Central Louisiana Instructional Partnership (CLIP)
Teacher Quality Partnership Application 2018

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Acronyms Used: Central Louisiana (Cenla); Central Louisiana Instructional Partnership (CLIP);

CLIP Resident (CLIPR); Gallaspy College of Education and Human Development (GCEHD);

College of Business & Technology (COBT); Computer Information Systems (CIS) Department ;

Local Education Agency (LEA); Master of Arts in Teaching (MAT); Northwestern State

University (NSU); The Orchard Foundation (TOF)**;** Science, Technology, Engineering & Math

(STEM); The Rapides Foundation (TRF); Urban Learning & Leadership Center (ULLC).

Phrases Used: *LEA* and *school district* are used interchangeably. A *parish* in Louisiana is the

same as a county in another state.

CLIP Resident = one who is engaged in the CLIP residency, coursework, and other CLIP

requirements

CLIP Graduate = one who completed their master's degree, one-year teaching residency, and

other CLIP program requirements.

PRIORITIES ADDRESSED: Central Louisiana Instructional Partnership (CLIP) project
will address: **Absolute Priority 2:** *Partnership Grants for the Establishment of Effective*
Teaching Residency Programs; <u>AND</u> **Competitive Preference Priority 1:** *Promoting Science,*
Technology, Engineering, or Math (STEM) Education, With a Particular Focus on Computer
Science; <u>AND</u> **Competitive Preference Priority 2:** *Promoting Effective Instruction in*
Classrooms and Schools

Introduction

The goal of the **Central Louisiana Instructional Partnership (CLIP) project** is to
develop and implement a model of middle school mathematics and science teacher preparation
through an innovative teacher residency program with integrated professional development and
induction support programs to produce measurable positive impacts on the academic
achievement of high-need, low-performing rural students in $6^{th} – 8^{th}$ grade. CLIP will address the
critical shortage and high teacher turnover facing rural schools through an accelerated graduate
program of study and concurrent 15-month residency program with an emphasis on preparing
STEM subject teachers for the middle grades. Over five years, the partnership will prepare 44
middle grade certified math and science teachers who will earn a Master of Arts in Teaching
(MAT) from Northwestern State University's Gallaspy College of Education and Human
Development (GCEHD) through undertaking a hybrid learning approach that blends online
graduate coursework with monthlyface-to-face cohort meetings and summer training supported
by NSU's Computer Information Systems (CIS) department. The graduate coursework and
ongoing professional development will be reinforced by a rigorous, year-long, field-based
residency, supervised by NSU faculty and supported by stipended mentors. Residents will be

placed in one of 70 possible eligible high-need rural schools in one of the partnering nine high-need LEAs in Central Louisiana (Cenla).

The CLIP partners have worked together for many years to assess the challenges faced by these rural communities, confronting the enduring and often deeply entrenched obstacles to improved teaching and student achievement. Over five years, CLIP will leverage this work to dramatically improve teacher preparation and ultimately work to close the achievement gap among rural students in an underserved region of Louisiana. Recruiting, preparing, and mentoring teachers that reflect the demographics of the student population, and placing residents in local high-need rural schools with trained mentors and coaches during the program and upon program completion, are evidence-based strategies to do this.

Response to Absolute Priority 2: *Partnership Grants for the Establishment of Effective Teaching Residency Programs*

> The goal of the **Central Louisiana Instructional Partnership (CLIP) project** is to develop and implement a model of middle school mathematics and science teacher preparation through an innovative teacher residency program with integrated professional development and induction support programs to produce measurable positive impacts on the academic achievement of high-need, low-performing rural students in 6th – 8th grade.

Quality of Project Design

1. The extent to which the proposed project demonstrates a rationale

CLIP's innovative design as a teaching residency program focuses on preparing mathematics and science teachers for the middle school grades and impels a system change that leverages the assets of the partners while strengthening and building local capacity. CLIP's **logic model** is found in Appendix G. The CLIP conceptual framework includes six planks:

    1. Site-based residency with on-site co-teaching and mentoring that connects intellectual work with practical work under the guidance of an expert practitioner who can model good practice, ask probing questions to guide reflection, and provide feedback to guide the development of practice. CLIP teacher residents will be placed for a full academic school year in a high-need partner school, jointly placed by the hosting high-need LEA, and observing and working with a trained teacher mentor in the classroom.

    2. A unique online delivery method for accelerated graduated coursework taught by education faculty from a recognized leader in teacher preparation. CLIP residents will complete their coursework in 15 months while immersed in their residencies in rural, high-need schools.

    3. Cohort groups (CLIP residents, mentors, and coaches) will provide opportunities for collaboration and teamwork in practice-oriented situations. Starting in Year 1, a new cohort will commence with four cohorts total.

    4. Computational thinking will be infused into STEM lessons to strategically develop a critical mass of educators trained to integrate hands-on, technology-driven STEM lessons into high-need schools utilizing computational thinking processes and innovative technologies. CLIP will prepare an influx of middle school science and mathematics teachers for the rural region.

    5. Site-based support for two years following certification. CLIP will implement an extensive, focused two-year induction program with sustained coaching and professional development for cohorts of aspiring teachers and their teacher mentors and coaches.

    6. C*lose collaboration* between partner LEAs, NSU faculty and leadership, and other project partners, so that the work of the project is directly linked to the district curriculum and instructional plans of the schools (Darling-Hammond, 2007).

Response to Competitive Preference Priority 1: Promoting Science, Technology, Engineering, or Math (STEM) Education, With a Particular Focus on Computer Science

The CLIP program has three major phases that are aligned with the elements outlined in Absolute Priority 2, and Competitive Preference Priorities 1 and 2. These phases are: **TRAIN, TRANSITION**, and **TEACH**. In addition to their graduate coursework and site-based residency in a high-needs school, CLIP Residents (CLIPRs) will receive specific content knowledge and pedagogy through inquiry-based STEM preparation through the academic year and summer training with nationally-recognized NSU CIS faculty members. Table 1 shows a high-level overview of the sequence of training, residency, induction, and support activities.

Table 1. Sequence of Training, Residency, Induction, and Support. Pre-Certification - *15 months*					Post-Certification *Two years*
	Summer 1 Training (Jun.-Aug.)	**Residency 1: Fall** (Aug.-Dec.)	**Residency 2: Spring** (Dec.-May)	**Summer 2 Training** (Jun.-Aug.)	**Induction: Support & Professional Development**
Train					
Transition					
Teach					

Pre-Training Phase: Recruitment and Selection of Candidates and Mentors

CLIP's comprehensive recruitment, admissions, and selection processes will recruit the best and brightest STEM undergraduates and mid-career professionals. Selected CLIP Residents

will enroll in an accelerated graduate program at NSU (Phase 1: Train, as shown in Table 1) that

will lead to teacher certification and a Master of Arts in Teaching (MAT) degree. The 15-month

accelerated graduate program of study comprises two summers and one full academic year of

study. At the outset, candidates will decide which strand (math or science) and certification level

(middle school: grades 6 – 8 or secondary education: grades 6 – 12) they wish to pursue. MAT

coursework will be paired with a year-long school-based residency and mentor support.

Candidate Recruitment Strategies CLIP will target individuals with undergraduate degrees in

math or science who exhibit attributes and abilities to become highly qualified math and science

teachers. Recruitment efforts will target recent college graduates, underrepresented populations,

and mid-career professionals. The NSU Department of Education, along with the College of

Business & Technology, will jointly recruit promising STEM undergraduates. CLIP will also

target its efforts to attracting and identifying CLIP candidates with connections to the Cenla rural

communities through personal experience or a family member who lives in a rural community

(Oakes & Guiton, 1995). This emphasis will result in the selection of individuals who are more

likely to remain in their positions during and after their initial three-year service commitment.

The CLIP recruitment campaign will recruit candidates through various means, including

the CLIP website, local TV and radio talk shows and announcements, community broadcasts,

school/community newsletters, local newspapers, etc., to advertise the program throughout the

Cenla area. Literature will be disseminated in print and electronically by all partners.

Candidate Admissions and Selection Process Entrance standards for CLIP are purposefully

high as research reveals that programs with stringent requirements are more successful (Denton

et al., 2009; Rotherham & Mead, 2003; Schweizer, Hayslett, & Chaplock, 2008). Denton et al.

(2009) and Schweizer et al. (2008) also point to the importance of testing post baccalaureate

teacher candidates for content knowledge prior to entry into online programs. To support

applicants participating in the admissions process, NSU will provide pre-application Praxis

tutoring sessions in early spring of each cohort year, to be held in centrally located Alexandria.

Minimally, applicants must have a Bachelor of Arts or Science degree, pass the Praxis I

(or ACT composite score of 22+) and II, and satisfy the following requirements: 1) Ability to

make the time commitment for an intense year-long learning experience; 2) Commitment to

serve as a teacher in a CLIP high-need school for a minimum of three years; and 3) Willingness

to grant access to Compass evaluation scores, the state's teacher evaluation tool.

The CLIP admissions process consists of a written application (including college

transcript) and a multi-stage interview process. Applications will be reviewed by NSU and TOF,

and vetted by the districts to match CLIPRs with a host school.

Applicants who successfully pass the document screening will participate in the multi-

stage interview process. Interview teams will be comprised of representatives of all CLIP

partners. The interview process will consist of a set of performance activities such as a group

problem-solving activity, a teaching activity, a writing activity, and individual interviews.

Screening and selecting potential candidates is a structured process with an observation

protocol for the performance activities and an interview protocol designed to identify attributes

and establish criteria for the selection of applicants based on their 1) strong content knowledge of

their subject area; 2) exceptional verbal and written communication skills; 3) interest and

commitment to teaching and helping students learn; and (4) record of accomplishment.

CLIP will begin receiving applications for Cohort 1 no later than December 2018/January

2019. Screening interviews will be conducted as applications are received. Full interviews will

be conducted by the selection committee by the end of April in order to meet the May 15 NSU

enrollment deadline. Students will be accepted by early spring, and graduate coursework will begin June 2019. This cycle will repeat in Years 2 – 4 of the project.

Stipends and Tuition CLIP candidates will apply for one-year living stipends of ▮▮▮▮ at the same time that they apply for admissions to the program. CLIPRs will also receive full tuition and fees for their graduate work (included in the TQP budget), which is typically ▮▮▮▮, offered by NSU at a discount of ▮▮▮▮ for CLIP Residents. CLIP Residents will sign a memorandum of agreement committing to repay the stipend if the program or the commitment to serve is not completed. See Appendix J for a sample CLIP agreement.

Mentor Teacher Selection, Training, and Accountability During the residency period, CLIPRs will experience a variety of learning opportunities alongside a trained and experienced mentor teacher. As an extension of their supervision of the clinical residency component of the program, NSU GCEHD will lead the mentoring program and will engage an experienced CLIP Mentor Coordinator as well as faculty supervisors who will train the mentors, visit school sites regularly, perform observations on both the mentor and the CLIPR, and provide guidance and feedback on the mentoring process.

CLIP will make every effort to apply rigorous selection and development criteria for recruiting mentor teachers. However, with an existing dearth of science and math teachers in middle grades, we will be hard-pressed to recruit high-quality mentors in these grades and subject areas. This was a challenge that was difficult to overcome in the execution of the 2009 LSU TQP grant that TOF was involved in. To overcome this, the LEAs were intimately involved in the process in the 2009 project, and they will be even more so in CLIP. LEAs may place CLIPRs in the classrooms of high-performing teachers in other disciplines if a suitable math or science mentor is not available.

CLIP has developed a set of ideal selection criteria for mentor teachers, which includes:

1) Minimum of three years of successful teaching experience in subject area/grade level, 2)

Capacity to have a positive impact on student learning; 3) Capacity to mentor an adult. Mentors

must meet state requirements as a cooperative teacher AND at least one of the following: a)

Completion of three-hour course in the supervision of student teaching or b) National Board

Certification in the field of supervisory assignment. Mentor teachers must acquire building

principal or district approval and/or recognition as a master teacher or educational professional.

Mentors will be trained by NSU faculty and affiliates in the early summer of 2019 to

prepare for mentoring the first cohort of 11 residents in August 2019. Mentors will receive a

███ per year stipend to incentivize participation, and will receive adequate release time from

their employers as needed. The annual mentor training schedule includes: **Summer 1:** Mentor

orientation for 2 days (10 hours), includes meet and greet with CLIPRs provided by NSU

GCEHD; **School Year:** Four (4) half-day sessions at a centralized location provided by NSU

GCEHD and CIS; and **Summer 2:** Instructional technology training wrap up (2 days x 8 hours =

16 hours) provided by NSU CIS.

Mentor training will encompass the Five-Tier Mentoring model, which was used in a

partnership with the National Science Foundation and the University of Texas-El Paso in the

preparation of students for faculty careers in the STEM disciplines. Topics addressed at the

summer training and reinforced by the NSU Mentor Coordinator and faculty throughout the year

will serve to facilitate the mentors' effectiveness in general and the CLIP program specifically.

Five-Tier Mentoring Model
Committing to the mentoring process: Establish adequate and scheduled times for providing quality feedback to CLIPR**.** Set expectations and defining roles of CLIP mentor **.**

Provide for field-based activities and clinical practice experiences.
Establishing mentoring venues: Provide regular oral and written feedback to CLIPR.
Serving as a role model: Project an image that reflects the roles and professionalism expected of a teacher. Convey a passion for teaching subject area. Present demonstration lessons using varied teaching strategies. View CLIPR as a professional colleague.
Employing successful tools: Implement research-based best practice in mathematics and science instruction. Model differentiated instruction and accommodations for students with special needs. Use a co-teaching approach to instruction. Develop effective classroom management skills in CLIPR Plan with CLIPR for assessment of student learning. Include state and professional standards into planning and instruction.
Monitoring mentee's progress: Provide feedback on CLIPRs' classroom presence. Utilize the Danielson Framework for Teaching with CLIPRs to discuss progress in all areas of teaching responsibility. Prepare CLIPR for state teacher evaluation, Compass.

Phases 1 and 2: Train and Transition

CLIP combines an **online, accelerated delivery** of a graduate program of study that culminates in a Master of Arts in Teaching degree and state teaching licensure, with a **year-long field-based residency**. A **cohort-based structure** facilitates professional collaboration with both onsite and online support (through Moodle) to provide continued support. STEM-focused summer training will train aspiring educators and infuse STEM related course work and lessons with technology in their classrooms, which will provide access to **math- and science-specific training that builds appropriate content knowledge.**

Online, Accelerated Master of Arts in Teaching (MAT) The MAT graduate coursework lays

the foundation for teaching in high-needs, rural schools and prepares the CLIPRs for venturing

into the classroom as teachers. In order to meet the urgent need for high-quality science and math

teachers, the graduate program has been compressed from its traditional two-year format, but the

coursework is no less rigorous. Graduate students in the online program must complete 33-36

hours of coursework, the same as they would in a traditional program. NSU first admitted

candidates into the MAT program in fall 2004. The online delivery of the MAT graduate

program of study allows CLIPRs to maximize their time in the classroom while providing access

to one of the top teacher preparation programs in Louisiana.

A 2009 report prepared for the US Department of Education found that students in online

learning conditions - especially at the college level - performed *better* than those receiving face-

to-face instruction. The report concluded that, especially among the older learners at the college

undergraduate, graduate and professional studies levels, "Students who took all or part of their

class online performed better, on average, than those taking the same course through traditional,

face-to-face instruction" (Means, et al., 2009).

The online MAT program offers the flexibility of asynchronous delivery with a

synchronous component of video (i.e. Web-Ex) meetings with MAT course faculty on a weekly

basis. CLIPRs will meet regularly with faculty and their peers to share challenges and successes,

receive additional professional development, and collaboratively problem solve. Monthly face-

to-face seminars in a central location, co-facilitated with NSU CIS, will add a hybrid component

to the delivery and will facilitate strong relationships between the cohort members.

The customized coursework strands and professional development will provide the initial

pedagogical content knowledge necessary to effectively co-teach science and math courses

beginning in the fall under the tutelage of a mentor teacher. The program includes education

methods courses that are augmented with professional development, classroom observations, and action research throughout the academic year. Completion of action research and the presentation of their research is required to complete the degree. In addition to the graduate program of study and the year-long residency in the partner schools, CLIP will provide professional development and induction support services to CLIP host school personnel to ensure the quality, intensity and duration of services.

Field Based Residency with Mentoring Support CLIP aligns training and coursework with **classroom experience, practical learning, and hands-on experience**. Residents will experience multiple forms of collaboration with school-based mentors and faculty, as well as university faculty. CLIPRs will engage in **co-teaching and classroom observations alongside mentor teachers** selected for their years of experience in teaching and demonstration of a positive impact on student achievement. Research shows that an apprenticeship model for pre-service field experiences is a quality of highly effective teacher preparation programs (Maloch, et. al., 2003). CLIP allows residents to assume duties in a classroom five days per week for a full academic year, as well as immerse themselves in the classroom experience, after which they gradually assume a lead teacher role during the residency under the guidance and support of a mentor teacher. The CLIP mentor program will provide trained mentors, cohort networking opportunities at monthly meetings, and ongoing training for mentors and CLIPRs, which Black et al. (2008) and Huling and Resta (2007) found increased the retention rate of teachers in "high-need schools" (p.14). An effective mentoring program not only enhances new teachers' self-efficacy (Fives, Hamman, & Olivarez, 2007), but also improves their attitudes and raises retention rates (Darling-Hammond, 2003). Furthermore, Gold (1996) pointed out that structured mentoring programs within schools are highly effective in helping to ease the transition from

collegiate teacher preparation programs to the classroom environment.

As the mentoring program lead, NSU is in a position to ensure close alignment between mentoring activities and the academic coursework. NSU will utilize the Five-Tier Mentoring model (see previous section), which was used successfully in a partnership with the National Science Foundation and the University of Texas- El Paso in the preparation of graduate students from STEM disciplines (Wright-Harp & Cole, 2008).

Developing pedagogical content knowledge within a job-embedded apprenticeship will provide the learning experiences needed to produce a highly effective teacher. CLIPRs will be assigned to a school site with a mentor teacher who teaches in a math or science content area. After becoming acclimated to the culture and routines of the mentor teacher's classroom, each CLIPR will begin co-teaching. CLIPRs will collaborate with other teachers during the year to experience a full range of school and classroom environments.

NSU GCEHD faculty will be responsible for the academic year requirements of the residency program, and will provide support to the CLIPRs as they become acclimated to the classroom and better understand the role and work of a teacher. In this context, the Mentoring/Support Facilitator and NSU GCEHD faculty will be responsible for 1) providing instructional services throughout the MAT program; 2) providing at least six observation and feedback sessions during the school year, required for teacher certification and content coursework; 3) conducting model lessons and offering other services for the CLIPRs and mentors to maintain program fidelity; 4) work with LEA teachers to integrate literacy into the classroom as appropriate; and 5) co-organizing and co-facilitating with NSU CIS the monthly face-to-face sessions with cohort members. The feedback and observations sessions are guided by the Framework for Teaching (FT) (Danielson, 2013), a research-based set of components of

instruction aligned to the INTASC standards and grounded in a constructivist view of learning and teaching. Levels of teaching performance are provided through a rubric that describes each component and provides a roadmap for improvement of teaching. The state's teacher evaluation system, Compass, is a modified version of the FT. Appendix J contains the NSU teacher evaluation and observation forms using FT.

Cohort-Based Structure CLIPRs will be assigned to partner schools across a nine-district area in central Louisiana, and will likely be physically distant from each other. However, NSU's Moodle-based online learning platform will enable them to interact daily with NSU faculty and their cohort to discuss classroom issues, brainstorm, and share ideas via synchronous communication. Combined with monthly face-to-face meetings of CLIPRs (102 hours), NSU faculty and mentoring support staff, the CLIP model offers continuous opportunities for discussion of curriculum, support in planning for instruction, and collaboration. CLIP's cohort design supports Tinto's (2000) assertion that learning communities implemented by universities "do more than co-register students around a topic or theme; they change the manner in which students experience the curriculum and the way they are taught" (p. 2).

Math- and Science-Specific Content Knowledge (Competitive Preference Priority 1)

Despite the promise of rewarding careers, there is still a dearth of U.S. citizens with the requisite training to fill STEM jobs. One possible reason students do not complete STEM degrees is that exposure to STEM disciplines is limited, particularly in comparison with elsewhere in the world. However, the shortage of qualified teachers presents a severe barrier. Available evidence suggests that STEM teachers are seldom prepared by both the education schools and STEM departments within their programs, and that teachers rarely have a major in STEM (PCAST, 2010). CLIP will ensure that teacher residents (CLIPRs) are highly qualified,

content strong, and experienced in the subject matter that they are expected to teach (National

Research Council, 2010). It is imperative that teachers have a mastery of the material and know

how to teach it. This need is even more pronounced in rural Central Louisiana.

To meet the need for STEM teachers in the middle grades in Central Louisiana, CLIP

Residents (CLIPRs) will receive specific content knowledge and pedagogy through inquiry-

based STEM preparation through academic year and summer training with nationally-recognized

NSU CIS faculty members. During their CLIP Residency, they will receive up to 52 hours of

technology infused STEM training via the NSU CIS department. Additionally, their graduate

coursework will include a graduate-level summer courses (EDUC 5610) that **directly addresses**

Competitive Preference Priority 1. In EDUC 5610 (Instructional Methodology), candidates

will learn to analyze instructional strategies for STEM lessons; analyze best practices with

virtual field experiences using ATLAS; plan interdisciplinary lessons and units of study; co-

teach with mentor teacher; and use diagnostic assessment to plan appropriate strategies and

activities in classroom.

As a result, they will possess the content knowledge to implement STEM lessons using

the latest technology in their classrooms. This unique feature of CLIP will address the demand

for STEM teachers cited by the 100Kin10 initiative, of which The Orchard Foundation is a

partner. Furthermore, The Orchard Foundation's experience with the Central Louisiana

Academic Residency for Teachers (CART), a 2009 Louisiana State University TQP-funded

project that aimed to recruit and prepare high school teachers to teach Advanced Placement (AP)

and Dual Enrollment (DE) mathematics and science courses in rural schools, is also brought to

bear in this project.

Hands-on and inquiry-based STEM experiences for prospective teachers grounded

with computational thinking will be infused into the program at multiple levels, starting with a

year-long residency under the guidance of a trained science or math teacher who serves as a

school-based mentor throughout the entire year. CLIPRs will choose a science or math track at

the outset of the program and will be paired 1:1 with a mentor teacher in the appropriate field

and grade level. Mentors will act as field guides for CLIPRs, ensuring that CLIPRs are exposed

to STEM discipline-specific pedagogical instruction, and providing explicit instruction in the

interdisciplinary connections between learning sciences and STEM instruction. Then, **nine**

monthly trainings with a two-day summer wrap up will be focused on training teachers to

implement technology curricula in the classroom, providing mathematics and science content

and pedagogy knowledge and skills based on school needs.

Through NSU CIS, CLIP will strategically develop a critical mass of educators trained to

integrate STEM lessons into high-need schools utilizing computational thinking processes and

innovative technologies. According to Wing, "Computational thinking is a fundamental skill for

everyone, not just computer scientists. To reading, writing, and arithmetics, we should add

computational thinking to every child's analytical ability" (Wing, 2006, p. 33).

NSU CIS will offer a STEM-focused curriculum using the same advanced software and

technology as those used by the world's leading companies. As such, students of CLIP Graduates

will learn how to apply math, science, and technology to their everyday lives. NSU CIS follows

the Code.org Middle School Curriculum and Google for Education "CT in the Classroom"

principles, and will tailor the lessons to the specific needs of the CLIPRs. Code.org is a nonprofit

organization that is solely dedicated to expanding access to computer science in schools and also

increasing participation by women and underrepresented minorities. Code.org's curriculum

incorporates computational thinking processes in the classroom and integrate them into math and

science problems. The main objective is to make sure that computational thinking processes are utilized to better understand STEM problems. Computational thinking (CT) is teaching students the tools to systemically approach challenging questions. These tools include, developing algorithms (logical steps), decomposition (breaking down) of problems, loops (repetition), conditional statements (if/then/else decisions), and debugging (fixing) of problems. Both curricula that will be used with CLIPRs (Code.org and Google for Education) have been aligned to Core Subjects and Computer Science Standards.

CT is essential to develop computer applications, but it can easily be used to solve problems in any other discipline Moreover, National Research Council (NRC) recommends mathematics and computational thinking to be one of the eight essential practices for the scientific and engineering dimension outlined in the "Framework for K-12 Science Education'' (NRC, 2012). Several studies have indicated the benefits of teaching computational thinking processes in the K-12 classroom. Most recently, Belanger, Christenson, and Lopac (2018) focused on problem solving strategies, and student confidence and ability to problem solve. Their study found a confidence increase in categories related to doing math and the ability to give directions. Yadav et al. (2017) state that students that have been introduced to computational thinking show significant improvement in their problem solving and critical thinking skills (2017). Finally, current research finds that teaching CT in K-12 is essential to increasing the number of students interested in becoming part of the STEM careers. (Grover and Pea, 2013). Yadav et al. (2016) state that we should start "moving students from merely being technology-literate to using computational tools to solve problems and represent knowledge" (Yadov et al. 2016 p. 568). For this move to occur, we need to provide enough support to the teachers that will be implementing these computational thinking processes in the classroom.

Not only will CLIPRs be trained in this hands-on, interactive and innovative curriculum, but their mentors will too, so that enough educators will be trained to develop demonstration school sites for STEM technology lesson implementation. Through these trainings, new teachers and their mentors will be immersed in a learning environment in which they will complete technology based lessons, learn to use technology that will be provided for their classrooms, and how to integrate this technology into the current science and math curriculum. These trainings will stress utilizing technology to solve problems and understand the influence of creativity and innovation in their lives. A reasonable amount of the grant funds will be allocated to ensure that CLIPR classrooms will have the foundational technology and supplies to implement the lessons learned throughout the training.

Teaching Students with Exceptionalities As classrooms become increasingly diverse, providing effective instruction for all learners is important. The MAT program will provide a strong foundation to CLIPRs in addressing the diverse needs of learners through SPED 5510, EPSY 5490, and EDUC 5602. MAT coursework also provides multiple opportunities for implementing differentiated instruction and making accommodations and modifications for all students with special needs including students who need to be challenged because of special gifts or talents they possess. These courses include EDUC 5612 or EDUC 5430. CLIPRs will study physical, cognitive, and language development as well as gain exposure to the IEP process through field experiences. Literacy instruction for English Language Learners (ELL) is addressed in RDG 5010 and RDG 5150. Effective strategies for inclusion in instruction for ELLs are studied and then incorporated into actual planning and instructional experiences.

Developing Teachers from Underrepresented Groups. Several studies show that role models can be very effective in inspiring girls and ethnic minorities to enter STEM fields, and can

increase the performance and retention of students in those same groups (Marx & Roman, 2002; Lockwood, 2006; Cheryan et al., 2011). CLIP aims to create new role models in Cenla schools by actively recruiting CLIPRs from underrepresented groups who have the interest, demonstrated achievement in, and affinity for learning to teach science and mathematics to middle school students. By design, the hybrid online format of the graduate program of study, combined with a stipended residency, better meets the needs of students from underrepresented groups to obtain a master's degree and professional certification in teaching that respects their need for employment to support their families. Outreach to underrepresented student groups will be conducted through NSU's Office of Cultural Diversity.

Preparing local residents who are familiar with the challenges of a largely rural and low- to moderate income populations as teachers means that rural, disadvantaged students and families will be able to see reflections of themselves in the community's classrooms. Where rural, racial, and poverty-related challenges are glaringly evident, so is the potential for excellence in teaching and learning. CLIP has the potential to transform rural schools and impact the cycle of under-education and poverty. Bringing together the talents and expertise of school and district personnel, higher education, and private entities constitutes a shared approach to confronting a shared set of challenges.

Phase 3: Teach

Successful completion of CLIP will lead to the completion of a Master of Arts in Teaching (MAT), as well as certification and licensure for teaching math or science in middle grades 6-8. Partner LEAs will hire the CLIP graduates per the MOA. Although CLIPRs will have a year of experience in their schools before becoming teachers of record in their own classroom, research shows that access to learning opportunities and school supports are critical in

keeping STEM teachers in classrooms (Ingersoll & Perda, 2010). A **two-year induction**

program with trained **site-based coaches** provides continued support to the resident in their first

two years of teaching. The induction program will be aligned with teacher preparation, school

needs, state standards and LEA priorities to continue to build local capacity and collaboration

with NSU for teacher preparation and support.

Two-Year Induction Program w ith Site-Based Coaches Upon graduation and licensure, even

the best prepared teachers will struggle during the first year of teaching if not supported in the

school environment, making induction critically important to the retention of new teachers,

especially in rural settings (Ference, Clement, Smith, 2009). The most disadvantaged urban and

rural students end up bearing the brunt of the least experienced and effective teachers (National

Commission on Teaching and America's Future, 2010). Given recent legislative decisions that

eliminated teacher tenure and negatively impacted teacher pay, Louisiana faces even larger

concerns with retention rates and a reduced pool of new teachers to fill positions (Sentell, 2014).

Furthermore, the state of Louisiana does not have formal induction program standards or

program assessments. Leaving induction programs up to the school districts' discretion translates

into vastly different induction practices across the districts. There is an opportunity to create a

regionally-based induction program in which districts can share resources to carry out this

activity. Research indicates that teachers are less effective in their first years but gain substantial

improvement over time (NCTAF, 2010); Atteberry, Loeb, & Wyckoff, 2013) Based on this

finding, Atteberry and colleagues recommended high-impact 'comprehensive' induction

programs in these critical first few years of teaching.

With these findings in mind, CLIP will identify, select, train and support highly effective

school-based coaches that will carry out a rigorous induction process over a two-year period,

post-certification. CLIP Graduates will be supported 1:1 by a coach teacher for two years in their

high-need school of employment. Many of the mentors trained during the residency phase may

transition to become coaches, although prior experience underlines the need to develop a distinct

corps of coaches. The induction program is aligned with the instructional model initiated by the

NSU mentoring program and with Louisiana's teacher performance evaluation rubric, Compass

providing a seamless transition from the classroom prep experience to the requirements of full-

time teachers. The coaches will receive ████ annual stipend plus training stipends. Funds are

budgeted for substitutes should coaches leave their classrooms.

Induction Priorities The CLIP induction program led by ULLC has three priorities: (1) To

support new CLIP teachers as they transition to the teaching profession so they are successful in

creating high performance classrooms yielding high achievement students; (2) To create a

professional network of these new teachers to engage them in a self-sustaining cohort of learners

through their first two years of service and beyond; and (3) To create a local support system of

administrators and supervisory personnel to continue the professional growth cycle for these

teachers after the project ends.

Two-year Induction Model. ULLC will lead the school and district administrators to shape a

comprehensive two-year induction program for the CLIP graduates which complements their

existing induction programs and meets the guidelines established by the New Teacher Center for

quality induction programs and is guided by the core competencies of the International Coaching

Federation (ICF), and led by an ICF certified coach. The ICF defines coaching as "partnering

with clients in a thought-provoking and creative process that inspires them to maximize their

personal and professional potential."

  The ICF Core Competencies are grouped into four clusters: **1) Setting the Foundation:**

Meeting Ethical Guidelines and Professional Standards; Establishing the Coaching Agreement;

2) Co-creating the Relationship: Establishing Trust & Intimacy; Coaching Presence; **3)**

Communicating Effectively: Active Listening; Powerful Questioning; Direct Communication;

and **4) Facilitating Learning and Results:** Creating Awareness; Designing Actions; Planning

and Goal Setting; Managing Progress and Accountability.

Beneficiaries. The audience for the induction program is three-fold: Site-based Coaches, new

CLIP Teachers, and Building and District Administrators. All of the stakeholders will participate

in front-loaded and ongoing professional development to sustain learning and ensure fidelity to

the program's implementation and to the coaches' provision of services. **Coaches** will receive

personal coaching, training, and development in leadership; communication and collaboration

skills; coaching conversations; designing, implementing and assessment of professional learning;

and essentials of instructional coaching. The ICF Core Competencies will be embedded

throughout the content. **New CLIP Teachers** will receive training and development instruction

(planning, delivery, management, assessment); learning partnership; and collaboration. **Building**

Administrators will receive training and development in coaching model communication;

professional learning facilitation; teacher development; targeted feedback; instructional

leadership for novice teachers; communication; and collaboration with coach and teacher.

Delivery Model. The induction model will consist of a combination of cohort-based centralized

training with school-based field experiences. CLIP teachers, site-based administrators, and

induction coaches will meet in scheduled network sessions throughout each year to share

experiences, collaborate on successful strategies, and receive additional training and support.

Between these network meetings, ULLC master coaches will conduct site-based training and

review sessions at each participating school.

The induction program will cover two instructional years. The cycle provided below will repeat for each cohort's first and second year of induction, except for Cohort 4 which will only be able to complete the first year under grant funding. The LEAs are committed to continuing the program of induction after the grant funding ends. See Appendix L for full schedule.

Summer, Year 1: Coaches will attend professional development on rationale for the coaching program and training on facilitation of the roles and expectations of principal and the CLIP teacher. New CLIP teachers and building principals will join the coaches in this network session to learn about the program and their roles in relation to the coach and the overall growth and support provided to the new teachers.

Fall, Year 1: Coaches, CLIP teachers and principals will receive support from ULLC coaches on school site and though WebEx to hone their collaborative and pedagogical skills and to ensure fidelity of implementation of the support system.

Mid-Year, Year 1: Coaches will attend a centralized training. Coaches will share their successes and concerns as they develop a network of support under the guidance of a ULLC master coach. The training will focus on areas of need as the coaches work to enhance their facilitation skills.

Spring, Year 1: Coaches, CLIP teachers and principals will receive support from ULLC coaches on school site and though WebEx to hone their collaborative and pedagogical skills and to ensure fidelity of implementation of the support system.

Summer, Year 2: Coaches will attend professional development to address targeted facilitation needs identified during year 1 implementation. The focus will be on building sustainable structures to provide continued support for the CLIP teachers using building-based leadership at the conclusion of the induction period. New CLIP teachers and building principals will join the coaches in this network session to continue to develop collaborative strategies for on-going

teacher growth and development.

Fall, Year 2: Coaches, CLIP teachers and principals will receive support from ULLC coaches on school site and though WebEx to increase their collaborative and pedagogical skills and to ensure fidelity of implementation of the support system.

Mid-Year, Year 2: Coaches will attend a centralized training. Coaches will share their successes and concerns as they develop a network of support under the guidance of a ULLC master coach. The training will focus on building sustainable school-based support systems for CLIP teacher development.

Spring, Year 2: Coaches, CLIP teachers and principals will receive support from ULLC coaches on school site and though WebEx to increase their collaborative and pedagogical skills and to ensure fidelity of implementation of the support system as the induction program transitions to the ongoing professional development system of the school and district.

The coaching program is designed to provide timely and quality feedback to teachers to enhance their pedagogical skills in the classroom and to provide a non-evaluative, non-threatening forum to collaborate on issues commonly faced by first year teachers. Specialized training is required to enable coaches to provide appropriate support to teachers to foster their professional growth. See Appendix L for schedule of topics.

CLIP coaches will commit to 1.25-2.5 hours per week of rigorous coaching activities as recommended by the New Teacher Center research on quality induction programs. During these sessions, coaches will utilize the strategies they gain during their training to help the new teachers reflect on their teaching practices and gain insights into areas for professional growth. Coaches will also provide resources, conduct model teaching sessions, and establish peer observations as needed to assist the new teachers to address areas of need.

Selection of Induction Coaches. Coaches are teacher leaders who should possess a unique set of skills in order to be most effective in this work. Mentors trained during the residency phase of the program may wish to apply and their prior relationship with the CLIP graduates may prove to be very valuable. A screening and interview process will be conducted involving ULLC staff, NSU staff, and local school administrators. ICF core coaching values will guide the evaluation process. Selection criteria will mostly mirror that of the CLIP mentors, but coaches must also believe that every teacher can become a master teacher and that it is not necessarily an innate skill. They should understand the role of a coach to promote inquiry, self-reflection and professional growth, not evaluation. They should understand adult learning and instructional mastery, and must possess strong communication and collaboration skills, as well as time management and organizational skills.

Long-Term Commitment to Serve. Schools in high-poverty communities often do not have access to knowledgeable teachers, and they struggle more than others to fill openings in STEM subjects with qualified teachers (PCAST, 2010). This occurs, in part, because STEM teachers migrate within the profession to better paying jobs at better-funded schools (Ingersoll & Perda, 2010). CLIP Graduates will agree to serve in a high-need school in the LEA, teaching a STEM subject. The school district will certify the employment at the beginning of, and upon completion of, each year or partial year of service.

2. The extent to which the goals, objectives and outcomes to be achieved by the proposed project are clearly specified and measurable

CLIP has established two primary goals and four objectives addressing Absolute Priority 2: *Partnership Grants for the Establishment of Effective Teaching Residency Programs* . The CLIP proposal team worked with an external evaluator to ensure that these goals are clear and

measurable. In the "Quality of Project Evaluation" section, the methods for evaluation of each

goal and objective is outlined. In Appendix G, the CLIP Logic Model can be found.

Goal One: Improve student achievement by increasing the number of highly qualified math and science teachers certified to teach in middle school grades in rural Central Louisiana, as measured by their students' scores on state and district criterion- and norm-referenced tests.

Objective 1.1: Annually recruit 11 CLIP Residents (CLIPRs) who meet or exceed NSU's Master

of Arts in Teaching program acceptance criteria, or a total of 44 CLIPRs, who are recent

graduates of a four-year accredited institution of higher education or mid-career changers, who

complete CLIP within 15 months with a graduate degree and certification, and commit to

teaching a minimum of three years within the partner districts after completion of CLIP.

Objective 1.2: Improved aggregate learning outcomes of students taught by CLIP Graduates as

evidenced by improved scores in math and science courses on the student growth component of

the Compass, Louisiana's educator support and evaluation system.

Objective 1.3: Improve CLIPR teaching effectiveness as evidenced by classroom observations

conducted jointly by University supervisors and school district personnel, such as a master

teacher, school or district administrator.

Goal Two: Create a teacher mentoring and induction model that retains 90% of the CLIP Graduates during their first three years of service in high-need schools.

Objective 2.1: Recruit, select and provide professional development to 44 mentors/coaches (11

per cohort) who have the content knowledge and expertise to model best teaching and classroom

management practices to 44 CLIPRs/CLIP Graduates as measured by content background and

classroom observations.

Objective 2.2: Retain 90% of the CLIP Graduates for a minimum of three years by developing a coordinated program of mentoring and coaching that builds host school internal capacity by providing professional development for participating school and district staff.

3. The extent to which the proposed project is designed to build capacity and yield results that will extend beyond the period of Federal financial assistance

Given the Louisiana Department of Education and Board of Regent's interest in supporting local- and regionally-based teacher residency programs (see letters of support), support from the NSU GCEHD and COBT to provide a math and science content-focused pathway to teacher certification, and strong district and partner commitments as evidenced by $8.8 million in matched in-kind funding, it is evident that CLIP has access to resources to sustain the program beyond the length of the grant.

Components of CLIP will thrive well past the grant period: The **accelerated Master of Arts in Teaching program** will be one of the few graduate-level online/hybrid teacher certification programs in Louisiana to target the shortage of rural middle school teachers in science and mathematics. CLIP envisions the program will serve as a model for other programs as evidence of program impact becomes available through formative evaluation. The **NSU Computer Information Systems trainings** will be documented and serve as a homegrown model of regional classroom technology implementation. Due to the required three-year service commitment and the investments of the school districts, the training offered and technology received will live on at partner school sites for years. To sustain **the resident, mentor, and coach stipends**, the Louisiana Department of Education currently allocates millions of dollars to the preparation of teachers with its Believe and Prepare program that aims to provide innovative, classroom- and school-based preparation experiences for aspiring educators. The **regional two-**

year induction program will be absorbed by the school districts as a critical mass of teachers trained as leaders and coaches are prepared to continue the professional learning communities and regional support mechanisms that were spawned by CLIP. When CLIP demonstrates positive outcomes, financial support for teacher preparation in shortage areas will emerge. As more students are admitted, program tuition revenues and enrollment numbers at NSU will increase, which will sustain further reforms and innovations of all of the teacher preparation programs at NSU.

4. The extent to which the proposed project represents an exceptional approach to the priority or priorities established for this competition.

In *Mayhem in the Middle*, Cheri Pierson Yecke provocatively asserts that American middle schools have become the places "where academic achievement goes to die." The CLIP partners contend that developing middle school STEM teachers who motivate and inspire students will transform Cenla's rural middle schools into places where students come to thrive.

CLIP is designed to build capacity at multiple levels, beginning at the school level, in which sustained high-quality, residency experiences for pre-service teachers will be implemented. Host schools will become collaborative partners in teacher preparation, and serve as demonstration sites for best practices in STEM teaching. At the same time, CLIP will strengthen the capacity of a regional institution of higher education (Northwestern State University) to better respond to local school and district needs. The changes implemented at each level will be designed such that they are expected to endure beyond the life of the TQP grant. Together and for the long haul, the entities will collaboratively improve the preparation, competence, and retention of teachers.

CLIP's innovative design as a teaching residency program focuses on preparing mathematics and science teachers for the middle school grades and impels a system change that leverages the assets of the partners while strengthening and building local capacity. The program includes: (1) CLIP teacher residents placed for a full academic school year in a high-need partner school, jointly placed by the hosting high-need LEA, and observing and working with a trained teacher mentor in the classroom; (2) preparing teachers to teach middle school science and mathematics in a rural and high-poverty region; (3) offering a unique online delivery method for coursework taught by education faculty from a recognized leader in teacher preparation; (4) setting a foundation for a region-wide influx of educators prepared to develop, offer, and demonstrate STEM lessons using innovative technology and computational thinking in their schools; and (5) implementing an extensive, focused two-year induction program with sustained coaching and professional development for cohorts of aspiring teachers and their teacher mentors and coaches.

In addition to the 44 new teachers prepared and supported by CLIP across the region, nearly 100 experienced educators will be trained as mentors and coaches to support new teachers during their training and for two years after. They will learn to effectively mentor teacher residents (CLIPRs) during the residency experience, to coach new teachers (CLIP Graduates) during their first two years in the profession, and to observe and provide feedback aligned with core competencies of the International Coaching Federation (ICF).

Partnering with the NSU teacher preparation program, this coordinated teacher support system will constitute the first regional program in the state to provide three years of new teacher support, starting at pre-service and continuing as new teachers become certified and transition fully into the profession. Furthermore, the post-certification induction program built by the CLIP

partners will evolve into a sustainable program in which LEAs can collaborate and share

resources to provide support to new teachers.

CLIP will also create a critical mass of educators trained to deliver STEM lessons using

technology. CLIP schools will become demonstration sites for technology innovation and

implementation in STEM lessons for other schools in the region and in the state. The CLIP

Graduates' required three-year service commitment to the host high-need LEA will

institutionalize this technology in as many as 70 different schools serving students in middle

grades.

This multi-year, multi-level approach to developing the human capital at the host school

sites builds their capacity as collaborative partners in teacher preparation. The changes at the

school and district levels, coupled with the capacity building activities at the institution of higher

education, mean a high likelihood of system improvement.

Quality of Project Services

**1. The extent to which the services to be provided by the proposed project involve the
collaboration of appropriate partners for maximizing the effectiveness of project services.**

The **CLIP project** represents a
committed, eligible partnership of
nine high-need rural local education
agencies (LEAs) in Central Louisiana
(Cenla), a territory that stretches from
the Mississippi Delta to the Texas
state line (parishes: Allen, Avoyelles,
Catahoula, Grant, LaSalle,
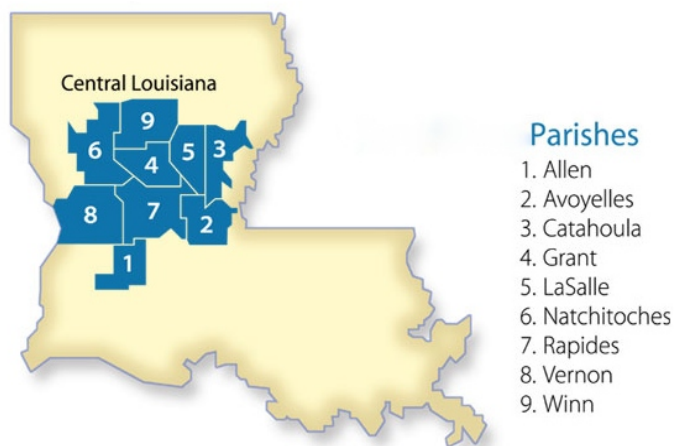
Figure 1. Cenla/CLIP project region.

Natchitoches, Rapides, Vernon, and Winn – see Figure 1); a consortium of 70 high-need schools serving middle school students; Northwestern State University (NSU) in Natchitoches, LA; the NSU Gallaspy College of Education & Human Development (NSU GCEHD); the NSU College Business & Technology (NSU COBT); the NSU Computer Information Systems Department (CIS); The Orchard Foundation (TOF); The Rapides Foundation (TRF); Urban Learning & Leadership Center (ULLC); and EvalWorks (external evaluator). The CLIP partners have worked together for many years to assess the challenges faced by these rural communities, confronting the enduring and often deeply entrenched obstacles to improved teaching and student achievement. Grant funding from the Teacher Quality Partnership, combined with significant matched funding ($8.8M) from the CLIP partners, will provide the necessary resources to address the region's critical shortage of highly qualified mathematics and science teachers in the middle grades (grades 6 – 8).

Each partner's contributions are summarized below, with CVs and other supporting documentation provided as appendices. Extensive planning has occurred with these partners, focused primarily on the identification of needs of the partner LEAs. The CLIP project design has been developed based on a wealth of knowledge and evidence gleaned from past programs, interventions, and evaluations conducted by the project partners.

PARTNER LEAs. Both beneficiaries and partners, the nine high need LEAs and 70 high need schools are integral to the design and implementation of CLIPIn the nine LEAs, there are 130 public K – 12 schools that serve 57,589 students, of which 12,712 are in grades 6 - 8. Four out of ten schools (40%) in the region received a letter grade of C, D, or F according to the state's grading system. Cenla students struggle to meet state standards in science and math, with at least one third of all students failing to obtain a basic level of proficiency in both subjects. Moreover,

inadequate STEM preparation is evident early on and worsens with time, as 36% of 4th graders

fail to obtain a basic level of proficiency in mathematics, with the number of students lacking

proficiency increasing to 46% in 8th grade; and 33% of 4th graders and 44% of 8th graders fail to

attain a basic level of proficiency in science (TRF, 2016; most recent state assessment data). See

Appendix C for an assessment of the need for STEM teachers in the CLIP service area.

The LEAs have indicated their commitment to the project through the attached

Memorandum of Understanding. As detailed further in the budget narrative, each LEA has

committed to dedicating in-kind resources to CLIP for at least 10 personnel (including

superintendents, principals, district coordinators, and mentor and coach teachers), which

translates to about 90 existing district staff working regionally on this project. LEA and school-

based personnel will be involved in all phases and aspects of the project; they are beneficiaries of

the project services, but are also integral players whose input will be sought at all levels.

INSTITUTION OF HIGHER EDUCATION AND COLLEGE OF EDUCATION. The

accelerated graduate program of study will be delivered by **Northwestern State University's**

Gallaspy College of Education and Human Development (GCEHD) through a blended

learning approach that culminates in a Master of Arts in Teaching and teaching licensure,

augmented by nine monthly meetings and a two-day summer training supported by NSU's

Computer Information Systems (CIS) department. The coursework and professional

development will be reinforced by a rigorous, year-long, field-based residency in a high-need

rural school in one of the partnering nine high-need LEAs in Central Louisiana (Cenla).

The field-based teacher residency, also spearheaded by NSU GCEHD, will help aspiring

teachers gain instructional experiences and exposure to a variety of teaching and learning

environments that are coordinated and aligned with the teacher preparation curriculum.

Following a summer of immersion in pedagogical concepts, CLIP Residents (CLIPRs) enter a high-needs classroom to co-teach with an experienced, trained STEM mentor teacher for five days per week for the entire school year. Reinforced by online graduate coursework offered by the NCATE-accredited NSU GCEHD, CLIPRs will be unencumbered by the need to attend university classes from far-flung parts of the rural region, and will maximize their time learning how to teach high-need students using the latest research and techniques. Although their coursework will be completed mostly online, CLIPRs will have multiple opportunities to network with each other at cohort professional development sessions. Faculty from the Master of Arts in Teaching program, working with mentor teachers that they train at partner schools, will lead the site-based clinical assistance and supervision for CLIPRs during the academic year.

The NSU GCEHD is well qualified by its programs, partnerships, and experience to collaborate to prepare middle school teachers in science and mathematics. The college has been preparing teachers for more than 130 years and has built a reputation as Louisiana's premier teacher education program. NSU GCEHD has rigorous graduate and undergraduate teacher education programs with specialties in mathematics and science, a long-standing commitment to educational needs of local schools and districts, and partnerships with local schools and school districts to strengthen their curricula, such as the NSU National Writing Project, which has secured $569,000 in U.S. Department of Education funding through an Investing in Innovation (i3) grant. The project provides teacher leadership development and support to K-12 schools in the area to help teachers develop college-ready writers in rural districts. Documented by Louisiana's 2016 Title II Report Card, all graduates (100%) of NSU's teacher preparation programs have passed all of the state's qualification assessments for new teachers. The college recently completed redesign of all traditional and alternative certification programs, aligning to a

competency-based model and new preparation standards. All of its offerings are aligned with the

Louisiana State Standards for Education, which were approved by the U.S. Department of

Education in August 2017. Further, the College is recognized by the National Council on

Teacher Quality as a high performing teacher preparation program.

Building on lessons from the Louisiana Department of Education "Believe and

Prepare" grant initiative, GCEHD programs are now technology-rich, with attention to the needs

of all learners and content specific requirements. GCEHD has been piloting year-long

residencies with undergraduate programs for three years. This design shares many elements with

CLIP, including teacher mentors, placement of practitioners in high need rural schools, and

intensive pre-service preparation focused on the staffing needs of the schools. Reflection and

revisions to this initiative are ongoing. Additionally, GCEHD implemented an alternative

certification program with Desoto Parish School System in 2015 implementing the Teacher

Resident Initiative (TRI). Much like CLIP, the TRI program combines a year-long field based

residency in high need schools with a hybrid delivery of coursework at NSU. The design of TRI

shares many elements with CLIP. These initiatives showcase the capacity NSU has to implement

the proposed project.

COLLEGE OF ART AND SCIENCE. The NSU Department of Computer Science (CIS) will

provide content expertise in STEM teaching techniques. The NSU CIS department is based in

the College of Business & Technology (COBT). The CIS program has been designated as an

Area of Excellence by the Louisiana University System since 1999. For CLIP, CIS will offer

high-quality professional development designed by nationally-recognized faculty, who will help

aspiring teachers implement a world-class STEM curriculum utilizing the latest available

classroom technology. The academic program itself is technology-oriented, with a focus on a

software engineering model that includes computer programming, systems analysis and design, database administration, web development, cyber security, mobile applications, and telecommunications and networking. The CIS program emphasizes a combination of theory and practice designed to enable students to gain the knowledge and background needed to further their professional and academic growth as well as to develop skills that will allow them to contribute meaningfully as computer and information systems professionals. Working with NSU GCEHD, NSU COBT and CIS will identify promising NSU STEM undergraduates with an affinity for teaching. NSU GCEHD and COBT-CIS, will collaborate to lead the effort to ensure that the online Master of Arts in Teaching (MAT) graduate program, clinical residency experience, sustained support during the residency, and summer training in science and math-specific content are incorporated into a cohesive program that prepares cohorts of teachers for success in the partnering high-need schools. To ensure communication, collaboration, and integration, the COBT Grant Manager will act as a member of the Partnership Outcomes Team.

LEAD ORGANIZATION. The Orchard Foundation (TOF) will serve as lead and fiscal agent. **The Orchard Foundation (TOF)**, led by its Executive Director and the CLIP Project Director, Dr. Marjorie Taylor, provides the cornerstone for collaboration and high performance by all project partners. TOF will manage all aspects of the project, lead the two colleges at NSU, professional development providers, superintendents, and district office staff to coordinate communications, deliverables, and logistics in the schools. TOF has a record of improving student achievement in the Cenla region, and was invited to partner in 100Kin10, a multi-sector network that responds to the national imperative to train 100,000 science, technology, engineering, and math (STEM) teachers by 2021. Along with **The Rapides Foundation (TRF)**, TOF's parent organization and a partner in the project, TOF has transformed the region's

educational landscape through its investments in professional and leadership development. TRF has invested $22 million in the last seven years to increase the number of students who are ready for advanced mathematics and science, improve school leadership, and invest in college and career ready initiatives. TRF's commitments to the project are in keeping with TRF mission to dedicate 40% of its funding to education.

INDUCTION. Urban Learning and Leadership Center (ULLC) will work with the LEAs and partnering schools to build internal capacity for new teacher support and induction. It will provide research-based professional development and induction support to the consortium of partner schools to impact student achievement. Since its founding in 2003, the organization has worked with public schools in rural and urban schools in 26 states. Its SAME Framework has been shown to dramatically improve poor and minority students' performance to levels that are typical of white and non-disadvantaged students.

EVALUATION. EvalWorks will provide independent evaluation services. Dr. Amy Germuth has served as the evaluator on several other U.S. Department of Education grants including Teaching to Transitions, Teacher Incentive Fund, and MSP grants, as well as multiple NSF STEM grants, including ATE, ITEST, DRK12, ISE, GK12, MSP, and Noyce Scholars grants.

OVERALL PROJECT TEAM EXPERIENCE WITH TARGET POPULATION. The partnership will build on lessons learned by participating in the Central Louisiana Academic Residency for Teachers (CART), a 2009 Louisiana State University TQP project that aimed to recruit and prepare high school teachers to teach Advanced Placement (AP) and Dual Enrollment (DE) mathematics and science courses. While 51 residents completed the program and earned Advanced Placement certification, there remains a need to address the critical shortage of science and mathematics teachers in middle schools. The program evaluation revealed that CART

graduates in many cases had stronger content knowledge than other teachers in the schools where they were ultimately placed.

In 2015-2016, NSU collaborated with the DeSoto Parish School System in rural north Louisiana to implement a new Teacher Resident Initiative (TRI) through "Believe and Prepare," a state-funded initiative to recruit and prepare Louisiana's next generation of teachers. The lessons learned from TRI will be integrated into CLIP, as noted in a previous section. From 2015-2018, NSU has piloted year-long residencies with their undergraduate programs. Implementation of these pilots has reinforced the need for mentoring supports and other sheltering initiatives to optimize the effectiveness of the teacher candidate. These lessons have informed the CLIP project design.

2. Services provided by the proposed project reflect up-to-date knowledge from research and effective practice.

The CLIP residency is based on other successful education residency models, primarily the Philadelphia Teacher Residency (PTR) and Central Louisiana Academic Residency for Teachers (CART). PTR is a teacher preparation program for STEM professionals and recent graduates who want to teach math and science in Philadelphia's high-need urban schools (grades 7-12). While PTR focuses on urban schools, CART provided a more specific model for the recruitment and retention of secondary mathematics and science teachers for rural high schools. CLIP will incorporate all of the effective design elements from PTR and CART, including an alternative route to initial teaching certification, graduate-level coursework with a year-long residency, development of a cohort system, a strong mentoring component, gradual increase of teaching responsibility by residents, stipends during the year-long residency, a multi-year commitment by residents to continue teaching in the high-need area after program completion,

and continued support through a post-residency induction program. CLIP will incorporate these design elements and add: (1) an online/hybrid graduate program of study; (2) a cohort design; and (3) post-residency summer STEM training and action research.

Further detail on the evidence-based nature of the CLIP program design is provided in Quality of Project Design, Section 1. Each element of the program has a corresponding evidence base which is logically presented alongside the program component.

Response to Competitive Preference Priority 2: Promoting Effective Instruction in Classrooms and Schools

To reach the goal of increasing the number of STEM teachers in Central Louisiana, CLIP was specifically designed to support the needs of rural students in rural, high-need LEAs. Seven of the nine partnering LEAs are considered rural districts, and large swathes of the other two LEAs are rural. CLIP aims to build and sustain a pipeline of qualified STEM teachers prepared to teach in rural schools by designing a program of study that will prepare residents serving high-need schools to attain cultural competencies, content knowledge, and related pedagogical skills, to support the learning needs of rural students, many of which are impoverished.

Coursework. In the fall and spring, CLIPRs will enroll in 18 graduate hours of coursework concurrently with the residency year (fall and spring). Concepts pertaining to teaching in schools with high poverty rates will be emphasized throughout all coursework. Bennett (2008) found activities to develop an awareness of socioeconomic differences, develop empathetic, caring rapport with students, and develop culturally responsive teaching strategies to address each child in the classroom, rather than the collective added greatly to preparing culturally responsive teachers. Cuthrell, Stapleton, & Ledford (2008) found key strategies for analyzing school environment, classroom environment and family involvement to better meet the

needs of children of poverty. This research has impacted the instructional and program design of the preparation courses.

One of the graduate-level courses (EDUC 5021) directly addresses Competitive Preference Priority 2. This course will be offered at the beginning of the residency so that CLIPRs are immediately made aware of and prepared to respond to the challenges faced by students in rural schools. In this class, CLIPRs will learn to develop and practice culturally responsive pedagogical strategies as engaged, caring teachers with an academically inviting classroom; encourage student investment in classroom; develop plans for culture of excellence within classroom to foster equity and enhance engagement; encourage active learning, higher order thinking, questioning, collaborative strategies; and establish a philosophy on motivation, rewards and punishment.

The teacher preparation coursework will weave education theories and concepts with classroom practice, and CLIP residents will be expected to continuously reflect on and improve their knowledge and skills. To ensure the blending of theory and practice, all courses in the teacher preparation program will be taught by NSU faculty and supported by trained classroom mentors and university supervisors who live and work in the rural region.

Residency. The corresponding year-long residency will place CLIP Residents (CLIPRs) in a rural high-need school to ensure that they have the field experience to put theory to practice. They will serve under the guidance of a mentor teacher, who will be trained by NSU faculty the summer before the residency to ensure that mentors are prepared to guide new teachers. The CLIPR will perform co-teaching and gain field experience in the mentor teacher's classroom for a full academic school year. Mentors will provide timely feedback on residents' teaching skills and instructional decisions and will relay best practices used to serve a high-need rural

population. Nine cohort meetings during the year will ensure that CLIPRs do not feel isolated in their schools, which can be a challenge for new teachers in rural environments. Efforts will be made to cluster CLIPRs in the same schools, but the lack of availability of qualified STEM teacher mentors may present a challenge.

3. The extent to which the training or professional development services to be provided by the proposed project are of sufficient quality, intensity, and duration to lead to improvements in practice among the recipients of those services.

The CLIP program has three major phases that are aligned with the elements outlined in Absolute Priority 2, and Competitive Preference Priorities 1 and 2. These phases are: **TRAIN, TRANSITION**, and **TEACH**, described above in further detail. The CLIP Train-Transition-Teach sequence staggers the training and clinical residency of four cohorts of 11 CLIPRs (44 total) over the five-year funding period.

The 15-month accelerated graduate program of study, comprising two summers and one full academic year of study, will lead to teacher certification and a Master of Arts in Teaching (MAT) degree. The graduate coursework will be augmented by nine half-day sessions during the academic year and two summer days. CLIPRs will be supported during the academic year of residency, including support from University supervisors and a Mentoring/ Support Facilitator . This will ensure a coherent, sustained program of training in the field. Table 2 provides a more granular look at the program of study, and Appendix J provides more detailed course descriptions.

Table 2: 15-Month CLIP Program of Study

	Coursework*	Link to Residency

Summer 1: Orientation *9 graduate hours*	**EDUC 5021 LEARNING ENVIRONMENT AND CLASSROOM CULTURE.** **RESPONDS TO COMPETITIVE PREFERENCE PRIORITY 2**	- Cohort orientation - Introduction to foundations in curriculum & instruction, literacy, and data analysis with STEM focus
	EDUC 5602 PRINCIPLES OF INSTRUCTIONAL PLANNING IN THE MIDDLE AND SECONDARY CLASSROOM	
	RDG 5010 FOUNDATIONS OF LITERACY INSTRUCTION	
Fall: **Residency 1** *9-12 graduate hours*	**EDUC 5612 APPLICATIONS OF TEACHING IN THE MIDDLE AND SECONDARY CLASSROOM**	Integrated field experiences and learning opportunities tightly aligned to coursework. CLIPRS teach full-time in middle school classrooms in an eligible high-need school supervised by University and school-based personnel.
	EDUC 5031 DATA LITERACY AND ASSESSMENT	
	RDG 5150 READING STRATEGIES FOR TEACHING IN CONTENT SUBJECTS	
	EDUC 5420 MIDDLE SCHOOL INTERNSHIP IN TEACHING I *or* **EDUC 5430 SECONDARY SCHOOL INTERNSHIP IN TEACHING I**	
Spring: **Residency 2**	**EPSY 5490 EDUCATIONAL PSYCHOLOGY APPLIED TO TEACHING**	Integrated field experiences and learning

6 graduate hours	**EDUC 5421 MIDDLE SCHOOL INTERNSHIP IN TEACHING II** *or* **EDUC 5431 SECONDARY SCHOOL INTERNSHIP IN TEACHING II**	opportunities tightly aligned to coursework. CLIPRS teach full-time in middle school classrooms in an eligible high-need school supervised by University and school-based personnel.
Throughout Fall and Spring *36 hours*	Facilitated by NSU CIS. Series of 9 professional development sessions in Computational Thinking using Code.org Middle School Curriculum and Google for Education "Computational Thinking in the Classroom" principles. **RESPONDS TO COMPETITIVE PREFERENCE PRIORITY 1**	Specialized STEM professional development infused with applications of computational thinking
Summer 2: Transition *9 graduate hours*	**EDUC 5840 RESEARCH BASED DECISION-MAKING IN EDUCATION** **SPED 5510 THE STUDY OF INDIVIDUALS WITH DISABILITIES** **ETEC 5610 TECHNOLOGY INTEGRATION FOR P – 12 DIGITAL AGE LEARNING**	Dedicated research and laboratory experience Development of Action Research Project

Summer 2 STEM Training 2 8-hour days	CLIP Residents (CLIPRs) will receive specific content knowledge and pedagogy through inquiry-based STEM preparation with nationally-recognized NSU CIS faculty members. **RESPONDS TO COMPETITIVE PREFERENCE PRIORITY 1**	Specialized STEM professional development infused with applications of computational thinking

* Each course is 3 graduate hours, unless otherwise stated.

Quality of the Management Plan

1. The adequacy of the management plan to achieve the objectives of the proposed project on time and within budget, including clearly defined responsibilities, timelines, and milestones for accomplishing project tasks.

The Central Louisiana Instructional Partnership (CLIP) represents an extensive, collaborative regional partnership comprised of nine regional school districts
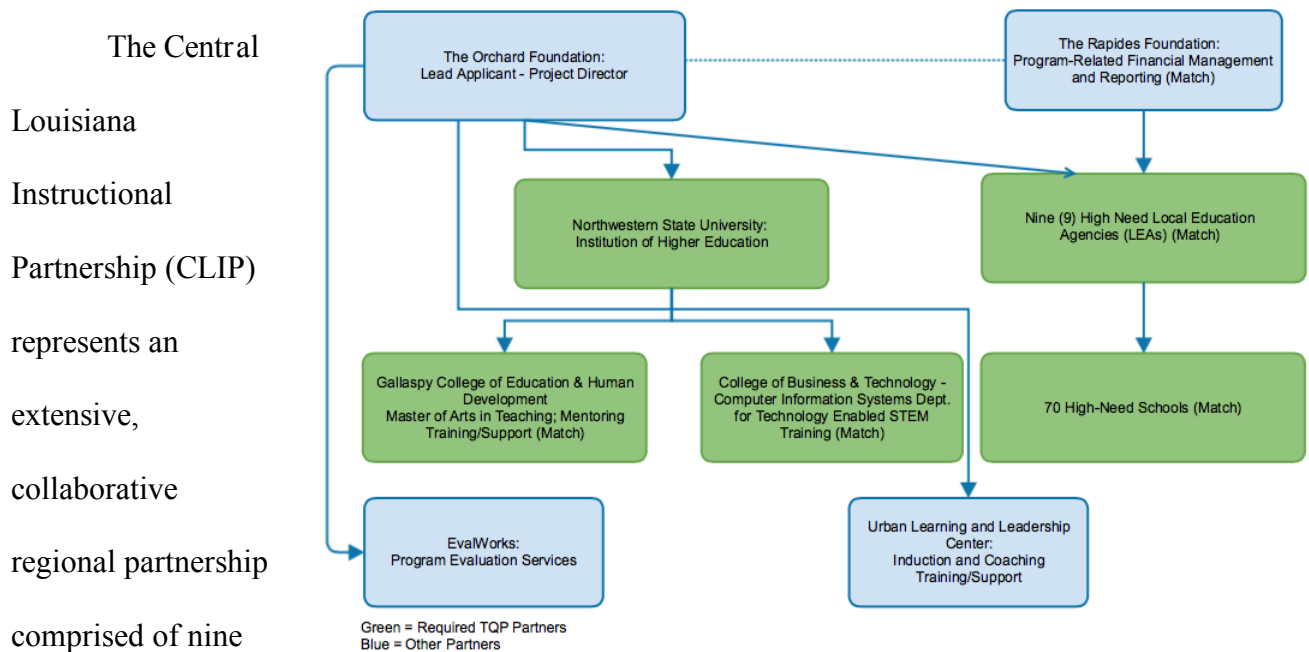
Figure 3: CLIP Org Chart

and 70 high-need schools, Northwestern State University and two of its colleges (Gallaspy College of Education & Human Development, and the College of Business & Technology), and

the lead organization, The Orchard Foundation. See Figure 3. School districts will work closely

with private foundation partner, The Rapides Foundation, to ensure that the project's complex

financial commitments are upheld. Urban Learning and Leadership Center (ULLC) will provide

training for site-based teacher coaches that will support CLIPRs as they transition into new

teaching roles. An independent evaluator, Dr. Amy Germuth of EvalWorks, LLC, will carry out

program evaluation activities.

CLIP has developed a management plan that provides multiple levels of accountability to

ensure that project milestones are achieved on a monthly, quarterly, and annual basis. Summative

data collected throughout the program will inform the continuous improvement and feedback

process, which will ensure that programmatic changes are made in a timely manner (see "Quality

of Project Evaluation" section). Each partner will be held accountable for achieving specific

objectives. School district central office staff, as well as school-based staff, are integrally

involved in these processes. As detailed further in the budget narrative, each district has

committed to dedicating in-kind resources to CLIP for at least 10 personnel (including

superintendents, principals, district coordinators, and mentor and coach teachers), which

translates to about 90 existing district staff working regionally on this project. Table 3 below

outlines the project management plan.

Table 3. Project Goals, Objectives, Activities, Milestones, and Responsibilities

Goal One. Improve student achievement by increasing the number of highly qualified math and science teachers certified to teach in middle school grades in rural Central Louisiana, as measured by their students' scores on state and district criterion- and norm-referenced tests.
Objective 1.a. Annually recruit 11 CLIP Residents (CLIPRs) who meet or exceed NSU's

Master of Arts in Teaching program acceptance criteria (44 CLIPRs over 4 years), who are recent graduates of a four-year accredited institution of higher education or mid-career changers, who complete CLIP within 15 months with a graduate degree and certification, and commit to teaching a minimum of three years within the partner districts after completion of CLIP.

Activity	Timeline	Milestone	Responsibility
Develop recruitment plan, leveraging partnerships with industry groups and regional colleges/universities	- Starts upon award notification - Oct. 2018 - Completed by Dec. 2018 - Update annually	Recruitment plan developed and implemented by January 2019	TOF, NSU GCEHD, NSU COBT and CIS, School Districts
Develop recruitment materials (web page, brochures, etc.); and CLIPR and mentor handbooks	- Starts upon award notification - Oct. 2018; completed by Dec. 2018 - Update annually	Recruitment materials developed and implemented by January 2019	TOF, NSU GCEHD, NSU COBT and CIS, ULLC
Develop supplemental admissions materials and commitment/ obligation forms	- Starts upon award notification - Oct. 2018 - Completed by Dec. 2018 - Update annually	Supplemental admissions and commitment materials available online by January 2019	NSU GCEHD, TOF

Develop meeting and reporting schedule around district/school calendars	- Starts upon award notification - Oct. 2018; completed by Dec. 2018 Update annually	Meeting and communications schedule completed by December 2018	TOF, NSU GCEHD NSU COBT and CIS, School Districts, Host Schools, ULLC, EvalWorks
Recruit and interview 44 potential CLIPRs	Years 1 – 4 Occurs year-round	Eligible applicants accepted into cohort by early spring	TOF, NSU GCEHD, School Districts, Host Schools
Identify and match CLIPR with appropriate mentor and host school	Years 1 – 4 Occurs annually in late spring/early summer by June	CLIPRs annually matched with experienced mentor teacher in science and math classrooms	TOF, School Districts, Host Schools
CLIPRs complete 15-month graduate coursework and residency	Years 1 – 5 Program starts in June and ends in August	CLIPRs receive Master of Arts in Teaching and certification in fall	NSU GCEHD, NSU COBT and CIS, Host Schools
Establish baseline data and conduct evaluation plan	Years 1 – 5 Updated quarterly and annually	Project, GPRA, and HEA measures tracked and reported	EvalWorks

Objective 1.b. Improved aggregate learning outcomes of students taught by CLIP Graduates as evidenced by improved scores in math and science courses on student growth component of the Compass, the state educator support and evaluation system.			
As a condition of acceptance to CLIP, obtain CLIPR commitment to annually provide personal results of Compass report.	Years 1 – 4 - Commitment obtained prior to starting each cohort in spring - Compass reports obtained annually for CLIP Graduates	- Signed commitment forms obtained - Obtain Compass reports annually for CLIP Graduates (CLIPRs are not subject to Compass)	TOF
Evaluation activities continue	Years 1 – 5	As above	As above
Goal Two. Create a teacher mentoring and induction model that retains 90% of the CLIP Graduates during their first three years of service in high-need schools.			
Objective 2.1: Recruit, select and provide professional development to 44 mentors and coaches (11 per cohort) who have the content knowledge and expertise to model best teaching and classroom management practices to 44 CLIPRs/CLIP Graduates as measured by content background and classroom observations.			
Identify and recruit 44 mentor teachers (11 per year)	Years 1 – 4 Occurs annually	11 mentors selected annually no later than June	TOF, NSU GCEHD, School Districts, Host Schools

Mentors trained in coaching and supervision techniques and instruments	Years 1 – 4 Annually each summer and during school year	- Initial mentor training conducted by August - Ongoing professional development	NSU GCEHD
Identify and recruit 44 coach teachers in host schools (11 per year)	Years 2 – 5 Occurs annually in late spring/early summer	11 coaches selected annually by June	ULLC, Host Schools, School Districts
Coaches trained to provide induction support, coordinated with existing district induction efforts; Site-based support for CLIPRs	Years 2 – 5	- Initial coach training conducted by August - Ongoing coach development - Site-based support for CLIPRs occurs multiple times year	ULLC
Evaluation activities	Years 1 – 5	As above	As above
Objective 2.2: Retain 90% of the CLIP Graduates for a minimum of three years by developing a coordinated program of mentoring and coaching that builds host school internal capacity by providing professional development activities for participating school and district staff.			
Convene partners to ensure coordination	Year 1: up to 4 times annually	Convene Partnership Outcomes Team	TOF

and commitment to partnership goals	Years 2 – 5: Twice annually	(description below)	
Provide mentoring to CLIPRs during residency through on-site mentors	Years 1 – 5; ongoing	Sustained, on-site mentoring occurs, documented by mentoring coordinator and mentor teacher	NSU GCEHD, Host Schools
Provide induction support and coaches to CLIP Graduates for two years post-certification	Years 2 – 5; ongoing	Sustained, on-site coaching occurs, documented by ALP and coach teacher	ULLC, Host Schools
Evaluation activities	Years 1 – 5	As above	As above

Performance Feedback and Continuous Improvement

CLIP will employ a continuous assessment and improvement plan with a set of additional activities designed to facilitate ongoing improvement of the program. Management mechanisms, including a Partnership Outcomes Team (see below), regular school visits to CLIPRs and CLIP Graduate sites, a system of quarterly and annual reports, and a communication protocol for more frequent communication between partners, will ensure that progress is being made toward meeting the project goals and objectives, that the partners are held accountable, and that programmatic changes are made as necessary. Formative results from the program evaluation will be used to guide program changes as needed.

Partnership Outcomes Team: A team comprised of staff representing all of the partners will meet up to four times per year in Year 1, and once per semester in Years 2 – 5, to review the process and outcomes of the program and to review the reports from the external evaluator, EvalWorks. The committee will focus on reviewing the progress toward the identified project milestones, with a focus on assessing the key outcomes, identifying any problems or issues with implementation, and exploring solutions to make any needed adjustments.

School Visits: University supervisors and the M/S Facilitator will visit host schools multiple times during the residency year. This support will facilitate alignment with graduate coursework and support teaching effectiveness for the CLIPRs, and will provide support to CLIP mentors.

Quarterly and Annual Reports: Project budget information, as well as assessment reports and recommendations from EvalWorks, will be available to the partnership members on a quarterly basis. These will be reviewed by the Partnership Outcomes Team. An annual evaluation report will be developed by EvalWorks to assess annual outcomes. These reports will contain data on progress towards formative and summative objectives, recommendations, and conclusions.

Bi-Monthly Communications: TOF's role as the project lead will be to ensure close coordination between the school districts, host schools, NSU, and ULLC to allow for continuous assessment of project activities. TOF will provide a bi-monthly dashboard report derived from the project timeline and milestones to ensure accountability for progress.

2. The potential for the incorporation of project purposes, activities, or benefits into the ongoing program of the agency or organization at the end of Federal funding.

CLIP has the potential to provide systemic improvement in the collaborative relationship between schools and the university-based teacher preparation program, and among higher education faculty in different disciplines. Historically disconnected, the school-focused, needs-

based design of CLIP brings together schools and higher education with a common goal that is realized through a continuum of teacher development preparation programs, professional development, and induction. The end result will be that many of the project structures will be absorbed into the operations and value systems of the colleges, high-need LEAs, and high-need schools. The support of the school superintendents also translates into high potential for the continued existence of the elements of CLIP.

CLIP will be one of the first hybrid online residency-based graduate program to engage pre-service teachers in a stipended full year of onsite fieldwork and co-teaching in Louisiana. Expanding the current online Master of Arts in Teaching (MAT) teacher preparation program at the Gallaspy College of Education at Northwestern State University (NSU GCEHD) will result in a school-focused, needs-based teacher preparation program for an entire region. Augmenting the online format with a rigorous classroom residency and on-site support provided by trained mentor teachers from the high-need rural schools creates a graduate program that better meets the needs of rural residents to obtain professional certification and a master's degree. Since going online in 2011, 464 teachers have been alternatively certified at NSU. While this is not the first program to use a cohort model, CLIP facilitates collaboration through the online tools for CLIPRs who are placed across the region in as many as 11 different host schools per year. We have scheduled more than 102 hours of face-to-face networking/professional development time so that the cohort of new teachers can collaborate and support each other. Education and CIS faculty will jointly meet face-to-face with all CLIPRs and their mentors once per month, and again in person in the summer for a two-day wrap up for STEM technology training.

Furthermore, CLIP will facilitate collaboration between local school personnel and NSU GCEHD faculty involved in the residency component of the program, the integration of college

faculty into professional development and mentoring support, and alignment of the content of the teacher preparation program with Louisiana State Standards for Education, and with Compass, the state's teacher evaluation system. The mentoring program designed by NSU will provide a framework for the following two years of induction supportThe interdisciplinary ties between the NSU GCEHD and the COBT will be strengthened as they jointly recruit STEM undergraduates into teaching careers. The two schools will also collaborate to infuse rigorous math and science content into the general MAT program of study.

Together, the collaboration of the schools, districts, and the two departments in the institution of higher educationwill build capacity for long-lasting improvement in teacher recruitment, retention, and competency practices. CLIP provides a model of school-focused, needs-based preparation program development that develops knowledge and skills along a continuum from preparation through induction that is responsive, rigorous, and consistent with LEA priorities and school needs. Teachers will be recruited who are from the rural areas in which they will teach, and, as research shows, they will be more likely to stay in teaching.

In summary, over five years, the program efforts will be documented, sustained, and integrated into other programs leading to system-wide improvement. Program components to be replicated include: rigorous admissions of students from underrepresented groups, cohort support structures (online and in person) and monitored progress through the program of study, online graduate program of study, development of capacity at host school sites, co-teaching with school personnel, extended clinical experiences, integration of interdisciplinary science and math content into a graduate educational program of study, integration with LEA priorities, and assessment process for pre-service teachers aligned with LEA hiring objectives.

3. The adequacy of support from the applicant organization or the lead applicant organization.

The successful execution of CLIP will rely on the training and experience of the individuals selected to lead and carry out the project activities. All individuals are experts within their respective fields, and possess the requisite knowledge and skills to carry out their scopes of work. Table 4 summarizes the experience, qualifications, roles, responsibilities, and proposed time and effort of these senior personnel. Curricula vitae are included in Appendix H.

It should be noted that the nine LEAs, the two colleges at Northwestern, and The Rapides Foundation are contributing a significant amount of matched funding - $8.8 million – to ensure successful completion of this project. This includes the below personnel time, but also includes a reduction in Northwestern's tuition from $475 to $350 per hour for the 36 graduate hours. This is a significant amount of funds that Northwestern will forgo during a time of a flat state budget for higher education in the upcoming fiscal year.

Table 4. Senior Project Personnel: Experience, Qualifications, Project Role, Responsibilities, and Percent Effort	% Effort
Dr. Marjorie Taylor, CLIP Project Director and Principal Investigator **Experience:** Taylor is the Executive Director of The Orchard Foundation in Alexandria, Louisiana. She has more than 25 years of experience in the education field, with the last 20 spent in adult and continuing education and workforce development. She currently manages $2 million in education leadership and professional development grants from the Louisiana Department of Education, and recently concluded management of an annual subcontract for $250,000 from Louisiana State University for a TQP grant that concluded in	20% in Yr. 1-2 (R) 10% in Yr. 3 – 4 (R) 30% in Yr. 3 – 4 (R)

2015. She holds a B.S. in Mathematics, M. Ed. in Mathematics, and a Doctor of Education in Adult Education . **CLIP Role:** Liaison with district superintendents. Oversee recruitment activities and CLIP field operations. Ensure quality of services for CLIPRs and CLIP Graduates. Oversee fiscal and accountability structures. Submit project reports. Chair the Partnership Outcomes Team.	
Dr. Kimberly McAlister, NSU Project Director, Co-PI **Experience:** McAlister is the Dean of the Gallaspy College of Education and Human Development. She most recently served as the head of the Department of Teaching, Leadership, and Counseling within the College of Education at NSU, a position she held for 6 years. She has nearly 30 years of teaching experience, 20 years in higher education and 9 years as a math teacher. **CLIP Role:** Work with GCEHD faculty to ensure implementation of CLIP enhancements to the Master of Arts in Teaching coursework. Ensure resulting program meets state certification requirements. Work with COBT to link CIS training with MAT. Oversee implementation of the CLIP Mentoring Program. Oversee school-based mentor work with CLIPRs.	5% in Yr. 1-5 (M)
Dr. Dustin Hebert, Project Faculty **Experience:** Hebert serves as the interim head of the Department of Teaching, Leadership, and Counseling at NSU. Dr. Hebert is responsible for all teacher certification programs offered at Northwestern as well as serving as Northwestern's accreditation director for Council for the Accreditation of Educator Preparation	5% in Yr. 1-5 (Match)

CLIP Role: Work with GCEHD faculty to ensure implementation of CLIP enhancements to the Master of Arts in Teaching coursework.	
Dr. Amy Germuth, CLIP Evaluation Lead **Experience:** Germuth is president of EvalWorks, LLC, and will serve as the lead external evaluator for this project. Her qualifications and expertise are detailed in "Quality of Project Evaluation" section. **CLIP Role:** Independent evaluation consultant.	Contract in Yr. 1 – 5 (R)
Dr. Begona Perez-Mira, Dr. Sarah Wright, Mr. Curtis Penrod: Mr. Penrod is the CIS Coordinator in the School of Business. Drs. Perez-Mira and Wright are the lead coordinators for the NSU Demons Coding Club, NSU Demons Tech Clinic, as well as several partnerships with local schools where technology lessons are being held during the school year. **CLIP Role/**: Provide summer training for four cohorts of CLIPRs and their mentors. STEM student recruitment.	Contract in Yr. 1 – 5 (R)
Joe Rosier, CLIP Community Initiatives Liaison **Experience:** Rosier is President and CEO of The Rapides Foundation. His work over the past 21 years has involved advancing systemic improvements in the region's healthcare system in areas of acute care, primary care and mental health. Mr. Rosier serves on the boards of Grantmakers in Health, the Southeast Council on Foundations, and Governing Board of Rapides Healthcare System, and has served as an advisor for the Southern Rural Access Program of the Robert Wood Johnson Foundation. He has a B.B.A in Accounting and is a Chartered Financial Analyst.	5% in Yr. 1-5 (M)

CLIP Role: Provide management support to The Orchard Foundation's staff.	
Kathleen Nolen, CLIP Financial Management **Experience:** Nolen is the Director of Administration of The Rapides Foundation. She monitors a multi-million-dollar portfolio of education grants. She holds a B.S. in Biomedical Engineering and a MBA in Finance. **CLIP Role:** Fiscal management. Ensure that all matched funds are properly accounted for. Oversee and process school district CLIP-related expenses.	10% in Yr. 1- 5 (M)
Ashley Stewart, MPH, CLIP Subcontractor Oversight **Experience:** Mrs. Stewart is the Director of Programs at The Rapides Foundation, and is responsible for developing, managing, administering, and assessing the Foundation's grantmaking functions Stewart holds an MPH from the University of Alabama in Birmingham. **CLIP Role:** Provide oversight of accounting for CLIP-related stipends, travel reimbursements for CLIPRs, coaches, and mentors, oversight and review of subcontractor invoices, and accounting for matched funding.	5% in Yr. 1-5 (M)
Dr. Harvey Perkins, CLIP Induction Lead **Experience:** Perkins is the president of Urban Learning & Leadership Center, and has spent 32 years in public education as a teacher, assistant principal, principal, and assistant superintendent for instruction. He has led school-based and district wide reform in both suburban and urban school districtsHe has taught educational administration courses at The George Washington University for over 15 years, specializing in the areas of curriculum development and leadership training.	Contract in Yr. 1 – 5 (R)

CLIP Role: Provide professional development and ongoing support to coaches to implement induction services for CLIP Graduates.	
R = Federal request	*M = Applicant Match*

The below summarizes the roles, responsibilities, and proposed time and effort of other key program personnel across the CLIP partners:

- A ***Mentoring/Support Facilitator affiliated with NSU*** will develop and implement the CLIP Mentoring Program. S/he will train the mentors, coordinate with faculty supervisors, and oversee school-based mentor work with CLIPRs. *(TQP funds requested)*

- ***Four faculty instructors at NSU*** will teach MAT coursework and provide enhanced supervision of CLIPRs in accordance with the CLIP program design. *(Matched funding)*

- ***Mentor teachers at the host schools (during residency)*** will be selected and trained to work 1:1 with a CLIPR. They will co-teach with the CLIPRs, perform observations, and ensure rotations and connections to other disciplines. *(Stipends requested from TQP; matched funds)*

- ***Coach teachers at the host schools (post-residency)*** will be selected and trained to work one-on-one with a CLIP Graduate. These experienced teachers will serve as coaches for induction purposes. *(Stipends requested from TQP for supplemental workload; matched funds)*

- A ***Field Coordinator at TOF*** will coordinate all field operations associated with CLIP. The position will lead all recruitment activities, and act as the primary contact with CLIPRs and CLIP Grads. *(TQP funds requested)*

- A ***Project Coordinator at TOF*** will assist with all program communications and will maintain CLIP records and database. *(Partial TQP funds requested)*

- ***School district staff (District Coordinators) across the LEAs (10; roughly one per LEA)*** will facilitate communications between CLIP leadership and the school district, and will collect

school and district-level data for the evaluator and Project Director. *(Matched funding)*

Quality of the Project Evaluation

1. The extent to which the methods of evaluation provide valid and reliable performance data on relevant outcomes.

The program evaluation plan provides for a comprehensive formative (process) and summative (outcome) evaluation. Dr. Amy A. Germuth, founder and president of EvalWorks, LLC will serve as the lead external evaluator for this project. Her CV is in Appendix H. She has a B.S. in Mathematics, an M.S. in Education Administration, a Ph.D. in Education Psychology, Measurement, and Evaluation, and earned a Certificate in Survey in 2008. Dr. Germuth has been an evaluator for over 15 years, after serving as both a high school mathematics teacher and elementary and middle school administrator. She has conducted multiple evaluations at the national/federal (US Education Department, Office of Special Education Programs), state (North Carolina Department of Public Instruction, New York State Department of Education), and local levels (Chicago Public Schools, Wake County Public Schools, Cumberland County Schools). These include multiple STEM-based NSF projects (ATE, DRK12, ISE, GK12, MSP, Noyce Scholars, and ITEST evaluations), three NIH SEPA projects, and multiple USED projects (Transitions to Teaching, Teacher Incentive Fund, MSP, etc.). She is currently evaluating North Carolina A&T's Teacher Quality Partnership (TQP) grant supporting the Rural STEM Residency program.

1a. Objectives

Given the CLIP Goals and Objectives outlined in Section 1a, there are two primary objectives for this evaluation:

1. Formative Objectives: Provide formative information on the degree to which 44 participants

are recruited and trained to teach middle school science and math, including a) how they view

the quality of the online courses they take at Northwestern State University, b) how they view

the quality of the training they have received from the Department of Computer Information

Systems, 3) the degree to which they believe these efforts have allowed them to successfully

support their students' learning, and 4) the quality of their teaching. These data will be used by

PIs to make appropriate changes to the courses and training to ensure that participants' can

successfully learn the required material and be well prepared to be teachers of record.

2. Summative Objectives: Assess the extent to which student math and science achievement

increases and the degree to which 90% of CLIP Graduates are retained during their first three

years of service in high-need schools. These data are critical measures of the program's success.

1b. Evaluation Questions and Crosswalk Between CLIP Goals and Objectives, GPRA

Measures, and HEA-Required Measures

The Evaluation Crosswalk below provides a synopsis of the evaluation plan, including

evaluation questions (formative or summative), data sources, methods, and the timeline for data

collection. All questions are linked to the project objectives, and GPRA and HEA performance

measures. The CLIP logic model (Appendix G) links to evaluation plan objectives.

Table 5: Evaluation Crosswalk			
Formative Evaluation Questions	**CLIP Project Obj./GPRA/HEA**	**Data Source (Method)**	**Timeline**
1. To what degree are 11 CLIP Residents (CLIPRs) recruited annually (44 over 4 years) who meet or exceed NSU's MAT program	CLIP: 1.1, 2.1 GPRA: 1-yr. persistence; and 1- and 3 yr. retention	- Project Director (Interview) - Project Records (Review)	Annually – all years

acceptance criteria? - Recruitment methods? - Demographics? - Do Praxis Scores exceed minimum admission standards?	HEA: New teacher achievement; 3-yr, retention; improved pass rates/scaled scores		
2. To what degree are 11 mentors and induction coaches recruited annually (44 over 4 years) who have the content knowledge and expertise to model best teaching and classroom management practices to CLIPRs and CLIP Graduates? - Recruitment methods? - Demographics? - Teaching backgrounds? - Quality of training provided?	CLIP: 2.1, 2.2 GPRA: 1-yr. persistence; and 1- and 3 yr. retention HEA: 3-yr. retention	- Project Director (Interview) - Project Records (Review) - Training (Observations) - Mentors/ Induction Coaches (Surveys)	Annually – all years
3. How do CLIPRs view the quality of the online MAT courses and the training from the Department of Computer Information Systems? - To what degree do they believe these efforts are enough to allow them to successfully support their	CLIP: 1.1 GPRA: Certification/ licensure %; student learning HEA: New teacher achievement; % of teachers trained to	- CLIPRs (Survey) - CLIPRs (Focus Groups /Interviews) - Project Records (Review)	Semi-annually – all years

students' learning? - % of CLIPRs trained to integrate technology into the classroom? - % of CLIPRs trained to use data to improve teaching and learning? - Additional support needed to improve content and pedagogical knowledge?	integrate technology into curriculum & instruction; use technology to collect/analyze data to improve teaching and learning	- Training (Observations)	
4. How do CLIPRs and CLIP Graduates view the quality of the mentoring (CLIPRs) and induction coaching (CLIP Graduates) that they receive? - Additional support needed to improve content and pedagogical knowledge?	CLIP: 2.1, 2.2 GPRA: 1-yr. persistence; and 1- and 3 yr. retention HEA: 3-yr. retention	- CLIPRs/CLIP Graduates (Survey) - CLIPRs/CLIP Graduates (Focus Groups /Interviews)	Semi-annually – all years
5. To what degree do CLIPRs' and CLIP Graduates' teaching improve over time? - Strongest areas? - Areas needing most improvement?	CLIP 1.3 GPRA: Student learning HEA: New teacher achievement	Teacher Observations Pre and Post Induction; Principal observations of teaching	3x per year – evaluator and principals – Years 2 - 5

6. To what degree do mentors/ coaches report that they have the support of their administration and autonomy necessary to best enable CLIPRs/ CLIP Graduates to be successful teachers? - Average time spent mentoring or providing induction coaching? - Areas in which CLIPRs and CLIP Graduates needing the most support? - Support needed by mentors and induction coaches to best support CLIPRs/CLIP Graduates?	CLIP: 2.1, 2.2 1-yr. persistence; and 1– and 3 yr. retention HEA: New teacher achievement	- Mentors/ Induction Coaches (Survey) - Mentors/ Induction Coaches (Focus Groups /Interviews)	Semi-annually – Years 2 - 5
7. What are drivers of or barriers to project activities unfolding as planned? - What changes have been made? - What changes are planned?	All	Project Director (Interview)	Semi-annually – all years
Summative Evaluation Questions	**CLIP Project Obj./GPRA/HEA**	**Data Source (Method)**	**Timeline**
1. To what degree do CLIPRs graduate within 15 months with a degree and teaching certification?	CLIP: 1.1 GPRA: Certification/ licensure %; 1-yr.	- Project Director (Interview) - Project	Annually – all years

- What are drivers of and barriers to successful on-time graduation?	persistence HEA: New teacher achievement	Records - CLIPRs (Survey/ Focus Groups /Interviews)	
2. To what degree are CLIP Graduates retained in their high-need LEA for at least 3 years? - What are drivers of and barriers to CLIP Graduates' successful retention in the high-need LEA?	CLIP: 1.1, 2.2 GPRA: 1-yr. persistence; 1- and 3-yr. retention HEA: 3-yr. retention; % teachers hired by LEA; % teachers in high-need schools	- Project Director (Interview) - Project Records (Review) - CLIP Graduates (Survey) - CLIP Graduates (Focus Groups /Interviews)	Annually – Years 2 - 5
3. To what degree do students taught by CLIP Graduates demonstrate increased student achievement as evidenced by improved scores in math and science courses on the student growth component of the Compass, Louisiana's teacher evaluation system and student achievement data? *How do growth*	CLIP: 1.2, 1.3 GPRA: Student learning HEA: % teachers from underrepresented groups, teaching STEM subject areas, in high-need schools	Compass scores and student achievement scores – math and science (CLIP Graduates and comparison group)	Annually – Years 2- 5

component scores of students taught by CLIP graduates compare to scores of other first year teachers teaching in the same subject areas and similar students?			
4. To what degree is this mentoring and induction model sustainable and replicable?	CLIP: 2.2 GPRA: 1- and 3-yr. retention	- Project Director (Interview) - Project Records	Last year of grant
Acronyms used: Govt. Performance and Results Act (GPRA); Higher Education Act (HEA); Performance Measure (PM); The PM and HEA names as in the NIA were shortened.			

2. The extent to which the methods of evaluation are thorough, feasible, and appropriate to the goals, objectives, and outcomes of the proposed project.

As is shown above, both the formative and summative evaluation will utilize a mixed-methods approach. Student achievement and CLIP Graduate Compass data will also be analyzed using a quasi-experimental design, explained below in greater detail.

2a. Instruments

Details of the instruments to be used and the type of data to be collected are noted below.

CLIPR/CLIP Graduate Survey: This web survey will be completed annually by all CLIPRs and CLIP Graduates to capture formative data. It will elicit their opinion on the quality of the training/classes they have received/taken, as well as the induction coaching and mentoring provided to them. They will be asked what supports they need to best increase their abilities to graduate on time and increase student achievement. These data will be shared with PIs so that activities can be strengthened/changed where needed to better support CLIPRS learning.

Mentor/Induction Coach Training Survey: This web survey will elicit feedback about the training mentors and coaches they have received and what additional support they need to effectively mentor/coach CLIPRs and CLIP Graduates.

Mentor/Induction Coach Survey: This web survey will elicit coach and mentor opinions about the quality of the mentoring and induction coaching they provide, the areas in which CLIPRs and CLIP Graduates need the most support, the degree to which they feel supported to meet CLIPRs' and CLIP Graduates' needs, and what additional support would help them be a successful mentor or induction coach. Critically, by identifying areas where CLIPRS and CLIP Graduates need more support the PIs can make appropriate changes to better address these areas.

Teacher Observation Protocol – This observation protocol will be based on Louisiana's Teacher Evaluation Rubric (Compass), and the Compass-aligned math Observation and Feedback Guide. These address such areas as: **Planning Instruction:** Instructional Plans, Student Work, Assessment; **Implementing Instruction:** Standards and Objectives, Motivating Students, Presenting Instructional Content, Lesson Structure and Pacing, Questioning, Thinking, Problem Solving; and **Learning Environment:** Managing Student Behavior, Expectations, Environment, Respectful Culture. Observations will be conducted at multiple points during teachers' inductions, with principals' observations using the Compass state teacher evaluation rubric supplementing those of the independent evaluator. Findings will be shared with PIs to help them determine areas in which CLIPRs need additional support.

Project Records that will be reviewed include documentation of the number of CLIPRs and mentors/coaches recruited, their demographics (e.g., teaching experience and qualifications, etc.) as well as CLIPRs' progress towards graduation and retention in their LEA.

CLIPR/CLIP Graduate Focus Groups: These will be conducted with all CLIPRs and CLIP

Graduates annually to further understand their experiences and perceptions noted above.

Mentor/Induction Coach Focus Groups: These will be conducted with all mentors/coaches annually to further understand their experiences and perceptions noted above.

Project Director Interviews: All data above will be supplemented by interviews with the Project Director who can provide more contexts for findings as well as discuss drivers of and barriers to implementation of project activities and project success.

Summative Data that will be collected and analyzed include CLIP Graduates' Compass (teacher evaluation) scores and student achievement scores in math and science.

2b. Analyses

Analyses will include qualitative analysis of emergent themes (focus groups, interviews, qualitative survey data, teacher observations) and statistical analysis of differences using t-tests and F-tests as well as calculation of measures of central tendency (means, sd, etc.) and frequencies/percents (quantitative survey data). Compass and student achievement data will be analyzed against the same data for a comparison group of teachers using a quasi-experimental design, the non-equivalent control group design, which looks as follows: <u>O   X   O</u>

<div align="right">O   O</div>

For this design, **propensity score matching** will be used to identify the most similar teachers as those who are CLIPRs in the same school (if possible) or similar school in the same district. Using this design, we will investigate how the achievement of students of CLIPRs compares to the achievement of students of similarly matched teachers.

The methods of evaluation above will provide performance feedback and permit periodic assessment of progress toward achieving CLIP's intended outcomes. Access to information gathered throughout the implementation process will help CLIP management make decisions based on the data. As noted above, the formative component of the evaluation will be used to

establish baselines and to identify, modify, and/or create assessments to be used to track

implementation toward achieving intended CLIP outcomes.

The evaluator will provide quarterly updates and will provide timely insights into any

situations that could adversely impact the continual progress toward reaching the goals obstacles.

The evaluator will work with the Project Director to schedule phone calls on a monthly or bi-

weekly basis and will conduct site visits to better understand the project and collect data. In this

way, programmatic changes can be identified and made as soon as possible. An annual report

will be produced that meets TQP requirements and provides a summative account of outcomes.