style with my training style. After 15 years I ended up with a great bag of tools, thoughts and tricks to help others to succeed."
		"I can motivate a large percentage of my students using the positive discipline I found so effective as a squad/section leader and platoon sergeant."
		"The military trained me to pay close attention to detail. As a third grade teacher, I can never make assumptions. Children want to learn but they don't always comprehend the subjects being taught the first time. As with the military, you keep trying until you are successful. You do not give up."

Appendix B

Teacher Survey

Appendix C

Administrator Survey