"Planting the Seed: Engaging, Educating and Advancing Teachers in STEM and Common Core"

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Absolute and Competitive Priorities

*References included in Appendix J

Introduction

The *Planting the Seed Project* ("Project") represents a collaboration between a national nonprofit organization and a large, state-funded university. The National Institute for Excellence in Teaching ("NIET"), a leader in comprehensive school reform, is a 501(c)(3) nonprofit organization with a proven system for teacher and student advancement—the TAP System. NIET is equipped with a diverse staff from education and business combined with a broad coalition of school practitioners. Today NIET serves approximately 400 TAP Schools and 6,000 Best Practices Center Schools. Over 1,000,000 students are being impacted by the TAP Teaching Standards and evaluation process and an additional 1.8 million students with NIET's training and resources. Over the last year, NIET provided 1,100 days of onsite support or trainings. Through national conferences, NIET has served over 1,800 participants. Currently NIET has active contracts with three states supporting teacher evaluation efforts through the Best Practices Center. Mary Lou Fulton Teachers College ("Teachers College") at Arizona State University ("ASU") is one of the largest colleges of education in the nation and has been nationally recognized for its reform efforts.

NIET and ASU will partner with 21 school districts (Figure 1) across Arizona for this Project. All district partners are invested in this Project because they recognize the impact of high-quality, well-prepared teachers on achievement outcomes for children from high-needs populations. Each has submitted a letters of support (Appendix A) to demonstrate the need for this Project and their support of the partnership.

PLANTING THE SEED PROJECT PARTNERS

PHOENIX METROPOLITAN

1: Avondale (K-8)
2: Cave Creek (K-12)
3: Chandler (K-12)
4: Deer Valley (K-12)
5: Dysart (K-12)
6: Gadsden (K-12)
7: Gilbert Unified (K-12)
8: Glendale (K-8)
9: Kyrene (K-12)
10: Littleton (K-8)
11: Madison (K-8)
12: Mesa Public (K-12)
13: Osborn (K-8)
14: Paradise Valley (K-12)
15: Pendergast (K-8)
16: Polytechnic (K-8)
17: Roosevelt (K-12)
18: Scottsdale (K-12)
19: Sunnyside (K-12)
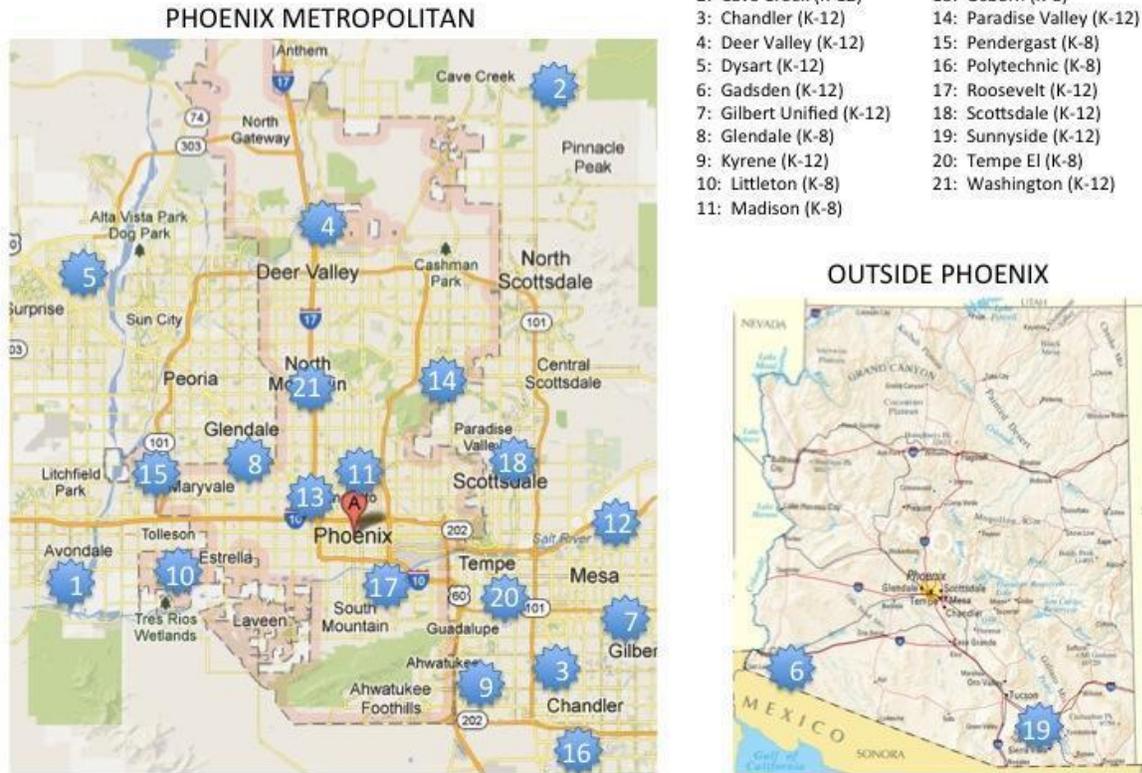20: Tempe El (K-8)
21: Washington (K-12)

OUTSIDE PHOENIX

Figure 1: Map of school district partners for Planting the Seed Project

Together, we will achieve the following five goals:

1 Implement a plan demonstrating a rigorous, competitive selection process (Absolute
   Priority 1).

2 Increase the number of highly effective STEM teachers (from 5% of Teachers College
   graduates to 20% of Teachers College graduates) who positively impact student
   achievement in their first year of teaching (Absolute Priority 1; Competitive Preference
   Priority 3).

3 Provide induction support to graduates in their first year of teaching (Absolute Priority 1).

4 Provide professional development in writing (Absolute Priority 2).

5   Implement two new innovative and sustainable technology tools and one open

educational resource (Competitive Preference Priority 2).

The partnership between NIET and ASU allows for a comprehensive continuum of

services from preservice to inservice that are based on strategies supported by *strong evidence of*

effectiveness (see Section A3) (Competitive Preference Priority 1)[1]. Ultimately, the Project aims

to implement practices in each of these areas that will be sustained by each partner district

beyond the federal funding period, which will create a model that can be adopted by other

agencies across the nation, including teachers colleges and nonprofit organizations. A glossary

of all key terminology for the Project is included in Appendix B.

A. *Significance*

(1) Significance on a national level

As a national leader in comprehensive school reform, NIET recognizes the importance of

innovation in effective educator development. The goals of the Planting the Seed Project are

significant on a national level. Across the nation, *half of all new teachers leave the profession*

within five years (Fine, 2009, p. B2). Concerns about high teacher attrition and poor teacher

quality are receiving national attention. More specifically, the spotlight concerns *the way*

teachers are trained. In an October 2009 speech at Teachers College, Columbia University, U.S.

Education Secretary Arne Duncan warned that we need "a new generation of talented teachers."

His comments focused on the institutions that prepare over half of America's new teachers—

colleges of education (Duncan, 2009, p. 1). For this reason, NIET has chosen to establish a new

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[1] Chetty, R., Friedman, J. N., & Rockoff, J. E. (2011). The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood (NBER Working Paper 17699). Cambridge, MA: National Bureau of Economic Research.

partnership model focusing on colleges of education. Through this partnership with ASU, NIET hopes to establish a nonprofit and university model that will be easily replicated at other colleges of education nationally.

While Secretary Duncan acknowledged that positive changes were happening in colleges of education across the country, many, he stated, "are doing a mediocre job of preparing teachers for the realities of the 21st-century classroom. America's university-based teacher preparation programs need revolutionary change—not evolutionary tinkering" (Duncan, 2009, p.1). Secretary Duncan insisted that teacher preparation programs must adjust to meet the changing demands of the profession. He argued that teaching has never been more difficult than it is currently and that there is an urgent need for high-quality teachers to enter the profession. Secretary Duncan posed a question: "Are we adequately preparing future teachers to win this critical battle?" (Duncan, 2009, p.1). Policy makers, government watchdog organizations, and the public have questioned the quality of the education system (and teacher education programs), and education agencies are being pressured to respond with timely training, accountability systems, and support. The Planting the Seed Project represents the collaboration of two reform leaders who have a goal of improving educational outcomes in Arizona's schools.

(2) The contribution of the proposed Project to theory, knowledge, and practices

NIET is developing a new model for collaborating with colleges of education in this pilot effort with Arizona State University. Through this nonprofit and university partnership, NIET will dramatically broaden the number of teachers impacted by the success of the TAP System. Currently, the majority of the projects that NIET is engaged that focus on implementation of the TAP System involve inservice teachers in the field. Given the breakdown of teacher training and preparation highlighted earlier in this proposal, it is critical that NIET establish a new avenue for

reform in education at the preservice level. This innovative Project will assist NIET in transitioning from its work with practicing teachers to enculturating preservice teachers into this comprehensive school reform model of teacher evaluation, multiple career paths, ongoing applied professional development, and performance-based compensation. Moreover, this Project will provide a model for other colleges of education seeking to infuse the blended research-based best practices that support NIET's teacher evaluation into their teacher preparation programs. The evidence of the effectiveness of TAP is clear. TAP's evaluation ratings of teacher skills in the classroom are positively correlated to value-added scores showing the teacher's impact on student achievement gains (Daley & Kim, 2012). The success of TAP must now be applied to colleges of education in order to provide the same research-based best practices in teacher evaluation to teacher preparation programs.

NIET has chosen to partner with ASU because the university has been a leader in innovation regarding the implementation of the TAP rubric with the institution's nationally recognized teacher preparation program. For the fifth year in a row, ASU has been chosen as a school to watch for innovation by *U.S. News & World Report* (Morse, 2012). This distinction recognizes institutional innovation in the areas of academics, faculty, student life, campus, or facilities. NIET has strategically chosen ASU as a partner given its distinction and national recognition. ASU is a nationally distinctive partner of Teach for America and has one of the nation's largest colleges of education. The impact of such a large and highly visible college of education in partnership with a national nonprofit organization is significant. The iTeachAZ model was selected as the 2013 recipient of the President's Medal for Social Embeddedness and was identified by the TNE Learning Network in the March 2013 report "Partnering to Prepare Tomorrow's Teachers: Examples from Practice" (fhi360.org) as an example of practice.

State agencies that govern colleges of education and the colleges of education themselves have sought out NIET directly for assistance and the opportunity to collaborate in teacher evaluation and teacher preparation. These colleges and organizations serve communities and school districts that utilize the TAP instructional rubric, and they are seeking support in implementing a rigorous teacher preparation program that incorporates TAP. As an example, two ASU program specialists who work with infusing TAP into their teacher preparation program recently traveled to South Carolina to speak to 20 deans of colleges of education. NIET, ASU, and Arizona TAP administrators have had numerous requests for phone conferences, site visits, and in-person meetings with Tennessee, Indiana, and California, to name a few examples of universities interested in replicating a blended model of TAP integrated into a teacher preparation program. These inquiries reflect the growing sense of urgency to inject comprehensive school reform and teacher evaluation components at the preservice teacher preparation level.

The primary objectives of this project for NIET are to demonstrate the results a college of education can achieve by integrating TAP into its teacher preparation program. Through this Project, NIET will conduct a case study of the partnership and develop an NIET and ASU toolkit for other colleges of education to utilize when embarking on similar partnerships. This partnership toolkit would include items such as organizational and design structures, funding models, recruitment and selection models, sample evaluation and observation tools, and samples of web-based learning technology. NIET would also broadly disseminate the successes of this Project to colleges of education nationally.

(3) The importance or magnitude of the results or outcomes

The Planting the Seed Project includes five goals aimed at producing important results and outcomes that will lead to improvements in teaching and student achievement. These goals are in response to needs within our partnership (NIET, ASU Teachers College, partner districts) and data (student achievement, teacher attrition), and they include strategies supported by strong evidence of effectiveness. The potential for improving teaching and student achievement is briefly described below, and each goal is described in detail in Section B1.

Goal 1: Implement a plan demonstrating a rigorous, competitive selection process: The Planting the Seed Project will model its selection process after Teach for America's (TFA) proven model to include the following: (a) a competitive selection recruitment process that focuses on individuals with strong academic backgrounds and leadership capabilities, and (b) minimum entrance requirements and application requirements (described in Section B1). Recruiting and selecting candidates through this process will likely lead to significant improvements in teaching and learning. This strategy is supported by *strong evidence of effectiveness[2]* according to the SEED Notice (Competitive Preference Priority 1). A 2004 Mathematica study compared TFA teachers to non-TFA teachers. These teachers were recruited based on their academic performance and leadership abilities but not based on their background in teaching (similar to participants in the Planting the Seed Project). TFA corps members in the study taught in low-income schools—schools that are comparable to those in which Planting the Seed participants will be expected to teach. The Mathematica study indicated that Teach for America teachers had a positive impact on the math achievement of their students. Average math scores were significantly higher among TFA students than among control students (Decker, 2004).

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[2] Decker, P., Mayer, D., & Glazerman, S. (2004). *The effects of Teach for America on students: Findings from a national evaluation.* Mathematica Policy Research, Inc.

Goal 2: Increase the number of highly effective STEM teachers (from 5% of Teachers College graduates to 20% of Teachers College graduates) who positively impact student achievement in their first year of teaching. Arizona school districts, especially those that serve at-risk populations, experience shortages of highly qualified middle school and high school math and science teachers. Training 214 new math and science teachers (who were selected through a rigorous process) makes a significant impact on the potential for teaching and learning in Arizona schools. Bringing 214 new highly skilled middle and high school math teachers to the workforce has the potential to *impact over 180,000 middle school and high school students within only the first five years following Project completion.* The Planting the Seed Project will implement a rigorous teacher preparation model (described in Section B1). The model will include a redesigned student teaching course built on Teaching as Leadership principles (Farr, Kamras, & Kopp, 2010), as well as learning team meetings focused on teaching methods. Each of these components of the Planting the Seed teacher preparation program are supported by *strong evidence of effectiveness[3]* due to their significant impact on student achievement (Decker, 2004). Finally, ASU's model for reforming the teacher preparation program is based on the National Council for Accreditation of Teacher Education Professional Development Schools (www.ncate.org) model. Professional development schools are defined by school–university partnerships, ongoing and reciprocal professional development, a shared commitment, and shared duties among P–12 and university faculty, shared governance, and shared resources. All are essentials of the Planting the Seed Project. A longitudinal study compared test scores of low-income, minority students in a Michigan professional development school partnership with statewide test scores and scores from one of the state's most affluent

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[3] Decker, P., Mayer, D., & Glazerman, S. (2004). *The effects of Teach for America on students: Findings from a national evaluation.* Mathematica Policy Research, Inc.

school districts (Pine, 2000). Researchers have found that, over an eight-year period, professional development school students' test scores in math, science, and reading met or exceeded state averages and averages in the more affluent district. Data collected in a professional development school in Waco, Texas, also showed gains in student test scores over time (Proctor, 1999).

The teacher preparation component will include a comprehensive measure of fidelity, the *iTeachAZ Site Review Protocol* (Appendix C) process. The site review process will examine the current practices at all senior-year residency sites in the Project. The purpose of this review is to determine if sites are implementing key components of the model with fidelity to ensure consistent teacher preparation across the program. The site review will include three major parts: observations, review of coordinator data practices, and interviews. During the observation stage, site coordinators will be observed in their role delivering professional development sessions, coaching teacher candidates, and scoring teacher candidates using the TAP instructional rubric. The review of coordinator practices will include examination of how site coordinators use formal and informal data to drive their decision making for instruction and coaching. Finally, interviews will be performed with key stakeholders including teacher candidates, administration at school and district levels, mentor teachers, and the site coordinator. Through this process, areas of refinement and reinforcement will be identified, and plans for improvement will be developed with Project administrators.

Goal 3: Provide induction support to graduates in their first year of teaching: Teacher attrition is an increasing concern, particularly in schools that serve populations of high-needs students. Supporting teachers in their first year of teaching is necessary, but research has indicated that structured "induction programs" do not significantly impact student outcomes (Isenberg, 2009).

This Project employs a model of induction that places an emphasis on the teacher's ability to regulate his or her emotions to improve teaching performance and, ultimately, positively impact student achievement.

Goal 4: Provide professional development in writing: Traditionally, teachers have operated in silos within education, paying attention to their individual short-term rewards with little incentive to change, creating a tension between individualism and collaboration (Lortie, 1975). In Hargreaves and Shirley's 2009 research study, they found that short-term goals connected to long-term goals provide teachers with positive feedback loops and increased teacher collaboration. Schools that currently implement the TAP system have established and systematic structures that require collaboration toward short-term goals, ensuring that all teachers are working toward a united long-term goal—increasing student growth and achievement.

The proposed Project will elevate these current structures by providing highly qualified teacher candidates, school staffs, and leadership teams with additional professional development, strategies, and support in writing instruction that will better allow *all teachers* to collaborate more strategically toward schoolwide goals. Bridging a gap between collaborative school goals and Common Core Writing Standards is critical. Providing a cohesive and structured approach to writing instruction that supports STEM instruction will allow for clearer examples of definitions of STEM, better understanding of how to support STEM instruction across the curriculum, and how teacher collaboration can continue to challenge the status quo of instruction. As a result of this project, TAP schools should experience a significantly higher level of fidelity of TAP school implementation and teacher instruction in literacy and STEM. A

successful pilot led by NIET could lead to a transportable national model of nonprofit, university, and school district partnerships across the nation.

Goal 5: Implement two new innovative and sustainable technology tools and one open educational resource: Innovative technology tools permit the Project to reach a greater number of participants. Open educational resources allow participants to access materials during the Project and into their teaching career. In addition, open educational resources can be shared on a national level to promote information-sharing and collaboration.

The overall magnitude of the Project can best be demonstrated by illustrating the number of participants who will be served by the Project and the potential reach of those participants. The Project will serve a total of over 4,300 participants over a 3-year period. A breakdown of the participants is included in Table 1.

Table 1

Project Participants by Role

Project Activity	Participant Description	# of Participants
Teacher preparation program for STEM	Teacher candidates	214
Professional development for non-STEM teacher candidates in Common Core ELA	Teacher candidates (non-STEM)	1,080
Cooperating teacher professional development (all candidates)	Cooperating teachers	1,168
Site coordinator professional development (TAP, Common Core Writing, STEM, Emotional Intelligence)	Site coordinators	27
Course reform: Faculty professional development in TAP and Common Core Writing Standards	ASU course instructors	40
Course reform: Faculty professional development in STEM integrations	Math methods instructors	10
Professional development for in-service teachers in Common Core/Writing (train-the-trainer model with TAP master teachers)	In-service teachers in partner districts	1,800
TOTAL		4,339

B. *Quality of the Project Design and Services*

(1) Aligned and measurable goals, objectives, and outcomes

The Planting the Seed Project goals are described within this section, outlined in an evaluation

plan table (Appendix D), and described within Section E2.

Goal 1: Implement a plan demonstrating a rigorous competitive selection process

(Absolute Priority 1).

Objective 1.1: Recruit and select 214 talented participants (including those from groups

traditionally underrepresented in STEM) through a competitive selection process (Absolute

Priority 1). The Planting the Seed Project will fund two recruiters who will identify and

encourage talented individuals to apply for and enroll in one of four programs, all emphasizing

STEM: (a) Bachelor of Arts in Elementary Education (with certification in Elementary

Education, Special Education, or English as a Second Language) plus required middle school

math/science certification (Senior Year Residency); (b) Bachelor of Arts in Secondary Education

(grades 7–12) in Math or Science (Senior Year Residency); (c) Master's and Certification in

Elementary Education plus required middle school math or science certification; or (d) Master's

and Certification in Secondary Education Math or Science. Candidates will be able to apply for

the Senior Year Residency formats during their junior year. All master's programs are designed

for individuals from noneducation fields ("career-changers") who have earned a bachelor's

degree. Each recruiter will establish relationships with community college faculty, school

district personnel, and community-based organizations to identify high-performing individuals

who are invested in the local schools and/or community. They will conduct a minimum of six

community-based events per semester throughout the first two years to promote the Project. The

events will be planned to specifically recruit high-performing individuals and those who are

traditionally underrepresented in STEM fields. Each recruiter will track progress using an online

database and will summarize progress for the Project Director on a monthly basis. Table 2

provides an overview of recruitment by year, while a detailed recruitment plan (with specific

events and audiences) is included in Appendix E.

Table 2

Brief Recruitment Overview

Year 1	Year 2	Year 3
Ongoing recruitment + select 44 candidates to begin the graduate residency or undergraduate senior year residency	Ongoing recruitment + select an additional 170 candidates to begin the undergraduate or graduate residencies	No recruitment (induction year)

Each prospective student will go through a four-tiered selection process modeled after

Teach for America's selection process (Decker, 2004). Under normal circumstances, a

completed application to Arizona State University and Mary Lou Fulton Teachers College would

be the only eligibility criteria to enter the teacher education program. In the Planting the Seed

Project, the Teachers College application is only the first tier. Each additional tier is represented

in Table 3.

Table 3.

Selection Process for Teacher Candidates

Tier	Description
Tier 1	Arizona State University and Mary Lou Fulton Teachers College application (minimum 2.50 GPA)
Tier 2	Applicant must take and pass the Arizona Educator Proficiency Assessment (AEPA) in Math or Science (depending on desired certification area)
Tier 3	Planting the Seed Project application: letter of intent, résumé, and essay that addresses the applicant's motivation to become a teacher and his/her desire to work with students in high-needs populations
Tier 4	Interview: The applicant will attend a formal interview. The panel will include ASU faculty and school district administration.

If a candidate is selected by the interview committee, he or she will be offered a seat in the program along with a merit-based stipend.

Objective 1.2: Offer a merit-based scholarship to eligible STEM candidates to increase the number of participants from groups traditionally underrepresented in STEM (<u>Competitive Preference Priority 3</u>). A 2012 study showed that competitive scholarships attracted high-performing teacher candidates who positively impacted student achievement (Henry, Bastain, & Smith, 2012). The large-scale study of merit-based scholarships for teachers determined that the scholarships attracted high-performing candidates who raised the mathematics test scores of their students at a higher rate than traditionally prepared teachers. Equally important, teacher candidates who received merit-based scholarships in their teacher preparation programs stayed in public school classrooms for five years or more and at higher rates than either alternatively or traditionally prepared teachers (Henry et al., 2012). The Planting the Seed Project requires three times the amount of clinical experience as the traditional teacher preparation program, which prevents most students from continuing employment during the residency. This full-time clinical requirement can exclude prospective candidates who have full-time employment responsibilities or family obligations such as child care. To address this potential barrier, the Planting the Seed Project will offer merit-based stipends to any candidate who successfully completes the four-tiered application process.

The Planting the Seed Project will offer a $25,000 merit stipend to eligible graduate-level candidates and $10,000 merit stipends to eligible undergraduate candidates. The stipends will be distributed in equal monthly payments to candidates during their full-year student teaching experience. In addition to regular Teachers College program requirements, students must agree to the following: (a) attend four professional development workshops in Common Core and

STEM during the student teaching year (and apply new learning in their practice), and (b) teach in a high-needs school (Title I school) for a minimum of two consecutive years following graduation. Each student will be required to sign an agreement acknowledging all requirements prior to being awarded the stipend.

Goal 2: Increase the number of highly effective STEM teachers (from 5% of Teachers College graduates to 20% of Teachers College graduates) who positively impact student achievement in their first year of teaching (Absolute Priority 1; Competitive Preference Priority 3).

Currently, Teachers College data from the Office of Clinical Services indicates that 5% of teacher candidates (within the programs mentioned in Section 1) graduate with middle school or high school math or science certification. This Project will increase that number to 20% within each cohort served by the grant. The Planting the Seed Project will incorporate research-based best practices in teacher preparation, including a two-semester student teaching model recommended by education leaders (Darling-Hammond, 2010) to prepare highly effective teachers who impact student achievement beginning in their first year of teaching.

Objective 2.1: Train 214 teacher candidates in a rigorous clinical model with intensive support throughout the senior year residency (Absolute Priority 1)

Sub-Objective 2.1.1: Train 214 teachers in a university–school district partnership model implemented at a proficient level according to the Site Review Protocol tool. Research has suggested that preservice teachers participating in partnerships are given more opportunities for focused field experiences. Also, they receive more direction and feedback within the field experience, which instills in them an extensive range of instructional, assessment, and classroom management tools (Castle, Fox, & Souder, 2006). Other researchers have suggested that

inservice teachers are more likely to improve their teaching practices if they are involved in

partnerships characterized by shared responsibility between teachers, interns, and university

faculty (Crocco, Faithfull, & Schwartz, 2003). University faculty members have been shown to

benefit from such partnerships as well. Their participation helps them to better understand

educational processes as well as the challenges both preservice and inservice teachers face (Beck

& Kosnick, 2002).

In order to better prepare our next generation of teachers, this Project adheres to the

professional development school model (Levine, 2002) for teacher preparation. Keeping with

this model, this project proposes to have participants complete coursework and clinical

experiences in school districts within their own community. Each participating school district

will include at least one cohort and a full-time faculty site coordinator assigned to each cohort.

The site coordinator will serve as a liaison between the district and university, teach coursework,

collaborate with other university instructors teaching in the cohort, conduct supervision of

teacher candidates, recruit and train cooperating teachers, and support induction upon teacher

candidate graduation. Districts will host an undergraduate cohort or graduate cohort or both.

Each cohort will include an average of 20 teacher candidates. An overview of both the

undergraduate and graduate programs is included in Table 4.

Table 4

Undergraduate and graduate academic program and merit stipend overview

Programs	Format
Undergraduate (170 candidates)	Competitive incentives will be available for 140 undergraduate candidates across all districts. These candidates must complete the four-tier application process in order to be eligible. These math/science teacher candidates will receive an incentive of $10,000 for the yearlong residency and will be required to teach in a Title I school for a period of 2 years after program completion.

Graduate (44 candidates)	The Project will recruit high-performing graduates of bachelor's degree programs (colleges of engineering, colleges of liberal arts & sciences, etc.) from Arizona and from across the nation to enter one of the following programs: *Option 1: Master's and Certification (MAC) in Secondary Education with an emphasis on STEM; 20 teacher candidates will be placed in a cohort in a district with a site coordinator.* *Option 2: Master's and Certification in Elementary Education with an emphasis on STEM. The MAC program will consist of a cohort of 20 students earning a degree in Elementary Education. Within that cohort, 10 individuals will be selected to pursue highly qualified status to teach middle school math/science with an emphasis on STEM.* Candidates for both Option 1 and Option 2 must successfully complete the four-tier application process to be eligible to receive an incentive of $25,000 for the entire yearlong residency. Graduates will be required to teach in a school with a high concentration of high-needs students for a period of 2 years after program completion.

Sub-Objective 2.1.2: Train teachers in a model that includes three times the amount of clinical time compared to traditional models. The Project requires a full-year residency (student teaching experience) that follows the school district calendar. Teacher candidates are required to arrive prior to the first year of school (generally 1–2 weeks prior to students' first day of school) to participate in district and university professional development sessions designed to help them face challenges in high-needs schools. Teacher candidates are placed in the classrooms with cooperating teachers who are recruited, selected, and trained to serve in the role. This two-semester model of student teaching is characteristic of teacher preparation programs in top-performing countries and is supported by research on teacher education (Darling-Hammond, 2010).

Sub-Objective 2.1.3: Implement a competency-based model for teacher preparation that prepares new teachers for working with children in high-needs populations (as evidenced by a proficient score on the TAP instructional rubric). Teacher candidates will be evaluated through a rigorous high-stakes performance assessment process conducted twice each semester using the

TAP instructional rubric (protocol included in Appendix F). The TAP instructional rubric is built on the work of many researchers and experts (e.g., Charlotte Danielson, The Interstate New Teacher Assessment and Support Consortium (InTASC), and Massachusetts's Principles of Effective Teaching). The TAP evaluation process has been twice correlated to student achievement at statistically significant levels (Daley & Kim, 2010; Daley & Kim, 2012). This is essential to a new evaluation system since it eliminates the common problem of high ratings on classroom practice measures and low student achievement growth results. Additionally, correlational and comparative research (using value-added methodology) has demonstrated higher levels of academic achievement by students taught by teachers who score higher on the Danielson-inspired TAP rubric (Solmon, White, Cohen, & Woo, 2007). In addition, a large number of TAP schools across the country have demonstrated the effectiveness of the TAP professional development process in helping teachers to improve classroom instruction.

There is *strong evidence* that value-added (VA) measures provide an unbiased estimate of teachers' impact on student achievement and students' long-term outcomes (Chetty et al., 2011). In an analysis of 2.5 million students in grades 3–8, district data showed that students assigned to high value-added teachers were "more likely to attend college, attend higher-ranked colleges, earn higher salaries, live in higher SES neighborhoods, and save more for retirement" (Chetty et al., 2011, p. 1). The research also showed the importance of replacing teachers who are not significantly impacting student achievement. Specifically, "replacing a teacher whose VA is in the bottom 5% with an average teacher would increase the present value of students' lifetime income by more than $250,000 for the average classroom in the sample" (Chetty et al., 2011, p.1).

Similar to inservice teacher evaluation protocols and processes, each teacher candidate will be evaluated formally four times per year using the performance assessment process. The process includes the following steps: (a) Step One: Planning protocol. The teacher candidate works alongside the site coordinator, cooperating teacher, or peer to investigate the content (using Common Core) to formulate a lesson plan. (b) Step Two: Formal Observation. The site coordinator observes the teacher candidate teaching independently (while the lesson is being videotaped). The site coordinator and cooperating teacher gather evidence. Immediately following the observation, the site coordinator and mentor discuss scores. (c) Step Three: Evaluation and Self-Evaluation. The site coordinator uses all evidence (including evidence of student mastery) to evaluate the teacher candidate in eight TAP indicators. In a separate location, the teacher candidate watches the lesson video and reviews student work to cite evidence and self-evaluation scores. (d) Step 4: Post-Conference. Within 24 hours, the site coordinator conducts a post-conference with the teacher candidate.

All teacher candidates will be required to reach proficiency in all indicators in order to successfully complete the program. If a teacher candidate is not making progress toward proficiency, the site coordinator will be required to develop and implement an intervention plan to support the teacher candidate's development. If a teacher candidate does not demonstrate proficiency by the end of the second semester, he or she will be given the option to continue the residency for an additional semester. If the teacher candidate does not progress to proficiency in the additional semester, he or she will be dismissed from the program. This rigorous competency-based approach is different from a traditional teacher preparation program. The goal is to increase the pool of certified teachers for schools with high concentrations of high-needs students, but more importantly, the goal is to increase the number of highly effective

teachers to work in schools with high concentrations of high-needs students. This model

employs strategies to ensure that graduates are prepared to make a positive impact in their first

year of teaching.

To ensure inter-rater reliability, 20% of all performance assessments will be scored by a

second external evaluator. In addition, the site review process will measure the following

aspects of the performance assessment process: the planning conference, the observation scores,

and the post-conference. The performance assessment process should be implemented at the

proficient level at each site (according to the Site Review Protocol rubric).

In addition to the formal performance assessment process, site coordinators will be

required to conduct eight unannounced walk-through evaluations per teacher candidate per year.

The walk-through data will be collected via a mobile iPad application to promote site coordinator

efficiency and promote immediate feedback for teacher candidates and cooperating teachers

(described in Goal 6). Finally, teacher candidates will be evaluated on a biweekly basis via a

cooperating teacher progress report. This data is collected via a data management software

system called TK20, and data is made available in a clear, concise format via the data dashboard.

Data will be immediately available to teacher candidates, mentors, site coordinators, clinical

faculty, and ASU administration via the dashboard system. These data will be used to

differentiate support for candidates, to identify cooperating teacher and faculty professional

development needs, and to identify coursework gaps.

Sub-Objective 2.1.4: Evaluate teacher candidates using a letter-graded (not pass/fail) student

teaching course to include an investment plan and action research project. A newly designed

student teaching course will address the often-discussed disconnect between theory and practice

in colleges of education. In the student teaching course, teacher candidates must demonstrate

that they can apply new learning in a K–12 classroom. Fifty percent of the student teaching

course grade will be based on the rigorous TAP performance assessment process and a

professionalism rubric. Teacher candidates' proficiency is translated into course grades on a

graduated scale as the program progresses, and 50% of the course grade will be based on units of

instruction designed by the teacher candidate. The units are aligned to the Common Core and

are evaluated using the EQuIP Rubric (Educators Evaluating Quality Instructional Products).

Teacher candidates will be held responsible for contributing to student learning in the

classroom where they student teach. In collaboration with their cooperating teachers, candidates

will analyze sets of data to create ambitious, time-bound student achievement goals and to create

formative and summative assessments to track progress toward the goals throughout the school

year. The student teaching course is built around Teach for America principles of setting big

goals, investing in students and their families, planning purposefully, executing effectively,

continuously increasing effectiveness, and working relentlessly (Farr, Kamras, & Kopp, 2010).

Objective 2.2: Recruit, select, and train 214 highly effective cooperating teachers and

implement a co-teaching model.

Sub-Objective 2.2.1: Recruit, select, and train 214 highly effective cooperating teachers.

Evidence will be application records, training attendance records, and a proficient score on the

Site Review Protocol mentor training rubric. This Project recognizes the critical role of the

cooperating teacher in the student teaching experience. Leading education researchers have

insisted that cooperating teachers must be seen as partners in preparing teachers and argue that

there is a cyclical problem of professional teachers who had inadequate student teaching

experiences when they were in college and who are considered inadequate cooperating teachers

for the next generation of teachers (Magaya, 2011). Part of the solution is placing teacher

candidates in classrooms with <u>fully prepared</u> and <u>involved</u> cooperating teachers. Traditionally, however, cooperating teachers are not selected based on formal processes or sets of clear criteria. The National Council of Professors of Educational Administration (2010) studied selection criteria for cooperating teachers by New Jersey school district administrators. The results of the study had implications for practice, showing that school administrators use volunteers as cooperating teachers. "There was little or no evidence that the districts have a written policy which complies with the state's code and university expectation of cooperating teachers for accreditation and state certification requirements. . . . Failure to have this coordinated list of the acceptable qualifications may result in student teaching as a haphazard experience where teacher candidates are under the supervision of unqualified teachers" (Magaya, 2011, p.32).

In the Planting the Seed Project, ASU faculty will work closely with school district personnel to identify potential candidates for this critical role of cooperating teacher. Once identified, prospective cooperating teachers will complete a written application. Within the application, the cooperating teacher will articulate his or her strengths as a teacher (including data to support that claim) along with his or her qualifications to mentor a novice teacher. Applications will be reviewed by a team of university and school district leadership members to select the cooperating teachers who will support the teacher candidates in the Project. Each member of the interview team will use a rubric to evaluate each applicant.

Once selected, cooperating teachers will be trained for the role. Education research has challenged university teacher preparation programs to include cooperating teacher training, and studies have indicated that cooperating teacher training assists cooperating teachers by equipping them with a framework for providing effective and comprehensive feedback to developing professionals (Giebelhaus & Bowman, 2002). High-quality cooperating teacher training is also

recommended by the National Council for Accreditation of Teacher Education (NCATE) and the National Council for Teacher Quality. In the Planting the Seed Project, cooperating teachers will participate in a 4-hour training module prior to the teacher candidate's arrival and then ongoing monthly 2-hour training sessions led by the site coordinator. The professional development sessions will focus on mentoring and coaching a teacher candidate (using the TAP instructional rubric), stages of teacher candidate development, co-teaching for differentiation, planning for co-teaching, the performance assessment process, professionalism, Common Core ELA, and STEM. Finally, four 8-hour professional development sessions will be offered to cooperating teachers in the areas of Common Core and STEM. Cooperating teachers will be compensated $1,000 per year for participating in professional development.

Sub-Objective 2.2.2: Implement a co-teaching model with 100% fidelity as measured by the biweekly mentor progress report and walk-through data. Cooperating teachers and teacher candidates will work together in a co-teaching model (Friend, 2008) that will allow teacher candidates to develop the skills of highly effective practitioners by working alongside a trained, experienced teacher for a full year. Research has shown that this co-teaching approach is much more effective than a traditional "sink or swim" model for training highly effective elementary and special education teachers (Friend, 2008; Heck & Bacharach, 2010). Implementation of six co-teaching configurations that have proven beneficial to both teacher candidates and P–12 students (Friend, 2008) will be used in this project.

Objective 2.3: Reform 100% of methods coursework (Absolute Priority 1) to include the Common Core Standards and the TAP instructional rubric and 100% of math methods courses to include STEM.

Sub-Objective 2.3.1: Reform 100% of methods coursework using Common Core and the TAP

*instructional rubric (**Absolute Priority 1**).* The Science and Mathematics Teacher Imperative,

The Leadership Collaborative, and the Association of Public and Land-grant Universities

released a statement with their acknowledgment that preservice teachers mastering Common

Core Standards will be a major challenge. The study described action steps that must occur to

ensure that quality math and science instruction of Common Core Standards relates directly to

the proposed Project, including altering the content of disciplinary courses for future and

practicing teachers (Science and Mathematics Teacher Imperative (SMTI)/The Leadership

Collaborative TLC).

The Project will support an initiative to integrate the Common Core and the TAP

instructional rubric into program coursework. This is timely work considering that the Teachers

College programming includes new coursework and new course sequences. Teachers College

faculty and leadership will address the essential question "How will coursework, assignments,

and assessments change as a result of understanding and integrating the Common Core?" The

key activities for Year 1 are included in Table 5.

Table 5

Activities & Timeframe to Integrate Common Core into ASU Coursework

Time Frame	Activity
Fall 2013	Activity 1: Provide professional development to all faculty in the Common Core. Each faculty training will be driven by an objective related to the essential question. Each faculty meeting training topic for Fall 2013 is outlined below: ● Faculty meeting 1: Why the Common Core? Introduction to Math and ELA Shifts ● Faculty meeting 2: Understanding the Standards: Going Deep into ELA and Math ● Faculty meeting 3: ELA and the Content Areas: Unpacking the Common Core

	● Faculty meeting 4: TAP and the Common Core: Evaluating Unit Plans Using the EqUIP Rubric

Spring/ Summer 2014	Activity 2: Create course renewal teams that function as PLCs.
	● Faculty meeting 5 and 6: Create assignments and assessments that measure students' ability to apply the Common Core Standards proficiently.
	● Faculty meeting 7: Create course lessons that will allow course instructors to model Common Core pedagogy.
	    ○ Plan for tier 2 modeling where the instructor explicitly labels the TAP indicators and Common Core.
	    ○ Create anchor products of student work in the Common Core.
	● Summer meeting: Finalize/refine course lessons that allow course instructors to model Common Core pedagogy.

Fall 2014	Activity 3: Implement redesigned TAP and Common Core embedded coursework. ● Course renewal teams meet during monthly faculty meetings to share student work and continue to make coursework revisions. ● Professional development sessions will be offered to support the needs of the instructors.

*Sub-Objective 2.3.2: Reform 100% of math methods coursework to incorporate STEM **(Absolute Priority 1, Competitive Preference Priority 3)**.* In a study at The College of New Jersey (TCNJ) (2010), a STEM major for educators produced several important findings that support this Project's goal of incorporating STEM into coursework and clinical experience. At TCNJ, teachers in this major scored approximately 16% above the national average on the Praxis exam. Additionally, the yearly production of STEM graduates tripled due to the implementation of the STEM model (O'Brien, 2010).

The Planting the Seed Project will fund a STEM Professional Development Facilitator to implement the Engineering is Elementary (EiE) model developed by the Museum of Science, Boston. The Project will fund EiE curriculum materials for use by participants. The curriculum includes a series of units that can be integrated across multiple subject areas and are aligned to national standards, the Framework for K–12 Science and Engineering, and technology literacy standards. The curriculum is proven to positively impact student achievement in classrooms

with high-needs student populations (Macalalag, 2010). The first eight years' worth of the EiE project results showed the following: (a) children who used EiE performed significantly better than control group students on questions about engineering, technology, and science; (b) children who used EiE were more likely than control group students to indicate they were interested in engineering as a career; and (c) interest, engagement, and performance of students from groups historically underrepresented in engineering were enhanced when participating in EiE as compared to science or school in general. These students included females, historically underrepresented racial and ethnic minorities, students with an IEP, students from low-income families, and English language learners (Cunningham, 2012).

The EiE curriculum will be integrated into the Project in multiple ways, as indicated in Table 6.

Table 6

Activities and Timeframe for Integration of EiE Curriculum

Timeline	Activities
Year 1	Course reform: The STEM Professional Development Facilitator will work alongside math methods faculty to incorporate the EiE curriculum into one undergraduate and one graduate course during Fall 2013. Together, the facilitator and faculty members will develop STEM course modules that can be expanded to additional math methods sections/courses in Spring 2014.
	Professional development for site coordinators: The STEM facilitator will provide a 4-hour training in EiE to all site coordinators in Fall 2014. The training will model lessons and provide tools for site coordinators to observe/evaluate EiE classroom implementation.
	Professional development for cooperating teachers/teacher candidates: Throughout the academic calendar year, the STEM facilitator will conduct four 4-hour workshops to model EiE modules/lessons. These lessons will be used by cooperating teachers and teacher candidates in their own classrooms.
Year 2	Course reform: The STEM facilitator will offer professional development to math methods instructors to implement the EiE modules into coursework. Two trainings will be offered—one prior to the Fall 2014 semester and one prior to the Spring 2015 semester.
	Professional development for site coordinators: The STEM facilitator will provide a 4-hour training in EiE to all new site coordinators in Summer 2014. The training will model lessons and provide tools for site coordinators to

	observe/evaluate EiE classroom implementation.
	Professional development for mentors and teacher candidates: Throughout the academic calendar year, the STEM facilitator will conduct four 4-hour workshops to model EiE modules/lessons. These lessons will be used by cooperating teachers and teacher candidates in their own classrooms.
Year 3	No teacher preparation. Induction only. The STEM facilitator will continue to offer support for methods instructors and graduates in their first year of teaching.

Objective 2.4: Track graduates' impact on student achievement as measured by a 10%

increase in classroom value-added scores on the statewide assessment (AIMS). There is a gap

in the literature demonstrating the impact of rigorous teacher preparation programs on student

achievement. This Project aims to collect and analyze teacher preparation program graduates'

impact on student achievement in their first year of teaching and to disseminate that information

publicly. As stated, there is strong evidence that a high-value-added teacher impacts student

achievement and long-term student outcomes and that value-added provides an unbiased

estimate of that teacher's impact (Chetty et al., 2011). The Planting the Seed Project will obtain

data-sharing agreements to examine observation scores and student median growth for graduates

in TAP schools in comparison to other veteran teachers at the school.

Goal 3: Provide induction support to graduates in their first year of teaching (Absolute

Priority 1)

Despite teachers' need for support, there is a lack of empirical evidence related to

positive student achievement outcomes based on comprehensive induction programs (Lopez et

al., 2004). Ingersoll and Kralik (2004) pointed to a gap in the literature regarding the

components of induction that are most beneficial.

Objective 3.1: Increase first year teachers' emotional regulation ability (ERA) as measured by

pre/post assessment on the MSCEIT. The Planting the Seed Project proposes an intervention

aimed at increasing emotional intelligence in beginning teachers. While most emotional

intelligence research has been conducted in the business field, the literature makes a strong case for emotional intelligence training for beginning teachers. Teachers who are socially and emotionally competent make better decisions regarding instructional practices, are better classroom managers, and stay in the profession (Sutton, 2004). Often, induction programs focus on ways to increase pedagogical skills but place little emphasis on social and emotional skills. Induction programs may encourage new teachers to consider the social-emotional skills of the learners in their classrooms but do not explicitly ask them to consider their own skills in these areas. While it is essential that new teachers know the content they are teaching and have the skills for delivering that content, they must also be aware of the emotional aspects of teaching and why they matter. In addition, a preservice teacher's understanding of his or her own emotional intelligence can serve as a basis for reflective practice. The idea is that if we are aware of our deficits as teachers, we can make improvements.

Teacher burnout is a major contributor to teacher turnover, particularly in the first years of teaching. Stress can be caused by a number of factors, but student behaviors and teacher–student relationships are at the top of the list (Maag, 2008). Specifically, student misbehavior can lead to an emotional response that increases the intensity (and related stress) of the situation. Evers, Tomic, and Brouwers (2005) found that teachers who were emotionally exhausted were at risk of experiencing burnout. The primary source of stress and subsequent burnout has been teacher–student interactions (Friedman & Lotan, 1985). In general, significant correlations have been found between high levels of teacher burnout at all grade levels and student misbehavior (Borg & Riding, 1991; Byrne, 1994; Lamude, Scudder, & Furno-Lamude, 1992).

Researchers in emotion and teaching have argued that "teaching is considered to be one of the most stressful occupations" (Palomera, Fernandez-Berrocal, & Brackett, 2008, p. 441),

and training in emotional competencies can support teachers in coping with a stressful environment. Teacher burnout can be predicted based on a teacher's emotional intelligence (EQ), and teachers "with high EQ use more positive, well-adapted coping strategies when dealing with different sources of stress at school, and they feel greater satisfaction with their work" (Palomera et al., 2008, p. 444). Burnout not only affects a teacher's longevity in the profession and his or her personal satisfaction, but it also affects student learning. "Teachers identify the ability to regulate their emotions as an indispensable competency in order to reach academic goals" (Palomera et al., 2008, p. 444). Research has shown that EQ plays a major role in teacher efficacy and student-teacher relationships in the *middle and secondary grades* (Sutton, 2004).

This Planting the Seed Project will administer a validated emotional intelligence assessment—the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)—and then provide follow-up training and support with the goal of improving the emotional regulation ability of first year teachers. Scores on the MSCEIT will be used as a baseline measure of each graduate's ERA and will be used to provide individualized support. Throughout the first year, the site coordinator will support new teachers in developing their emotional regulation ability by using the Six Seconds Know Yourself, Choose Yourself, Give Yourself model (www.sixseconds.org). The table below represents the timeline for implementing the induction intervention. Activities for each year of the Project are outlined in Table 7.

Table 7

Activities and Timeframe for Induction

Timeline	Activities
Year 1	No activity because the Project will be in the recruitment, selection, and training phase. There will no graduates in Year 1.
Year 2	Summer 2014: Four faculty trainers will attend a train-the-trainer seminar in the Six Seconds model of emotional intelligence. The four faculty trainers will be

	trained to administer the MSCEIT assessment. These faculty members will serve in a train-the-trainer role.
Year 3	Spring 2015: At the end of the semester, the MSCEIT will be administered to all teacher candidates prior to program completion. Summer 2015: All site coordinators will be trained to interpret the MSCEIT results and will be trained in the Six Seconds model in order to provide training and support to graduates who are first year teachers. Fall 2015/Spring 2016: All site coordinators will meet with each graduate teaching in the partner district to (1) review the MSCEIT results and (2) provide coaching and support using the Six Seconds model. This support will include monthly differentiated workshops addressing each of the EQ competencies along with follow-up individualized coaching/support.

Goal 4: Provide professional development in writing (Absolute Priority 2).

Partner district literacy and writing professional development needs. Teacher knowledge is influential in curriculum development and enactment. It has a powerful influence in determining what teachers believe students should learn (content) as well as how students should learn it (context and processes) (e.g., DeFord, 1985; Richardson, Anders, Tidwell, & Lloyd, 1991). Therefore, for effective teaching, it is important that teacher knowledge reflects what students need to be able to do (learning outcomes), taking into account the world that students are being prepared to contribute to across their lifetimes. Students of today have a greater need to be able to access, consume, and produce information quickly (Leu et al., 2004). The New London Group (1996) argued that it is the mission of education to ensure that all students "benefit from learning in ways that allow them to participate fully in public, community, and economic life" (p. 60). If educators embrace that mission, they must understand what the new demands are and begin shaping schools and curricula that will equip students with the necessary skills and tools to be able to participate fully in society. This increase of rigor and cognitive demand is represented in the Common Core State Standards (www.commoncore.org,

2013) for English Language Arts, with a heavy emphasis on informational text and writing across content areas (e.g., social studies and science).

These new standards require educators to reevaluate how they plan, implement, and assess instruction to meet literacy demands of the 21st century. While this is a challenge for all schools, it is particularly important for schools serving students from diverse backgrounds living in poverty. Despite decades of research on effective literacy instruction, an achievement gap remains for these students (Kennedy, 2010; Timely & Parr, 2007). Chall and Jacobs (1983) suggested a larger emphasis on writing instruction could help improve reading and writing achievement for students living in poverty. To see changes in schools, teachers must be equipped with the knowledge, skills, and dispositions to effectively teach writing. Professional development has the potential to positively impact teachers in each of these areas.

NIET and ASU will partner with school districts that have identified professional development needs that directly align to the SEED grant—Common Core State Standards and writing. Districts have specifically requested support for writing across the content areas (e.g., science, social studies, math) and writing for a variety of purposes (e.g., persuasion and argumentation). The Planting a Seed grant will provide professional development for teachers to extend their knowledge about writing instruction and assessment, including process and product.

Alignment of proposed project to Common Core State Standards. In this proposed project, NIET, ASU Professional Development Facilitators, and the Director of Professional Development will provide teachers, district leaders, and teacher candidates opportunities to engage in high-quality professional development that builds both content and pedagogical knowledge (see Shulman, 1987) related to writing and the Common Core State Standards. Research has suggested that in order for professional development to be effective, it should be

reconceptualized as a venue for collaboration and engagement in authentic problems of practice. One-shot workshops offer little targeted support for teachers and do not change classroom practices (IRA, 2004).

In the Planting the Seed grant, professional development will focus on creating a developmental continuum of writing instruction across grade levels, or a "staircase" as described in the Common Core State Standards. Teachers will be taught how to navigate the nuances of increasing cognitive demand as students move from one grade to the next. Within the Common Core State Standards,10 anchor standards are addressed across grade levels. For instance, all students (beginning in kindergarten) work on Anchor Standard #2: "Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content." However, each grade level is more challenging than the previous. In addition to unpacking the standards and clarifying the cognitive demands expected of students, professional development will focus on instructional practices, student achievement, and assessment development related to writing. There will be heavy emphasis on writing for a variety of purposes and audiences, including content area writing. Additionally, teachers will be taught how to link writing instruction to other areas of literacy (e.g., literature, informational text). They will learn to use technology in meaningful ways to teach and to engage students in 21st-century writing practices.

Engage teachers in data-driven professional development. Putnam and Borko (2000) offered two potential venues for situating professional development: (a) in ongoing workshops where teachers can bring their experiences from their classrooms and (b) in the teacher's classroom at his/her own school. While some may argue professional development outside of the authentic setting of a teacher's own practice reduces the probability of transfer, Putnam and

Borko (2000) suggested that new settings may help teachers think in different ways. However, if professional development is done outside of the teachers' classrooms, teacher educators must explicitly address how the learning will be incorporated into their instructional practices.

In the Planting the Seed grant, classroom teachers, TAP mentors, TAP masters, TAP regional master teachers, and teacher candidates will engage in professional development about writing via quarterly network meetings during Years 1 and 2 of the grant (ongoing workshops to learn and share experiences with other partner schools) and at their school sites (job-embedded professional development tied directly to teachers' classrooms) during schoolwide professional development seminars in Years 2 and 3 of the grant. Figure 2 provides an illustration of how professional development will work in TAP schools. Note that *100%* of the professional development illustrated occurs on-site and is job-embedded.

The leadership team analyzes student data to develop school, yearly cluster, and cluster cycle goals.

Master teachers identify research-based strategies to help meet goals, and then "field-test" each strategy to customize to student needs.

Master teachers share results of the field test with the leadership team.

Master and/or mentor teachers introduce field-tested strategies in cluster group and help career teachers practice and plan for their classrooms.

Career teachers implement strategies in their own classrooms with targeted support from master and/or mentor teachers.

Career teachers bring back analyzed student work to cluster to debrief.

Master teachers share results with the leadership team, who analyzes data and makes adjustments.

The leadership team monitors student data across cluster groups and decides when cluster cycle goals have been met and a new cluster cycle can begin.

LEADERSHIP TEAM
Principal, Assistant Principals, Master Teachers, Mentor Teachers

CLUSTER GROUP
Master Teachers, Mentor Teachers, Career Teachers

CLASSROOM
Students, Career Teachers, Leadership Team members as needed

Figure 2: Overview of proposed PD model in TAP.

ASU Professional Development Facilitators and the Director of Professional Development will provide teachers and teacher candidates with professional development opportunities related to writing and the implementation of Common Core State Standards in four key ways: (a) needs assessments, (b) quarterly network meetings, (c) summer learning collaborative, and (d) site-based professional development in schools. An overview of the proposed plan of action is delineated in Table 8 and described in further detail below.

Table 8

Professional Development Activities, Timeframe, and Participants

Timeline	Activities	Participants/Service Providers
Year 1	Needs assessments in partner schools to collect baseline data about teacher and student needs to collaboratively develop data-driven professional development plans Quarterly network meetings for TAP schools' cooperating teachers and teacher candidates ● Professional development in Common Core State Standards with connections to writing ● Leadership development for mentor teachers, master teachers, and regional master teachers	Participants: Whole school staff at each of the TAP schools: Cooperating teachers Mentor teachers Master teachers Regional master teacher leaders Teacher candidates Service providers ASU staff/faculty
Year 2	Summer learning collaborative for TAP schools' cooperating teachers and teacher leaders, including mentor teachers, master teachers, and regional master teacher leaders ● Professional development focused on writing and curriculum development (e.g., goals, assessment tasks, instructional plans) that addresses Common Core	Participants: Cooperating teachers Mentor teachers Master teachers Regional master teacher leaders Teacher candidates Service providers: ASU staff/faculty

		State Standards	
Year 2	Site-based professional development focused on writing and Common Core State Standards		Whole school staff at each of the TAP schools (including teachers and teacher candidates) Cooperating teachers Mentor teachers Master teachers Regional master teacher leaders Teacher candidates
	Continue quarterly network meetings for TAP schools' cooperating teachers and teacher candidates ● Professional development in Common Core State Standards with connections to writing ● Leadership development for mentor teachers, master teachers, and regional master teachers		Service providers: ASU faculty/staff Mentor teachers Master teachers Regional master teacher leaders Teacher candidates
Year 3	Site-based professional development focused on writing instruction and assessment to meet Common Core State Standards		Participants: Whole school staff at each of the TAP schools (including teachers and teacher candidates) Service providers: ASU faculty/staff Mentor teachers Master teachers Regional master teacher leaders Teacher candidates

Objective 4.1: Conduct professional development needs assessments in 100% of partner

schools. Research has suggested that professional development needs to be strategically

planned, goal-oriented, aligned with schoolwide foci, and connected in a coherent manner over

time so that it supports both teacher and student learning (Au, 2005; Louis, Marks, & Kruse,

1996; Newmann, Smith, Allensworth, & Bryk, 2001; Pressley, Mohan, Raphael, & Fingeret,

2007; Purkey & Smith, 1983; Strahan, 2003). Thus, ASU Professional Development Facilitators

and the Director of Professional Development will conduct needs assessments at every partner

school in Year 1 of the grant to ensure targeted professional development that aligns with the goals of each individual school. Baseline data will be collected from schools to inform the ASU team about (a) current student achievement levels, (b) teacher knowledge about writing content and pedagogy, and (c) professional development needs. The needs assessments will provide information necessary to make data-driven decisions about how to implement a differentiated plan for writing professional development during site-based work in Years 2 and 3.

The TAP system, already in place at the partner schools, will help facilitate a portion of the needs assessment data collection. ASU Professional Development Facilitators and the Director of Professional Development will work with schools' leadership teams to create school goals based on student achievement data. Schools have previously focused professional development on either reading or math but will expand their foci to include writing. Student data will form the basis of targeted professional development. For example, data may show that students struggle with the writing process (e.g., planning, drafting, revising, editing, publishing) or with specific writing strategies (e.g., organizing ideas, creating voice, adding details). Professional development opportunities will explicitly address these areas of need.

Objective 4.2: Conduct 12 quarterly network seminars to provide cross-site professional development. In Years 2 and 3 of the grant, cooperating teachers, teacher candidates, TAP mentors, and TAP masters will engage in quarterly cross-site professional development seminars with teachers from all of the partner schools. Research has suggested that professional development should expand from delivery of content to collaborative working sessions. Newmann, King, and Youngs (2000) defined "'professional development' broadly as any formally planned activity intended to advance individual and collective staff knowledge, skills, or expectations in order to improve student learning. . . . Activities also consist of common

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planning and release time for teachers to engage in reflective inquiry, to refine instructional practices, and to develop curriculum or assessment practices in their schools, as well as opportunities to network with teachers from other schools" (p. 295).

ASU Professional Development Facilitators and the Director of Professional Development will conduct the quarterly network seminars. Professional development will focus on five key areas: (a) deepening knowledge about the Common Core State Standards for ELA and literacy connections across content areas; (b) developing curriculum that aligns with the Common Core State Standards, specifically thematic units that incorporate reading, writing, and content areas; (c) creating high-level authentic synthesis tasks that assess student learning; and (d) student data collection, analysis, and use for informing instruction.

Objective 4.3: All partner schools will create plans for implementing new writing strategies in their curricula during a summer learning collaborative. The summer learning collaborative (SLC) will take place between Years 1 and 2 of the grant to provide professional development for cooperating teachers, TAP mentor teachers, and TAP master teachers. The purposes of conducting the SLC are multifaceted: (a) to strengthen community within and across school teams; (b) to deepen knowledge about literacy and writing, including planning, implementing, and assessing instruction; and (c) to develop teacher leaders.

During a weeklong professional development seminar, teachers will have opportunities to work with colleagues from their own schools and others to collaboratively problem-solve authentic problems of practice related to writing. ASU staff will engage school teams in discussion about schools' progress on implementing new material learned during the quarterly network meetings. Teachers will have the opportunity to reflect upon and revise materials they developed during Year 1, including thematic units and high-level assessment tasks.

Additionally, teachers will learn to analyze student data (e.g., writing samples, high-level tasks) to use them in meaningful ways to inform instruction. ASU Professional Development Facilitators and the Director of Professional Development will provide professional development about writing to support teachers' instruction and student achievement. By the end of the SLC, each school will solidify a plan for implementing new strategies for writing, continuing development of thematic units, and using data to drive instruction.

In addition to professional development in writing, teachers will engage in leadership development. This will help ensure sustainability of implementation in schools. Using the TAP model, mentors and master teachers will work with cooperating teachers to create lesson plans for teaching new writing strategies that are aligned to school goals. Cooperating teachers will have opportunities to learn new material that their teacher candidates will learn during the year. This will allow time for the cooperating teachers to try new ideas, get feedback from masters and mentors, and be better prepared for working with teacher candidates. This process will provide cooperating teachers opportunities to engage with mentors and masters to more clearly understand their roles within the TAP system. This will help strengthen school teams and groom future leaders to ensure a trajectory of growth at each school.

Objective 4.4: Professional Development Facilitators will provide site-based professional development in writing at each individual partner school. According to Lawless and Pellegrino (2007), the most effective professional development is "spread out over time with opportunities for follow-up learning and feedback" (p. 594). This enables teachers to (a) learn new material, (b) implement newly learned material in the context of their own classrooms, and (c) receive continued support at subsequent professional development sessions, which is critical for real learning to take place (John-Steiner & Mahn, 1996). The Planting the Seed grant will support

professional development over time, increasing the likelihood of transference to teachers' practice. In this section, we describe three key components of the site-based professional development in writing: (a) data analysis and selection of schoolwide focus; (b) knowledge-building about writing across content areas; and (c) ongoing cycles of learning, implementation, reflection, and refinement.

Subobjective 4.4.1: Collect, analyze, and use data to inform writing instruction. ASU Professional Development Facilitators and the Director of Professional Development will work with schools to collect, analyze, and use data on an ongoing basis to inform their writing instruction. Schools will use the TAP system already in place at their schools to identify and address professional development needs. Within the TAP system, leadership teams analyze school data in order to determine school-wide areas of focus, typically in a specific content area. Once this focus has been established, the leadership team isolates the particular student strategies that will be targeted areas for improving their school-wide area of need. The student strategies then become the focus of learning of the cluster group meeting.

Once a strategy is selected, the master and/or mentor teachers field-test the strategy through an action research approach. During field-testing, the master and/or mentor teachers select a treatment group of students who will learn and use the instructional strategy over a specified period of time. The master and/or mentor teachers keep detailed documentation of the effectiveness of the strategy as well as a chronicle of the critical attributes of the strategy. Once the field-testing has been completed and the master and/or mentor teachers have determined that they have the data to support the effectiveness of the strategy, it is brought to the cluster group meetings to share with the career teachers.

In cluster group meetings, master and mentor teachers present instructional strategies as new learning for the teachers and then support their strategy implementation with follow-up support in the classroom. This follow-up support can include modeling, co-teaching, demonstration lessons, or observation. As a result of the strategy implementation at the next cluster group meeting, the master and mentor teachers look at student work and analyze the impact of the strategy on the targeted student skill.

Subobjective 4.4.2: Professional Development Facilitators will provide on-site support for knowledge-building about writing at each school at least three times per year. ASU Professional Development Facilitators and the Director of Professional Development will support knowledge-building in the area of writing at each school site. All schools will receive high-level writing professional development that focuses on skills and strategies that the Institute of Education Sciences (IES) and What Works Clearinghouse (WWC) have identified as effective for improving writing in the elementary grades. Based on a synthesis of research supported by *strong evidence of effectiveness*[4] of effective writing practices, IES and WWC have made four recommendations about what should be included in the writing curriculum: (a) provide daily time for students to write; (b) teach students to use the writing process for a variety of purposes; (c) teach students to become fluent with handwriting, spelling, sentence construction, typing, and word processing; and (d) create an engaged community of writers (Institute of Education Sciences, 2012).

ASU Professional Development Facilitators and the Director of Professional Development will provide site-based professional development seminars in Years 2 and 3 that

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[4] Institute of Education Sciences. (2012). *Teaching elementary school students to be effective writers*. (U.S. DOE Publication No. NCEE 2012-4058). Washington, D.C. Government Printing Office.

address these four broad recommendations for writing instruction. Based on the needs assessments conducted in Year 1 and the ongoing data analysis through the TAP system, specific professional development needs within those recommendations will be addressed per the schools' goals.

Subobjective 4.4.3: Classroom teachers will engage in ongoing cycles of learning, implementation, reflection, and refinement, and discuss on a weekly basis. Research has shown the importance of engaging in long-term professional development that provides teachers with opportunities to engage in new learning, implement new ideas in their classrooms, and reflect on their experience to make revisions for future instruction (Lawless & Pellegrino, 2007). In the Planting the Seed grant, teachers will engage in new learning about writing during set-aside professional development time on a weekly basis. Schools will use the TAP system of cluster group meetings already established in their schools as a venue for ongoing collaborative professional learning.

The TAP cluster group meetings follow a specific protocol called the Five Steps for Effective Learning. The first step is to identify the need based on student data. Once the need has been identified, new learning or a new strategy must be applied in order to address the identified need. During the second step—obtain new learning—the master teacher presents the new strategy through a two-tiered model. In the two-tiered model, the master teacher gives the cluster group members the experience of the strategy from the student and teacher perspectives. The master teacher models the strategy for the career teachers as if they were the students in order to give them a firsthand experience with the strategy. In the second tier, the master teacher steps out of the model to highlight the critical attributes that are necessary for the strategy to be

successful. The second tier of the model highlights the master teacher's metacognition and explanation of the thought process behind the strategy.

In the next step, the master and mentor teachers provide development time for the career teachers. During development time, the career teachers practice and plan for their strategy implementation while the master and mentor teachers are formatively assessing the level of understanding of the career teachers. Based on their assessment, the master and mentor teachers can determine the type of individualized support that the career teachers need in order to implement the strategy successfully. Once the teachers receive feedback and support from the master and mentor teachers in their plan for strategy implementation, the teachers are ready to apply the new learning. The career teachers then take the strategy and implement it in their classrooms with their students with the ongoing individualized support of the master and mentor teachers.

During the last step for effective learning—evaluate—the career teachers are asked to bring back student work to cluster, which will assist the cluster group in determining next steps for the strategy. The cyclical process in the Five Steps for Effective Learning for the cluster group meetings mirrors the same process that occurs in the classroom of learning, implementing, reflecting and refining. Figure 3 illustrates the Five Steps for Effective Learning.
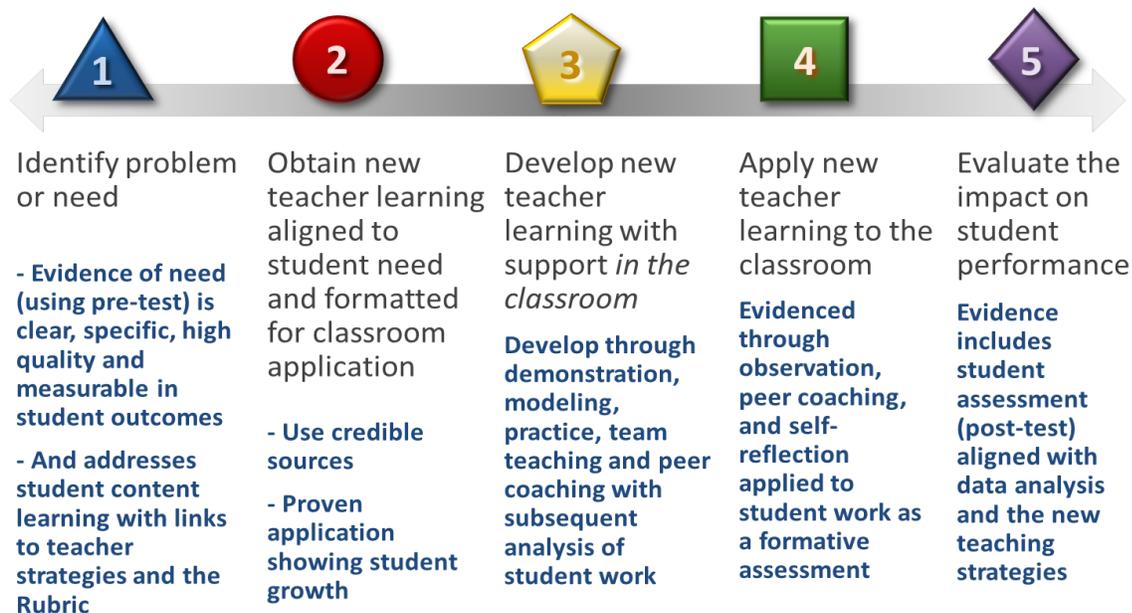
Steps for Effective Learning

1 Identify problem or need	2 Obtain new teacher learning aligned to student need and formatted for classroom application	3 Develop new teacher learning with support *in the classroom*	4 Apply new teacher learning to the classroom	5 Evaluate the impact on student performance
- **Evidence of need (using pre-test) is clear, specific, high quality and measurable in student outcomes** - **And addresses student content learning with links to teacher strategies and the Rubric**	- **Use credible sources** - **Proven application showing student growth**	**Develop through demonstration, modeling, practice, team teaching and peer coaching with subsequent analysis of student work**	**Evidenced through observation, peer coaching, and self-reflection applied to student work as a formative assessment**	**Evidence includes student assessment (post-test) aligned with data analysis and the new teaching strategies**

Figure 3. Five Steps for Effective Learning

Objective 4.5: Evaluate the effectiveness of writing and Common Core State Standards professional development on teacher and student achievement using the TAP rubric to demonstrate growth over time. In the Planting the Seed grant, ASU Professional Development Facilitators and the Director of Professional Development will partner with NIET to utilize the TAP system to evaluate the effectiveness of the writing and Common Core State Standards professional development on teacher and student achievement. Evaluations of teachers' writing instruction using the TAP instructional rubric will be conducted as baseline data in Fall of Year 1 and will be used to monitor progress through Years 2 and 3 of the grant. The TAP system has reconceptualized professional development for teachers by embedding professional development within the teacher workday that is specifically aligned to a school goal. This professional development is presented by instructional leaders within the school building, making them accessible for support of implementation with strategies. Progress toward school goals is

monitored by school leadership teams, paying attention to the ongoing development of teacher growth in relation to student achievement. Overarching school goals are broken down into subgoals, student skills are identified, and specific steps are outlined to measure and monitor goal achievement. These goals then become the focus of the strategies that are taught during the professional development meetings.

Goal 5: Implement two new innovative and sustainable technology tools and one open educational resource (Competitive Preference Priority 2). The Planting the Seed Project will utilize innovative technology tools to ensure efficiency, effectiveness, and sustainability beyond federal funding.

Objective 5.1: Provide teaching resources to 584 teacher candidates (214 STEM candidates along with all other teacher candidates in the ASU Senior Year Residency) and 60 faculty through NIET's TAP System Training Portal (Competitive Preference Priority 2). The Project will fund access to the NIET TAP System Training Portal to all teacher candidates, cooperating teachers, site coordinators, and ASU course instructors. NIET has developed the TAP Training Portal (sample page, Appendix G) to provide a web-based delivery of interactive, individual TAP trainings and support. The portal is designed to provide tiered access (based on role) to users and contains the most updated training for TAP leaders to download, , and deliver to their target audience in order to improve instruction. The NIET-created modules provide research, text, and tangible examples of activities and materials, as well as applicable lesson videos that can be used to enhance the implementation of various TAP topic strands.

Objective 5.2: Provide just-in-time data to 100% of teacher candidates, cooperating teachers, site coordinators, and course instructors through the use of an innovative data dashboard system (Competitive Preference Priority 2). An iTeachAZ Data Collection iPad application and

iTeachAZ Data Dashboard System will be used in the teacher preparation component of the Project. The iTeachAZ Data Collection application (Appendix G) will create an efficient and effective way of collecting data for the performance assessment process and walk-through process. The iTeachAZ Data Dashboard application (Appendix G) provides current and relevant information to teacher candidates and their learning communities. Student enrollment status, observation, and assessment measures; areas of growth and reinforcement; cohort trends; and indicators of program fidelity are available through engaging dashboard pages.

Objective 5.3: Increase the number of open source resources available to both preservice and inservice teachers by 50% each semester over the 3-year project period. (Competitive Preference Priority 2). The Project will include the Mary Lou Fulton Teachers College *Professional Learning Library (PLL)*. The PLL (www.pll.asu) was launched in March 2013, and content is continuously being populated by users across Arizona and the nation. The PLL provides a venue for accessing, sharing, creating, managing, and editing professional learning resources (see Appendix G). The PLL will support the the Planting the Seed Project by providing a virtual venue for participants to find and contribute educational resources (videos, lesson plans, curriculum materials, etc.) that support the advancement of their instructional practice. The PLL will be available to participants during the program and into their teaching careers.

(2) Comprehensive effort to improve teaching and learning

The Planting the Seed Project is part of a comprehensive effort to improve teaching and learning and to support rigorous academic standards in Arizona. The Project is an extension of work that is already under way as a result of a strong partnership between NIET and ASU. Over the last three years, NIET and ASU have partnered to improve educational outcomes for Arizona

children by implementing the TAP system in 60 high-needs, low-performing schools across the state and by using TAP as a foundation for reforming the Teachers College preparation programs.

Comprehensive School Reform

NIET and ASU supported 60 Arizona schools in their implementation of the TAP system because research has shown that adherence to the TAP teaching standards produces student learning gains. "The example of TAP implies that teacher evaluation should not be pursued as a one-time, one-size-fits-all policy prescription, but should be integrated within a comprehensive, site-based system with specific practical elements to support teachers and improve teaching and learning in the classroom" (Daley & Kim, 2010, p. 40). Higher-quality instruction in the classroom will lead to greater student gains on standardized achievement tests.

Comprehensive Teacher Preparation Reform

NIET and ASU have an established partnership to improve teaching and learning in Arizona through the reform of teacher preparation programs in Mary Lou Fulton Teachers College. Over the last two years, Teachers College has continuously examined its own practices, evaluated those practices against the latest research and national recommendations, and implemented change. This reform has resulted in a new model of teacher preparation that requires extensive clinical experience and a focus on school–university partnerships that had not existed at their current scale. The Planting the Seed Project expands the reform efforts by expanding programming options (middle and high school STEM fields), reforming ASU coursework to include STEM and Common Core, implementing a new model of induction, and bringing together preservice and inservice professional development in the Common Core writing standards.

(3) Sufficient quality, intensity, and duration

Teacher Preparation Training and Induction

Quality: The Project's teacher preparation program includes three strategies/practices supported

by *strong evidence of effectiveness*[5], including the recruitment and selection process, the

redesigned student teaching course (Decker, 2004), and tracking graduates' value-added in their

first year of teaching (Chetty et. al., 2011). In addition, the program is supported by the work of

leading researchers in the field of teacher preparation, including the co-teaching model of

Marilyn Friend (2008) and the professional development school model (Levine, 2011).

Intensity: A 2007 study investigating the impact of teacher preparation on special education

teachers indicated that higher amounts of teacher preparation corresponded to greater feelings of

preparation in the areas of general and special education. Specifically, graduates with extensive

preparation felt better prepared to teach their assigned subject matter, select curricular materials,

plan lessons effectively, use a variety of instructional methods, assess students, handle classroom

management, and use computers in instruction (Boe, Shin, & Cook, 2007). Recent findings

issued by the American Association for Colleges of Teacher Education (AACTE) indicate that

"extensive clinical experiences are being incorporated in higher-education-based teacher

preparation programs. . . . Only 5 percent of programs offer a one-year student

teaching/internship experience" ("The Changing Teacher," 2013, p.16).

      The Planting the Seed Project more than doubles the amount of time teacher candidates

spend in classrooms by implementing increased clinical experiences in the junior year and a full-

year residency in the senior year. In the undergraduate program, teacher candidates spend 1 full

day per week in internships in the first year of the program and 4 days per week in the final year

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[5] Decker, P., Mayer, D., & Glazerman, S. (2004). *The effects of Teach for America on students: Findings from a national evaluation.* Mathematica Policy Research, Inc.

of the program. During the final year, named the Senior Year Residency (SYR), teacher

candidates are expected to arrive when new teachers report back to the school district (so that

teacher candidates can participate in new teacher induction and professional development). Then

the student teaching internship begins on the first day of school and continues for 4 days per

week for an entire year in a single classroom. All coursework and clinical experiences take place

in the school district, and the program follows the school district calendar rather than ASU's

academic calendar. In the master's and certification format, candidates spend a full year in

intensive internships in which all coursework and clinical experiences take place in the school

district. The program also includes summer coursework and internships.

Duration: The Project period spans 36 months. This period of time is appropriate to meet

Project goals as outlined in the evaluation plan in Section E2 and the management plan in

Section C2. Specifically, it provides appropriate time to recruit and select candidates (Year 1), to

implement year-long residencies (Year 2), and to provide a full year of induction support (Year

3).

Professional Development

Quality: The writing professional development that will be provided by ASU Professional

Development Facilitators and the Director of Professional Development is based on a large body

of research on writing instruction that the IES and WWC have identified as effective.[6] Partner

schools will be provided with high-quality professional development that employs strategies that

IES and WWC consider to have a "strong evidence base."[7] Some of the criteria for making that

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[6] Institute of Education Sciences. (2012). *Teaching elementary school students to be effective writers.* (U.S. DOE Publication No. NCEE 2012-4058). Washington, D.C. Government Printing Office.

[7] Institute of Education Sciences. (2012). *Teaching elementary school students to be effective writers.* (U.S. DOE Publication No. NCEE 2012-4058). Washington, D.C. Government Printing Office.

judgment include (1) high internal and external validity, (2) consistent positive effects on outcomes, and (3) direct relevance to school contexts (Institute for Education Sciences, 2012).

Intensity: To design effective professional development, teacher educators must first consider what teachers already know and build from there. They must address both conceptual understandings of teachers and practical application (Zech, Gause-Vega, Bray, Secules, & Goldman, 2000). Teachers need to have the opportunity to learn new information and practice with the new material on an ongoing basis to increase the likelihood of theory translating into practice (John-Steiner & Mahn, 1996; Lawless & Pelligrino, 2007; Loucks-Horsley, 1995).

The Planting the Seed project addresses what researchers say is important for professional development to change practice. In Year 1, teachers and teacher candidates will engage in professional development related to the Common Core State Standards and writing across the content areas during quarterly meetings. Additionally, a needs assessment will be conducted at each school site so that professional development can build on teachers' knowledge and expertise and extend their learning so that it is tailored to their specific needs. In Years 2 and 3 of the grant, quarterly meetings will continue, and site-based professional development will be implemented. The site-based professional development will focus on conceptual knowledge (about writing) as well as pedagogical practices. Engaging in ongoing professional development over time with opportunities to learn new material, implement new strategies in classrooms, and collaboratively reflect with other teachers will increase teachers' knowledge, change practice, and ultimately impact student achievement.

Duration: The Project period spans 36 months, including quarterly network seminars in Years 1–3 and site-based professional development in Years 2 and 3. Research on teacher change (Clarke & Hollingsworth, 2002; Doyle, 1990; Guskey, 1985, 1986; Johnson, 1996) has

suggested that this amount of time will allow teachers to learn new material, implement it in their classrooms, reflect on it, and revise and refine instruction to improve student achievement.

C. *Quality of the Management Plan and Personnel*

(1) The qualifications of the project director and key project personnel

The Planting the Seed Project includes a qualified Project Director and key personnel in order to carry out the management and evaluation plans. Table 9 provides a brief overview of the qualifications and duties of project personnel, and complete project personnel professional bios and resumes are included in Appendix H.

Table 9

Key Project Personnel, Qualifications, Duties

Key Personnel	Qualifications, Duties
As Chief Learning Officer and Executive Vice President of NIET, Jason Culbertson will serve in a key leadership role.	Culbertson was previously the Project Director for a South Carolina TAP Teacher Incentive Fund grant, showing his experience managing a federal grant.
Michelle Rojas, Ed.D., will serve as Project Director (4 days per week).	Dr. Rojas is suited for the role of Project Director as she has served as the Director of the iTeachAZ teacher education program for the Mary Lou Fulton Teachers College and Executive Director of the largest Teacher Quality Partnership Grant in the nation—the NEXT Grant.
Catherine M. Weber, Ph.D., will serve as Director of Professional Development and Co-Principal Investigator (1.5 days per week).	Dr. Weber is an Assistant Professor in the Mary Lou Fulton Teachers College at Arizona State University. Dr. Weber has conducted professional development workshops for leaders from 18 Arizona school districts on the Common Core State Standards through the Arizona Assessment Collaborative, served as cochair of the Comprehensive School Reform Task Force at ASU, was a member of the Arizona Department of Education K–3 Reading Task Force, and collaborated with educators on the state-level PARCC Assessment feedback team.
Jan Snyder, Ed.D., will serve as STEM Professional Development Facilitator for the	Dr. Snyder spent 23 years as a high school biology teacher in the Phoenix Union High School District. The focus of his professional interests and research has continued to be in science education with an emphasis on gender-by-ethnic equity. In 2010, the Dean of the Schools of Engineering invited Dr. Snyder to work as an

Project (1 day per week).	educational outreach coordinator for the ASU Fulton Schools of Engineering, where he remains to this date.
Joshua Barnett, Ph.D., will serve as the Project Evaluator (.5 days per week).	Joshua is the Director of Research and Evaluation for the National Institute for Excellence in Teaching (NIET). Over the previous decade, Joshua's primary research interest has focused on improving teacher quality in all schools for all students by addressing two related issues: how teachers and principals are evaluated and how resources are distributed to and used within schools.
Wendy Barnard, Ph.D., will oversee evaluation at ASU (.5 days per week).	Wendy Miedel Barnard is the Director of the College Research and Evaluation Services Team (CREST) in the Mary Lou Fulton Teachers College at ASU.
Allison Ellison will serve as the Business Manager for NIET on the Project (2.5 days per week)	Allison Ellison is the Director of Support Services for NIET. Allison has extensive experience managing budgets, tracking invoices, and using various accounting systems for NIET.
Greg Beatty will serve as the Business Manager for ASU on the Project (2.5 days per week).	Greg has served a number of roles with grant programs—Program Manager, Subawards Supervisor, Business Manager, and Business Operations Manager Senior, which will serve him well to be a successful steward of U.S. Department of Education funding.
Anissa Rodriguez, Ph.D., will serve as the NIET Project Manager for the Project (2.5 days per week).	Anissa Rodriguez is Director of Learning Technology with NIET. In this role, Dr. Rodriguez supports all aspects of NIET's web-based applications and technology support for TAP and the Best Practices Center, including the TAP System Training Portal, the NIET Best Practices Center Portals, CODE and the tapObserver, MyEvaluator, and OTESObserver iPad applications. Anissa also supports the implementation and management of the TAP system, including TAP trainings, partnership support, evaluation, and other projects.

(2) Management plan responsibilities, timelines, and milestones

A detailed management plan has been developed to ensure that all Planting the Seed

Project objectives are met on time and within budget (Appendix I). The management plan

outlines the objectives, the person(s) responsible, the timeline, and specific milestones for

accomplishing each task. In addition, key project personnel have been assigned to provide

leadership and oversight of each of the Project objectives to ensure that all Project tasks are

completed. Dr. Rojas will (a) administer the budget, program design and admission, curriculum

adjustments, course delivery, and mentor training; (b) work with the evaluation team to develop

procedures for data collection, analysis, and reporting of Project outcomes; and (c) complete the

annual reports and final report. In addition to Dr. Rojas's management of the project, each goal

includes defined responsibilities, timelines, and milestones, as indicated in the management

plan in Appendix I.

(3) Time commitments of the project director and other key project personnel

Because the Project is built on the infrastructures of the TAP System and iTeachAZ,

many of the costs for administration, program design, program implementation, and data

services are a function of these organizations. This allows the project to allocate maximum

support for participants not otherwise possible. Table 10 describes the commitments of key

personnel by Project goal.

Table 10

Commitments of Key Project Personnel

Goal	Commitments of Project Director and Key Personnel
Goal 1	The Project Director will oversee the recruitment and selection process and will be supported by two full-time recruiters funded by the Project. Recruiters will actively recruit prospective students using a detailed recruitment plan and will deliver a detailed report of progress at each quarterly governance meeting. The report will include a summary of events, outcomes related to those events, and the number of prospective participants who have submitted applications. Each recruiter is full-time on the project.
Goal 2	The Project Director will oversee the training aspect of the Project in collaboration with the Assistant Dean for the Office of Clinical Services, College Division Director, site coordinators, and the ASU Business Manager. The Project Director will oversee the recruitment, hiring, and management of site coordinators (in collaboration with college leadership). The quarterly governance meetings will serve as the venue for reporting progress toward Project objectives (performance assessment data, walk-through data, progress report data, status of cooperating teacher recruitment and training, outcomes of trainings, and employment status at program completion).
Goal 3	The Project Director will oversee the induction services to be provided by the Project and will be supported by the four college instructional coaches (program

	specialists). Coaches will attend the train-the-trainer Six Seconds workshop and will be responsible for training all site coordinators. The Project Director will review progress toward outcomes on a quarterly basis in a formal meeting with the program specialists.
Goal 4	The Director of Professional Development will oversee all professional development for the Project with the support of three Professional Development Facilitators funded by the Project. The Director of Professional Development will lead quarterly meetings and coordinate site-based professional development. Professional Development Facilitators will conduct needs assessments, support quarterly meetings, and provide site-based professional development at all partner schools.
Goal 5	The Project Director and the NIET Program Manager will oversee the technology-related objectives of the grant with the support of two ASU technology directors (not funded by project). The technology directors will provide a quarterly written report to the managers with detailed information regarding training attendance, training feedback, and usage.

(4) Management plan sufficient and reasonable resources

The management plan table in Section C2 outlines the key tasks of the Project that must be accomplished to ensure the Project goals are met on time and within budget. It includes an outline of those tasks but also assigned project personnel who are responsible for those tasks. In addition, the management plan includes a timeline for reporting on Project progress to ensure that each team member is accountable. The plan provides a framework and guide to determine the personnel and resources required to carry out the proposed project.

Dr. Mari Koerner, Teachers College Dean, is committed to the Planting the Seed Project and will offer additional support to ensure that the Project operates efficiently (by leveraging the resources of the College), meets its goals, and is sustainable beyond the federal funding period. Specifically, Teachers College will fund the following positions that will be critical to the success of the Project: (a) approximately 75% of the cost of the site coordinator positions, (b) four iTeachAZ program specialists (at 100%) who will serve as mentors/support to the 29 site coordinators, (c) academic advisors, (d) a Technology Director. In addition, this Project has

been developed with input and support from the Mary Lou Fulton Teachers College Enrollment Management Team, Office of Student Services, Office of Clinical Services, Division of Teacher Preparation, Division of Educational Leadership and Innovation, Director of Information Technology, and the Ira A. Fulton Schools of Engineering (letters of support are included in the proposal's "Other Attachments").

D. *Sustainability*

(1) Local capacity and results that will extend beyond Federal funding period

The ultimate goal of the Planting the Seed Project is to positively impact student achievement in schools across Arizona. NIET and Teachers College recognize that this can be accomplished only when partners come together to implement innovative practices while building local capacity. The Project builds local capacity by responding to an expressed need from district partners—qualified math and science teachers who will positively impact student outcomes. The Planting the Seed Project is designed to both build local capacity and yield results that will extend beyond the federal funding period.

The Project is a nonprofit and school–university partnership model that builds the local capacity within the school district

The school–university model is meant to build local capacity and to make a long-term impact on student achievement. Specifically, the teacher preparation program includes training and support for inservice teachers that not only assist them in mentoring teacher candidates but also improve their own instruction. In addition, a co-teaching model is utilized to positively impact student achievement while teacher candidates are completing the residency.

The Project will yield results that will extend beyond the grant period by collecting, analyzing, and reporting data to address a *gap in the literature.*

There is a lack of empirical evidence regarding what works in teacher preparation. Mary Lou Fulton Teachers College at Arizona State University is the largest preparer of new teachers in Arizona and one of the largest preparers of new teachers in the nation. The data collected and shared from this Project could address the current gap in the literature regarding high-quality teacher preparation. The Project includes an aggressive evaluation plan that will yield results that will extend beyond the Project period.

The Project is designed to be fully integrated into the college.

The Project builds the capacity within Teachers College by providing high-quality professional development that will have an impact that extends beyond the Project. For example, reforming Teachers College coursework and training ASU faculty in modeling the Common Core Standards and TAP instructional rubric will impact teacher candidates who are not part of this Project as well as future Teachers College students. Training provided to site coordinators to assist them in supporting graduates in their first year of teaching is a new concept that could change the way Teachers College thinks about its role with first year teachers. In addition, Teachers College has not yet reformed its undergraduate secondary education programs to include the key features of this Project. This Project represents an expansion into secondary education that will likely provide a model to reform all of our undergraduate secondary education programs (one of the largest programs in the College). Finally, Teachers College has a desire to serve as a model for teacher preparation nationally. It recognizes its responsibility to provide information and resources to support other colleges that are engaging in this type of reform.

The Project includes shared decision-making.

The Project will bring together key personnel from each partner in a decision-making body known as a *Governance Committee*. This committee will include leadership members from both NIET and ASU as well as the school district with the following goals: (a) review the management and evaluation plans to ensure Project outcomes will be met, (b) make programmatic decisions, (c) plan for sustainability (including opportunities to further embed the model in the school district). The Governance Committee will meet quarterly in each district partnership and will include the following members: the Project Director, the Director of Professional Development, the STEM Professional Development Facilitator, the iTeachAZ Site Coordinator, each school district superintendent (or designee), representatives from the district human resources and curriculum/professional development departments, school administrators, and master teachers. These meetings will take place in each district each quarter in a face-to-face format (for a total of 21 meetings per quarter).

Professional development

The Planting the Seed grant will build capacity for long-term, systemic change beyond the scope of the three-year financial assistance. The project will focus on sustainability from the beginning by developing teachers as leaders. They will engage in professional development that focuses on writing as well as leadership strategies that enable them to deliver professional development in their own schools.

Needs assessments will be done in each school during Year 1 and take into account the strengths and needs of each individual school to create professional development plans that are sensitive to their unique contexts. This will help ensure sustainability by building upon the infrastructure the schools already have in place. Additionally, teachers will be better equipped to teach writing as a result of engaging in professional development that focuses on (a) writing

across the content areas, (b) Common Core State Standards in writing, and (c) leadership strategies for sharing professional development about writing with colleagues at schools.

(2) Findings and products that may be used by other agencies and organizations.

It is imperative that the Planting the Seed Project produce findings and products that may be used by other organizations (including nonprofit agencies, state departments of education, and colleges of education). In 2012 alone, the National Institute for Excellence in Teaching and Mary Lou Fulton Teachers College received requests from over 20 agencies seeking information, materials, processes, and techniques to reform teacher preparation. These agencies included colleges of education, school districts, nonprofits, and government agencies (including state departments of education) from across the nation. The Planting the Seed Project will yield the types of findings and products that will be needed by agencies that intend to make drastic changes to the way they train teachers.

The Project will generate materials that can be used by other agencies to implement reform models of teacher preparation and high-quality professional development. These materials include the following: a summary of key features, training materials, training modules, and handbooks. The processes and techniques utilized throughout the Project will be documented and organized in such a way that they can be replicated by other agencies and institutions. At Project end, the Project will provide a summary of effective processes and techniques in the following areas: recruitment, selection, preparation, induction, and professional development.

(3) Dissemination of information about results and outcomes.

The Project will disseminate information about results and outcomes through the following:

- **National Conferences:** The outcomes of the Project will be presented at the National TAP Conference and three other professional conferences. In addition, key Project personnel will participate in a national conference (hosted at ASU) that will bring together organizations from across the nation to showcase the Project and offer a venue for sharing results, information, and ideas. Finally, key Project personnel will present key outcomes at the American Association of Colleges of Education Day on the Hill in Washington, DC.

- **The ASU Mary Lou Fulton Teachers College Professional Learning Library (PLL).** The Information about the grant's implementation and data, as appropriate, can be shared with the public within the PLL. With access to the PLL linked directly from the Mary Lou Fulton Teachers College website as well as from its direct URL (http://pll.asu.edu), the Professional Learning Library is positioned to effectively disseminate this grant-related information globally.

(e) *Quality of the Project Evaluation*

(1) Thorough, feasible, and appropriate methods of evaluation.

The NIET Evaluation Office and ASU's College Research and Evaluation Services Team (CREST) will oversee the Project evaluation under the direction of Dr. Joshua Barnett and Dr. Wendy Barnard. The Project has established aggressive targets and has established thorough benchmarks to ensure it meets those targets. All program evaluation elements are feasible and appropriate within the structure of the Project model. The model is built on the idea that data is used to make programmatic decisions, to improve services, and to evaluate program effectiveness. The Project includes a detailed evaluation plan (Appendix D) to ensure that the methods of evaluation are thorough, feasible, and appropriate.

(2) Objective performance measures that are clearly related to the intended outcomes.

The methods of evaluation include objectives and output measures that are clearly aligned to the intended outcomes of the Project. The evaluation table (Appendix D) clearly articulates each goal, followed by objectives and output measures aligned with that goal that will produce both qualitative and quantitative results. The plan includes measurable objectives and clearly defined measurement tools that align to the Project's major objectives. The evaluation plan will be monitored by the Project Director to ensure the Project is on target to meet intended outcomes.

(3) Performance feedback and permit periodic assessment of progress.

The evaluation plan outlines how the evaluation will be used to monitor progress toward achieving outcomes, provide performance feedback, and provide accountability information.

Monitor progress toward achieving outcomes: The evaluation plan is organized by Project objectives and includes specific timelines, tools used to collect data, methodology, reporting timeline, and how the data will be used. The plan will be reviewed on a monthly basis by all Project personnel and will be formally reported on a quarterly basis to each Governance Committee. The evaluation plan will serve as a working document to ensure the Project is on track to meet all objectives.

Performance feedback: As referenced in the evaluation table (Section B1), there are regular opportunities to obtain and review performance feedback. Performance feedback includes the following: participant instructional performance based on walk-through and performance assessment data, participant professional dispositions based on professionalism rubric data, participant GPA, participant completion rate, and graduate impact on student achievement in the first year of teaching.

Provide accountability information: Each objective within the evaluation plan includes specific outcomes and timelines, along with the personnel who are responsible for those outcomes. The plan provides a framework to hold Project personnel accountable for meeting the objectives. As mentioned, the Project includes a comprehensive measure of fidelity—the *iTeachAZ Site Review Protocol*. The site review process will be conducted annually and will be reported formally in the governance structure and in this Project's annual performance report.

(4) Sufficient resources to carry out the Project evaluation effectively.

The program evaluation will be conducted by NIET's research team in collaboration with Arizona State University's CREST and the partnering schools. With the combined efforts of the NIET Director of Research, a full-time NIET research associate, ASU's CREST Director, and two ASU graduate students, the evaluation plan is sufficiently resourced to carry out the proposed evaluation effectively.