Increasing the Number of Highly Effective Teachers by Aligning Pre-Service Teachers’ Student Teaching Experience with Comprehensive Induction

_A Proposal by New Teacher Center, partnering with Chicago Public Schools and National Louis University._

Absolute Priorities 1 and 2
Competitive Preference Priorities 1 and 4

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**Response to Priorities:** New Teacher Center (NTC) and its official partners, Chicago Public Schools (CPS) and National Louis University (NLU), along with evaluation partner SRI Education, seek a 3-year SEED grant under **Absolute Priority 1 and 2** (and **Competitive Preference Priority 1 and 4**). Seeking to increase and retain the number of highly effective teachers, NTC, CPS, and NLU propose to jointly develop and implement a scalable system of support that improves and aligns the student teaching experience of pre-service teachers in CPS with NTC’s high quality Teacher Induction (TI) program, creating a seamless transition from being a student teacher to a teacher of record. This continuous system of support will provide:

**Phase 1: Student Teaching Support to Cooperating Teacher and University Supervisor:** Practice changing professional development, forums and in-field coaching will be provided to pre-service teachers’ cooperating teacher and their university supervisor.

**Phase 2. Recruitment and Hiring:** Aligned and strategic pre-service teacher recruitment and hiring of student teachers (whose cooperating teachers had professional development in Phase 1) to high needs schools and high-needs content areas within CPS (e.g. Special Education, Title 1, English language learners).

**Phase 3: Two Years of induction support for Phase 1 teachers hired by CPS:** NTC’s job-embedded TI program to the same pre-service teachers once they are the teacher of record, by fully-released, NTC mentors.

This project will serve 94,800 K-12 students and 1,080 K-12 teachers, with a primary focus on new teachers supporting students in high-need schools and will create an aligned support system that can be scaled across the nation. Throughout the grant period, pre-service teachers will receive this improved and aligned system of support through the last year of their student teaching experience and their first two years teaching at CPS. Through this partnership:
• NLU will partner with NTC in ensuring content delivered to cooperating teachers and university supervisors aligns with best practice pedagogical strategies in the pre-service space.

• NTC & NLU will provide training and strategies to cooperating teachers, university supervisors, and mentors, as well as consultation and program development capacity building to CPS around implementing a comprehensive student teaching through induction support model.

• CPS will partner with NLU to further build out an aligned and strategic approach to cooperating teacher recruitment and pre-service teacher recruitment and assignment.

• NTC, CPS, and NLU will work together to design and implement the program model, create a student teaching through induction Continuum of Teacher Development, build upon NTC’s Theory of Action and Program Standards, refine professional development, and disseminate best practices to the field.

Absolute Priority 1: Supporting Practices and Strategies for Which There Is Moderate Evidence of Effectiveness

Evidence of Effectiveness: The induction support processes and strategies proposed here meet the evidence requirement of both moderate and strong evidence of effectiveness (Competitive Priority 1) based on the findings from two studies reviewed by the What Works Clearinghouse (WWC): Glazerman et al\(^1\) and Clark et al\(^2\). Both studies meet WWC evidence standards without reservations (Competitive Priority 1, Area A), and found a statistically significant favorable impact on student achievement, without unfavorable impacts. Samples of these studies overlap with this proposed sample and both studies use similar processes and practices as proposed here.

The Glazerman evaluation of the comprehensive mentoring (one treatment was the NTC model) applied a randomized controlled trial (RCT) design to assess the impact of NTC’s comprehensive strategies and processes for supporting new teachers on several outcomes.
including student achievement. Similar strategies and processes will be assessed in this current project with all identified teachers as described in the narrative of the proposal. This study randomly assigned schools to either the treatment or control conditions, allowing for all new teachers in a school to be in the same group. Beginning teachers in the treatment schools received comprehensive induction. Beginning teachers in the control schools — those not assigned to receive comprehensive induction services — received the support normally offered to novice teachers by the district or school.

The study found that there were significant differences in the achievement of students of the teachers in the treatment and control groups in the 3rd year, based on the sample of teachers whose students had both pre-test and post-test scores and were supported for two years. Students of teachers with comprehensive induction support performed significantly better in reading (effect size of .11) and mathematics (effect size of .20) compared to students of control teachers. The WWC 2013 single study review of this evaluation determined the study meets WWC evidence standards without reservations.³

Student outcomes in mathematics and reading are also relevant outcomes for this proposal. There were no statistically significant unfavorable impacts on that outcome for relevant populations in the study. Finally, this study includes a similar sample as the one proposed in this project, elementary students in urban/large metropolitan areas. It should be noted that only the retention outcome was reviewed by the WWC and there were no differences between groups.

The second study that provides evidence of the effectiveness of induction support practices and strategies, Clark et al, is the Mathematica RCT study of Teach for America (TFA), which found a statistically significant favorable impact on mathematics achievement, an outcome for the proposed study. TFA teachers were more effective than comparison teachers in raising the mathematics achievement of their students (effect size of 0.07). This population overlaps
with the sample population proposed for the current study. The WWC single study review meets the WWC group design standards without reservations due to authors establishing baseline equivalency between treatment and control groups. NTC’s induction model implements similar practices, strategies, and processes as TFA’s program, including classroom management, lesson or unit plans, goal setting, analysis of student work, instructional practices, observation and feedback, small group interactions, and ongoing instructionally-focused interactions. NTC’s model provides one-on-one support at a lower ratio (1:15 as opposed to 1:30) and includes more interaction time (>1,600 minutes as opposed to 700 minutes). Please see Appendix A for further support in meeting the moderate evidence of effectiveness required for Absolute Priority A.

**Absolute Priority 2: Teacher or Principal Recruitment, Selection, and Preparation**: Please see Response to Priorities.


**Competitive Preference Priority 4: Supporting High-Need Students**: NTC, CPS, and NLU engaged in this partnership knowing that CPS, the third largest school district in the country, has some of the highest-needs schools in the nation, and that supporting CPS cooperating teachers, pre-service teachers, new teachers, and mentors, will build the human capacity of CPS to improve the academic outcomes of its students.

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A. SIGNIFICANCE

(A-1) This project has national significance because it creates a scalable system of support that aligns the student teaching experience of pre-service teachers with high quality induction for replication across the nation. Studies show that many new teachers are not as effective as their experienced peers, but that teachers who receive systematic professional development “move” from novice to advanced stages of teaching. However, teachers often receive isolated professional development unrelated to their specific needs that does not accelerate teacher practice or student learning. With over 240,000 new teachers hired each year in the U.S., there is a moral and practical imperative to ensure that new teachers are provided the quality support and development needed to improve teaching practice and help their students thrive.

Student teaching, the key clinical experience of pre-service teachers, is central to new teachers’ success, and pre-service teachers who have a high-quality student teaching experience are far less likely to quit after their first year. However studies have shown that ineffective student teaching experiences may actually be the weakest link in the chain of teacher training, and the quality of preparation has become the subject of reform and policy debates, citing the disconnect between the traditional student teaching experience, actual curriculum, and teaching standards used in districts. This is exacerbated by poor development by a cooperating teacher and university supervisor and a lack of rigorous selection of mentors. Recent reports show that in order to improve pre-service training, districts and universities should align their student teaching programs, focusing on bridging the gap between theory and practice, and that
selection and training of cooperating teachers and university supervisors are key levers to strengthening this connection.\textsuperscript{17}

In order to increase the number of highly effective teachers in high-need schools, both in CPS and nationwide, this project focuses on improving two weaknesses research has illuminated in the student teaching through induction experience including:

1. The lack of training of cooperating teachers and university supervisors
2. The lack of alignment between student teaching and full-time teaching

1. Poorly trained cooperating teachers and university supervisors: Cooperating teachers are one of the least understood contributors to the student teaching experience, and receive little training around supporting the development of pre-service teachers.\textsuperscript{18} A recent study in CPS found that only 11\% of cooperating teachers received coaching professional development, and the most frequent forms of support was a handbook (77\%) or meeting with a field instructor (81\%).\textsuperscript{19} Cooperating teachers rarely offer feedback (a significant lever shown by NTC to increase student learning and teacher practice) to pre-service teachers, seeing their role as more of a model than a coach, engaging pre-service teachers in non-instructional tasks such as copying and stapling.\textsuperscript{20} As pre-service teachers rarely observe cooperating teachers’ planning and reflection time, critical and significant opportunities are missed around developing student teachers for rigorous instructional expectations once they are the teacher of record.\textsuperscript{21,22}

All of the above is concerning as cooperating teachers who receive training are better able to support pre-service teachers,\textsuperscript{23} and pre-service teachers are better prepared when cooperating teachers offer coaching and instructional support.\textsuperscript{24} As a cooperating teacher may share a classroom with a pre-service teacher five hours a day over a ten-week period of student teaching, there are over \textbf{250 hours} that cooperating teachers could be developing pre-service teacher skills around reflective practice, analyzing student work, and managing the learning
environment. Ongoing, effective professional development is essential for cooperating teachers to be successful as they need the ability to diagnose pre-service teacher needs in order to move instructional practice forward. Another issue is the selection of cooperating teachers, which varies substantially. In one study, principals even placed stronger pre-service teachers with weaker cooperating teachers with the hope that they would provide support for weaker cooperating teacher teachers.

Similarly, the role of university supervisors is poorly defined. University supervisors are often professors or graduate students with little coaching experience (or experience implementing Common Core State Standards), and receive little to no professional development on how to formatively and summatively develop teachers in the field. They infrequently visit pre-service teachers’ classrooms, conversations are often based on limited-to-no knowledge about district expectations and priority areas, and pre-service teachers consistently report that university supervisors have little influence on their teaching practice.

2. Lack of alignment between student teaching and full time teaching: Too often, the relationship between universities and school districts is an unaligned division of labor, where universities provide pre-service teachers theoretical knowledge of pedagogy and districts provide in-service training on the practical aspects of teaching once they enter the profession. During the student teaching experience, the cooperating teacher, university supervisor and pre-service teacher form a triad, fundamental to the development and effectiveness of pre-service teachers, yet often universities do not align their programs to induction, and districts do not integrate new teacher development into their goal of the education of students. This ‘failed triad’ often results in low-quality professional development, where cooperating teachers see university supervisors as ‘out of touch’ and university supervisors see cooperating teachers as ‘resistant to change.’
Often, each institution has its own lexicon, framework, and vision of ‘quality teaching,’ and during their student teaching experience, pre-service teachers encounter very different language, acronyms and ways of thinking from that which they have become familiar within their university classroom. Without common goals, competencies and tools, pre-service teachers will find themselves ‘overwhelmed and underprepared,’ with conflicting messaging. Lack of alignment can also hinder district recruitment practices, as pre-service teachers doing their student teaching in high need schools may actually get discouraged from applying due to feelings of alienation and dissatisfaction when support is disconnected. However, when a pre-service teacher’s work with a university supervisor and cooperating teacher is aligned, and focuses more on their student teaching experience, teachers are more likely to work in the school they are student teaching in, and to stay in the field. Even though shared responsibility and cross-organizational connections are essential to strengthen the practice of pre-service teachers, most universities remain disconnected from schools, even in districts where they are most often recruiting and hiring teachers.

Creating a scalable, aligned system of support will not only increase the number of highly effective teachers in CPS, but will establish a model, linking student teaching to induction, that other LEAs can learn from, and can be scaled across the nation. As this project will train cooperating teachers supporting pre-service teachers from all universities feeding into CPS, not just those who studied at NLU, it will impact other pre-service teachers doing their student teaching in CPS and improve the learning experiences of their students.

(A-2) This project will contribute to the development and advancement of teacher and school leadership theory, knowledge, and practices through the creation, analysis, and refinement of a scalable, systemic model of professional development for new teachers linking best practices of the student teaching experience to high quality induction.
Few existing studies have systematically linked the training and coaching practices of cooperating teachers and university supervisors to the impact it has on pre-service teacher practice when coupled with high-quality induction.\textsuperscript{43} The lack of research on the work of cooperating teacher and university supervisor roles and their impact on pre-service teachers hinders teacher education’s ability to better link the student teacher experience to high quality induction on behalf of accelerating teacher practice. The evaluation of this project will result in data that will inform the theory, knowledge, and practices around the components necessary to advance pre-service teacher development. It will also analyze the benefits to pre-service teacher practice and their future students by having cooperating teachers and university supervisors use the same coaching strategies, language, learning environment, observation and feedback as NTC-trained mentors, setting pre-service teachers on trajectories for strong instructional practice.

Nationally, the field doesn’t have a streamlined approach to provide an aligned student teaching through induction experience based on best practices in the field, and collaborative triads have been difficult to create and sustain, outside of residency models, which have scalability limitations.\textsuperscript{44} Given that over 80\% of new teachers enter the profession from traditional teacher preparation institutions, it is essential for universities and districts to develop collaborations with shared goals, defining how they will interact, and committing to use the same cycles of inquiry.\textsuperscript{46} Likewise, common tools, language and protocols build a sense of mutuality and play an important part in healthy partnership.\textsuperscript{47} Also, the process of alignment is as important as the product, given that these are not just tactical changes, but systematic shifts in practice. The collaboration proposed in this grant will create a community of practice, establishing a model for effective university-district-induction partnerships. It will study the impact of a pre-service teacher developed in a continuum from student teaching through
induction, characterized by common goals, coaching language and aligned usage of the same tools and artifacts, allowing districts and universities to have a common vocabulary for learning.

This project will have further significance as an objective third party evaluator, SRI, will study how NTC’s model can advance teaching practice and student learning at a faster rate by starting its work with teachers during their student teaching experience.

(A-3) The impacts of this project are far reaching. CPS historically places about 1,400 pre-service teachers each year. This is an enormous opportunity to expose a large cadre of aspiring teachers to strong student teaching experiences that will improve their starting position for becoming teachers of record. Additionally, based on the assumption that a strong student teaching experience will lead to better teacher candidates, CPS is pledging aggressive recruitment strategies to double the number of pre-service teachers hired into the highest needs positions in CPS. In order to ensure, successful experiences in these positions, this project provides high-quality induction support for two years. Together, these strategies expect to:

A. increase the number of highly effective teachers starting in CPS [measured by EdTPA (Teacher Performance Assessment) scores];

B. improve both teacher practice and student learning (measured by observation scores and student assessment scores); and

C. create an aligned pipeline of new teacher support that can be scaled across the nation.

This project proposes a rigorous RCT study (see section E for details). Comparing a control group where pre-service teachers experience traditional clinical training and status quo induction support with a treatment group who receive aligned support from student teaching through induction will help the field better understand the impact of this investment. The power analyses below provide the magnitude of effects on student and teacher outcomes.
Power analysis for student outcomes: The minimum detectable effect size (MDES) is 0.17, assuming an average of 35 students per teacher; that 10% of the variation in student test scores lies in the school level and 23% lies at the teacher level; that student pretest score and other covariates explain 61% of the between-school variation; and that there are 108 4th through 8th grade teachers teaching reading or math (with 45 in the treatment group) in 72 schools.

Power analysis for teacher outcomes: Assuming a total of 150 observed teachers in 100 schools, half treatment and half control, and assuming 26% of the variance is at the school level, 15% of the variation in the outcomes is explained by teacher and school covariates, the observation analysis will be able to detect a MDES of 0.38. Assuming a total of 405 teachers in 202 schools, the retention analysis will be able to detect an MDES of 0.23. Assuming a total of 810 teachers in 405 schools, the EdTPA analysis will be able to detect an MDES of 0.16.

B. Quality Of The Project Design And Services

(B-1) The goals, objectives and outcomes for this proposal are to:

Goal 1: Provide more intense and instructionally focused support during pre-service teachers’ semester of student teaching to measurably increase the effectiveness of participating pre-teachers by the end of their student teaching experience. Effectiveness will be assessed through the EdTPA scores and classroom observations.

Objectives: 1) NTC-supported pre-service teachers will on average show higher performance on the EdTPA exam compared to teachers receiving status quo support at a level of statistical significance. This comparison will be assessed using a licensing exam. 2) NTC-supported pre-service teachers will on average show higher performance in classroom instruction compared to teachers receiving status quo support at a level of statistical significance. This comparison will be assessed using classroom observations.
Outcomes: 1) Treatment pre-service teachers’ instructional effectiveness will be higher than comparison teachers. 2) Treatment pre-service teachers’ performance on EdTPA will be higher than comparison teachers.

Goal 2: Provide two years of aligned induction support to measurably increase the effectiveness and retention of pre-teachers who become teachers of record by the end of the grant period. Effectiveness will be assessed through teacher practice and student achievement. Retention will be measured through human resource records.

Objectives: 1) By the end of two years of induction support, NTC-supported teachers will on average show improved instructional practice compared to comparison teachers at a level of statistical significance. This comparison will be assessed using an observation instrument.

2) By the end of two years of mentoring support, students whose teachers received NTC mentoring support will on average perform higher on grade 3-8 state standardized achievement tests in reading and mathematics than students whose teachers did not receive that same support.

Outcomes: 1) Treatment teachers’ instructional effectiveness will be higher than comparison teachers. 2) Treatment teachers’ students will perform better than comparison teachers’ students.

Goal 3: Build capacity in Partners to fully implement, execute and sustain an aligned coaching-based, teacher professional development program from student teaching through induction after the grant period ends.

Objectives: 1) Partners will commit to all elements of the aligned student teaching through induction program as described in this proposal, with the goal of increasing the number of highly effective teachers, thereby raising student achievement.

2) All partners will organize and participate in facilitated communities of practice with other NTC programs; this ongoing supportive communication will encourage CPS to collaborate in solving problems and add innovations to their teacher development reform programs.
3) All partners will commit to sustainability by providing funding for fully-released mentors, collaborating in the delivery of high quality cooperating teacher, university supervisor, mentor, and school leader professional development, and gathering and analyzing data of program impact.

**Outcome:** 1) Partners will have a sustainability plan with key indicators met by grant’s end.

(B-2) To improve teaching and learning and support rigorous academic standards for students, NTC will implement a comprehensive, aligned student teaching through induction program that includes the following essential components that support the project’s three goals above:

1. committed partners;
2. implementation support, alignment, capacity building;
3. rigorous cooperating teacher and mentor recruitment and assignment;
4. comprehensive Development for cooperating teachers, university supervisors, mentors, school leaders; and
5. high-quality mentoring.

1. **Committed Partners:** The intentional partnership of NTC, CPS, and NLU helps to ensure that the program achieves its results. NTC will co-establish and sign formal Memorandums Of Understanding with both CPS and NLU, defining the scope of the partnership and outlining agreements to provide the fundamental supports, dedicated resources, as well as commitments to high quality implementation and sustainability.

**NTC:** NTC is the national leader in teacher induction, supporting over 40,000 teachers and 7,500 mentors and coaches during the 2015-16 school year, impacting the learning of 3.4 million students. NTC partners with states and school districts nationwide to design and implement sustainable induction programs that create high-quality mentoring and professional development opportunities for educators. NTC’s teacher induction model, designed over the past
19 years in partnership with hundreds of school districts across the nation, is substantively different from “buddy” mentoring that is the common default in school districts today. This model, focusing on strengthening new and veteran teachers’ practice by developing veteran teacher leaders as exemplary mentors who work 1:1 with new teachers, builds off important research demonstrating that mentoring as a primary means of delivering and reinforcing professional development is effective at changing teacher practice and student achievement.\textsuperscript{48,49}

NTC has always understood the need to align its induction work with pre-service. As part of NTC’s Induction Program Foundational Standards, Element 4 of Standard 2 is: Program leaders collaborate with organizational leaders to ensure that program goals and practices align with those used in teacher preparation, teacher and administrator professional development, leadership development programs and teacher/administrator evaluation. NTC not only brings to the partnership the independently proven impact of its research-based new teacher induction program, but years of experience and learnings aligning student teaching to induction, working with LEAs, universities and other partners in the following states: Oregon, Virginia, Michigan, Minnesota, Florida (additional information is in Appendix B).

**CPS:** CPS is committed to recruiting and hiring more high-quality teachers from their pre-service candidate pool, to have their cooperating teachers and mentors receive high-quality, continuous professional development support based on NTC’s model, and to build their district’s mentoring capacity. A primary focus of this effort is around recruitment and stronger placement of pre-service teachers into high needs classrooms. Currently, CPS hosts 1,400 student teachers per year, but only places 21\% of pre-service teachers who complete their student placement experience in CPS classrooms, and through this grant, would like to both double those placed, and direct specific attention to high needs schools and content areas (SPED, English language learners, Title 1).
Since 2006, CPS and NTC have been partnering around a new teacher induction program to improve student outcomes and reduce high teacher turnover in the city’s most under-resourced communities. In partnership with CPS, NTC has supported the development of more than 3,500 beginning teachers, increasing the learning of over 13,000 high-needs students. In a recent i3 Validation grant featuring CPS as one of several sites partnering with NTC, students whose new teachers received two years of induction support demonstrated up to an additional 5 months of learning compared to the students in the control group.50

**NLU:** For over 130 years, NLU’s National College of Education has been a training ground for pre-service teachers and is one of the largest providers of teachers to CPS; as of 2012, there were over 1,300 NLU graduates working in CPS. There are 7 campuses within NLU’s network across Illinois, Florida and Wisconsin, preparing over 3,000 graduates a year. NLU is accredited by the National Council for Accreditation of Teacher Education and has graduated more winners of the Golden Apple Foundation award for teaching — the most prestigious teaching and leadership honor in Illinois — than any other education college in the state. NLU’s pre-service program is aligned with the standards determined by the State of Illinois’ Professional Development System and the Gateways to Opportunity Credentialing system.

In addition to their scale, NLU has a vested interest in improving the quality of clinical experiences for its pre-service teachers, and has identified the importance in providing more strategic and intentional support to cooperating teachers and university supervisors. NLU has recently expanded its leadership team with expertise in urban teacher preparation, clinical preparation, and strong localized research and practice knowledge about CPS and teacher preparation. NLU has also been building stronger relationships in CPS to develop a cadre of cooperating teachers who can support its work and help its graduates excel in the classroom, strengthening the connections between pre-service and in-service work.
2. Implementation Support Provided by NTC to CPS: Implementation of the model begins with a pre-assessment of the CPS human capital continuum. Conducted collaboratively with NLU, special focus is placed on understanding existing teacher placement practices, current teacher retention rates, and assessment of district resources that can support cooperative teaching and full release mentoring, including an appraisal of the district’s current use of full-time professional support staff. NTC also analyzes existing cooperating teacher, mentor, teacher, and principal professional development and school-level conditions for teacher and leadership development with an eye on the maximum effect on learning per dollar invested.

Alignment across Pre-Service, Placement, Induction: Critical to success of this partnership, and ability to significantly strengthen the connection between what happens during a pre-service teacher’s student teaching experience and their first years as a teacher of record, is developing an aligned vision of what this continuum looks like and shifting current practices and policies to align with this vision. Central areas to be addressed through this partnership include:

- clarity of role expectations, responsibilities, and professional learning needed for cooperating teachers and university supervisors (Consistent job descriptions and recruitment strategies for these roles);
- alignment of support structures, protocols, and academic language across cooperating teachers and university supervisors;
- integration of district priorities and methodologies into work of cooperating teachers and university supervisors;
- enhanced recruitment and job search support for pre-service teachers;
- expedited hiring of pre-service teachers into full time positions;
- focused attention to priority school and content areas for CPS and how to better incentivize teacher candidates to apply to schools that need them most; and
strengthening collaboration with other (approximately) 60 University placement partners.

**Building Capacity:** In support of Goal 3 (Partner Capacity-building), NTC, CPS, and NLU will develop MOUs and action plans with specific aims supporting their intention to implement, expand and sustain pre-service and induction mentoring programs beyond the term of the grant. Also in support of Goal 3, NTC will provide direct technical assistance on implementing the model within their own contexts. Locally delivered professional development for cooperating teachers, university supervisors, and mentors will be presented by NTC in collaboration with CPS and NLU. This collaboration certifies partners to license materials and professional development to conduct on their own at the end of the grant term. To ensure this, NTC, CPS, and NLU will implement a program-level formative assessment system that includes program standards and a continuum, allowing partners to monitor program implementation. Researchers have found that this collaboration is key to the evolution of a shared vision and direction. NTC will also work with CPS and NLU to advocate with school boards and other stakeholders for continued investment in high quality pre-service and induction mentoring programs. NTC will also assist in writing project reports and press releases, as well as grant proposals and briefings for potential funders who might assist with future program funding.

3. **Rigorous Cooperating Teacher, University Supervisor, and Mentor Selection and Assignment:** During the pre-implementation phase, NTC and NLU will work with CPS to develop a recruitment and application process to select exemplary teachers to serve as cooperating teachers. NTC will partner with CPS to recruit fully released, exceptional teacher leaders to serve as mentors whose role is to work 1-on-1 with Y1 and Y2 teachers after student teaching to increase their instructional effectiveness. The selection of cooperating teachers and mentors involves collaboratively developed job descriptions, resume screenings, phone interviews focused on the analysis of a classroom teaching video to determine instructional
knowledge and mentoring potential, and a face-to-face panel interview consisting of a scenario-based writing sample, mentoring scenarios, a sample teaching lesson, and a written reflection. Selected mentors are released from classroom/other duties in order to have sufficient time to meet the rigorous mentoring expectations and will work with an average of 15 teachers per year. Cooperating teachers are full-time classroom teachers and will work with an average of 1 pre-service teacher per semester. Assignments for cooperating teachers and mentors are based on matching mentors and new teachers across several factors with an emphasis on maintaining appropriate caseloads.

4. Professional Development for Cooperating Teachers, University Supervisors, and Mentors: Please see section B.3 for a description of the professional development.

5. High Quality Mentoring: Over the course of their student teaching and induction experience, teachers will receive approximately 94 hours of mentoring support.

From cooperating teacher: 720 minutes/month of face-to-face mentoring for 2.5 months (Focus on co-teaching and modeling of effective instruction, lesson planning classroom environment, observation and feedback, analysis of student work, preparation for entry into classroom).

From university supervisor: 4 face-to-face observations over 2.5 months (Focus on alignment between coursework and student teaching, observation and both formative and summative feedback)

Additionally, pre-service teachers, cooperating teachers, and university supervisors will come together as a community to share artifacts or practice and celebrate professional growth.

From mentor: Through NTC’s TI they will receive 180 minutes/month of face-to-face mentoring for the first 2 years of teaching (Focus on lesson planning, observation and feedback, and analysis of student learning as well as developing habits of mind around equitable, effective teaching and learning).
Across a pre-service teacher’s trajectory in CPS, the relationship with their cooperating teacher, university supervisor, and mentor is shaped by NTC’s Formative Assessment System (FAS), a unique, strategic, research-based series of high impact collaborative tools and processes focused on advancing teaching practice and student learning. Aligned with locally adopted professional teaching standards, state-adopted student standards, and LEA goals, the FAS provides the foundation for accelerating the development of teacher practice, from student teaching through induction. The FAS includes structured protocols, conversation guides, strategies, and resources that provide support tailored to an individual teacher’s assessed needs.

FAS is accessed via NTC’s Learning Zone, an online portal allowing cooperating teachers, university supervisors, mentors and teachers to analyze, assess, document, and organize mentoring and observational data in a secure location. Additionally, data can be aggregated to the caseload and program level, allowing program leads to understand trends and isolated issues across participants. LEA partners use FAS tools to focus teachers on collecting and analyzing student work to refine instruction to meet students’ differentiated needs. This continuous inquiry cycle ensures that teachers regularly assess the growth of every student, including those research shows are often overlooked.
Because cooperating teachers, university supervisors, and mentors are the primary agent for the mentoring of participants as both pre-service teachers and then teachers of record, it is essential that they receive high quality, aligned professional development to build their skills around effective mentoring. Once selected, cooperating teachers, university supervisors, and mentors begin receiving intensive professional development and communities of practice (one year for cooperating teachers, university supervisors, two years for mentors). Each group will also participate in a parallel process of peer coaching to accelerate the development of their mentoring practice and receive in-the-field shadowing and co-observation opportunities for ongoing learning.

Cooperating teacher and university supervisor Professional Development:

Cooperating teachers and university supervisors receive professional learning focusing on developing mentoring skills that cut across content areas and grade levels to deepen their work with pre-service teachers. These strategies include establishing a productive working relationship with pre-service teachers, looking at student work together, and/or practicing conducting an observation and competency appraisal. Modeled after NTC’s mentoring model and refined in collaboration with NLU, cooperating teachers and university supervisors will receive 35-40 hours of direct professional development support. The outcomes for this 4-day professional development include: support professional growth environments for pre-service teachers grounded in the norms of inquiry, formative assessment, and problem solving; practice the attitudes, language, behaviors, and skills of effective cooperating teachers and university supervisors; identify needs of pre-service teachers and modify support in response to those assessed needs; apply CPS selected professional teaching standards and selected tools that foster the integration of formative assessment and support; enhance individual skills around evidence-based data collection to inform pre-service teacher analysis and support; collaborate as a
professional learning community to consider impact of this model on pre-service teacher practice and district priorities.

**Mentoring Professional Development:** Mentors receive intensive professional development through the Professional Learning Series (PLS). This is NTC’s core sequenced and recursive curriculum that supports mentors through the development of comprehensive mentoring knowledge and skills using FAS while building a community of learners who support each other’s growth. Each session has a specific focus to gradually build the learning and development of a mentor’s abilities to advance teachers’ practice; particular focus is given to adult learning needs and effective strategies; strategic and consistent use of both professional and student standards; and the social-emotional needs of learners (both teachers and students). PLS also promotes the collection and analysis of field-based data of teacher practice and student learning. The series consists of four, three-day sessions during both Years 1 and 2. Mentors receive 45-56 hours of direct professional development support each year. Areas of focus during the professional development are further outlined in Appendix C.

Cooperating teachers, university supervisors, and mentors also engage in an NTC-lead, four-hour community of learning after each formal professional learning, called a Mentor Forum. Through participation in these additional 16-20 hours of professional learning, participants continue to expand their skills and knowledge of best practices for teacher development. Facilitated forums create a collaborative community of practice, supporting each participant’s emerging leadership; deepen mentor skills and advance a high standard of program implementation; provide for accountability in a supportive environment; and encourage sharing and analysis of data to track program impact.

**Assessment and Leadership:** Cooperating teachers, university supervisors, and mentors engage in a parallel formative assessment of their own, growing skills using a continuum of
development based on a set of professional standards, a goal-setting process (with mid-year review and end-of-year reflections), a peer coaching process, and data collection.

**Supporting School Leaders:** NTC recognizes the essential role school leaders play in teacher effectiveness and retention, and works to expand the capacity of principals to support mentoring in their schools and develop high quality teacher practice. NTC works with principals using formative supervision practices and research-based tools and protocols that are aligned to locally adopted evaluation framework and designed to support principals in providing evidence-based feedback that enhances teacher growth. NTC will present two professional development modules for site administrators during the grant: “The Role of the Principal in Supporting High-Quality Pre-service and Induction” and “Improving Student Achievement Through Teacher Observation and Feedback.” Each module develops principals’ capacity to work with teachers to advance their instructional practice through formative observation strategies and developmentally appropriate, focused feedback. Principals benefit from 11 hours of professional development, designed to help develop permanent leadership capacity within the LEA and to foster collaboration between cooperating teachers, university supervisors, mentors, teachers, and administration.

**B-4** High teacher turnover is the primary cause of poor school performance, particularly striking in schools with more low-performing students. Many new teachers are disproportionately assigned to hard-to-staff schools in low-income areas, and schools serving poor students are more likely to employ teachers on emergency waivers or those not certified in the subject area they teach. Access to quality induction supports also remains inequitable, with teachers in schools with the highest concentrations of high-need students reporting significantly lower participation rates in induction than their counterparts in more affluent schools. To break this cycle of inequity and better prepare underserved students for success in
college and career, schools everywhere need highly effective teachers, as the quality of a student’s teacher is the most important school-based factor to improved student achievement.\textsuperscript{58, 59}

In CPS, roughly 1,400 student teachers were placed this past school year, with only about 21\% hired into full time positions. The district uses Title II funds to assist in the recruitment of those teachers and pays for certification exams in those high need areas. They currently participate in a program with the University of Central Florida to recruit math and science non-education graduates into teaching. As the third largest school district in the country, CPS presents significant challenges that necessitate highly effective teachers not only because of the number of high-need students, but because of ever changing political landscape impacts the breadth and depth of support teachers receive. Thirty-three percent of first year teachers left within the first year of teaching in CPS,\textsuperscript{60} creating a revolving door of novice teachers that disproportionately affect children in high-need schools.

In addition, there is a shortage of teachers in key content areas such as science, math, and special education and a need to recruit and retain new teachers in these key areas. Approximately one third of urban public schools with high poverty and minority populations have difficulty retaining math and science teachers,\textsuperscript{61} and the problem of a shortage of high-quality teachers with experience is going to increase due to the decrease in enrollment in teacher training programs across the country which are down 10\% from 2004-2012.\textsuperscript{62}

NTC has worked since 1998 to respond to the critical need to increase and retain the number of effective teachers in high need schools. Research shows that teachers are “less likely to leave the profession if they are provided with a coach or mentor in their content area and if they participate in formal planning and collaboration with other teachers.”\textsuperscript{63, 64} Providing high-quality instructional mentoring to schools throughout CPS will not only help districts to increase
teacher retention and continue to build a community of teacher leaders, but the study will serve
as a model to scale to other districts to help retain more high-quality teachers across the nation.
(B-5) 80.2% of CPS students are identified to receive a Free or Reduced Lunch rate. This project
will reach approximately 1,080 teachers and 94,800 high-need students over the three years of
the project. It will serve the needs of disadvantaged students in CPS by increasing student
achievement, thereby effectively narrowing the achievement gap. These higher levels of student
achievement will result in student populations that are more college and career ready. This
project will increase student achievement by improving instruction through intense and
instructionally focused support for cooperating teachers, university supervisors and mentors
working with pre-service teachers through induction in CPS, and building the capacity of our
partners to implement and sustain the work. By building a strong pool of cooperating teachers,
university supervisors, and mentors that reside in their district, this project also addresses the
needs of future cohorts of CPS students. As this project will create an aligned, scalable model of
support, high-need students across the country could also be served.

C. Quality of the Management Plan and Personnel

(C-1) NTC and its partners bring a wealth of expertise in education and have a dedicated group
of educational leaders and managers to execute its project. The NTC SEED management team
has proven their ability to manage a series of complex educational projects and programs,
including four large-scale federal grants. Under the leadership and vision of highly dedicated
CEO, Ellen Moir, NTC is confident in its ability to manage the complexities of the SEED grant.
NTC proposes the following key roles based on our past experience implementing federal grants.

The Project Director will be NTC Senior Vice President Cynthia Brunswick EdD, who
oversees NTC’s work in high profile LEAs such as Hillsborough County Public Schools,
Chicago Public Schools, Tulsa Public Schools, Los Angeles Unified School District Schools, and Austin Independent School District. She is the current Project Director for NTC’s i3 Validation, Scale up, and SEED awards. Dr. Brunswick will oversee the strategic implementation of the work and manage the staff implementing the project. This position convenes and leads the i3 Management Council and has ultimate responsibility and authority over the project.

The Project Finance Director will be NTC’s Senior Grants and Contract Analyst, Ellen Kendrick, who has been overseeing NTC’s existing federal grants since 2015. Ellen will oversee business and operations aspects of the project, administer the funds that are passed through to the partners, and manage the relationship with the U.S. DOE.

The Vice President of Impact will be Ali Picucci, PhD who oversees NTC’s i3 Validation, Scale Up, and SEED studies as well as overseeing research to improve NTC products and services. She has 16 years of experience in educational research and program evaluation and four years of experience as a public school teacher in secondary schools. Dr. Picucci will oversee NTC’s performance management internally and across the partners, providing feedback to make program improvements. Dr. Piccuci is also the liaison with the SRI International evaluators.

The Evaluation Co-Principal Investigators from SRI International will be Dr. Rebecca Schmidt and Ms. Lauren Cassidy. Dr. Schmidt is an expert in quantitative methods and analyses and is currently a co-PI of the evaluations of NTC’s i3 Validation and Scale Up grants. Ms. Cassidy has more than 13 years of experience in education research, managing large-scale projects, and leading qualitative data collection and analyses. She is the project director for both NTC’s i3 Validation grant and its SEED grant investigating instructional coaching. Dr. Schmidt and Ms. Cassidy will oversee the external evaluation, monitor detailed work plans and budgets related to the external evaluation, present detailed analysis of program efficacy. Dr. Viki Young
will serve as supervisor and senior advisor, responsible for quality assurance across all phases of the project. Dr. Haiwen Wang will serve as senior quantitative design advisor.

The Impact Analyst will support SRI, LEAs, and NTC with data gathering and reporting and will be charged with monitoring ongoing day-to-day implementation data across the sites. This position will be hired upon notification of award.

The Senior Program Manager will be Victoria Horn, who has served in this role for NTC’s current i3 Scale Up and SEED grants and prior to coming to NTC, led Boston Public Schools’ teacher induction program, which utilizes the NTC model. Victoria will ensure that the program is implemented with fidelity, manage timeline and deliverables, provide support to implementation staff, and co-ordinate implementation activities.

The Site Lead will be Milissa McClaire-Gary. Milissa brings many years of experience in teacher development and leadership of complex projects as well as a deep teaching background in CPS. Milissa supports program implementation and fidelity, providing critical technical assistance and consultation as well as program delivery to build the capacity of CPS and NLU program leaders and mentors.

The National Louis University Co-PI, Kavita Kapadia Matsko, is NLU’s Director of Innovation and Research. She will serve as the liaison between sites, work to fit NTC’s model to preservice-teaching phase of development, and lead the integration and development work on the infrastructure and practices supporting cooperating teacher development with CPS and NLU. Kavita years of experience in preservice preparation research in CPS about student teaching, cooperating teachers, and new teacher induction will bring localized knowledge to the team. Prior to joining the NLU team, she was the founding director of teacher preparation at the University of Chicago, and prepared teachers specifically for CPS.
The National Louis University Director of Field Experiences, Lisa Mozer, will lead the team of university supervisors to document work in the field during Phase 1, with particular attention to fidelity of implementation. Lisa’s extensive experience as a faculty as well as student teacher placement coordinator positions her well to assist with building infrastructure to support capacity building.

(C-2) NTC has gone from managing a handful of induction and coaching engagements in 1998 to managing over 150 per year in 2016. It has accomplished this by being well managed and by delivering excellent work on time and on budget. The strength of CEO Ellen Moir and named project staff can be seen in the resumes in Appendix D.

Management Structures: NTC proposes replicating successful management structures from its current SEED and i3 Scale Up grants. Goals are to ensure there is adequate individualized support to CPS and NLU, and, to connect implementation of this grant to other NTC federal grants in order to collaborate and share overall best practices to inform the field.

NTC SEED Management Council: Manages the overall implementation of the initiative and will be directed by Project Director. The Council will provide supervision of the entire SEED program and strategic support to all components and partners. The primary focus of the Council is to meet the goals and objectives of the SEED grant, managing the initiative with fidelity to the aims and requirements of the U.S. Department of Education and its LEA partners. Members of the Council include: Project Director, Finance Director, Impact Director, Client Leads, Senior Program Manager, and NLU PI.

SEED Evaluation Council: Meets virtually once per month to discuss issues of evaluation implementation. Members include SRI International, NTC’s Impact Director and impact analysts, CPS Program Lead, and NLU PI. Once per year, SRI convenes all NTC and
grant stakeholders (mentors, Program Leaders, other District leadership) at NTC’s annual Symposium to review evaluation design and high-level findings across sites.

**Table 1: Timeline and Milestones**

**Key:** CT= Cooperating Teacher; US=University Supervisor; PD= Project Director; FD= Finance Director; VPI= Vice President, Impact; PI= SRI Principal Investigators; IA= Impact Analyst; SPM= Senior Program Manager; SL= Site Lead; DP= Director, Policy; CPS= Local Education Agency Partner; NLU= University Partner

<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Responsible</th>
<th>Year and Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Partner Capacity Building</strong></td>
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<tr>
<td>Project Goals</td>
<td>Sign MOUs, hire positions, meet with evaluator</td>
<td>PD, FD, VPI, PI, CPS, NLU</td>
<td>Q1</td>
</tr>
<tr>
<td>LEA Technical Assistance</td>
<td>Provide technical assistance to support implementation of the NTC pre-service and induction model; transfer ownership of implementation to the CPS and NLU</td>
<td>SL</td>
<td>Q1-Q4 Q1-Q4 Q1-Q4</td>
</tr>
<tr>
<td>CPS Capacity Building</td>
<td>CPS attends Program Lead Forums, NPLN; SEED site visit; Symposium</td>
<td>SL, CPS</td>
<td>Q1-Q4 Q1-Q4 Q1-Q4</td>
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</tbody>
</table>

**Roles and Responsibilities**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Milestone</th>
<th>Responsible</th>
<th>Year and Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperating teacher (CT) Selection</td>
<td>Recruit, select, assign CTs to pre-service teachers</td>
<td>SL, CPS NLU</td>
<td>Q1, Q3 Q1, Q3 Q1, Q3</td>
</tr>
<tr>
<td>University supervisor (US) Selection</td>
<td>Recruit, select, assign USs to work with both pre-service teachers and CTs for NLU treatment teachers; advise selection for other University partners</td>
<td>SL, CPS, NLU</td>
<td>Q1, Q3 Q1, Q3 Q1, Q3</td>
</tr>
<tr>
<td>Mentor Selection</td>
<td>Recruit, select, assign mentors</td>
<td>SL, CPS</td>
<td>Q2</td>
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</tbody>
</table>

**Program Assessment, Evaluation, and Accountability**

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>SRI and NTC collect program data</th>
<th>SPM, PI, VPI, IA, CPS</th>
<th>Q1-Q4</th>
<th>Q1-Q4</th>
<th>Q1-Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting</td>
<td>SRI and NTC report out around program data</td>
<td>PI, VPI, IA</td>
<td>Q4</td>
<td>Q2, Q4</td>
<td>Q2, Q</td>
</tr>
</tbody>
</table>

**SEED Evaluation Council**

<table>
<thead>
<tr>
<th>Discuss issues of implementation related to evaluation</th>
<th>PD, VPI, PI, IA, CPS, NLU</th>
<th>Q3, Q4</th>
<th>Q1-Q4</th>
<th>Q1-Q4</th>
</tr>
</thead>
</table>

**Professional Development**

<table>
<thead>
<tr>
<th>CT &amp; US Professional Development</th>
<th>5 days of Professional learning for new CTs and USs</th>
<th>SL, CPS, NLU</th>
<th>Q1, Q3</th>
<th>Q1, Q3</th>
<th>Q1, Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT &amp; US Forums</td>
<td>4 half days professional learning communities</td>
<td>SL, CPS, NLU</td>
<td>Q1-Q3</td>
<td>Q1-Q3</td>
<td>Q1-Q3</td>
</tr>
<tr>
<td>Mentor Professional Development</td>
<td>8 full days of professional learning per year for 2 years</td>
<td>SL, CPS</td>
<td>Q3, Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
</tr>
<tr>
<td>Mentor Forums</td>
<td>Provide 2x per month mentor community of practice to Y1</td>
<td>SL, CPS</td>
<td>Q3, Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
</tr>
<tr>
<td>Principal Professional Development</td>
<td>3.5 days of professional development to principals</td>
<td>SL, CPS, NLU</td>
<td>Q1, Q3</td>
<td>Q1, Q3</td>
<td>Q1, Q3</td>
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</table>

**Content Development / Alignment**

<table>
<thead>
<tr>
<th>Professional Development for CTs and USs</th>
<th>Refine content to incorporate mentoring strategies and pre-service teacher needs</th>
<th>PD, NLU, CPS</th>
<th>Q1</th>
<th>Q1</th>
<th>Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Service Continuum of teaching practice</td>
<td>Pilot new continuum of pre-service teaching practice; gather feedback from CPS</td>
<td>PD, NLU, CPS</td>
<td>Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
</tr>
</tbody>
</table>

**FAS and Learning Zone**

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Implement Learning Zone for CTs, USs, Induction Mentors</th>
<th>SL, CPS</th>
<th>Q1-Q3, Q4</th>
<th>Q1-Q4</th>
<th>Q1-Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting</td>
<td>Review quarterly LZ data with partners to discuss issues of implementation</td>
<td>SL, CPS, IA, SPM, NLU</td>
<td>Q3, Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
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<td><strong>Grant Oversight</strong></td>
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<tr>
<td>SEED Management Council</td>
<td>Council supervises the entire program and provides strategic support to all components and partners</td>
<td>PD, FD, VPI, SL, SPM, NLU</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
</tr>
<tr>
<td>SEED Advisory Council</td>
<td>Input and support from pre-service national experts and community members</td>
<td>NLU, PD, CPS</td>
<td>Q2</td>
<td>Q2</td>
<td>Q2</td>
</tr>
<tr>
<td>SEED Site Visits</td>
<td>Visit CPS to review implementation, interim outcome data and identify any problems of practice, set next steps</td>
<td>PD, FD, VPI, SL, SPM, NLU, CPS</td>
<td>Q4</td>
<td>Q2, Q4</td>
<td>Q2, Q4</td>
</tr>
<tr>
<td>Site Lead Forums</td>
<td>Discuss topics related to implementation across NTC federal sites, deal with issues of contextualization, and plan cross-site learning</td>
<td>SL</td>
<td>Q2, Q3, Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
</tr>
<tr>
<td>Program Lead Forums</td>
<td>Discuss topics related to implementation across NTC federal sites, deal with issues of contextualization, and plan for cross-site learning</td>
<td>SPM, CPS</td>
<td>Q2-Q4</td>
<td>Q1-Q4</td>
<td>Q1-Q4</td>
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<tr>
<td><strong>Policy and Dissemination</strong></td>
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<tr>
<td><em>Communications Plan</em></td>
<td>Disseminate results and learnings via social media, conferences, digital stories</td>
<td>DP, CPS, SPM, NLU</td>
<td>Q4</td>
<td>Q2, Q4</td>
<td>Q2, Q4</td>
</tr>
<tr>
<td><em>Policy Plan</em></td>
<td>Work with state and LEA policy makers around 1. Pre-service- induction alignment 2. Funding analysis</td>
<td>DP, CPS, SPM, NLU</td>
<td>Q4</td>
<td>Q4</td>
<td>Q4</td>
</tr>
</tbody>
</table>
SEED Advisory Committee: Once per year, NTC and NLU will convene a broad stakeholder group of local and national pre-service experts and community partners. The purpose of this group is to strengthen the connection between the grant objectives and national pre-service alignment efforts, elicit input on implementation, and build collective excitement and interest in expanding this work beyond the grant.

SEED Site Visits: Two times per year, NTC Management Council members visit Chicago Public Schools for in-person visits with Program Leader, and other NLU and CPS District leadership to review implementation and interim outcome data, identify and solve problems of practice, and establish action plans and next steps for high quality implementation.

Federal Grants Site Lead Forums: Each month, NTC Site Leads across federal grants meet to discuss topics related to implementation, deal with issues of contextualization, and plan cross-site learning. Forums are facilitated by the Senior Program Manager.

Federal Grants Program Lead Forums: Program leaders from each LEA of NTC’s existing federal grants participate in quarterly virtual learning communities, providing local program leaders with a community of practice that supports their unique role. Forums are facilitated by the Site Lead.

(C-3) NTC has a staff of over 200 full-time equivalent employees (FTE) and 46 FTE in our business and finance departments. NTC operates 6 offices across the country, including one in Illinois. NTC’s current annual operating budget is $41.6 million, including a mix of private, federal, and local dollars. Current revenue is derived from approximately 37% percent private philanthropy, 17% federal grants and 46% contracts. NTC has been successfully managing federal grants since our SEED and i3 Validation awards in 2012 and SEED and i3 Scale Up awards in 2015. Equal to effective financial management is our commitment to program quality, and NTC has assigned staff with deep experience implementing federal grants and leading LEAs.
D. Sustainability

(D-1) NTC’s strategy to build Partner capacity and yield results that will extend beyond the grant period relies on its long-standing ability to build bridges among stakeholders invested in improving teacher effectiveness, including LEA leadership, teacher unions, Universities, and funders. NTC’s primary relationships, however, are with its LEA partners, helping to ensure program sustainability and growth. NTC’s intentional focus on building leadership at every level in schools and districts integrates our sustainable strategies into the mindsets, beliefs and
practices of those educators we support, positioning them to guide effective teacher
development.

**Transfer of Program Leadership.** The gradual transfer of responsibility for program
implementation from NTC to partner LEAs has the dual virtue of increasing the strength of pre-
service and induction leadership at the local level and decreasing program implementation costs
by reducing NTC’s participation. CPS and NLU have joined NTC in this proposal because there
exists strong support for the programmatic approach, desire to fully integrate and scale research
findings, and intent to lead, sustain, and grow the work. As constant changes in districts,
especially district leadership, could threaten the sustainability of NTC’s work, NTC has learned
how to build relationships across multiple stakeholder groups to help the program weather such
changes. Collaborative, long-term relationships are sought that build the capacity of leadership
teams at the district or state level to provide sustainable, high-quality induction. Equally
important to the sustainability of our work in this project is the embedded gradual transition in
program ownership that is incorporated in NTC’s work. NTC’s model is designed to be intensely
collaborative because it assumes from the outset the gradual reduction of NTC’s role in the
process. Initial assessment of the local needs and a formal MOU between the LEA partners and
NTC help to clarify and cement this mutual collaboration early on. Once the shared program
vision, strategies, and implementation are inculcated at the LEA partner level, NTC’s role can be
greatly reduced.

Described in Section B-2, as implementation of the program begins with a pre-
assessment of the LEA’s human capital continuum, some flexibility is built into NTC’s model in
order to adjust the induction program to meet LEAs’ specific needs, while adhering to NTC
implementation standards and expectations for impact. This flexibility allows LEAs across the
country to fit the NTC model within their context, without losing the impact or financial return on investment for teachers and students, and to sustain the work.

**Enriching the Leadership Pool:** In this proposal, cooperating teachers and mentors, while working with pre-service and new teachers, and participating in Professional Learning and Forums, continue to be employees of CPS and their growing expertise becomes part of an enriched pool of LEA human capital. NTC also advocates an induction model in which mentors are released from classroom duties for a period not to exceed four years. Whether they return to their classrooms with enhanced skills or accept leadership positions, mentor alumni continue to represent the values and strategies of the program within their schools. Engaging in reflective practice about mentoring will simultaneously strengthen the instructional skills and practices of cooperating teachers and university supervisors, and enhance schools’ overall capacities to mentor their own pre-service teachers and also for cooperating teachers, elevate their own classroom instruction and skills. The collaboration required to operationalize these modules will set the stage for teacher education programs and partner schools to collectively develop, take ownership of and carry out the responsibilities of co-teaching pre-service teachers — resulting in a stronger pool of teacher applicants for the school, an enhanced and more relevant curriculum for pre-service programs through NLU and other universities, and increased teaching and learning opportunities for K-12 students. The opportunity to share language and strategies to support novice teachers will also deepen teacher preparation curriculum and relevancy of cooperating teachers and university supervisors and their schools, improving the learning experiences of all students touched by these efforts. Lastly, in year three of this proposal, supports will be offered to control pre-service teachers to further enable sustainability.

(D-2) The evaluation program described below is designed to yield findings based on robust empirical data. These findings will be presented at NTC’s annual Symposium, attended by over
900 educators and administrators each year, published in NTC materials and made available as requested by the U.S. Department of Education. Because of the national and statewide prominence of NTC, NLU and CPS, program leaders will have many opportunities to speak at conferences and present findings. The proposed project is also likely to yield findings and products that will be used by other agencies and organizations due to NTC’s vast network of education partner organizations across the nation, our current organizational growth plan to reach 135,000 educators by 2020, and our past successes scaling induction and coaching programs from 1,000 to 40,000 teachers a year.

(D-3) NTC and its partners expect to identify key learnings for broad dissemination through a variety of strategies. Anticipated learnings include deeper understanding of critical levers related to improving student learning; how to strategically deploy cooperating teachers to maximize LEA investments in teacher leaders; how the NTC model develops a common language and methodology between student teaching and new teacher development by focusing on multiple stakeholders; and how to help LEAs and states to understand how to alter pre-service and induction policies to ensure high quality implementation and outcomes. NTC will use the following mechanisms to broadly disseminate this information across the field to further support replication.

**National Program Leader Network (NPLN):** CPS partners will participate in NTC’s National Program Leader Network, a long-standing hallmark of NTC’s support to LEA partners that fosters program discipline, fidelity, and continuous improvement. Participation will provide a virtual and physical community of practice between the CPS partners and 23 other National Program Leader Network district members, allowing LEAs to share strategies that support key elements of teacher effectiveness.
**NTC’s National Symposium**: NTC’s Symposium on Teacher Induction is an annual event in which over 900 educators, administrators and other organizations gather together to learn more about designing and implementing high quality mentoring programs.

**National Exposure**: Not only will the grant affect at least 94,800 students, but because CPS is a key market for national education policy, the success of the comprehensive model will receive prominent national exposure. As this project will be implemented in a mixture of high performing and struggling schools, urban, and ethnic and culturally diverse communities, the initiative will create a model for replication in any district across the country. NTC, CPS, NLU, SRI will have many opportunities to speak at conferences and present evaluation findings and implementation strategies at national and regional conferences sponsored by organizations such as Learning Forward and Council of Great City Schools, American Association of Colleges for Teacher Education, and American Educational Research Association.

**Reach and Growth**: Annual reports prepared by SRI will integrate findings across data sources, addressing implementation, impact, and exploratory questions as appropriate during the study. SRI will also provide informal formative feedback to NTC, CPS, and NLU based on qualitative and quantitative data captured during implementation. Additionally, through NTC’s i3 Validation grant, NTC has collaborated with the Department of Education around a blog post that shared our evaluation activities and would expect to do so again with this grant. The final report will include impact findings on the effectiveness of this model and implementation findings intended to facilitate model replication.

National media placements, increasing social media reach and the vast network of partners NTC, NLU, and CPS have created throughout all 50 states, provides a national forum to disseminate and share the results and findings across the education sector for a broad impact.
NTC will develop a dissemination strategy to share best practices with a range of key stakeholders.

E. **Quality of the Project Evaluation**

**Design Overview**

SRI Education will conduct an independent, rigorous evaluation that will (1) document the extent of implementation in Chicago Public Schools (CPS) and (2) identify the impact of the NTC student teaching and induction model supporting cooperating teachers for the district’s pre-service teaching candidates and induction mentors. The evaluation will feature a randomized controlled trial (RCT) design, randomly assigning half of the cooperating teachers to NTC treatment and half to control. Student teachers of treatment cooperating teachers will form the treatment group and student teachers of control cooperating teachers will form the control group, and those that are hired by CPS will become the treatment and control new teacher groups, respectively. Treatment cooperating teachers and treatment new teachers will receive NTC supports. Control cooperating teachers and control new teachers will receive status quo supports. Implementation measures will come from CPS’ student teaching assignment records; NTC’s training attendance rosters and online instructional coaching logs; new teacher, cooperating teacher, and induction mentor surveys; and interviews with a purposive sample of pre-service program directors, cooperating teachers, induction mentors, new teachers, and district administrators. Teacher outcomes will derive from direct classroom observations of treatment and control teachers, teacher survey items, and district and state datasets. Student outcomes will be extracted from district data sets.

**Evaluation Questions:** The evaluation will address the following key impact and implementation questions, reflecting the logic model for NTC’s student teaching and induction
Impact questions for student teaching phase: (1) Does participating in the NTC-supported student teaching result in better EdTPA (certification) scores? (2) Does participating in NTC-supported student teaching result in better teaching practices in the domains of classroom environment and instruction after the student teaching phase? Impact questions for induction phase: (3) Does participating in the NTC-supported student teaching and induction model result in better teaching practices in the domains of classroom environment and instruction after 2 years of full-time teaching? (4) Does participating in the NTC-supported student teaching and induction model result in improved teacher retention in the district after 2 years? (5) Does participating in the NTC-supported student teaching and induction model result in improved student achievement in reading and math after 2 years of full-time teaching? Implementation questions: (1) What is the level of participation in each phase of the intervention: (a) student teaching with an NTC-trained cooperating teacher, and (b) induction mentoring for 2 years at the intended level of frequency and focus? (2) What factors contribute to and what factors hinder strong implementation at each phase? (3) What factors support sustainability for student teaching and induction supports in the district?

Impact Study: SRI will conduct a randomized controlled trial in Chicago Public Schools. Treatment and control samples: All cooperating teachers and their student teachers will be randomly assigned to treatment (50%) or control (50%) in 2017–18 to form the samples for the first phase (student teaching). This sample will be used for implementation measures of student teaching participation and cooperating teacher participation in NTC training and for the interim outcome of EdTPA scores (impact research question 1). The sample for the second phase (induction mentoring for 2 years) will include all teaching candidates of the cooperating teachers who become teachers of record in CPS in 2018–19 (see Diagram 1). This sample will be used for implementation measures pertinent to the 2-year induction period, the interim outcome of teacher
practice in the first year of teaching (impact research question 2), and the final outcomes of teaching practice, teacher retention, and student achievement (impact research questions 3-5, 4, and 5).*

![Diagram 1. Treatment and Control Groups after CPS Hiring](image)

**Diagram 1. Treatment and Control Groups after CPS Hiring**

- **Treatment Teachers:** Student teachers with coop teachers receiving NTC training and in schools with NTC induction mentors
- **Control Teachers:** Student teachers with coop teachers not receiving NTC training and not in schools with NTC induction mentors

**Notes:**

- a=Control student teachers hired in schools with treatment teachers; will be served by NTC induction mentor
- b=New teachers who did not complete student teaching in CPS and are hired into schools with NTC induction mentors; will receive NTC induction but will not be part of study
- c=New teachers who did not complete student teaching in CPS and are hired into schools with status quo induction support; will receive status quo induction support but will not be part of study

**Joiners:** This study will not include joiners in the teacher sample. Only student teachers assigned to a CPS cooperating teacher at the time of random assignment will be included in the study. However, this study will be affected by student joiners, as random assignment will happen months before teachers are assigned to their classrooms in CPS. Therefore, the student achievement analysis will not meet WWC standards without reservations. The study will use prior achievement on the same standardized test as the outcome to establish the baseline equivalence of treatment and control students. If baseline equivalence is established and teacher attrition is low, the analysis will meet WWC standards with reservations.

*Treatment and control teachers hired into the same school will remain in their original assigned condition. If control teachers in these schools receive support from NTC mentors, we will carry out two analyses: a) Intent to Treat (ITT) analysis, keeping teachers in their assigned condition, and b) a quasi-experimental Treatment on the Treated (TOT) analysis, where we allow control teachers to change conditions.
Student outcome measures: To assess students’ academic achievement, SRI will collect annual student test score data linked to teachers for 2018–19 and 2019–20. The study will use PARCC scores in English language arts and mathematics in grades 3-8 (required by Illinois). SRI will collect historical student achievement and demographic data from CPS to establish equivalency at baseline between students in treatment and control teacher classrooms and to control for students’ prior achievement (see analysis section below).

Analysis of NTC effect on student reading and math achievement in CPS: SRI will conduct student test score analysis for new teachers in ELA and math in grades 4 through 8 (with grade 3 as the pretest for grade 4), after the first year of full-time teaching as exploratory analysis and after the second year of teaching at the end of the intervention. Researchers will standardize test scores within the district at each grade level and conduct analysis combining all tested grades based on the standardized test scores, while adjusting for grade-level effect. This analysis will involve positing a three-level hierarchical model with student, teacher, and school levels, with NTC program effects estimated at the teacher level. The model is:

\[ y_{cij} = \beta_1 + \beta_1 (N_{TC_{i}} + \beta_1 (th - studentcovariate_{i}) + \beta_1 (kth - teachercovariate_{i}) + u_{cij} + r_{ij} + e_{i} ) \]

where \( c \) is students, \( i \) is teachers, \( j \) is schools; \( Y_{cij} \) is a student reading or math score; and \( u_{cij}, r_{ij}, \) and \( e_{i} \) are student, teacher, and school random effects. \( \beta_i \) is the estimated impact of the NTC program on student achievement.

Power analysis for student outcomes: The minimum detectable effect size (MDES) is 0.17, assuming an average of 35 students per teacher; that 10% of the variation in student test scores lies in the school level and 23% lies at the teacher level; that student pretest score and
other covariates explain 61% of the between-school variation; and that there are 108 4th- through 8th-grade teachers teaching reading or math (with 54 in the treatment group) in 72 schools. *

**Teacher outcome measures:** The evaluation will include four teacher outcome measures. Two measures will serve as intermediate outcomes after student teaching: (1) EdTPA scores measured in spring 2018, and (2) classroom observation scores in fall 2018, during CPS student teaching graduates’ first year of full-time teaching. The observations in fall 2018 will be both an intermediate outcome after the student teaching year, as well as a comparison between treatment and control teachers’ classroom teaching before the induction phase begins. Two additional measures will come at the end of the full intervention: (1) classroom observations at the end of teachers’ second year of teaching (spring 2020), and (2) retention in CPS. Classroom observations will use the Danielson framework, an externally validated instrument that is not overly aligned with the NTC model, and will focus the classroom environment and instruction domains.

*Sample for teacher outcomes.* To analyze EdTPA scores, the sample will include all teaching candidates who completed their student teaching with a cooperating teacher in CPS in 2017–18, an estimated 810 teachers (assuming 10 percent refusal, missing data, or attrition from the original 900 in the district). To measure teacher retention, the sample will include teaching candidates of the cooperating teachers who become teachers of record in CPS in 2018–19, an estimated 405 teachers. To measure classroom teaching, SRI will conduct observations of a random sample of 75 treatment teachers and 75 control teachers teaching core subjects, who did their student teaching in CPS, and became teachers of record in CPS in 2018–19.

*Analysis of NTC effect on teacher outcomes.* Researchers will posit a two-level hierarchical model with teacher and school levels. The treatment effect will be estimated at the teacher level.

*These assumptions are based on an ongoing study of the NTC induction-only intervention in CPS.*
The model is shown below:

$$y_{ij} = \beta_0 + \beta_1(\text{NTC}_{ij}) + \beta_k(\text{kth - teacher covariate}_{ij}) + \beta_l(\text{lth - school covariate}_j) + e_{ij} + r_j$$

where $i$ is teachers, $j$ is schools; $Y_{ij}$ is a teacher outcome; $\text{NTC}_{ij}$ equals 1 for teachers randomly assigned to the NTC program and 0 for control teachers; $e_{ij}$ and $r_j$ are teacher and school random effects. $\beta_l$ is the estimated impact of NTC on the teacher outcome.

**Power analysis for teacher outcomes.** Assuming a total of 150 observed teachers in 100 schools, half treatment and half control, and assuming 26% of the variance is at the school level, 15% of the variation in the outcomes is explained by teacher and school covariates, the observation analysis will be able to detect a MDES of 0.38. Assuming a total of 405 teachers in 202 schools, the retention analysis will be able to detect an MDES of 0.23. Assuming a total of 810 teachers in 405 schools, the EdTPA analysis will be able to detect an MDES of 0.16.

**Implementation Study:** Surveys and interviews with key informants will allow researchers to investigate implementation of the student teaching and induction program, provide feedback to NTC, explore how specific program components might lead to changes in outcomes, and understand the “business as usual” student teaching and induction supports received by new teachers in CPS.

**Survey Samples:** All new teachers who did their student teaching in CPS in 2017–18 (treatment and control) and were hired full time in CPS in 2018–19 will be surveyed in fall 2018 to understand their student teaching experiences. They will also be surveyed after their first year of teaching (spring 2019) and after 2 years of teaching (spring 2020) to understand the induction supports they received. Cooperating teachers in 2017–18 will be surveyed in fall 2018 to identify the supports they received (from NTC for the treatment group and under CPS’ business as usual for the control group) and the level of coaching the cooperating teachers provided to student
teachers. It is essential to survey both treatment and control groups to understand the extent to which any student teaching and induction supports for control teachers under the status quo resemble the NTC-supported student-teaching and induction model as implemented with treatment teachers. NTC-supported induction mentors working with treatment teachers will be surveyed in spring 2019 and spring 2020 to inform implementation progress and challenges.

**Survey Topics and Scales:** The fall 2018 new teacher survey will include retrospective questions about the teachers’ student teaching experiences to understand how NTC-supported student teaching compares with other student teaching experiences. SRI will develop or replicate robust survey scales that measure specific implementation components of student teaching identified in the NTC logic model. For example, the survey will ask respondents about the length of their student teaching assignment (as a validity check on CPS-collected data), how they were supported by cooperating teachers, and perceived benefits. For the cooperating teacher, induction mentor, and spring 2019 and spring 2020 new teacher surveys, SRI will use existing NTC mentor, and new teacher surveys, respectively. The new teacher survey will ask teachers about the induction supports they received to determine treatment-control contrast, i.e., the extent to which NTC induction supports differed from “business as usual” district supports. The NTC new teacher and mentor surveys have established reliable scales (Cronbach’s alpha of 0.87 to 0.96) on mentoring intensity, focus on instruction, value of mentoring, teacher-reported growth, and mentor perception of impact. For any implementation components with no existing survey scales, SRI will develop and pilot test new items with teachers teaching the same grades and content areas outside of the study district.

**Survey Administration:** All surveys will be administered using SRI’s or NTC’s secure online survey platform. SRI will administer the fall 2018 survey to new teachers who completed
their student teaching experience in CPS and were hired as teachers of record in the district. NTC will administer all other surveys.

Survey Analysis: For each round of surveys, SRI will use factor analysis to create reliable scales that describe student teaching and induction supports for treatment and control teachers. Because many scales will be replicated from existing surveys, SRI will check the validity of the replicated scales to ensure that with a different sample, the scales remain reliable (Cronbach’s alpha of 0.70 or higher). For any newly developed items, SRI will use factor analysis to create reliable scales that describe student teaching or induction for treatment and control teachers. The factor analysis ensures that the survey items that make up each scale function together as one scale, each element is contributing to the scale significantly, no elements seem to stand out as a separate concept, and the resulting scale will be useful for analysis. After examining these properties, we will use a weighted average approach to create variables that combine item-level responses into scores for each scale. To assess differences in implementation measures between treatment and control groups, SRI will conduct chi-square tests for categorical variables and ANOVA for continuous variables.

CPS student teaching records and NTC attendance and online coaching log data: CPS student teaching records for the 2017–18 school year will provide data on the length of teaching candidates’ student teaching assignments and where and with which cooperating teacher they student-taught. Once teaching candidates are hired in CPS and begin working with an NTC mentor in 2018–19, attendance and other key mentoring activities such as mentors’ completing formative assessments with new teachers will provide additional data on mentoring participation, frequency, and content.

Pipeline analysis: A critical program component is the strength of the teaching pipeline from NTC-supported student teaching placements with CPS, through recruitment, selection,
hiring, and retention in CPS. SRI will track the number of teaching candidates through these stages to identify at which point CPS is losing teachers. Interviews with key respondents, described below, will unpack the reasons for any leakage.

**Interviews with key informants:** SRI will conduct interviews with key informants to understand the factors supporting or inhibiting student teaching and induction experiences for treatment and control teachers, and their relationship to teacher retention. Interviews with administrators/university supervisors and NTC-trained cooperating teachers in fall 2018 will offer formative feedback to help NTC refine its future supports for student teaching. Interviews with a sample of treatment and control teachers, their principals, their mentors, and district administrators in spring 2020 will provide additional insights on treatment-control contrast as the previous Investing in Innovation grant showed that principals determine many induction supports for control teachers.

**Interview Respondent Samples:** SRI will identify the 10 pre-service preparation programs producing the largest numbers of treatment and control student teachers in 2017–18 who became teachers of record in CPS in 2018–19 and interview the administrators/university supervisors. For any given pre-service program, we will select administrators based on the program structure, e.g., if the program has different supervisors for elementary, secondary, and special education. SRI will purposively sample for interviews 20 cooperating teachers in core academic areas and special education, who served in that role in spring 2018. SRI will randomly sample 10 treatment and 10 control teachers, equally divided between elementary and secondary levels, for individual interviews. Their respective principals will comprise the principal interview sample. The mentor sample will include up to 10 mentors of the sampled treatment teachers. District administrators overseeing teacher recruitment, hiring, and induction will also be interviewed.
**Interview Protocols:** SRI will develop semi-structured interview protocols aligned to the research questions and tailored to specific respondent types. Sample interview topics include teacher preparation program structures and student teaching requirements, placement patterns, selection and support of cooperating teachers, teacher buy-in and receptivity to mentoring, the nature of mentoring (frequency, focus, feedback, and usefulness), teacher collaboration and community, school leader instructional support, and contextual factors that affect the frequency and focus of mentoring (e.g., schedules, accountability ratings, instructional change/reform initiatives, district Human Resources policies).

**Interview data analysis:** The qualitative data will provide a more comprehensive understanding of the district and school contexts that affect teacher supports, complementing the survey-based implementation data. After each round of interviews, researchers will follow a formal analytic process. For each topic area on the protocols, researchers will synthesize major themes for treatment and control groups separately, integrating interview data across respondent types (teacher, principal, mentor), noting consistent and inconsistent answer patterns by respondent types, and providing evidence through details and quotations from interviews or supporting documents. Then they will compare the themes and data across treatment and control groups to identify similarities and differences in student teaching and induction supports that help interpret the other implementation measures and the impact findings.

**Reporting:** Annual reports will integrate findings across data sources, addressing the implementation and impact of the student teaching and induction model as appropriate during the course of the study. SRI will also provide formative feedback to NTC based on data gathered through surveys, observations, and interviews to inform implementation. The final report will include impact findings on the effectiveness of the student teaching and induction model and
implementation findings intended to share promising practices and facilitate model scale up and sustainability.

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<tr>
<th>Years</th>
<th>Program</th>
<th>Evaluation Activities</th>
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<td>Aug. 2017 – July 2018</td>
<td>Student teaching year</td>
<td>Design refinement, random assignment, instrument development, implementation data collection, and annual reporting</td>
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<tr>
<td>Aug. 2018 – July 2019</td>
<td>First year of induction support</td>
<td>Interim teacher outcomes, student outcomes data collection, implementation data collection, formative feedback, and annual reporting</td>
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<tr>
<td>Aug. 2019 – July 2020</td>
<td>Second year of induction support</td>
<td>Final teacher outcomes, student outcomes data collection, implementation data collection, formative feedback, and annual reporting</td>
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