MEMORANDUM April 17, 2015

TO: Board Members

FROM: Terry B. Grier, Ed.D.
Superintendent of Schools

SUBJECT: **EFFECTIVE TEACHER FELLOWSHIP EVALUATION REPORT**

CONTACT: Carla Stevens, (713) 556-6700

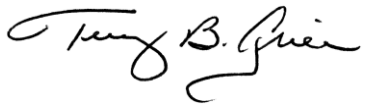
Attached is the 2014–2015 evaluation report on the Effective Teacher Fellowship (ETF) alternative certification program (ACP). This program evaluation compared the STAAR and Stanford 10 test performance of student samples whose teachers participated in four types of ACPs during the 2012–2013 and 2013–2014 academic years (ETF, university/community college, education service center, and private entity). The analyses of reading and mathematics achievement revealed mixed results, depending on the test and student grade level. However, among the most notable findings,

- The 2012–2013 ETF ACP cohort outperformed students of teachers in comparison ACP cohorts as well as all HISD students on the 2013 STAAR 3–8 math tests (Level II phase-in I, percent met Satisfactory standards), while the university/community college ACP cohort and the Education Service Center cohort had the highest percentage of students who met Satisfactory performance standards on the 2013 STAAR 3–8 reading tests.
- In addition, the 2013–2014 university/community college ACP cohort had the highest percentage of students who met Satisfactory standards on the 2014 STAAR 3–8 reading and math tests.
- STAAR EOC reading, writing, and math exam results did not definitively identify a specific ACP type whose students consistently outperformed other ACP cohorts during the 2012–2013 and 2013–2014 academic years.
- There was evidence that gaps are being reduced between students of ETF and non-ETF teachers based on value-added data reflecting student growth.

Administrative Response: The immediate charge includes matching teacher content background to the certification area being pursued. This ensures that content expertise aligns to the teaching assignment, which is especially critical for those in secondary classrooms where the depth of knowledge and rigor exponentially increase. For early childhood through grade 6 and grades 4–8 generalists, the charge is to ensure that ETF is working closely with school leaders to ensure that the best content match happens before a teacher is assigned a class/course. ETF will continue to use and modify its own behavioral selection tool as a predictor for teacher success and means to assess non-academic behaviors. Year-long professional learning will be re-sequenced so that it better meets the needs of diverse learners on day one of school. Instead of focusing on the more rigorous teaching skills later in the year, the data indicate that we need to focus on this while simultaneously working to train and support teachers in the foundational areas of classroom management and culture and backwards planning. Special emphasis is being placed on grades 3–5 because of the correlation observed between classroom management and culture and student achievement. ETF is working to redesign the professional learning and support to these particular

teachers via the ETF Management and Culture Teacher Development Specialist. Places that are doing ACP well will be studied. According to the National Council on Teacher Quality, some of these include: Los Angeles Unified School District Intern Program and Teach for America Boston.

Should you have any questions or require any further information, please contact me or Carla Stevens in the Department of Research and Accountability, at 713-556-6700.



TBG

Attachment

cc: Superintendent's Cabinet
Natalie Hernandez

HOUSTON INDEPENDENT SCHOOL DISTRICT

RESEARCH

Educational Program Report

EFFECTIVE TEACHER FELLOWSHIP: COMPARATIVE ANALYSIS OF ALTERNATIVE CERTIFICATION PROGRAMS AND STUDENT READING AND MATH ACHIEVEMENT, 2014 – 2015

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EFFECTIVE TEACHER FELLOWSHIP
COMPARATIVE ANALYSIS OF ALTERNATIVE CERTIFICATION PROGRAMS AND STUDENT READING AND MATHEMATICS ACHIEVEMENT
2014–2015

Executive Summary

The Effective Teacher Fellowship (ETF) is the Houston Independent School District's (HISD) Alternative Certification Program (ACP). ETF focuses on developing teachers in critical shortage areas, including reading, mathematics, bilingual education, and special education. ETF provides resources, such as online training for the Texas Examinations of Educator Standards™ (TExES™) and professional learning courses based on HISD's current Instructional Practice and Professional Expectations Rubric (Effective Teacher Fellowship, n.d.). Instructional coaches deliver one-on-one support throughout the internship of the first-year teacher. Grant opportunities help to offset a percentage of the program cost for some participants. Applicants must complete all program requirements as determined by the Effective Teacher Fellowship, including a satisfactory year of teaching in an HISD classroom.

ACPs are, traditionally, operated in universities, school districts, education service centers, community colleges, and private entities across Texas and throughout the United States. ACPs employ various strategies relative to recruitment, preparation, and school placement. For example, ETF adheres to the "Grow-Your-Own" model, which guides who is recruited into the program and the skill level of the applicant at entry. Another component of ETF is that teachers are typically assigned to schools with predominately at-risk students, which may not be a standard practice for other ACPs (Effective Teacher Fellowship, n.d.).

As a nontraditional route to teacher certification, understanding the extent that various ACPs, particularly ETF, contribute toward student learning in HISD is important for planning, decision making, and assessing whether the academic performance needs of students taught by ACP teachers are adequately and effectively met. To that end, this evaluation addressed the following research questions.

- Did students of the 2012–2013 and the 2013–2014 ETF ACP cohorts attain higher reading and mathematics achievement than students of teachers who participated in university/community college, education service center, and private entity ACPs?
- What was the impact of teacher ACPs on student academic progress based on EVAAS value-added results?
- What factors were the strongest predictors of students' reading and mathematics performance, considering teachers' ACP status and students' demographic characteristics among traditionally underperforming student groups?

The study samples were students identified as having a teacher in only one of the four ACPs[1]. This was done to control for confounding effects and to differentiate how much of the observed effect on outcomes was due to student's exposure to a teacher who participated in a specific ACP rather than a combination of ACPs (What Works Clearinghouse, Procedures and Standards Handbook, version 2.1, 2010). Student academic performance outcomes included 2013 and 2014 English STAAR, STAAR End-of-Course, Stanford 10, and EVAAS value-added gain index scores for students of the respective 2012–2013 and the 2013–2014 ACP teacher cohorts. STAAR data were based on Level II phase-in I Satisfactory performance standards.

[1] See **Appendix A** for specific ACPs of teachers in this evaluation.

Highlights

- During the 2012–2013 academic year, 699 staff were employed in HISD as participants of ACPs. A slight increase was noted during the 2013–2014 academic year to 713 staff. These figures include individuals acquiring teacher and counselor ACPs, for example. Student test performance for 547 teachers in the 2012–2013 ACP cohorts, and 628 teachers in the 2013–2014 ACP cohorts were analyzed in this report.

- An overwhelming majority of the student samples were students of Private entity ACP teachers in the 2012–2013 and the 2013–2014 ACP teacher cohorts. However, students of ETF cohorts were more likely to be economically disadvantaged and less likely to be classified as Special Education than students in comparison ACP cohorts.

- Among the 2012–2013 ACP cohorts, the highest percentage of students who met Level II phase-in 1 Satisfactory standards on the 2013 STAAR reading test were students of university/community college and education service center ACP teachers; slightly outperforming the ETF cohort by two percentage points (69 percent and 67 percent, respectively). Grades three through eight analyses on the test revealed that the ETF student group attained higher mean reading scale scores than the non-ETF student group at sixth and seventh grades. The difference was statistically significant at seventh grade ($p < .05$).

- On the 2013 STAAR English math test, students of the 2012–2013 ETF ACP cohort outperformed students of teachers in comparison ACP cohorts as well as all HISD students at 68 percent met Satisfactory standards (Level II phase-in 1).

- On the 2014 STAAR English reading and math tests, students of the 2013–2014 university/community college ACP cohort achieved the highest percent met Satisfactory at the Level II phase-in 1 standard compared to students of comparison ACP cohort teachers (72 percent on both the reading and math tests). This ACP cohort outperformed students of the ETF cohort by 11 and 8 percentage points in reading and math, respectively.

- The EOC exam results for the 2012–2013 ACP cohorts revealed that the university/community college cohort had the highest percentage of students who met Satisfactory (Level II phase-in 1 standard) on the 2013 ELA I - Reading, ELA I - Writing, and Algebra I EOC exams. The difference between the ETF ACP cohort and the university/community college cohort was 25, 35, and 7 percentage points, respectively. However, students of ETF ACP teachers attained a higher mean scale score than the non-ETF student group on the Algebra I EOC exam. This difference was statistically significant ($p < .05$).

- On the 2014 English I EOC exam, students of the 2013–2014 Private entity ACP cohort achieved the highest percent met Satisfactory standard (Level II phase-in 1), outperforming students of ETF ACP teachers by eight percentage points (52 percent vs. 44 percent). Scale score analysis revealed that students of ETF teachers attained a lower mean scale score compared to students of non-ETF teachers on the English I EOC exam. The difference between ETF and non-ETF cohort students' mean English I EOC exam scale scores was statistically significant ($p < .05$).

- On the 2014 Algebra I EOC exam, students of the 2013–2014 ESC ACP cohort attained the highest percent met Satisfactory standard (Level II phase-in 1), outperforming students of the

ETF cohort by eight percentage points (78 percent vs. 70 percent). At the same time, students of ETF teachers attained a lower mean Algebra I scale score than students of non-ETF teachers on the exam. The difference in the mean Algebra I EOC scale score of ETF and non-ETF cohort students was statistically significant ($p < .05$).

- On the 2013 Stanford 10 test, the mean NCE for students of the 2012–2013 ETF ACP cohort compared to other ACP cohorts was the lowest in reading (41 NCEs), but the highest among the ACPs in math (52 NCEs).

- On the 2014 Stanford 10 reading test, students of the ETF cohort had the lowest mean NCE among the ACP cohorts (38 NCEs), which is slightly below average. On the 2014 Stanford 10 math test, students in the 2013–2014 university/community college ACP cohort attained a higher mean math NCE score than other cohorts, four NCEs higher than the ETF cohort (51 NCEs vs. 47 NCEs).

- Value-added analyses based on teachers' composite gain indexes revealed that, for the 2012–2013 and the 2013–2014 cohorts, a higher percentage of university/community college ACP teachers attained progress scores that were within the "well above" average range because their students made substantially more progress than the standard for academic growth (13 and 16 percent, respectively) compared to other ACP cohorts.

- Multiple regression analysis using 2013 STAAR reading and math scale scores for grades 3 through 8 revealed that the 2012–2013 ETF student group consistently had higher reading and math scale scores than the non-ETF student group (Beta = .021 for reading and Beta = .072 for math). In addition, traditionally underperforming student groups (i.e., Black vs. non-Black, Hispanic vs. non-Hispanic, economically disadvantaged, Special Education, and at risk students) consistently had lower reading and math scale scores than their counterparts. This finding was also evident for LEP students in reading.

- Multiple regression analysis based on 2014 STAAR grades 3 through 8 results revealed that the ETF student group consistently had lower reading and math scale scores than the non-ETF student group (Beta = -.107 for reading and Beta = -.081 for math). Beta coefficients indicated that traditionally underperforming student groups (i.e., Black vs. non-Black, Hispanic vs. non-Hispanic, economically disadvantaged, Special Education, and at risk students) consistently had lower reading and math scale scores than their counterparts. In addition, LEP students had consistently lower reading scores but higher math scores than non-LEP students in the model relative to the constant.

Recommendations

1. Mixed reading and math performance was evident for students in the study samples across tests and grade levels, regardless of ACP cohort. However, results were consistent with prior research, in that, traditionally underperforming students, regardless of ACP (Black, Hispanic, economically disadvantaged, at risk, Special Education, and LEP), had lower STAAR reading and math scores than their counterparts. ETF program administrators should consider focusing professional development on best practices that address students' diverse learning styles and culture by incorporating evidence-based models (e.g., Universal Design for Learning) that are designed to improve performance for all students. Additional considerations should be made regarding teachers'

skills and background knowledge in the selection and placement processes that may effectively contribute toward learning for high-need students.

2. Although students of different ACP cohorts were assessed in this evaluation, there was evidence that gaps are being reduced between students of ETF and non-ETF teachers based on value-added data reflecting student growth. Moreover, students of ETF teachers achieved higher scale scores at some grade levels in reading and math compared to non ETF-teachers. Program administrators should consider examining program strategies that build content knowledge and pedagogy of teachers at each grade level to strengthen alignment with TEKS.

Administrative Response

Research findings contend that ETF teachers teach higher numbers of economically disadvantaged and English Language Learner (ELL) students, and this aligns with our placement model. As a "grow your own" district talent pipeline, it is critical that we do all we can to stand in the gap for students who have historically underperformed, and the research shows that some gaps are in fact being reduced by ETF teachers. We have a charge to ensure that ETF ACP exceeds other mechanisms, and there's a mixed level of evidence—depending on grade level and content. The immediate charge includes the following commitments:

- Match teacher content background—undergraduate or graduate—to the certification area being pursued. This ensures that content expertise aligns to the teaching assignment, and this is especially critical for those in secondary classrooms where the depth of knowledge and rigor exponentially increase. For early childhood through grade 6 and grades 4–8 generalists, the charge is to ensure that ETF is working closely with school leaders to ensure that the best content match happens before a teacher is assigned a class/course in the master schedule. ETF will continue to use and modify its own behavioral selection tool as a predictor for teacher success and means to assess non-academic behaviors.

- Re-sequence year-long professional learning so that it better meets the needs of diverse learners on day one of school. Instead of focusing on the more rigorous teaching skills later in the year, the data tells us that we need to focus on this while simultaneously working to train and support teachers in the foundational areas of classroom management and culture and backwards planning.

- Special emphasis is being placed on grades 3–5 because of the correlation observed between classroom management and culture and student achievement. ETF is working to redesign the professional learning and support provided these particular teachers via the ETF Management and Culture Teacher Development Specialist.

- Places that are doing ACP well will be studied. According to the National Council on Teacher Quality, some of these include: Los Angeles Unified School District Intern Program and Teach for America Boston.

Introduction

Alternative certification programs (ACPs) offer a nontraditional route to teacher certification for individuals who are interested in becoming a teacher. ACPs are located in various organizations, including universities, school districts, education service centers, community colleges, and private entities. The HISD ETF ACP was implemented in 1985 in response to the 1984 Texas Legislature's House Bill 72 (Tex. H.B. 72, 68th Leg. 2d C.S.) (Effective Teacher Fellowship, n.d.). An intent of the bill was to enhance equity and effectiveness in the state's education system by improving teacher quality (Grubbs, 1985). The bill addressed teacher recruitment, retention, and education, along with the development of ACPs that varied from the traditional university teacher certification program.

Over a one-year program implementation period, the ETF ACP focuses on developing teachers in critical shortage areas, including bilingual education, special education, and secondary math and science (Effective Teacher Initiative, n.d.). Resources are provided, such as online training for the Texas Examinations of Educator Standards™ (TExES™) content exams and professional learning courses based on HISD's current Instructional Practice and Professional Expectations Rubric. Instructional coaches provide one-on-one support throughout the internship of the first-year teacher. Grant opportunities help to offset a percentage of the program cost for some participants.

Annually, HISD hires teachers who participate in ACP programs that operate across the United States, including the ETF ACP. During the 2012–2013 academic year, 699 teachers acquired certifications through ETF, with a slight increase to 713 teachers during the 2013–2014 academic year. Expenses incurred by the ETF ACP are depicted in **Table 1** for the 2012–2013 and the 2013–2014 academic years. An increase in teacher participants is accompanied by an increase in overall program revenue and operating costs.

Table 1. Expenditures by Academic year of the HISD ETF ACP Program, 2012–2013 and 2013–2014

Expense Item	Academic Year		% Increase
	2012–2013	2013–2014	
Payroll	$687,585.44	$983,696.99	43.1%
Contracted Services	$28,025.67	$33,436.35	19.3%
Supplies Materials & Food	$27,461.57	$33,108.32	20.6%
Travel & Fees	$27,620.09	$43,557.19	57.7%
Technology	$1,977.20	$10,258.00	418.8%
Total	$772,669.97	$1,104,056.85	42.9%
Number of ACP participants (includes counselors and educational diagnosticians)	699	713	2.0%

While all of the ACPs in Texas are required by state law to offer intensive, focused classroom training, the length of time that teachers are trained varies (Education Week, 2004). During the minimum one-year classroom instructional time requirement, ACP participants can teach as paid interns with supervision and mentoring. Some programs offer a non-paid clinical experience similar to student teaching in lieu of a paid internship. The ETF ACP has specific eligibility guidelines which are described in **Appendix B**.

Regardless of the certification route, teachers are expected to positively impact student achievement. While there have been studies that investigated the context of instruction in teacher education programs and what they learn from these opportunities (Abell, Arbaugh, Chval, Friedricshen, Lannin, Volkmann, n.d.), little research has been done on how teachers certified through ACPs impact student learning. Thus, research on which ACPs produce effective teachers and whose students perform well or better than their peers is important for planning quality ACP programs. To that end, the purpose of this evaluation was to assess the impact of the ETF ACP on student achievement compared to the performance of students whose teachers participated in university/community college, ESC, or private entity ACPs.

Review of the Literature

Numerous studies have shown that "highly qualified" classroom teachers are pivotal in fostering student achievement (Ingersoll, 2001; Darling-Hammond, 2002). The *No Child Left Behind Act* stipulates that in order for teachers certified through alternative routes to be considered "highly qualified," the routes must consist of sustained, intensive, and classroom-focused professional development before and while teaching (Education Week, 2004). In addition, ACPs must provide structured support, such as a teacher mentoring program. The influence of high-quality mentoring and support on teacher development has been documented in the research (Darling-Hammond, 1990; Zientek, Reichwein; Gamba, & Capraro, 2005).

An assumption is that teacher effectiveness may be partly a function of specialized training in how to teach, which may be acquired through ACPs (Ballou & Podgursky, 2000; U.S. Department of Education, 2002). However, some ACP models allow participants to earn their teaching certificates in a shorter time frame than teachers who enrolled in a four-year undergraduate teacher education program (Education Week, 2004). These ACP teachers may be allowed to teach while completing the program requirements for such alternative certification.

Supporters of ACPs maintain that alternative routes of entering the teaching profession are an effective strategy for recruiting teachers and managing teacher shortages (Education Week, 2004; Shen, 1999, Darling-Hammond, 2002; Laczko-Kerr and Berliner, 2002). While alternative routes of teacher certification may play a critical role in expanding the pool of teachers, the research varies regarding whether ACPs make a significant difference in student performance (Allen, 2003; Boyd, Grossman, Lankford, & Wyckoff, 2008). Alternative teacher certification routes that are well-designed can enhance workforce diversity and attract teacher candidates who are experts in subject-matter that students need to be academically successful in school (Hess, 2001; Roach & Cohen, 2002). However, teachers who are not adequately-prepared to provide instruction can hinder student learning (Darling-Hammond, 2002; Laczko-Kerr and Berliner, 2002). A contrasting perspective is that ACPs "shortchange both the teacher candidates and students they teach because their preparation, particularly pedagogy, is inadequate" (Allen, 2003, p. 3).

Methods

Data Collection

- Teacher and student linkages for the 2012–2013 and the 2013–2014 ACP cohorts were extracted from the Chancery database based on the year of the cohort. Test data used in this report were computed for students identified through teacher-student linkages to form the study samples. To

control for confounding effects and to differentiate how much of the observed effect of outcomes measured were due to student's exposure to a specific ACP program rather a combination of ACP programs, the results of students identified as having a teacher in only one of the four ACP programs were analyzed in this evaluation (i.e., ACP group assignment was mutually exclusive) (What Works Clearinghouse, Procedures and Standards Handbook, version 2.1, 2010).

- For the 2012–2013 ACP cohorts, student data for 547 teachers were included in the analysis (125 teachers were represented in ETF, 35 teachers in university/community college, 65 teachers in ESC, and 322 teachers in the private ACP cohorts). For the 2013–2014 ACP cohorts, student data for 628 teachers were included in the analysis (141 teachers in ETF, 46 teachers in university/community college, 49 teachers in ESC, and 391 teachers in the private ACP cohorts).
- STAAR is a state-mandated, criterion-referenced assessment used to measure student achievement. The Level II phase-in I Satisfactory standard on STAAR reflects whether students are sufficiently prepared for the next course. Descriptive statistics depicted in this report included frequencies and percentages of students who met Level II phase-in I Satisfactory standards or scored at the Advanced level on the regular English language version of the STAAR and End-of-Course (EOC) assessments in reading and mathematics during the spring, first test administration. Mean STAAR scale scores were also presented by grade level. (Spanish version of STAAR was not analyzed due to low numbers of students tested in some ACP teacher/student cohorts, limiting the extent that reliable comparisons could be made with the ETF cohort.)
- Stanford 10 Normal Curve Equivalents were analyzed for students with both reading and math scores. There were 22,130 students in the 2012–2013 ACP teacher/student cohort and 22,170 students in the 2013–2014 ACP teacher/student cohorts who had reading and/or math scores. Data were presented by grade level, mean NCEs, and standard deviations for each ACP group.
- Independent samples t-test analysis was conducted using STAAR scale scores and Stanford 10 NCEs to determine whether there were statistically significant differences between the ETF and non-ETF groups at the $p < .05$ level using IBM SPSS software. STAAR scale scores allow direct comparisons of student performance between specific sets of test questions from different test administrations (Texas Education Agency, 2014).
- Value-added analysis used in this report was calculated using the EVAAS® model. Value-added analysis compares the change in achievement of a group of students from one year to the next with an expected amount of change based on the students' prior achievement history. HISD uses value-added analysis to measure the impact of the district's curriculum and instruction on students' academic progress from year to year. Teacher's composite gain index was used in the analysis. The gain index is calculated by dividing the growth measure by the standard error (HISD Department of Research and Accountability website). Interpretation of the composite gain index can be found in **Appendix J**.
- Linear mixed-effects modeling was used to determine predictors of students' STAAR reading and math scores. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The model controlled for economic status, at risk status, race, gender, and whether students were classified as special education.

Limitations

There are several limitations to the study. The limitations are as follows.

- Results of students identified as having a teacher in only one of the four ACP programs were analyzed in this evaluation. This was done to control for confounding effects and to differentiate how much of the observed effect on outcomes was due to student's exposure to a teacher who participated in a specific ACP rather than a combination of ACPs (What Works Clearinghouse, Procedures and Standards Handbook, version 2.1, 2010).

- Analyses did not take into account students' previous year's performance and its impact on current performance.
- As a result of the emphasis on teacher certification route, ACP teachers may have been concentrated in specific types of schools, which could have had a disproportional impact on student achievement.
- ACPs may vary in how the program is implemented; therefore, grouped data may mask student learning effects of individual ACPs.

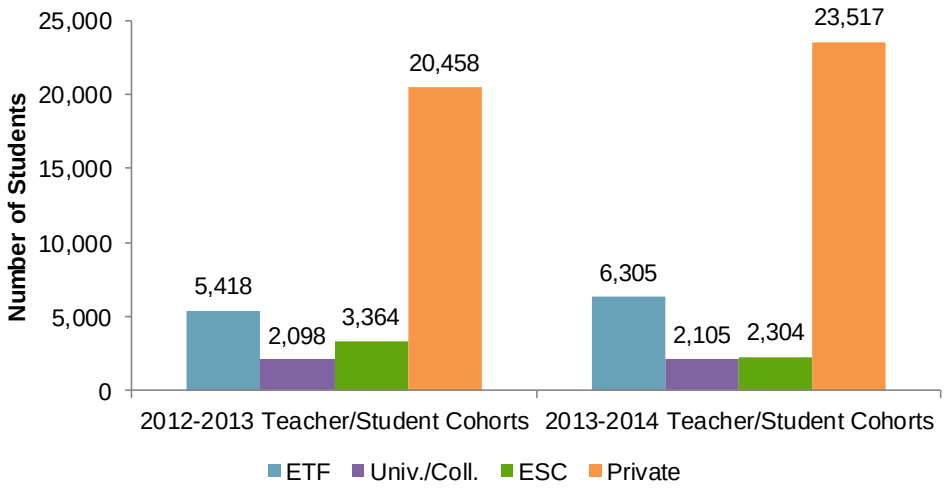
Results

What was the profile of ACP cohort students in the study sample, 2012–2013 and 2013–2014?

Figure 1 presents the total number of students in the study sample by their teacher's ACP. The demographic characteristics of these students can be found in **Appendix C.** A profile of the students by cohort year and teacher ACP is presented below.

- The highest number of students in both the 2012–2013 and the 2013–2014 ACP cohorts were students of private entity ACP teachers. ETF had the second highest number of students in the study sample in both years.
- For the 2012–2013 ACP cohorts, students of ETF, ESC, and Private entity teachers were predominately Hispanic. ETF teachers had the highest percentage of students who were economically disadvantaged (89.7 percent) and LEP (43.7 percent), but the lowest percentage of students classified as Special Education (6.2 percent). The ESC cohort had the highest percent of at-risk students (52.3 percent) compared to ETF and private entity cohorts (49.6 percent) and the university/community college cohort (42.3 percent).
- Similar to the previous year cohorts, Hispanic students were more prevalent among students of teachers in the 2013–2014 ACP cohorts. In addition, ETF had the highest percentage of economically-disadvantaged (87.4 percent) and at risk (69.9 percent) students; whereas, the private entity cohort had the highest percentage of students classified as Special Education (8.8 percent) among the ACPs.

Figure 1. Number of students in the study sample, 2012–2013 and 2013–2014 ACP cohorts



Did students of 2012–2013 and the 2013–2014 ETF ACP cohorts attain higher reading and mathematics achievement than students of teachers who participated in university/community college, education service center, and private entity ACPs?

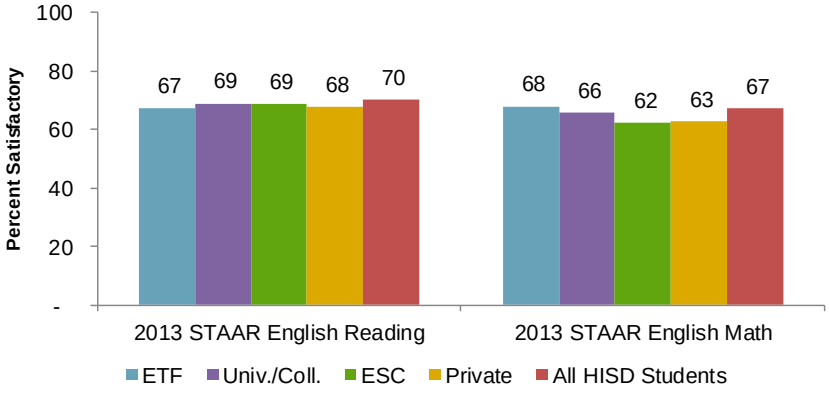
The academic performance of students whose teachers were ETF, university/community college, ESC, or private ACP teachers in 2012–2013 and 2013-2014 was measured using the regular English STAAR at the met Level II, phase in 1 Satisfactory standards in reading and mathematics. STAAR scale score analysis was also conducted. Combined results for grades three through eight are presented here, while grade level passing rates and scale score means can be found in **Appendix D**. Additional analyses of ETF compared to non-ETF ACP cohorts are also presented in this report.

STAAR English Reading and Math Performance, 2012–2013 ACP Cohorts

STAAR English Reading Grades 3 – 8

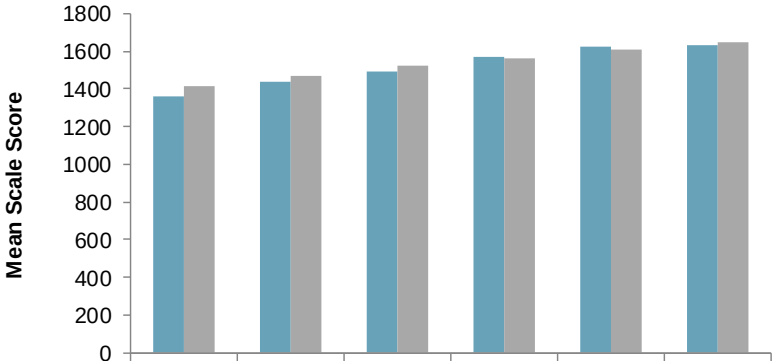
- Among the 2012–2013 ACP cohorts, **Figure 2** shows that the highest percentage of students who met Satisfactory on the 2013 STAAR English reading test were students of university/community college and education service center ACP cohorts (69 percent). Students of the ETF ACP cohort attained the lowest percentage of students who met Satisfactory on the reading test (67 percent).
- The percent of students who met Satisfactory on the 2013 reading STAAR was slightly higher for all HISD students compared to all ACP cohorts. The difference in performance of all HISD students and students of ETF teachers was three percentage points (Figure 2).

Figure 2. Percent met Satisfactory, English STAAR reading and math, 2012–2013 ACP cohorts, spring 2013



- STAAR English reading scale score analysis by grade level for students of ETF teachers compared to students of non-ETF teachers reveals that the ETF student group attained higher mean reading scale scores at the sixth and seventh grades. The differences in performance at the third through fifth, seventh, and eighth grades were statistically significant ($p < .05$) (**Figure 3**, Appendix D).

Figure 3. 2013 English STAAR reading scale score analysis, 2012–2013 ETF vs. Non-ETF ACP



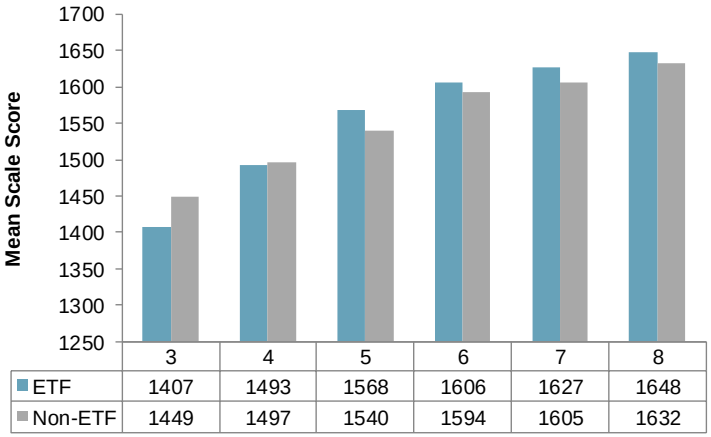
	3	4	5	6	7	8
ETF	1363	1435	1495	1570	1621	1634
Non-ETF	1417	1465	1520	1562	1610	1650

Note: Statistical significance on 2013 English STAAR reading at grades 3, 4, 5, 7, and 8 ($p < .05$).

STAAR English Math Grades 3 – 8

- On the STAAR English math test, students of the 2012–2013 ETF ACP cohort outperformed students of teachers in the comparison cohorts and all HISD students (Figure 2). The difference in the percent of ETF cohort students who met Satisfactory (68 percent) was six percentage points higher than students in the lowest performing cohort, two percentage points higher than students in the highest performing cohort, and one percentage point higher than all HISD students.
- STAAR math scale score analysis by grade level (**Figure 4**) reveals that students of the ETF cohort attained higher mean scale scores than students of the non-ETF cohort at grades five through eight. These differences were statistically significant at grade three as well as at grades five through eight ($p < .05$) (Appendix D).

Figure 4. 2013 English STAAR math scale score analysis, 2012–2013 ETF vs. Non-ETF



	3	4	5	6	7	8
ETF	1407	1493	1568	1606	1627	1648
Non-ETF	1449	1497	1540	1594	1605	1632

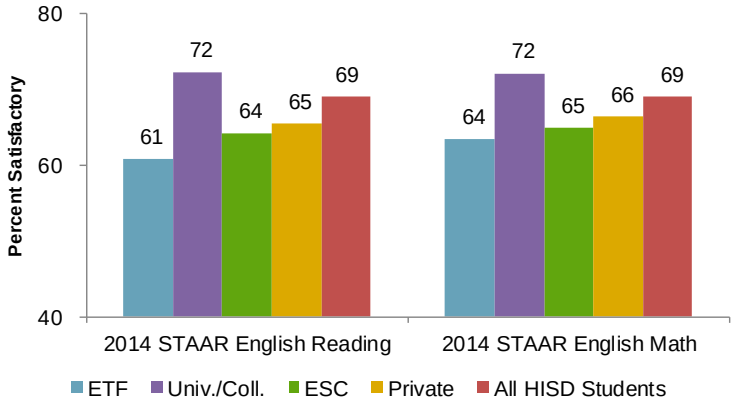
Note: Statistical significance on 2013 English STAAR math at grades 3, 5, 6, 7, and 8 ($p < .05$).

STAAR Reading and Math Performance, 2013–2014 ACP Cohorts

STAAR English Reading Grades 3 – 8

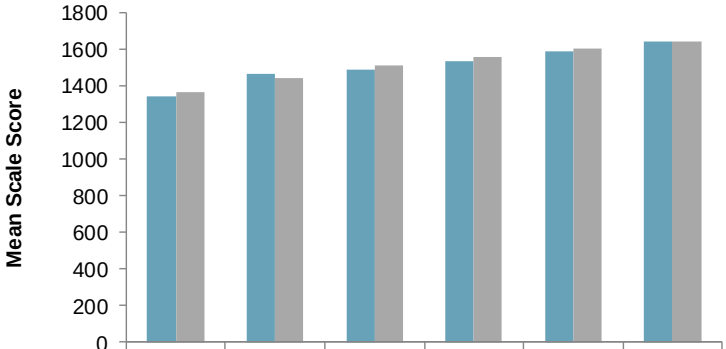
- **Figure 5** shows that students of the 2013–2014 university/community college ACP cohort achieved the highest percent met Satisfactory standard on the 2014 STAAR English reading test, outperforming students of ETF ACP teachers by 11 percentage points (72 percent vs. 61 percent).
- All HISD students outperformed students of the 2013–2014 ETF cohort by eight percentage points on the 2014 STAAR reading test (69 percent vs. 61 percent).

Figure 5. 2014 English STAAR reading and math results, 2013–2014 ACP cohorts



- STAAR reading scale score analysis by grade level for the 2013–2014 ACP cohorts can be found in **Figure 6**. It is evident that students of the ETF cohort attained a higher mean reading scale score than the non-ETF comparison group at fourth grade only. Statistically significant differences in the performance in the ETF student group relative to the non-ETF student group were detected at third through sixth grades ($p < .05$) (Appendix E).

Figure 6. 2014 English STAAR reading scale score analysis, 2013–2014 ETF vs. Non-ETF ACP



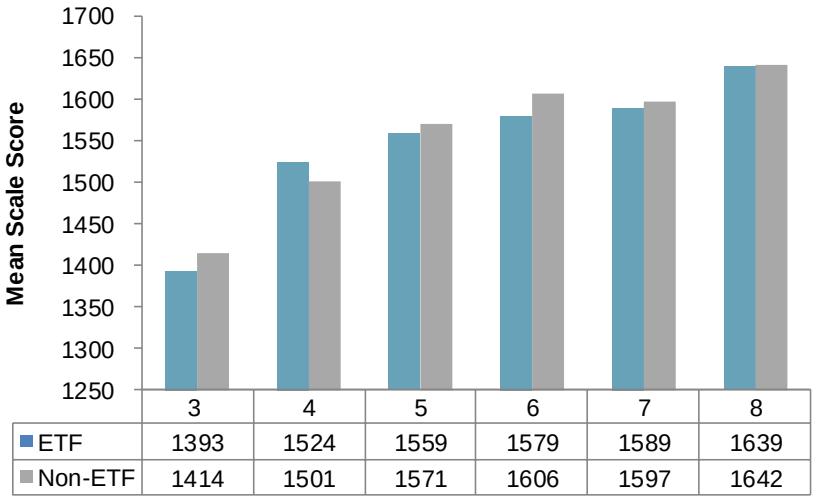
	3	4	5	6	7	8
ETF	1345	1468	1490	1535	1586	1641
Non-ETF	1366	1443	1508	1559	1599	1643

Note: Statistical significance on 2014 English STAAR reading at grades 3, 4, 5, and 6 ($p < .05$).

STAAR English Math Grades 3 – 8

- On the 2014 STAAR English math test (Figure 5), students of the 2013–2014 university/community college cohort attained the highest percent met Satisfactory standard (72 percent); whereas, the ETF cohort had the lowest percent of students who met the standard (64 percent).
- The all HISD student group outperformed the ETF group by five percentage points in 2014 (69 percent vs. 64 percent).
- 2014 English STAAR math scale score analysis by grade level (**Figure 7**) shows that the ETF student group attained a higher mean math scale score compared to the non-ETF student group at fourth grade. The difference in the mean math score at fourth grade was statistically significant ($p < .05$). Statistical significance was also noted at third, fifth, and sixth grades in favor of the non-ETF student group (Appendix E).

Figure 7. 2014 English STAAR math scale score analysis, 2013–2014 ETF vs. Non-ETF ACP



	3	4	5	6	7	8
ETF	1393	1524	1559	1579	1589	1639
Non-ETF	1414	1501	1571	1606	1597	1642

Note: Statistical significance on 2014 English STAAR math at grades 3, 4, 5, and 6 ($p < .05$).

STAAR End-of-Course (EOC) Exams

STAAR EOC exam analysis included English language arts (ELA) and math test results for seventh through tenth-grade students at the Level II phase-in 1 standard. The results of students whose teachers were 2012–2013 and 2013–2014 ACP teachers are presented by program.

STAAR EOC, 2012–2013 ACP Cohort

Figure 8 depicts student performance by 2012–2013 cohorts on the ELA I - Reading, ELA I - Writing, and Algebra I EOC exams and for all students tested in the district. Additional data can be found in **Appendix F**.

- Students of teachers in the 2012–2013 university/community college cohort attained the highest 2013 ELA I - Reading, ELA I - Writing, and Algebra I EOC exam results among the ACP cohorts. This group's performance exceeded the ETF group by 25 percentage points on the ELA I - Reading exam, 35 percentage points on the ELA I - Writing exam, and 7 percentage points on the Algebra I exam (Figure 8).
- STAAR EOC scale score analysis by exam (**Figure 9**) shows that students of the ETF cohort attained a higher mean Algebra I scale score than students of non-ETF teachers. The difference in the mean Algebra I scale scores was statistically significant ($p < .05$) (Appendix F).

Figure 8. STAAR EOC ELA I - Reading, ELA I - Writing, and math exams, 2012–2013 ACP cohorts, spring 2013

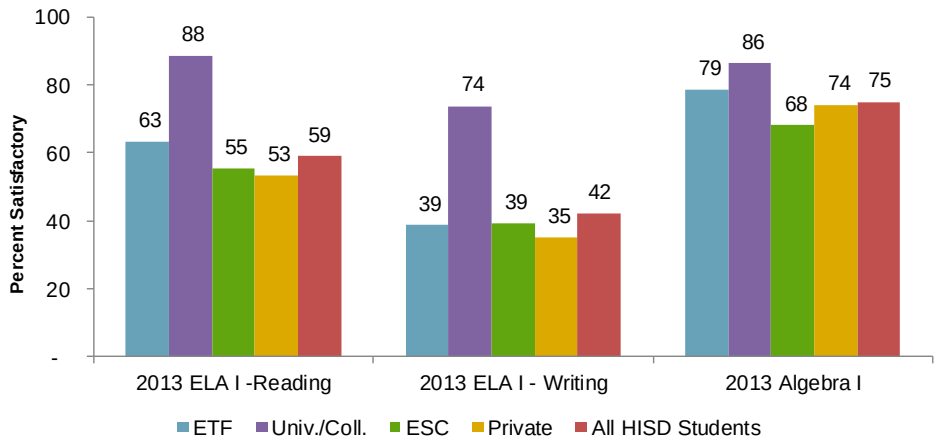
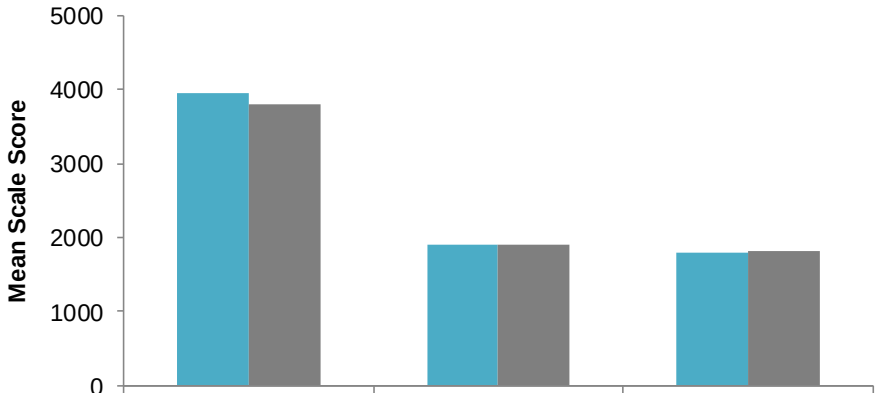


Figure 9. STAAR EOC Algebra I, ELA I - Reading, and ELA I - Writing scale score analysis, 2012–2013 ETF vs. Non-ETF cohorts, spring 2013



	Algebra I	ELA I - Reading	ELA I - Writing
ETF	3943	1910	1798
Non-ETF	3805	1910	1809

Note: Statistical significance on 2013 STAAR Algebra I EOC exam (p < .05).

STAAR EOC, 2013–2014 ACP Cohort

Figure 10 depicts student performance for 2013–2014 ACP cohort teachers on the newly-revised English I and Algebra I EOC exams. Additional data can be found in **Appendix G**.

- Among the 2013–2014 cohorts, the highest percentage of students who met Satisfactory on the 2014 English I exam were students of private entity ACP teachers compared to students in other ACP cohorts. The percentage of ETF cohort students who met Satisfactory on the exam was eight percentage points lower than Private entity ACP cohort students based on these standards (52 percent vs. 44 percent) (Figure 10).

- On the Algebra I exam, the percentage of students who met Satisfactory was highest for students of the 2013–2014 ESC ACP cohort compared to other cohort students. The percentage of ETF cohort students who met Satisfactory on the test was eight percentage points lower than the ESC cohort (78 percent vs. 70 percent) (Figure 10).
- STAAR EOC scale score analysis by exam (**Figure 11**) shows that students of ETF teachers attained lower mean Algebra I and English I scale scores than students of non-ETF teachers. The differences in mean Algebra I and English EOC scale scores were statistically significant in favor of non-ETF students ($p < .05$) (Appendix G).

Figure 10. STAAR EOC English I and Algebra I results, 2013–2014 ACP cohort, spring 2014

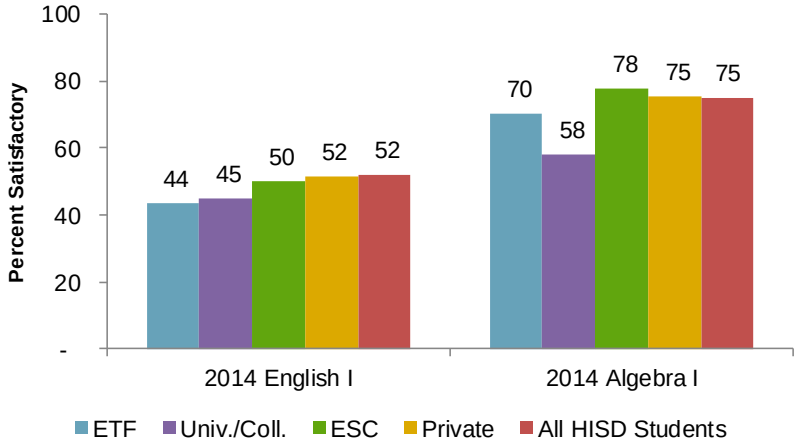
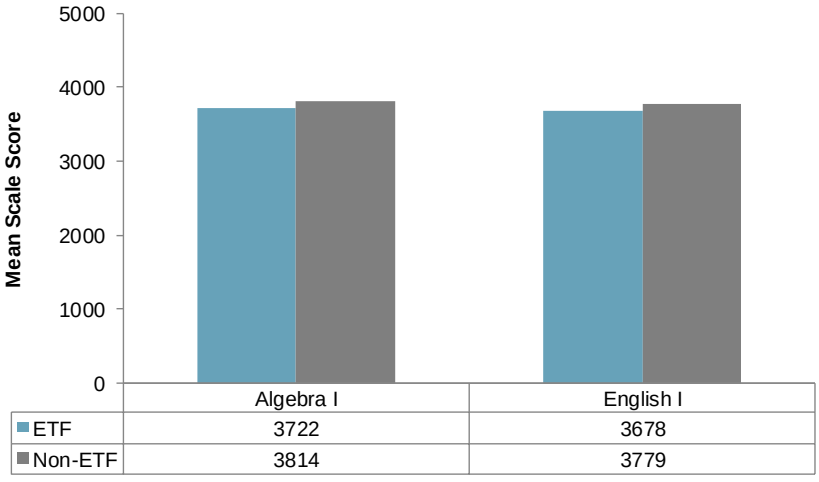


Figure 11. STAAR EOC Algebra I and English I scale score analysis, 2013–2014 ETF vs. Non-ETF, spring 2014



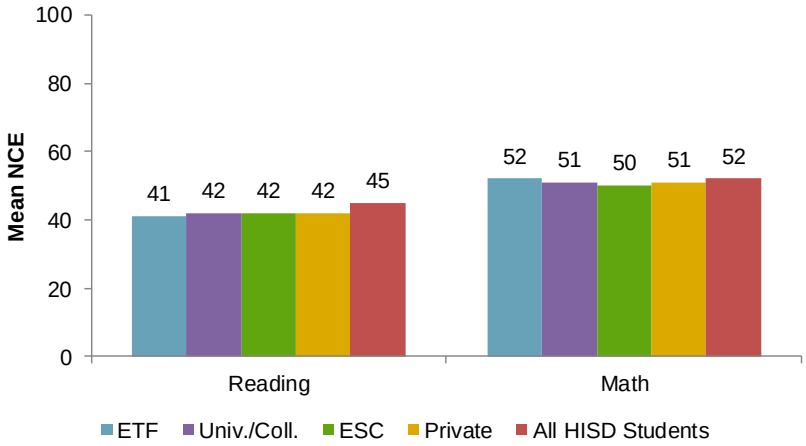
Note: Statistical significance on the 2014 STAAR Algebra I and English I EOC exams ($p < .05$).

Stanford 10 Achievement Test, 2012–2013 and 2013–2014 ACP Cohorts

Stanford 10 results for 2012–2013 ACP cohorts in reading and math are provided in **Figure 12**. More detail analyses is presented in **Appendix H**.

- The mean reading normal curve equivalents (NCEs) ranged from 41 to 42 NCEs and from 50 to 52 NCEs in math for students of ACP cohorts. These scores were within the average range (between 40 – 60 NCEs).
- Although slight, the mean NCE for students of the 2012–2013 ETF ACP cohort compared to other ACP cohorts was the lowest in reading (41 NCEs), but the highest in math (52 NCEs).
- The mean NCE for HISD was higher than students of the ETF ACP cohort (45 NCEs vs. 41 NCEs), but comparable in math (52 NCEs for both student groups).

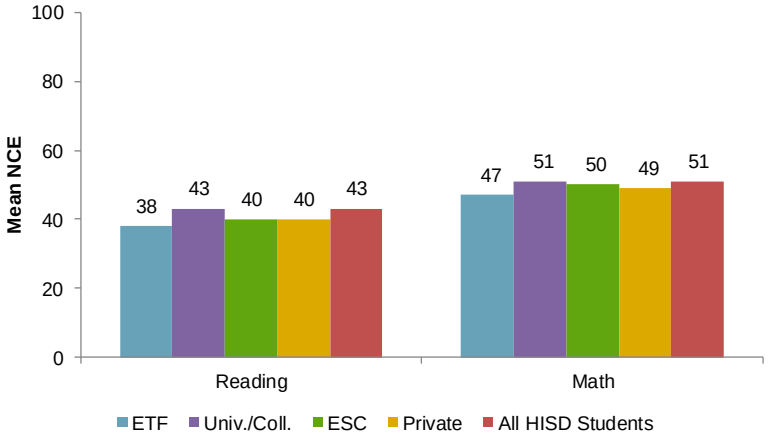
Figure 12. Mean 2013 Stanford 10 Reading and Math NCEs, 2012–2013 ACP Cohorts



Stanford 10 results for students of the 2013–2014 ACP cohorts in reading and math are provided in **Figure 13**. More detail analyses is shown in **Appendix I**.

- Students in the 2013–2014 university/community college ACP cohort attained the highest mean reading NCE score compared to other ACP cohorts. Students in the ETF cohort attained the lowest mean NCE score in reading (38 NCEs), which is slightly below average performance.

Figure 13. Mean 2014 Stanford 10 Reading and Math NCEs, 2013–2014 ACP Cohorts



- On the Stanford 10 math test, students in the 2013–2014 university/community college ACP cohort attained a slightly higher mean math NCE score than the other ACP cohorts, which was four NCEs higher than the ETF cohort (51 NCEs vs. 47 NCEs). HISD student performance was comparable to the university/community college ACP cohort.

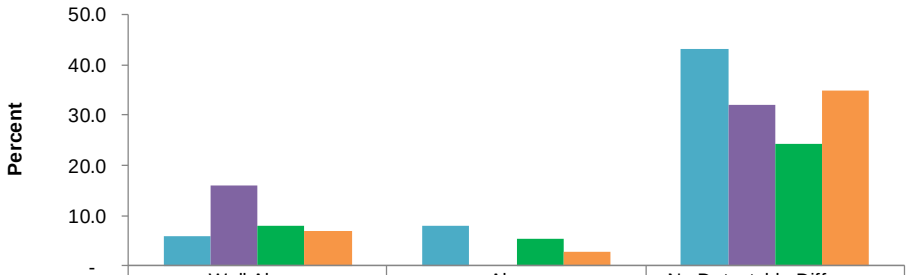
What was the impact of teacher ACPs on student academic progress based on EVAAS value-added results?

Value-added, 2012–2013 and 2013–2014 ACP Cohorts

Value-added analysis was conducted to compare the change in performance of student groups by ACP teacher from one year to the next. Teachers' composite gain indices were used in the analysis. The gain index is calculated by dividing the growth measure by the standard error. An explanation of the measure is depicted in **Appendix J**.

- **Figure 14** shows that, for the 2013–2014 ACP cohorts, a higher percentage of university/community college ACP teachers attained gain index scores that were within the "well above" average range (16.0 percent). Students in this group made substantially more progress than the Standard for Academic Growth by 2 standard errors or more. Comparatively, 6.0 percent of the ETF ACP cohort received student progress scores that fell within the "well above" average range.

Figure 14. Composite Gain Index Score, 2012–2013 ACP Cohorts

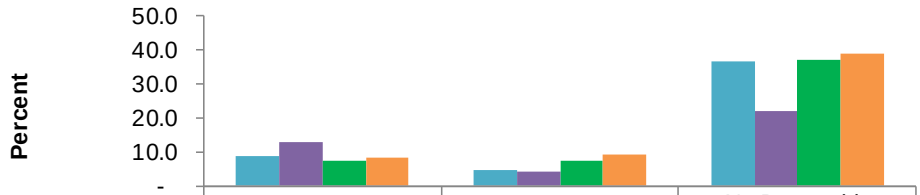


	Well Above	Above	No Detectable Difference
ETF	6.0	8.0	43.0
University/College	16.0	-	32.0
Education Service Center	8.1	5.5	24.3
Private Entity	7.0	2.7	34.8

- **Figure 15** shows that, for the 2013–2014 cohorts, a higher percentage of university/community college ACP teachers attained gain index scores that were within the "well above" average range (13.0 percent). Comparatively, 8.9 percent of the ETF ACP cohort received gain index scores that fell within the "well above" average range.

- A comparison of composite gain index results for the 2012–2013 and the 2013–2014 ACP cohorts revealed a reduction in the gap between the percentage of ETF and university/community college ACP teachers who scored "well above" average (6.0 and 16.0 percent, respectively compared to 8.9 and 13.0 percent, respectively).

Figure 15. Composite Gain Index Score, 2013–2014 ACP Cohorts



	Well Above	Above	No Detectable Difference
ETF	8.9	4.4	36.7
University/College	13.0	4.3	21.7
Education Service Center	7.4	7.4	37.0
Private Entity	8.2	9.3	38.7

ETF University/College Education Service Center Private Entity

What factors were the strongest predictors of students' reading and mathematics achievement, considering teachers' ACP status and students' demographic characteristics among traditionally underperforming student groups?

Tables 2 and **3** present multiple regression analyses using English STAAR reading and math scale scores for grades 3–8 as the dependent variables and ETF vs. non-ETF, gender, economic status, at-risk status, special education classification and LEP status as independent variables. The ethnicity of traditionally lower performing students (Black vs. non-Black and Hispanic vs. non-Hispanic) were also included in the model as independent variables. *Beta* coefficients and *p*-values are depicted in Tables 2 and 3.

Table 2. Multiple Regression Analysis Predicting 2013 STAAR Reading and Math Scale Score Performance

	STAAR English Reading		***STAAR English Math***	
	Total N = 18,907		**Total N =** 17,683	
	Beta	***p***	***β***	***p***
ACP (ETF = 1, non-ETF = 0)	.021	.002	.072	.000
Gender	-.038	.000	.022	.002
Economic Status	-.159	.000	-.122	.000
At Risk	-.100	.000	-.195	.000
Special Education	-.107	.000	-.111	.000
LEP	-.268	.000	.004	.655
Black	-.304	.000	-.366	.000
Hispanic	-.160	.000	-.221	.000
	Adjusted R^2 = .219		***Adjusted R^2 = .153***	

Multiple Regression Analysis

- For the 2012–2013 ACP cohorts, all of the independent variables in the model made a significant unique contribution toward the prediction of students' 2013 STAAR reading scale scores; and all of the independent variables in the model, except LEP status, made a significant unique contribution toward the prediction of students' 2013 STAAR math scale scores.
- The ETF student group consistently had higher reading and math scale scores than the non-ETF student group (*Beta* = .021 for reading and *Beta* = .072 for math).
- Beta coefficients indicated that traditionally underperforming student groups (i.e., Black vs. non-Black, Hispanic vs. non-Hispanic, economically disadvantaged, Special Education, and at risk students) consistently had lower reading and math scale scores than their counterparts. This finding was also evident for LEP students in reading.

Table 3 presents multiple regression analysis using 2014 STAAR reading and math scale scores for grades 3-8 as the dependent variable and student demographic characteristics as the independent variables.

- For the 2013–2014 ACP cohorts, all of the independent variables in the model made a significant unique contribution toward the prediction of students' 2014 STAAR reading scale scores; and all of the independent variables in the model, except gender, made a significant unique contribution toward the prediction of students' 2014 STAAR math scale scores.
- The ETF student group consistently had lower reading and math scale scores than the non-ETF student group (β = -.107 for reading and β = .081 for math) relative to the constant.
- Beta coefficients indicated that traditionally underperforming student groups (i.e., Black vs. non-Black, Hispanic vs. non-Hispanic, economically disadvantaged, Special Education, and at risk students) consistently had lower reading and math scale scores than their counterparts. In addition, LEP students had consistently lower reading scores but higher math scores than non-LEP students in the model relative to the constant.

Table 3. Multiple Regression Analysis Predicting 2014 STAAR Reading and Math Scale Score Performance

	STAAR English Reading		***STAAR English Math***	
	Total N = 18,843		**Total N =** 17,692	
	Beta	***p***	***Beta***	***p***
ACP (ETF = 1, non-ETF = 0)	-.107	.000	-.081	.000
Gender	-.035	.000	.003	.626
Economic Status	-.127	.000	-.075	.000
At Risk	-.387	.000	-.389	.000
Special Education	-.054	.000	-.060	.000
LEP	-.094	.000	.046	.000
Black	-.284	.000	-.339	.000
Hispanic	-.132	.000	-.170	.000
	Adjusted R^2 = .292		***Adjusted R^2 = .250***	

Discussion

The research indicates that alternative routes of teacher certification may play a critical role in expanding the pool of teachers (Education Week, 2004); however, the impact of ACPs on student performance is not definitive (Allen, 2003; Boyd, Grossman, Lankford, & Wyckoff, 2005). The Effective Teacher Fellowship Alternative Certification Program (ETF) was designed to address critical shortage areas in HISD that are specific to students' academic abilities and special program needs (i.e., bilingual

education, and special education). This evaluation was designed to provide insight into the extent that ACPs contribute toward student learning in order to facilitate successful planning of a quality ACP program in HISD.

This program evaluation compared the test performance of student samples whose teachers participated in four types of ACPs during the 2012–2013 and 2013–2014 academic years (ETF, university/community college, ESC, and private entity). The majority of students in the samples were students of private entity ACP teachers. At the same time, the ETF cohorts had the highest percentage of students who were economically-disadvantaged for both cohort years.

The analyses of reading and mathematics achievement revealed mixed results, depending on the test and student grade level. However, among the most notable findings, the 2012–2013 ETF ACP cohort outperformed students of teachers in comparison ACP cohorts as well as all HISD students on the 2013 STAAR math tests (Level II phase-in I, percent met Satisfactory standards), while the university/community college ACP cohort and ESC had the highest percentage of students who met Satisfactory performance standards on the 2013 STAAR reading tests. In addition, the 2013–2014 university/community college ACP cohort had the highest percentage of students who met Satisfactory standards on the 2014 STAAR reading and math tests. The majority of grades 3 through 8 ETF student groups outperformed non-ETF students at comparable grade levels for the 2013–2014 cohorts. EOC reading, writing, and math exam results did not definitively identify a specific ACP type whose students consistently outperformed other ACP cohorts during the 2012–2013 and 2013–2014 academic years. The lack of control for students' previous years' academic performance limited the interpretation of these results. Nevertheless, considering ETF's "Grow-Your-Own" model, there was evidence that gaps are being reduced between ETF and non-ETF teachers based on value-added data reflecting student growth.

Regardless of ACP cohort, consistent with prior research, traditionally underperforming students (Black, Hispanic, economically disadvantaged, at risk, Special Education, and LEP), had lower STAAR reading and math scores than their counterparts. This finding may reflect a need for ETF program administrators to strengthen their focus of professional development activities on best practices that address students' diverse learning styles and culture, and that are designed to improve performance for all students (e.g., Universal Design of Learning). Program strategies could build on the content knowledge and pedagogy of teachers at each grade level to strengthen alignment with the TEKS. Additional considerations could be made regarding implementing more stringent teacher selection and placement practices that take into account the teachers' preparation and experience, as well as the backgrounds and academic needs of targeted students.

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Appendix A

ACP Program

Houston Independent School District ETF (Group 1)

University/Community College (Group 2)

- ACP A&M Baylor
- ACP -ACT Houston
- ACP Cy-Fair College
- ACP Houston Baptist University
- ACP Houston Community College
- ACP Houston of St. Thomas
- ACP Kingwood College
- ACP Lamar University
- ACP LeTourneau University
- ACP Prairie View A&M U
- ACP Rice University
- ACP San Jacinto College North
- ACP Texas Lutheran University
- ACP U of H - Victoria
- ACP U of H Downtown
- ACP U of Texas - El Paso
- ACP University of Houston
- ACP University of Phoenix
- ACP Texas Southern University
- Sam Houston PB Intern IN 5

Education Service Center (Group 3)

- ACP ESC Region IV
- ACP Harris County Department of Education
- ACP Region 1
- ACP Region 12
- ACP Region 20

Private Entity (Group 4)

- ACP ATC-East Houston
- ACP Career in Texas
- ACP I TEACHTEXAS
- ACP Texas Teachers
- ACP WebCentric
- ACP Collin County
- ACP Cycle 22C
- ACP Teacher Builder
- ACP Texas Alternative Cert
- Education Career Alternatives

Appendix B

Effective Teacher Fellowship (ETF)
Program Overview

Application and Selection:

- Applicants will complete an online application that includes personal and professional information as well as a written assessment and a screening questionnaire. A short math assessment will be completed for those candidates seeking any generalists or special education certifications.
- Applicants must upload all college level transcripts with your online application. Applicants must also upload passed THEA scores if the undergraduate overall GPA is below a 3.0, but above a 2.75. (**Note:** Once accepted, applicants will need to submit official transcripts of all college level course work, including those showing a conferred undergraduate degree.)
- Applicants will participate in a structured interview to evaluate candidate mindset.
- Applicants must pass a complete district screening (including an initial Human Resources application screening, a transcript evaluation, and formal background check) to be officially accepted into our program.

Pre-Service Training:

- Applicants must complete 30 hours of field experience on an HISD campus over the course of the district's summer school session (June 2014).
- Applicants will be required to attend a number of professional learning courses as scheduled by the Effective Teacher Fellowship.

Internship:

- Applicants will complete a year-long internship as full-time teachers on campuses across the district.
- Applicants must accumulate 300 hours of professional development throughout their internship. This includes attending in-person professional learning courses, completing online modules, and participating in educational book studies.

Certification:

- Applicants must complete all program requirements as determined by the Effective Teacher Fellowship—including a satisfactory year of teaching in an HISD classroom.

APPENDIX C

Profile of ACP Study Sample

Table 2a. Profile of ETF Student Group, 2012–2013 and 2013–2014 ACP Cohorts

Subgroup	Academic Year			
	2012–2013		2013–2014	
	N	%	N	%
ETF	**5,418**	**100.0**	**6,305**	**100.0**
Gender				
Female	2,645	48.8	3,118	49.5
Male	2,773	51.2	3,187	50.5
Ethnicity				
American Indian	8	.1	20	.3
Asian	114	2.1	163	2.6
African-American	871	16.1	1,776	28.2
Hispanic	4,231	78.1	4,060	64.4
White	167	3.1	255	4.0
Two or More	27	.5	31	.5
Economically Disadvantaged	4,860	89.7	5,513	87.4
At Risk	2,689	49.6	4,408	69.9
Special Education	336	6.2	494	7.8
Limited English Proficiency	2,368	43.7	2,196	34.8
Gifted & Talented (G/T)	942	17.4	757	12.0

Table 2b. Profile of University/Community College Student Group, 2012–2013 and 2013–2014 ACP Cohorts

Subgroup	Academic Year			
	2012–2013		2013–2014	
	N	%	N	%
University/Community College	**2,098**	**100.0**	**2,105**	**100.0**
Gender				
Female	1,091	52.0	1,035	49.2
Male	1,007	48.0	1,070	50.8
Ethnicity				
American Indian	4	.2	1	<.1
Asian	74	3.5	49	2.3
African-American	764	36.4	617	29.3
Hispanic	1,041	49.6	1,232	58.5
White	196	9.3	197	9.4
Two or More	19	.9	9	.4
Economically Disadvantaged	1,626	77.5	1,596	75.8
At Risk	887	42.3	1,267	60.2
Special Education	142	6.8	183	8.7
Limited English Proficiency	554	26.4	517	24.6
Gifted & Talented (G/T)	392	18.7	395	18.8

APPENDIX C cont'd

Profile of Study Sample

Table 2c. Profile of Education Service Center Student Group, 2012–2013 and 2013–2014 ACP Cohorts

Subgroup	Academic Year			
	2012–2013		2013–2014	
	N	%	N	%
Education Service Center	**3,364**	**100.0**	**2,304**	**100.0**
Gender				
Female	1,675	49.8	1,106	48.0
Male	1,689	50.2	1,198	52.0
Ethnicity				
American Indian	7	.2	7	.3
Asian	75	2.2	55	2.4
African-American	662	19.7	477	20.7
Hispanic	2,344	69.7	1,640	71.2
White	255	7.6	115	5.0
Two or More	21	.6	10	.4
Economically Disadvantaged	2,658	79.0	1,965	85.3
At Risk	1,760	52.3	1,532	66.5
Special Education	285	8.5	160	6.9
Limited English Proficiency	1,054	31.3	915	39.7
Gifted & Talented (G/T)	598	17.8	324	14.1

Table 2d. Profile of Private Entity Student Group, 2012–2013 and 2013–2014 ACP Cohorts

Subgroup	Academic Year			
	2012–2013		2013–2014	
	N	%	N	%
Private Entity	**20,458**	**100.0**	**23,517**	**100.0**
Gender				
Female	9,916	48.5	11,490	48.9
Male	10,542	51.5	12,027	51.1
Ethnicity				
American Indian	31	.2	55	.2
Asian	513	2.5	638	2.7
African-American	6,150	30.1	7,532	32.0
Hispanic	12,369	60.5	13,764	58.5
White	1,242	6.1	1,385	5.9
Two or More	153	.7	143	.6
Economically Disadvantaged	16,790	82.1	19,413	82.5
At Risk	10,144	49.6	15,147	64.4
Special Education	1,879	9.2	2,066	8.8
Limited English Proficiency	6,218	30.4	6,284	26.7
Gifted & Talented (G/T)	3,258	15.9	3,312	14.1

APPENDIX D

2013 STAAR English Reading, 2012–2013 ACP Cohorts

2012–2013 ACP Cohort	Grade	N	N Satisfactory	% Satisfactory	N Advanced	% Advanced	Mean of Scale Score
ETF	3	180	113	62.8	17	9.4	1362.52
	4	415	206	49.6	30	7.2	1434.88
	5	531	329	62.0	53	10.0	1495.22
	6	1158	768	66.3	177	15.3	1569.90
	7	991	730	73.7	123	12.4	1620.96
	8	752	562	74.7	75	10.0	1633.69
University/Community College	3	81	59	72.8	14	17.3	1414.41
	4	137	96	70.1	26	19.0	1500.46
	5	279	193	69.2	31	11.1	1515.85
	6	283	182	64.3	52	18.4	1569.64
	7	250	182	72.8	25	10.0	1606.19
	8	138	91	65.9	16	11.6	1616.33
ESC	3	153	104	68.0	13	8.5	1369.97
	4	303	175	57.8	50	16.5	1459.56
	5	235	185	78.7	79	33.6	1576.97
	6	235	164	69.8	45	19.1	1586.26
	7	499	343	68.7	33	6.6	1602.73
	8	325	230	70.8	48	14.8	1644.74
Private	3	949	730	76.9	201	21.2	1424.30
	4	1594	907	56.9	223	14.0	1463.50
	5	1596	1060	66.4	203	12.7	1512.69
	6	2127	1263	59.4	351	16.5	1558.70
	7	2837	1967	69.3	344	12.1	1611.47
	8	2860	2177	76.1	471	16.5	1652.11

APPENDIX D cont'd

Independent Samples T-test

2013 STAAR Reading, 2012–2013 ETF vs. Non-ETF Cohorts							
Grade	**Group**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Deviation**	**t**	**p**
3	ETF	180	1362.52	-54.072	124.656	-5.346	.000**
	Non-ETF	1183	1416.59		137.473		
4	ETF	415	1434.88	-30.522	121.091	-4.523	.000***
	Non-ETF	2034	1465.41		144.074		
5	ETF	531	1495.22	-25.047	111.449	-4.492	.000***
	Non-ETF	2110	1520.27		127.415		
6	ETF	1158	1569.90	7.583	132.271	1.567	.117
	Non-ETF	2645	1562.32		148.252		
7	ETF	991	1620.96	11.076	113.961	2.694	.007**
	Non-ETF	3586	1609.88		116.641		
8	ETF	752	1633.69	-16.215	106.341	-3.680	.000***
	Non-ETF	3323	1649.91		120.546		

Note: Statistical significant at *p < .05, **p < .01, ***p<.001

APPENDIX D cont'd

2013 STAAR English Math, 2012–2013 ACP Cohorts

2012–2013 ACP Cohort	Grade	N	N Satisfactory	% Satisfactory	N Advanced	% Advanced	Mean of Scale Score
ETF	3	172	92	53.5	15	8.7	1407.49
	4	412	231	56.1	38	9.2	1493.25
	5	532	372	69.9	84	15.8	1568.42
	6	1163	816	70.2	184	15.8	1606.24
	7	925	614	66.4	59	6.4	1627.39
	8	623	472	75.8	9	1.4	1648.06
University/Community College	3	83	59	71.1	16	19.3	1489.10
	4	138	77	55.8	13	9.4	1493.64
	5	283	174	61.5	16	5.7	1526.36
	6	277	194	70.0	44	15.9	1608.34
	7	235	150	63.8	3	1.3	1596.43
	8	111	84	75.7	0	0.0	1639.37
ESC	3	154	75	48.7	11	7.1	1394.37
	4	304	165	54.3	28	9.2	1490.97
	5	240	173	72.1	63	26.3	1595.39
	6	236	162	68.6	41	17.4	1612.12
	7	494	304	61.5	13	2.6	1598.25
	8	255	167	65.5	2	.8	1622.42
Private	3	945	596	63.1	155	16.4	1454.92
	4	1580	881	55.8	185	11.7	1498.69
	5	1598	959	60.0	186	11.6	1534.34
	6	2103	1364	64.9	297	14.1	1589.63
	7	2754	1715	62.3	124	4.5	1607.34
	8	2067	1399	67.7	43	2.1	1633.23

APPENDIX D cont'd

Independent Samples T-Test

2013 STAAR Math, 2012–2013 ETF vs. Non-ETF Cohorts							
Grade	**Group**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Deviation**	**t**	**p**
3	ETF	172	1407.49	-41.941	139.817	-3.616	.000***
	Non-ETF	1182	1449.43		157.135		
4	ETF	412	1493.25	-3.933	129.991	-551	.582
	Non-ETF	2022	1497.18		141.376		
5	ETF	532	1568.42	28.239	133.738	4.286	.000***
	Non-ETF	2121	1540.18		144.068		
6	ETF	1163	1606.24	12.595	153.965	2.303	.021*
	Non-ETF	2616	1593.64		157.888		
7	ETF	925	1627.39	22.082	134.750	4.542	.000***
	Non-ETF	3483	1605.31		118.108		
8	ETF	623	1648.06	15.682	91.737	3.759	.000***
	Non-ETF	2433	1632.38		97.344		

Note: Statistical significant at *p < .05, **p < .01, ***p<.001

APPENDIX E

2014 STAAR English Reading, 2013–2014 ACP Cohorts

2012–2013 ACP Cohort	Grade	N	N Satisfactory	% Satisfactory	N Advanced	% Advanced	Mean of Scale Score
ETF	3	544	287	52.8	23	4.2	1345.26
	4	601	397	66.1	44	9.2	1467.98
	5	872	515	59.1	66	7.6	1489.50
	6	762	444	58.3	80	10.5	1534.85
	7	372	225	60.5	45	12.1	1586.33
	8	499	350	70.1	78	15.6	1641.46
University/Community College	3	15	4	26.7	1	6.7	1319.27
	4	67	36	53.7	4	6.0	1441.81
	5	272	193	71.0	42	15.4	1526.67
	6	288	255	88.5	62	21.5	1633.95
	7	31	23	74.2	5	16.1	1636.74
	8	268	169	63.1	10	3.7	1605.14
ESC	3	47	18	38.3	1	2.1	1305.43
	4	331	192	58.0	21	6.3	1442.92
	5	171	109	63.7	25	14.6	1527.83
	6	227	143	63.0	15	6.6	1543.81
	7	208	98	47.1	11	5.3	1548.69
	8	406	333	82.0	81	20.0	1670.11
Private	3	1045	620	59.3	89	8.5	1369.60
	4	1286	706	54.9	117	9.1	1442.89
	5	1573	956	60.8	177	11.3	1503.22
	6	2779	1836	66.1	267	9.6	1552.23
	7	3497	2299	65.7	481	13.8	1602.05
	8	2683	1991	74.2	325	12.1	1642.53

APPENDIX E cont'd

Independent T-test

2014 STAAR Reading, 2013–2014 ETF vs. Non-ETF Cohorts							
Grade	**Group**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Deviation**	**t**	**p**
3	ETF	544	1345.26	-20.939	118.191	-3.281	.001**
	Non-ETF	1107	1366.20		129.075		
4	ETF	601	1467.98	25.123	115.309	4.530	.000***
	Non-ETF	1684	1442.85		120.606		
5	ETF	872	1489.50	-18.976	119.280	-3.799	.000***
	Non-ETF	2016	1508.47		131.910		
6	ETF	762	1534.85	-23.939	132.994	-4.520	.000***
	Non-ETF	3294	1558.79		126.235		
7	ETF	372	1586.33	-13.040	133.632	-1.809	.071
	Non-ETF	3736	1599.37		121.714		
8	ETF	499	1641.46	-1.414	121.425	-.245	.807
	Non-ETF	3357	1642.88		113.916		
Note: Statistical significant at *p < .05, **p < .01, ***p<.001							

APPENDIX E cont'd

2014 STAAR English Math, 2013–2014 ACP Cohorts

2013–2014 ACP Cohort	Grade	N	N Satisfactory	% Satisfactory	N Advanced	% Advanced	Mean of Scale Score
ETF	3	542	290	53.5	38	7.0	1392.98
	4	606	404	66.7	102	16.8	1524.07
	5	870	595	68.4	132	15.2	1558.56
	6	736	445	60.5	91	12.4	1579.15
	7	335	214	63.9	29	8.7	1589.44
	8	414	278	67.1	17	4.1	1638.95
University/Community College	3	15	4	26.7	0	0.0	1281.27
	4	67	36	53.7	5	7.5	1455.37
	5	273	206	75.5	64	23.4	1598.08
	6	287	255	88.9	71	24.7	1670.67
	7	31	24	77.4	5	16.1	1646.77
	8	236	130	55.1	5	2.1	1604.13
ESC	3	47	18	38.3	2	4.3	1319.17
	4	339	199	58.7	52	15.3	1529.42
	5	170	147	86.5	42	24.7	1632.04
	6	214	144	67.3	30	14.0	1596.79
	7	187	93	49.7	5	2.7	1552.52
	8	241	176	73.0	1	.4	1630.20
Private	3	1043	626	60.0	113	10.8	1420.46
	4	1286	711	55.3	162	12.6	1496.47
	5	1563	1056	67.6	249	15.9	1559.30
	6	2726	1849	67.8	413	15.2	1600.11
	7	3331	2226	66.8	272	8.2	1598.70
	8	2134	1556	72.9	78	3.6	1647.18

APPENDIX E cont'd

Independent T-test

2014 STAAR Math, 2013–2014 ETF vs. Non-ETF Cohorts							
Grade	**Group**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Deviation**	**t**	**p**
3	ETF	542	1392.98	-21.281	143.106	-2.730	.006**
	Non-ETF	1105	1414.26		159.390		
4	ETF	606	1524.07	22.629	150.394	3.209	.001**
	Non-ETF	1692	1501.45		144.801		
5	ETF	870	1558.56	-12.186	140.692	-2.105	.035*
	Non-ETF	2006	1570.74		146.836		
6	ETF	736	1579.15	-27.013	153.650	-4.345	.000***
	Non-ETF	3227	1606.17		151.862		
7	ETF	335	1589.44	-7.245	129.687	-1.032	.302
	Non-ETF	3549	1596.69		122.109		
8	ETF	414	1638.95	-2.768	119.486	-.486	.627
	Non-ETF	2611	1641.72		105.650		
Note: Statistical significant at *p < .05, **p < .01, ***p<.001							

APPENDIX F

2013 STAAR End-of-Course, 2012–2013 ACP Cohorts

2013 STAAR EOC Results by Exam for the 2012–2013 ACP Teacher/Student Cohorts								
		N	Minimum	Maximum	Mean Scale Score	Std. Deviation	Percent Satisfactory	Percent Advanced
ETF	**Algebra I**	424	2984	6127	3942.68	519.259	78.5	21.2
	ELA I - Reading	426	1227	2638	1909.58	228.653	63.4	3.5
	ELA I - Writing	444	1274	2650	1798.02	213.065	38.7	.2
University/ Community College	**Algebra I**	248	2846	6127	3938.55	438.871	86.3	15.3
	ELA I - Reading	363	1324	3298	2088.68	228.995	88.4	15.7
	ELA - Writing	363	1383	3228	1990.76	235.296	73.8	3.0
ESC	**Algebra I**	439	2846	5588	3734.82	466.012	68.1	11.6
	ELA I - Reading	550	1324	3298	1920.93	303.145	55.3	10.2
	ELA I- Writing	578	424	3228	1823.58	297.408	39.3	3.3
Private	**Algebra I**	2989	1367	6127	3803.65	475.155	74.0	12.1
	ELA I - Reading	2913	661	3298	1886.11	251.579	53.2	5.3
	ELA I - Writing	3037	424	3228	1784.96	250.603	35.2	.8

Independent Samples T-test, 2013 STAAR EOC, 2012–2013 ETF vs. Non-ETF Cohorts							
EOC Exam	Group	N	Mean Scale Score	Mean Difference	Std. Deviation	t	p
Algebra 1	ETF	424	3942.68	138.147	519.259	5.233	.000***
	Non-ETF	3676	3804.53		473.485		
ELA I - Reading	ETF	426	1909.58	-753	228.653	.063	.949
	Non-ETF	3826	1910.34		264.233		
ELA I - Writing	ETF	444	1798.02	-1.338	213.065	-1.036	.300
	Non-ETF	3978	1809.35		263.253		
Note: Statistical significant at *p < .05, **p < .01, ***p<.001							

APPENDIX G

2014 STAAR End-of-Course, 2013–2014 ACP Cohorts

2014 STAAR EOC Scale Score Results by Exam for the 2013–2014 ACP Teacher/Student Cohorts								
		N	Minimum	Maximum	Mean Scale Score	Std. Deviation	Percent Satisfactory	Percent Advanced
ETF	**Algebra I**	761	1379	6116	3721.57	436.431	73.6	14.0
	English I	1026	2556	5443	3677.99	403.605	46.5	1.0
University/Community College	**Algebra I**	162	2985	4820	3590.43	371.685	79.5	21.7
	English I	253	2871	6055	3736.44	477.333	49.6	3.2
ESC	**Algebra I**	457	1379	5577	3810.82	417.926	82.2	11.5
	English I	417	2871	5095	3759.76	395.851	55.3	1.9
Private	**Algebra I**	2974	1379	6116	3826.92	478.752	80	20.0
	English I	4106	1075	6966	3783.42	466.976	56.2	5.0

Independent Samples T-test, 2014 STAAR EOC, 2013-2014 ETF vs. Non-ETF Cohorts							
EOC Exam	**Group**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Deviation**	**t**	**p**
Algebra 1	ETF	761	3721.57	-92.635	436.431	-5.247	.000***
	Non-ETF	3593	3814.21		469.536		
English I	ETF	1026	3677.99	-100.878	403.605	-7.073	.000***
	Non-ETF	4776	3778.87		461.834		
Note: Statistical significant at *p < .05, **p < .01, ***p<.001							

APPENDIX H

2013 Stanford 10 Reading, 2012–2013 ACP Cohorts

2012-2013 Reading	Grade	N	Mean NCE	Std. Deviation
ETF	1	153	36.27	19.972
	2	69	31.23	20.587
	3	186	37.87	19.932
	4	434	36.84	16.596
	5	550	38.59	17.883
	6	1191	43.44	20.879
	7	1014	44.11	18.961
	8	758	40.44	15.778
University/Community College	1	100	41.11	18.363
	2	102	42.77	22.052
	3	87	48.30	19.321
	4	144	48.34	21.430
	5	294	40.38	16.814
	6	298	41.94	22.813
	7	253	42.53	19.135
	8	139	36.02	19.077
ESC	1	138	40.27	23.445
	2	146	41.19	21.283
	3	154	39.81	18.442
	4	302	41.23	20.844
	5	248	51.70	25.732
	6	247	46.60	22.722
	7	520	38.97	18.319
	8	335	41.48	19.948
Private	1	1041	41.64	22.405
	2	781	41.54	20.664
	3	986	49.34	22.223
	4	1651	42.29	20.987
	5	1695	40.33	20.325
	6	2261	40.99	23.909
	7	2977	41.44	21.279
	8	2979	43.73	18.850

APPENDIX H cont'd

2013 Stanford 10 Math, 2012–2013 ACP Cohorts

2012–2013 Math	Grade	N	Mean NCE	Std. Deviation
ETF	1	153	38.98	18.207
	2	70	39.75	19.092
	3	186	47.76	21.515
	4	434	49.28	18.582
	5	550	51.76	19.476
	6	1187	51.89	19.950
	7	1017	57.28	22.484
	8	757	51.85	16.853
University/Community College	1	101	48.33	19.356
	2	102	47.84	22.782
	3	88	59.43	22.639
	4	144	54.11	21.026
	5	295	47.50	17.910
	6	298	52.68	19.454
	7	251	51.09	21.385
	8	139	51.22	18.833
ESC	1	139	40.90	20.782
	2	147	41.91	19.030
	3	155	49.67	20.787
	4	302	50.66	21.119
	5	248	56.83	23.504
	6	247	51.95	20.014
	7	520	49.53	19.719
	8	334	48.42	19.892
Private	1	1046	44.62	20.625
	2	780	44.99	19.108
	3	985	55.43	23.584
	4	1651	50.84	21.086
	5	1698	49.03	20.576
	6	2257	48.73	21.444
	7	2974	51.17	21.629
	8	2971	53.54	19.420

APPENDIX I

2014 Stanford 10 Reading, 2013–2014 ACP Cohorts

2013–2014 Reading	Grade	N	Mean NCE	Std. Deviation
ETF	1	88	33.97	20.517
	2	378	36.32	18.655
	3	562	35.88	20.295
	4	630	40.86	17.011
	5	924	36.55	18.501
	6	821	37.02	23.188
	7	396	37.04	21.221
	8	537	41.40	20.334
University/Community College	1	55	29.59	19.718
	2	21	31.73	21.353
	3	15	33.13	20.260
	4	68	39.21	18.103
	5	288	42.06	20.367
	6	290	54.00	20.344
	7	35	40.88	23.729
	8	273	38.69	16.083
ESC	1	36	41.20	21.428
	2	43	51.91	22.009
	3	52	34.04	19.425
	4	347	38.87	16.602
	5	177	44.84	23.149
	6	234	38.28	20.877
	7	223	30.19	19.668
	8	413	45.81	18.145
Private	1	1006	38.69	23.003
	2	792	35.30	20.703
	3	1090	40.33	21.590
	4	1327	39.63	19.244
	5	1654	40.13	20.958
	6	2956	40.24	22.853
	7	3637	40.26	21.313
	8	2802	42.70	18.321

APPENDIX I cont'd

2014 Stanford 10 Math, 2013-2014 ACP Cohorts

2013–2014 Math	Grade	N	Mean NCE	Std. Deviation
ETF	1	88	45.47	20.318
	2	387	41.26	21.279
	3	566	45.75	22.160
	4	630	51.20	18.474
	5	926	46.48	20.163
	6	823	45.70	20.651
	7	396	46.92	22.585
	8	531	49.68	19.950
University/Community College	1	54	37.62	18.279
	2	21	40.26	24.229
	3	15	33.76	17.863
	4	65	44.00	17.937
	5	288	51.21	21.622
	6	290	60.78	18.293
	7	35	51.41	21.759
	8	262	44.75	16.723
ESC	1	36	44.81	18.038
	2	43	52.85	23.235
	3	52	40.09	18.376
	4	347	51.69	17.621
	5	177	58.39	20.642
	6	234	50.20	19.287
	7	222	43.43	19.959
	8	414	50.91	17.417
Private	1	1010	44.75	22.083
	2	797	39.68	20.830
	3	1095	48.42	23.382
	4	1325	48.19	20.614
	5	1651	46.99	21.418
	6	2948	49.57	20.730
	7	3615	49.97	21.940
	8	2797	52.13	19.157

APPENDIX J

Value-added Composite Gain Index

-2 or below ("Well Below")
Students in the district made substantially less progress than the Standard for Academic Growth (growth measure is below the Standard for Academic Growth by more than 2 standard errors).

-2 to -1 ("Below")
Students in the district made less progress than the Standard for Academic Growth (growth measure is more than 1 standard error below the Standard for Academic Growth but by 2 standard errors or less).

-1 to 1 ("No Detectable Difference")
Students in the district made progress similar to the Standard for Academic Growth (growth measure is at most 1 standard error below the Standard for Academic Growth but less than 1 standard error above it).

1 to 2 ("Above")
Students in the district made more progress than the Standard for Academic Growth (growth measure is above the Standard for Academic Growth by at least 1 standard error but less than 2 standard errors above it).

2 or above ("Well Above")
Students in the district made substantially more progress than the Standard for Academic Growth (growth measure is above the Standard for Academic Growth by 2 standard errors or more).