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Abstract

This grant proposal, Northern Nevada English Learning Initiative (NNELI) is made by the Board of Regents, Nevada System of Higher Education, on behalf of the University of Nevada, Reno (Board of Regents, NSHE, obo University of Nevada, Reno, hereafter referred to as UNR or IHE), in consortium with Washoe County School District (hereafter referred to as WCSD or LEA). One purpose of NNELI is to provide specific English as a Second Language (ESL) training for undergraduates to procure an ESL Endorsement as part of their undergraduate teacher licensure program at the UNR. Additionally, this grant will provide both in-service and pre-service teachers with strategies of working with English Learners/Learning (EL) within Science, Technology, Engineering, and Mathematics (STEM) content-based disciplines by providing professional development through sheltered instruction (SI) methods training, based in inquiry instruction and the core curriculum standards at both the National and State level and training in STEM academic language development through a systematic functional linguistics approach. Through participation in these training activities, instruction in both pre-service and in-service classrooms will improve instruction for ELs. Paraprofessionals will be trained using multi-modal digital ESL/STEM tools that will assist them in meeting state and local qualifications and to better improve instruction of ELs. NNELI will target Competitive Preference Priority 2, allowing for increased data-based decision making; Competitive Preference Priority 3, promoting STEM education and Invitational Priority 2, improving the preparation of all teachers to better serve ELs.

The NNELI program proposes to collect, analyze and use high quality participant data to enable increased data-based decision making regarding instruction and policy. Student outcome data will also be obtained towards these same ends. All pre-service program participants will engage in supervised practica and student teaching in schools with high EL populations, during which high-quality data will be gathered using a modified Science Teacher Efficacy Belief Inventory (STEBI) instrument, the ELTEBI-B. Data regarding outcomes for in-service teachers will be obtained via the ELTEBI-A modified instrument. The STEBI is an instrument which measures pre-service teachers’ confidence in their ability to successfully teach science in the classroom. In its modified form, it measures teacher efficacy and outcome expectancy in the EL classroom. The collected data from both the ELTEBI-B and ELTEBI-A instruments will be analyzed using a quantitative pre/post ANOVA analysis. Qualitative portfolio data will be analyzed as Case Studies using a constant comparative method to look for patterns of student learning and to evaluate program effectiveness along with pre/post survey and focus group data. Student data will be collected at both the elementary and secondary levels to assess improvement in language and content skills of students in participant classrooms. This student data will demonstrate the effectiveness of the strategies taught to teachers in the NNELI program. Together, participant and student outcome data will be used to affect instructional practice at the IHE and the LEA. Student outcome data related to the principles and strategies promoted in the IHE will provide guidance for instructional practices in the LEA and IHE. Both participant and student data may, therefore, affect policy.

The NNELI program proposes to increase opportunities for preparation and professional development for teachers and paraprofessionals in STEM education. It proposes to improve the teacher preparation program at the IHE by assisting IHE faculty to meet high professional standards in training pre-service teachers to work with ELs. The program proposes to improve the development of teacher education curricula, aligned with Nevada State content and EL
proficiency standards, to better prepare all teacher candidates at the IHE to provide S.I. that accelerates language, literacy and content knowledge acquisition. Finally, programming for paraprofessionals will be via multi-modal digital EL/STEM tools to assist paraprofessionals in meeting state and local qualifications and to better improve instruction of ELs.

The NNELI program proposes to improve the ability of all teachers to better serve ELs by creating teacher education curricula at the IHE that are aligned with the core curriculum of the LEA. Nevada has adopted the new Common Core Standards in Mathematics and Language Arts and will adopt the Science standards when they come out this summer. Additional standards used in the WCSD related to content and EL proficiency will be used as the basis of design for all teacher education materials used in the IHE faculty members’ classrooms. By aligning teacher education materials in the IHE with the content and proficiency standards of the LEA, NNELI will target the acceleration of EL acquisition of language, literacy and content knowledge.

The NNELI grant is driven by 5 goals aimed at increasing the number of pre-service teachers with a Nevada state ESL endorsement and STEM with S.I. training. Participants will enter into a two phase program. In the first phase, participants will complete the required 12 credits of coursework for Nevada state endorsement in ESL. In the second phase, participants will complete a specialized program in STEM and academic literacy which will include coursework in STEM S.I. in inquiry as well as coursework in STEM academic language development through a systemic functional linguistics approach. Products of these STEM related courses will include online teaching units, teaching resources and strategies for working with ELs in STEM related content. Coursework will additionally address strategies for the classroom engagement of paraprofessionals. Multi-modal digital EL/STEM tools will be designed to further target paraprofessional training and to better improve instruction of ELs.

Planning, recruitment, hiring, materials acquisition, systems and procedure design and setting preparation will take place over the course of one semester in the first year.

In year one, the proposed project will target GPRA measures as follows: 36 pre-service teachers are expected to be served, 0 pre-service teachers are expected to complete the program of study, and 0 pre-service teachers are expected to complete the program of study and be certified in EL instruction. 0 paraprofessionals will be served in year one. 16 in-service teachers are expected to be served, 0 in-service teachers are expected to complete the program of study, 0 in-service teachers are expected to complete the program of study and be certified in EL instruction, and 16 in-service teachers are expected to serve EL students.

In year two, the proposed project will target GPRA measures as follows: 92 pre-service teachers are expected to be served (36 returning, 56 new), 16 pre-service teachers are expected to complete the program of study, 16 are expected to be placed in instructional settings, and 16 pre-service teachers are expected to complete the program of study and be certified in EL instruction. 19 paraprofessionals will be served in year two and 19 paraprofessionals are expected to meet state or local qualifications. 32 in-service teachers are expected to be served (16 returning, 16 new), 16 in-service teachers are expected to complete the program of study, 16 in-service teachers are expected to complete the program of study and be certified in EL instruction, and 32 in-service teachers (16 returning, 16 new) are expected to serve EL students and engage paraprofessionals in better support roles.

In year three, the proposed project will target GPRA measures as follows: 92 pre-service teachers are expected to be served (60 returning, 32 new), 36 pre-service teachers are expected to complete the program of study, 36 pre-service teachers are expected to be placed in instructional
settings, and 36 pre-service teachers are expected to complete the program of study and be certified in EL instruction. 19 paraprofessionals are expected to be served and 19 paraprofessionals are expected to meet state or local qualifications. 32 in-service teachers are expected to be served (16 returning, 16 new), 16 in-service teachers are expected to complete the program of study, 16 in-service teachers are expected to complete the program of study and be certified in EL instruction, and 48 (32 returning, 16 new) in-service teachers are expected to serve EL students.

In year four, the proposed project will target GPRA measures as follows: 92 pre-service teachers are expected to be served (20 returning, 72 new), 36 pre-service teachers are expected to complete the program of study, 36 are expected to be placed in instructional settings, and 36 pre-service teachers are expected to complete the program of study and be certified in EL instruction. 19 paraprofessionals are expected to be served and 19 paraprofessionals are expected to meet state or local qualifications. 32 in-service teachers are expected to be served (16 returning, 16 new), 16 in-service teachers are expected to complete the program of study, 16 in-service teachers are expected to complete the program of study and be certified in EL instruction, and 64 (48 returning, 16 new) in-service teachers are expected to serve EL students.

In year five, the proposed project will target GPRA measures as follows: 56 pre-service teachers are expected to be served (56 returning, 0 new), 56 pre-service teachers are expected to complete the program of study, 0 are expected to be placed in instructional settings, and 0 pre-service teachers are expected to complete the program of study and be certified in EL instruction. 19 paraprofessionals are expected to be served and 19 paraprofessionals are expected to meet state or local qualifications. 16 in-service teachers (16 returning, 0 new) are expected to be served, 16 in-service teachers are expected to complete the program of study, 16 in-service teachers are expected to complete the program of study and be certified in EL instruction, and 64 in-service teachers are expected to serve EL students (64 returning, 0 new.)

In conclusion, NNELI, if funded, will provide the funds to begin a new undergraduate program at UNR to endorse pre-service teachers in ESL. More broadly, it will contribute positively to the preparation of in-service and pre-service teachers, as well as paraprofessionals in the LEA to better meet the needs of a growing EL population in northern Nevada through STEM and EL training.

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Northern Nevada English Learning Initiative (NNELI)

According to the recent 2010 U.S. Census, the State of Nevada had the largest percentage of growth of any other state. With this increase in population come the associated challenges of a burgeoning population, especially as related to public education. The Hispanic population alone in Nevada grew at 81.9% over the past ten years and the schools are struggling to serve English Learners (EL) that are both newcomers to our state and those who have been here for generations (U.S. Census, 2010). In order to better serve all students, The University of Nevada, Reno (UNR) is partnering with the Washoe County School District (WCSD), the second largest county in Nevada with a population of 421,407 people and over 17% of the students in the school district receiving ESL services, to form the Northern Nevada English Learning Initiative (NNELI) where pre-service and in-service teachers will have better preparation from both a statewide ESL endorsement and training in sheltered instruction (SI) strategies and academic language learning in STEM related content. Additionally, paraprofessionals within WCSD will have opportunities for further training to become more effective within the classrooms in which they work.

Needs Statement

EL students in Washoe County School District.

The IHE, UNR and the LEA, WCSD will collaborate to target the educational needs and achievement of the rapidly-growing EL population in Washoe County, NV. The 2011 NV Education Data Book, published by the State of Nevada, cites data from the U.S. Department of Education, National Clearinghouse for English Language Acquisition, indicating that in the period from 1998 to 2008, the number of enrolled students classified as ELs in Nevada increased over 200 percent. For Academic Year 2009-10, 11,089 (WCSD, 2009) of the 64,844 (Nevada
Education Data Book, 2011), or 17%, of the students enrolled in WCSD were ELs. Additionally, WCSD data shows that 46.2% of students registered in 2009 were minorities; 33% of whom were of Hispanic descent. According to the US Census data (2000) 19.9% of persons over age five in Washoe County speak a language other than English at home. And figures from the US Census data (2010) indicate that 27.3% of persons over age five speak a language other than English at home, demonstrating the continued growth rate of ELs in Northern Nevada, and the need to serve this expanding population through teacher training at the pre-service level as well as through an added endorsement after graduation and licensure for teachers.

Professional development in WCSD.

Professional development and endorsement of in-service teachers has been accomplished in two ways in WCSD: (a) in 2002, the College of Education (COE) at UNR received a grant to fund over 250 in-service teachers who wanted earn a Nevada state endorsement in teaching English as a Second Language (ESL); (b) upon the completion of the grant, the Office of English as a Second Language and World Language (OESL/WL) in WCSD took over the responsibility of providing endorsement in teaching ESL to in-service teachers. Using a combination of district and externally-based sources, the OESL/WL in WCSD continues to endorse approximately 25 classroom teachers each year. What has not emerged from the efforts of either the COE or WCSD is a systematic method and means to support the pre-service teachers in their efforts to earn a Nevada state endorsement in teaching ESL. NNELI proposes to do that.

Additional professional development within Northern Nevada and WCSD has been focused upon Language Arts and Mathematics as a result of the No Child Left Behind (NCLB) Act of 2001. In the past 18 months WCSD implemented numerous changes to better serve students. Among these changes were five elementary level and two middle level schools that are
in low socio-economic status (SES) settings with high EL populations that are now designated as Science Technology Engineering and Mathematics (STEM) focused schools. This change was made so that students could learn from doing rather than just memorizing facts. With a growing research base on SI for EL in STEM (Tibbs & Crowther, 2011) and to better serve schools with multiple years of failing to make Adequate Yearly Progress (AYP), these schools, and many of the other 64 elementary schools, 16 middle schools and 12 high schools, are realizing the need for professional development that blends both STEM related content as well as EL strategies. WCSD currently has no venue for obtaining this professional development, but in partnership with UNR through NNELI, will develop SI training in STEM content utilizing inquiry instruction to serve this growing need.

Finally, WCSD currently employs 774 paraprofessionals of whom 441 are highly qualified (Para-Praxis). There are 262 Title I aides who must pass the Para-Praxis or have two years of college in order to serve in this position. Of the aides, 76 are designated as EL paraprofessionals who work exclusively in ESL classrooms/settings. WCSD has minimal opportunities to advance training to both increase the number of ESL paraprofessionals and provide professional development to increase the skills for these critical members of the education community. The NNELI grant will provide professional development opportunities through a hybrid (online/faceto face) venue to help better serve this population of educators as a result of this partnership and initiative.

Competitive Preferences and Invitational Priorities

As outlined in the needs assessment, the students of Northern Nevada are not being served to the fullest extent possible, nor are prospective and practicing teachers being trained to fully serve the needs of the EL population. Based upon these demonstrated needs, the NNELI
proposal meets the requirements of Competitive Preference Priority 2, Competitive Preference Priority 3, and Invitational Priority 2.

**Competitive priority 2 (data-based decision making).**

In order to reach the five outlined goals of NNELI, collection of both quantitative and qualitative data is a priority, and will be collected continuously throughout the duration of the grant. As outlined in the evaluation plan, NNELI (UNR and WCSD) will partner with West Ed, for data collection, analysis and evaluation. The considerable resources of these three institutions will ensure that appropriate measures, methods, and instruments will be used to completely and thoroughly collect unbiased results to measure the effectiveness of the NNELI.

Within priority 2, NNELI has measures for both pre-service students (Elementary and Secondary) in the UNR teacher preparation program, as well as in-service professional development with advanced training for ESL in SI for inquiry teaching and academic language development for ESL in STEM related content.

**Pre-service quantitative**

The first will be a pre/early post/later post administration of the Science Teaching Efficacy Belief Instrument (STEBI-B) for pre-service teachers (Enochs & Riggs, 1990). Co-Investigator Crowther modified the STEBI-B with permission of the STEBI authors to produce the ELTEBI instrument to measure English language teaching efficacy beliefs and outcome expectancy for pre-service teachers. Changing an existing and successful instrument does require new reliability and construct validity measures (in progress), but the modified instrument should accurately measure student progress in belief and outcome expectancy for working with ELs for this grant. “Teacher efficacy” is broadly defined as a situation-specific expectation that teachers can help students learn (Ashton & Webb, 1986; Bandura, 1997). Efficacy expectations
influence a teacher's thoughts and feelings, their choice of classroom learning activities, the amount of effort they are willing to expend, and their persistence in the face of obstacles. Over the past two decades, researchers have found correlations to teacher efficacy. Teachers with high efficacy are more effective, their students perform at higher levels on standardized tests, and their students have more positive attitudes toward the content areas taught by these teachers (Tschannen-Moran, Hoy, & Hoy, 1998). Additionally, outcome expectancies are related to efficacy in that a student builds confidence in skills and knowledge, then focuses on the transference of this efficacy to student learning in a classroom.

Pre-service qualitative

The second measure will align with requirements of the Elementary and Secondary Education Act and National Council for Accreditation of Teacher Education (NCATE) requirements to show student growth and learning throughout the teacher education program in a portfolio based upon the five domains of learning as defined by the UNR COE: Domain 1: Knowledge of Students & Learning Environments; Domain 2: Knowledge of Subject Matter & Planning; Domain 3: Delivery & Management of Instruction; Domain 4: Knowledge and Use of Assessment; and Domain 5: Professionalism. Portfolio I requires benchmark artifacts that demonstrate teaching proficiency in those five domains. The ESL endorsement courses will require benchmark artifacts that correlate with practicum experiences taught in high EL population schools within the WCSD that take place every semester after the candidate is accepted into the program (three practica for Elementary and two practica for Secondary). The Primary Investigators (PI) and evaluation team will revise current Portfolio I requirements and make recommendations to improve documentation related to EL teaching and learning. Task Stream, an online education portfolio system, will be used to manage Portfolio I data beginning
in the spring of 2012. This will allow easy access to the documents for analysis by the evaluators who will adapt existing instruments for this purpose.

Additionally, all pre-service teachers will be included on pre/post surveys administered online to gain programmatic and related student learning information. A small group of these students will be selected at random by the evaluator for focus groups that will further explore ideas and issues that are detected through the survey process.

In-service quantitative

NNELI will also gather data on in-service participants. In-service participants will have already earned a Nevada state endorsement in teaching ESL when they enter NNELI. They will participate in post certification training in SI for inquiry teaching in STEM content area as well as instruction on STEM related academic language development. Quantitative data will include similar measures as reported for the pre-service teachers and will include a pre/early post/later post administration of the ELTEBI-A, a modification of the Science Teaching Efficacy Belief Instrument (STEBI-A) for in-service teachers (Enochs & Riggs, 1990).

Additionally, all in-service teachers will be included on pre/post surveys administered online to gain programmatic and related student learning information. A small group of these teachers will be selected at random by the evaluator for focus groups that will further explore ideas and issues that are detected through the survey process.

Competitive preference priority 3 (promoting STEM).

The grant increases the opportunities for high-quality preparation of and professional development for teachers or other educators of STEM subjects. This is done in two ways. NNELI (See Objective 5.1) includes a component in which in-service and pre-service teachers will participate in a SI course for inquiry teaching in STEM content and an associated course in
academic language development as related to STEM disciplines. The NNELI inquiry-based SI methods course for STEM content instruction will include science education (National Research Council, 1996) and Common Core language arts and math standards (2011) related to science/reading, writing, listening, speaking and thinking and EL standards (TESOL, 2006) with Beck’s (2002) “three tiers” of vocabulary instruction. Levels of inquiry (Bianchi & Bell, 2008) will align with scaffolding of both inquiry and content science. Participants will take a second complementary course in academic language, informed by systemic functional linguistics. The content of this course will explore the academic language, genre and rhetoric of science and mathematics.

NNELI also proposes the creation of a resource center that pre-service and in-service participants can use in WCSD classrooms to promote STEM education and facilitate EL instruction. Resource materials will be stored at the Learning Resource Center (LRC) at UNR, a K-16 library with two cooperative purposes: (a) to provide support materials for K-12 materials for WCSD classroom teachers to check out; and (b) resource support for students in COE classes and for college classroom instruction. The LRC is a cooperative endeavor between UNR and WCSD’s 92 school sites and ships materials daily to teachers in WCSD. To promote the implementation of the STEM component of NNELI, science kits and math manipulatives will be purchased. It should be noted that due to budget deficits over the past adoption cycle in WCSD, no new math or science curricula have been adopted for over seven years, leaving WCSD teachers in great need of instructional tools and resources. To help offset this need, FOSS science kits, in both English and Spanish, which are based on an inquiry model that supports differentiated instruction, will be purchased. Each FOSS kit is approximately $800, and NNELI proposes to order the complete K-6 set (26) of these high-quality kits.
We also propose to purchase the following for NNLI participants’ use with WCSD ELs:

(a) eight Fast ForWord perpetual licenses which allow unlimited use of the program for eight students; Support and services included: Reading Progress Indicator (pre/post) assessment, Progress Tracker Reporting Tool, and Unlimited Technical and Instructional Support, Maintenance & Upgrades/Home Access & SLC Hosting; (b) on-site consulting for instructional or technical installation; (c) virtual consulting which consists of three live on-line learning and coaching sessions. Fast ForWord will provide EL students with computer-delivered exercises that improve the underlying cognitive skills that build brain capacity (memory, attention, processing & sequencing), along with the foundational reading skills of phonemic awareness, phonics, fluency, vocabulary, and comprehension. On average, students gain 1-2 grade levels in 8-12 weeks of regular use.

**Invitational priority 2 (Improving preparation of all teachers to better serve ELs).**

NNLI improves the current teacher education program at UNR and the preparation of all teachers to better serve ELs by creating teacher education curricula that are aligned with WCSD core curriculum. COE faculty in elementary and secondary education programs with backgrounds in STEM-related subjects will work with WCSD in-service teachers who have completed coursework in STEM/academic language to create a unit of study appropriate to their content area. The unit of study would be used as a part of the curriculum within the UNR faculty member’s classroom. In-service faculty would work with UNR faculty to ensure that the materials are targeted towards the specific needs of EL students in WCSD. Core curriculum standards for WCSD will be used as the basis for design of all materials. Rod Case, Associate Professor of TESOL at UNR, and David Crowther, Professor of Science Education, will be responsible for overall design of the materials.
The NNELI grant is requesting funds to purchase two classroom sets of Netbooks for pre and in-service participant use, to support all their learning goals during course work, including language software, word processing, and editing video footage. Wang and Hartley (2003) confirm that video technology can be a powerful tool allowing pre-service teachers to identify, assess and transform their own teaching when used for self-reflection. They suggest that using video can help pre-service teachers test their own ideas about teaching, try new instructional techniques, and ultimately gain confidence in their practice of teaching. As such, the Netbooks are intended to be used in conjunction with video flip cameras for participants to record their own teaching and learning experiences and then to reflect upon them. Additional computers will be purchased and equipped with more advanced editing software and placed in an existing computer lab. These computer stations will be available for NNELI participants to capture best practices on video, edit them into a quality product, and contribute the media to an online electronic resource library.

Project Design

NNELI has five goals to better prepare pre-service teachers, classroom teachers, and paraprofessionals to better serve the growing EL population in Northern Nevada. UNR is a research one institution, was established in 1874, and currently has over 17,000 students, nearly 1,000 faculty members, and over 145 degree programs. It has been accredited by the Northwest Commission on Colleges and Universities since 1938 and maintains 20 professionally accredited programs. The COE at UNR functions as a single department with four program areas that contribute to the preparation of elementary and secondary in-service and pre-service teachers. In the past, the only route to a Nevada state endorsement in teaching ESL has been through graduate coursework. If funded, NNELI will provide the funds needed to begin a program in
which pre-service elementary and secondary education participants can, for the first time, take coursework that leads to a Nevada state endorsement in teaching ESL as well as additional course work in Sheltered Instruction in Inquiry for STEM (3 credits) and Academic Language Development (3 credits).

Professional development for in-service teachers will act as an extension to work which was begun in 2002 through a grant project (described above). A needs analysis with WCSD revealed that courses in STEM content areas focusing on inquiry and SI to develop academic language are the next logical step for in-service teacher training. Such coursework would complement the introduction of the Nevada Core Standards in math and science which will be introduced in August, 2011, by providing in-service teachers with the necessary theoretical background and instructional methods needed to provide services to ELs. Finally, paraprofessionals working in WCSD will get much needed professional development to gain knowledge and skills for working within EL classrooms.

Project Goal 1 is to recruit 100 pre-service elementary teachers and 64 pre-service secondary science teachers within the undergraduate program at UNR to participate in NNELI. Project Objective 1.1 states that throughout funding of the grant, NNELI, in cooperation with the State of Nevada Department of Education, will award the Nevada endorsement in teaching ESL to 100% of pre-service program completers within the dual licensure elementary education program and pre-service science education majors every calendar year.

Pre-Service Elementary teachers will be serviced as such: Through the reorganization of the COE in June 2011, from four separate departments into one department focused on teacher education, a new elementary licensure program will begin in the spring of 2012. This new program is unique in that every pre-service teacher graduate will have two licenses rather than
one. Each program completer will earn an Elementary Education license and have coursework for a second license or endorsement in one of three specializations; Special Education, Early Childhood Education or ESL. The total number of credits students need to complete any one of three dual licensure degree programs is 120. Entrance into the new Integrated Elementary Teacher Education Program (IETEP) will require rigorous coursework that goes beyond the University Core Curriculum standards and Nevada State Licensing requirements in content areas. After entering into the Elementary Education program, all students must take nine credits of literacy instruction and three credits each of methods in math, science, social studies, and teaching ELs. The IETEP program has a practicum experience every semester that students are in the program, which translates into 120 hours of practicum experience before student teaching. Additionally, other licensure courses in educational psychology, school law and ethics, classroom management, assessment, and other courses relating to the teaching field, compose this new program.

To realize this goal and objective, one cohort of 20 pre-service teachers will be formed each calendar year. Selection criteria will include: (a) admission to the teacher education program, which requires a 2.75 GPA (soon to be 3.0) and over 30 credits of rigorous prerequisite coursework in multiple content areas; and (b) preference will be given to applicants who speak or have taken classes in Spanish. Recruiting of the pre-service participants will be conducted by the Student Advising and Counseling Center (SACC) within the COE in collaboration with NNELI management staff. Design and implementation of systems to document courses taken and student data will be coordinated between the director of SACC and the NNELI Project Coordinator.
UNR works in cooperation with the State of Nevada to offer coursework that leads to a state of Nevada endorsement in teaching ESL. Twelve credits, required for the endorsement, must be offered in the areas of Second Language Acquisition, Language Assessment, Curriculum, and Teaching Methods. If funded, NNELI will provide adequate funding to offer the appropriate coursework as shown:

- **EDRL 471/671 Language Acquisition, Development and Learning (3 credits), State of NV Requirement Category:** Second Language Acquisition, (Offered: Fall, Junior Year)
- **EDRL 472 Methods for Teaching Elementary Learners (3 credits), State of NV Requirement Category:** Teaching Methods, (Offered: Fall, Junior Year)
- **EDRL 490/690 Teaching Spanish Speakers in ESL Settings (3 credits), State of NV Requirement Category:** Curriculum Development, (Offered: Spring, Junior Year)
- **EDRL 474/674 Second Language Assessment (3 credits), State of NV Requirement Category:** Second Language Assessment, (Offered: Fall, Senior Year)

The NNELI will pay tuition for the four EL endorsement courses so that any pre-service teacher may walk with a bachelor's degree in Elementary Education and have a Nevada ESL endorsement, regardless of their specialization, thus allowing these teachers to be better prepared to work with EL at the beginning of their careers.

Additionally, the pre-service teachers will also be selected to take the SI Inquiry STEM Methods course and STEM related Academic Language Development course as part of their 18 electives before graduation and student teaching. The NNELI will pay the tuition for these two additional courses to advance training in STEM disciplines.

Pre-Service Secondary Math and Science Undergraduates will receive services as follows: All pre-service secondary education majors are required to take 12 credits of
coursework in content methods and assessment, supervised practicum and reading and writing instruction. Thirty-six credits are required for the teaching major. The pre-service secondary math and science undergraduate program is comprised of eight programs, with credit requirements ranging from 18-43, with a total of 120 for graduation. Like the pre-service elementary undergraduate participants, the pre-service secondary science and math undergraduates are given between 9 and 15 credits in electives in their degree program. Students with 15 credits of electives will be able to complete the Nevada state endorsement for teaching ESL and the STEM and Academic Language courses, extending their degree programs to 123 credits. Other students will extend their degree program by up to six credits, but will graduate with a secondary teaching license and an ESL endorsement. Sixteen pre-service secondary science and math education participants will also enter in their junior year from one of the seven science education majors.

Project Goal 2 will report on the percentage of placement of pre-service program completers within an instructional setting serving EL students within one year of program completion, and use this data as a means of improving the program, which will address GPRA Measure 1.2. Arrangements and agreements have been written with WCSD (See Appendix 1, LEA Commitment Letter) to facilitate data collection of all pre-service program completers in the elementary and secondary science education programs as well as in-service program completers in classrooms with ELs. Data collection will include two sources. The first will be from program completers who will complete a survey in fall (or when the program completer is placed in an instructional setting with ELs), four months after the program completer has been placed, and then again nine months after placement. Questions will cover EL student
demographics, effectiveness of STEM and EL methods learned in NNELI and suggestions for improvement in the NNELI program.

The second source of data will be from the agreed upon collaboration with WCSD. NNELI will hold bi-monthly meetings with staff from the OESL/WL in WCSD with goals as follows: (a) update staff from the OESL/WL in WCSD on program-completers’ progress in gaining employment in instructional settings with ELs; (b) gather contextual data on participants’ responses as a means of improving curriculum and learning more about instruction in WCSD; (c) identify ways in which to increase the percentage of program completers leaving the NNELI program.

Data will be compiled and analyzed on an on-going basis as a means of informing and increasing the number of program completers in instructional settings with ELs in WCSD. Also, data will be used as a regular and on-going source of information to improve curriculum within the NNELI program. Finally, data will also be included as part of the required yearly evaluation.

Project Goal 3 will be to improve the skills of paraprofessionals working with EL students, addressing GPRA Measure 1.4. Project Objective 3.1 will, throughout funding of the grant, serve 76 paraprofessionals from WCSD who will complete state and/or local qualifications for paraprofessionals working with EL students as designed by the NNELI program.

WCSD currently employs 774 paraprofessionals of whom 441 are highly qualified (Para-Praxis). There are 262 Title I aides whom must pass the Para-Praxis or have two years of college in order to serve in this position. Of the 774 aids, 76 are designated as EL paraprofessionals who work exclusively in EL classrooms/settings. There are two policies for hiring paraprofessionals in WCSD. If hiring for a Title I school, applicants must pass a paraprofessional Praxis test, or they can have two years of college experience. If applying to a non-Title I school, there are no
formal qualifications. However, Spanish-speakers have an easier time procuring this type of job due to the high need for bilingual help in the classroom.

WCSD has minimal opportunities to advance training to both increase the number of EL paraprofessional and provide professional development to increase the skills for these critical members of the education community. The WCSD OESL/WL director states that last year there was a monthly training for paraprofessionals on the new English language development program; this year they have only had one day of professional development. According to a 2011 survey conducted by the OESL/WL to assess the needs of paraprofessionals in the EL setting, their highest needs are:

- knowledge of the reading and the writing process and skills training to assist students in reading, writing, mathematics and other academic core areas
- dealing with classroom stress
- organizing and managing work; managing time and work at home
- classroom management; managing student behavior
- assisting and assessing student needs in a specific subject
- using computers and other technologies
- working with teachers
- motivating students
- understanding district and/or school policies

The American Federation of Teachers (www.aft.org) outlines a program for paraprofessionals which includes training in beginning reading instruction; thinking in mathematics; incorporating all stakeholders into the educational experience; and training in
student and classroom management strategies. As reflected in the above-mentioned survey by the LEA, these four areas of focus are needed by local paraprofessionals.

To improve the skills of paraprofessionals working with EL students, NNELI will recruit and train 25 paraprofessionals in each of years two, three, and four of the grant. The paraprofessionals will experience nine sessions of professional development. During year one, time will be spent developing modules that can be accessed electronically. By the end of the project, there will be a model for paraprofessional training for the district and a bundle of modules for paraprofessional training to be housed on the Internet. Each training will focus on one area of need, such as increasing knowledge of the reading process and skills; a lesson would move through the stages of the reading process; teach phonics; learn how to elicit prior knowledge and build schema; et cetera. By making the EL teaching and learning experience transparent to paraprofessionals, and equipping them with knowledge and skills, WCSD will have a better trained workforce for EL instruction. There will be separate trainings for paraprofessionals working in elementary and secondary settings.

Project Goal 4 will be to recruit 64 in-service secondary and in-service elementary participants to participate in NNELI through the funding of the grant, addressing GPRA Measure 1.6. Sixteen new program participants will be recruited every year.

Recruitment of in-service science participants will be coordinated in a number of ways. First, potential schools and participants will be identified through collaboration with the OESL/WL in WCSD. For the elementary and secondary program participants the preferred criteria are as follows: (a) participants who already have completed a state of Nevada endorsement in teaching ESL; (b) participants who are currently teaching in a STEM designated school; (c) participants who speak Spanish; and (d) teachers who work in schools with high
populations of EL and have a responsibility for teaching math and science. Once in-service teacher recruitment has taken place, 16 teachers will be selected to participate in SI Inquiry STEM Methods course and STEM related Academic Language Development course each year. These credits may be used by teachers for professional development and continuing education units (CEUs), as required by Nevada in order to maintain their teaching licenses.

Tracking of these students will take place through the COE SACC and the OESL/WL in WCSD. Evaluation of the course effectiveness will take place through quantitative and qualitative procedures as outlined in the evaluation plan.

Project Goal 5 is to report on the percentage of placement of in-service program completers within an instructional setting serving EL students within one year of program completion, and use this data as a means of improving the program.

Arrangements and agreements have been written with WCSD (See Appendix 1, LEA Commitment Letter) to facilitate data collection of all in-service program completers in classrooms with ELs. Program data will come from two sources. The first, from surveys taken by program completers: (a) when the program completer is placed in an instructional setting with ELs; (b) four months after the participant has completed the program; and (c) nine months after the participant has completed the program. Questions will address EL student demographics, effectiveness of STEM and EL methods learned in NNELI, and suggestions for improvement in the NNELI program.

The second source of data will be from the agreed-upon collaboration with WCSD. NNELI will hold semi-monthly meetings with staff from the OESL/WL in WCSD with goals as follows: (a) update staff from the OESL/WL program-completers’ progress in maintaining and/or gaining employment in instructional settings with ELs; (b) gather contextual data on
participants' responses as a means of improving curriculum and learning more about instruction in WCSD; (c) identify ways in which to increase the percentage of program completers leaving the NNELI program. This data will also be compiled and analyzed on an on-going basis as a means of informing and increasing the number of program completers in instructional settings with ELs in WCSD. Also, data will be used as a regular and on-going source of information to improve curriculum within the NNELI program. Finally, data will also be included as part of the required yearly evaluation.

**Theoretical Basis of the Program**

The theoretical basis of the program is derived from research into complementary approaches of sheltered and content-based instruction (Brinton, Snow and Wesche, 2003; Echevarria, Vogt and Short, 2004; and Snow, 2001), systemic functional linguistics (SFL) (Brisk & Zisselsberger, 2010; Christie & Derewiank, 2008; Ferris, 2010; Macken-Horarik, 2009) and second language acquisition Vygotskyian concepts (Ohta, 2000), inner speech, (McCafferty, 2004) and activity theory (McCafferty, Roebuck, & Wayland, 2001.)

The SFL approach proposed by NNELI offers an important contribution to meet the needs of the LEA, as WCSD is in the final stages of rewriting core curriculum for ESL around the model. All math, science and ESL standards will be prepared by August, 2011. NNELI participants will be uniquely qualified to employ those standards in WCSD classrooms.

**NNELI Evaluation Plan**

In order for NNELI to be successful, we have selected a highly qualified team from WestEd, is a preeminent educational research, development, and service organization with 600 employees and 17 offices nationwide, to conduct a comprehensive evaluation that measures the goals and objectives of the program. WestEd has been a leader in moving research into practice
by conducting research and development programs, projects, and evaluations; by providing training and technical assistance; and by working with policymakers and practitioners at state and local levels to carry out large-scale school improvement and innovative change efforts.

WestEd’s Regional Education Lab (REL) operates in California, Nevada, and Arizona. WestEd has been involved in a variety of program and evaluation projects in Nevada. John Carr in Evaluation Research and Ursula Sexton in STEM programs are the proposed evaluation team.

John Carr, Ph.D., is Senior Research Associate in WestEd and will be lead evaluator responsible for communication with the NNELI team, evaluation design, managing survey data collection and analysis, and writing reports. He is well-grounded in quantitative and qualitative evaluation methodology and various types of formative and summative evaluation methods. He conducted numerous program evaluation studies, including the evaluation of a character education project in Washoe County, Nevada; an implementation and impact evaluation of programs for refugee students in four school districts for the Minnesota Department of Education; and is completing the fourth year of a five-year NPD project involving four school districts in Connecticut that is focused on teacher implementation of instructional strategies for EL in regular education classrooms. Dr. Carr has also been active in promoting effective classroom practices for ELs: he created the California Map of ELD-ELA Standards that has been purchased by more than 100,000 educators and conducted its implementation workshop for over ten years for thousands of educators; he has co-authored WestEd best seller books—Making Science Accessible to ELs: A Guidebook for Teachers (2007); Making Mathematics Accessible to ELs: A Guidebook for Teachers (2009); and is currently working on Making All Content Areas Accessible to All Diverse Learners: A Guidebook for Teachers.

Ursula Sexton, Senior Research Associate in WestEd, will collaborate with the lead
evaluator in designing survey instruments and data analysis. She has co-directed several projects, including studies on assessment models for use with ELs, the evaluation of STEM curriculum and professional development programs. She contributed to the development of teacher portfolios for the Performance Assessment for California Teachers (PACT), and the new Title III Framework on state policies for ELs. Dr. Sexton has provided professional development to teachers at the K-12 level. She is a co-author of the science and mathematics guidebooks for teachers cited in the paragraph above. She conducts professional development for teachers of ELs based on the science guidebook.

Evaluation plan according to goals and objectives.

Project Goal 1. Recruit 100 pre-service elementary teachers and 64 pre-service secondary science teachers within the undergraduate program at UNR to participate in NNELI.

Project Objective 1.1 Throughout funding of the grant, NNELI, in cooperation with the State of Nevada Department of Education, will award the Nevada endorsement in teaching English as a second language to 100% of pre-service program completers within the dual licensure elementary education program and pre-service science education majors every calendar year.

There will be two parts to the pre-service component of the evaluation. First, each student that is accepted into the program to receive support from NNELI will be monitored for successful completion of the sequence of courses for the Nevada ESL endorsement. This information will provide both formative and summative program data on the progression and completion of the Endorsement. This information is already tracked by the SACC and the evaluators will aggregate this data for NNELI reporting purposes.
Additionally, in order to measure the affective domain and to explore if EL strategies are actually being used by pre-service candidates, two measures will be incorporated; the ELTEBI B and Portfolio I currently in use in the Education program.

The first will be a pre/early post /later post administration of the ELTEBI-B instrument for pre-service teachers. Each NNELI pre-service participant will take the ELTEBI-B at the beginning of the first course for ESL endorsement requirements, again at the completion of the four course sequence that leads to student teaching, and then again at the end of student teaching. This pre/early post /later post test design will be used to examine a pattern of improvement of pre-service teachers’ beliefs about their efficacy of working with ELs in regular classroom settings as well as their beliefs on outcome expectancies as related to university coursework and WCSD practicum field-based experiences before student teaching and after student teaching.

The second measure will align with requirements of the Elementary and Secondary Education programs at UNR and NCATE requirements to show student growth and learning throughout the teacher education program in a portfolio based upon the COE’s five domains of learning. The ESL endorsement courses will require benchmark artifacts that correlate with practicum experiences taught in high EL population schools within the WCSD that take place in every semester after the candidate is accepted into the program (3 practica for Elementary and 2 practica for Secondary). The evaluators will examine the current Portfolio I requirements and make recommendations to improve artifacts related to EL teaching and learning. Task Stream, an online education portfolio system, will be used to manage Portfolio I data beginning in the Spring of 2012. This will allow easy access to the documents for analysis by the evaluators who will adapt existing instruments for this purpose. The evaluators will submit a summative report.
of findings and recommendations annually as well as formative evaluation report for internal project staff at critical periods during the year.

Project Goal 2. Place 100% of pre-service program completers within an instructional setting serving EL students within one year of program completion.

The evaluators will construct and administer three online surveys: the first when the student-teacher is placed in an instructional setting with EL students, the second four months later, and the third nine months after placement. This survey will provide NNELI with data on student-teachers' perceptions of their teaching practices and student impact for ELs in various classroom conditions.

The evaluators will work closely with the UNR project management team, UNR COE Office of Field Experiences, WCSD OESL/WL, and WCSD personnel in order to track UNR program completers and their entry into the LEA (WCSD) and other job placements within the teaching profession. Although completion of the ESL endorsement does not guarantee employment in WCSD or any other school district, the dual license (Elementary and Secondary and ESL endorsement) will prepare our candidates to be more qualified to work with the diverse population of Nevada and meet the highly qualified requirements as outlined by NCLB. WCSD does look for the "value added" of an ESL endorsement in a series of hiring priorities that accompany an initial teaching license for prospective employees. The Office of Field Experiences (OFE) already tracks these numbers of teachers who completed the program for NCATE records. The Evaluators will work with the OFE to aggregate this data to inform accomplishment of Goal 2 of the NNELI grant.

Project Goal 3: To improve the skills of paraprofessionals working with EL students.
The purpose of this goal is to provide professional development training for paraprofessionals that is seriously lacking within the WCSD. Additionally, this goal will provide more EL training to increase the number of paraprofessionals who work in Title I schools, but lack the training to work with EL students specifically.

This goal will be measured by completion of the hybrid (online and face to face) training units. Additionally, the evaluators will have the paraprofessionals complete pre/post online surveys reporting the effectiveness of the training and knowledge gained. The evaluators will select a sample of the trained paraprofessionals from each year to create a focus group to discuss program effectiveness and to evaluate future adjustments and needs to the training modules / program.

Project Goal 4. Recruit 64 in-service K-12 science and mathematics participants to participate in NNELI through the funding of the grant. Sixteen new program participants will be recruited every year.

To address Goal 4, the evaluators will work closely with all project partners to track where the WCSD in-service teachers work, and the demographics of schools and classrooms in which they teach. NNELI will have a priority of acceptance for in-service teachers who work in high EL and STEM related disciplines. The evaluators will construct and administer a survey at the end of the first SI inquiry STEM course, after the completion of the second STEM course in academic language, and one year after completing the second course. This survey data will provide NNELI with information on classroom demographics and findings about NNELI program effectiveness in preparing student-teachers in STEM related disciplines to serve ELs.

Project Goal 5. Report the percentage of placement for in-service program completers within an instructional setting serving EL students within one year of program completion, their
perceptions of efficacy and student impact, and their evaluative rating and comments about their preparedness and to address Goal 3, the evaluators will use both quantitative and qualitative data. Quantitative data will include similar measures as reported for the pre-service teachers and will include a pre/early post /later post administration of ELTEBI-A for in-service teachers. Each NNELI in-service participant will take the ELTEBI-A before the two-course sequence related to SI in STEM and Academic Language Development. They will take the ELTEBI A a second time upon completion of the two courses and a third time one year after completing the course. This pre/early post /later post test design will be used to examine the extent to which in-service teachers’ beliefs about their efficacy in teaching ELs changes over time. The survey will also measure their beliefs on outcome expectancies for EL in STEM content areas as related to the SI and academic language development learned in the UNR coursework, and their teaching effectiveness.

Based on the findings of the surveys, the evaluators will conduct a focus group interview of a sample of course completers each year to obtain a deeper level of information about NNELI effectiveness. Interview data can validate survey results (especially if survey response rate is lower than expected), delve deeper into aspects of the NNELI program that were or were not effective, and explicate participants’ suggestions for improving the program.

Project Personnel

NNELI encourages applications for employment from persons who are members of groups that have traditionally been underrepresented.

Dr. Rod E. Case (Principal Investigator) is an Associate Professor of TESOL at UNR. He holds a MA in English with a specialization in TESOL and a Ph.D. from Washington State University. His research is centers on connections among language acquisition, discourse and
power. He teaches courses in language acquisition, applied linguistics, and language assessment. He has published several articles on ESL and was Principal Investigator on the Nevada Professional Development for Teachers of English Language Learners (Nevada Pro Tell), a $1,493,720 grant. He will oversee the four classes leading to ESL endorsement and create the Level II language class.

Dr. David Crowther (Co-Principal Investigator) is a Professor in Science Education with a research agenda of teaching STEM related content through SI methods within inquiry teaching. He has 18 years of higher education teaching experience, 5 years of elementary/middle level teaching experience, and also has a PhD minor in cellular biology. Additionally, Dr. Crowther has brought in over 5 million dollars of external funding to the university and has vast experience as a P.I. on multiple grants. Dr. Crowther has over 38 publications, is the co-author/editor of Science for ELs, and has written 8 chapters in texts relating to teaching science to EL. He has provided professional development in 42 states and 3 different countries regarding teaching inquiry science, SI for STEM, and currently consults with several states on grant initiatives for science and EL. Dr. Crowther will be responsible for creating the content and teaching the STEM SI methods class.

Jacque Ewing-Taylor (Co-Principal Investigator) is the Director of the Raggio Research Center for STEM Education (RRC) in the COE at the UNR. She has extensive grants management experience, having directed the activities of more than 12 grants totaling over $10.5 million. Ten of those grant projects were professional development grants for both pre- and in-service teachers, from both the U.S. Department of Education and the National Science Foundation. She has also served as external evaluator on three professional development grant projects, one federal and two state. Her duties on this project will include managing the financial,
personnel, and reporting aspects of the project, as well as coordinating and supervising project evaluation. The RRC will provide office space and telephones for the project coordinators, the graduate assistant, and administrative staff, and will make the computer lab available for participant use.

Sandra Prytherch was most recently the Coordinator for Professional & Career Development for medical students at UNR, where she has developed vertical mentoring and inter-cultural skills development programs. She is a graduate student in the TESOL program at UNR. Her research interests include oral language and task-based instruction. She has two publications pending. She anticipates the completion of her MA degree in May 2012. Sandra has spastic hemiparesis that has qualified her for the Office of Vocational Rehabilitation services.

Shawn Pennell is on staff with the RRC with a job emphasis in technology in education, gained through her participation in a RRC technology grant. She received her MA Ed. from UNR. She has worked on several STEM-related grants and has co-authored two articles. She will work with the technical aspect of the program such as evaluating, purchasing and maintaining software, setting up computers, and training pre- and in- service teachers in the use of ESL software programs; aiding students with video self-reflections; and creating the end-of-project digital deliverables.

Management Plan

UNR’s COE has a cohesive team of instructors, driven by the mission of the college, which is to “prepare the best teachers in the world, to prepare the students of tomorrow.” The COE has recently undergone a structural change due to recent budget cuts, combining four departments to devise a new Integrated Elementary Teacher Education Program (IETEP) and a newly revised secondary education program that will better serve the needs of the changing
demographics of Northern Nevada. With the addition of the RRC for STEM Education, which is dedicated to the advancement of the theory and practice of STEM Education, focused primarily on underrepresented groups, together in a new partnership, form a strong instructional, logistical and research management team for this grant and associated activities. The management team will meet monthly to discuss participant success, course quality and address issues and opportunities as they arise.

The OESL/WL in WCSD is partnering with grant staff to collaborate on placing grant participants in EL settings for practica and to act as a resource for the paraprofessional program.

**Project timeline.**

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<td>In-service &amp; paraprofessional recruitment in WCSD</td>
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<td>Create curriculum for Level II classes &amp; paraprofessionals</td>
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<td>Draft e-portfolio requirements; create rubrics; train faculty</td>
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<td>Purchase resources for library; set up computers/Netbook carts</td>
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<td>Create tech plan for EL standards and videos</td>
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<td>Video reflections for ESL students at RRC</td>
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<td>Level II STEM class offered; build online resource library</td>
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| **Year Three: January 1, 2014 – December 31, 2014** |
| Management Team meets monthly; Partner’s bi-monthly |
| 1st Level I students in 4th semester ESL course; practicum |
| 2nd Level I students in 3rd semester ESL courses     |
| 3rd Level I students in 2nd semester ESL course; practicum |
| Video reflections at RRC lab; begin video project    |
| Contact OFE for student teaching placements           |
## Project Timeline: January 1, 2012 – December 31, 2016

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<td>2nd Level I students in 4th semester ESL courses; practicum</td>
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<td>3rd Level I in 3rd semester ESL course; Level II Language Class</td>
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<td>1st Level I students, student teaching; conduct ELTEBI B post</td>
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### Year Four: January 1, 2015 – December 31, 2015

| Management Team meets monthly; Partner’s bi-monthly                          |   |   |   |   |   |   |   |   |   |   |   |   |
| 2nd Level I students, student teaching; conduct ELTEBI B post                |   |   |   |   |   |   |   |   |   |   |   |   |
| 3rd Level I students in 4th semester ESL courses; practicum                  |   |   |   |   |   |   |   |   |   |   |   |   |
| 4th & 5th group of Level I students in 1st semester ESL course               |   |   |   |   |   |   |   |   |   |   |   |   |
| Conduct pre-test using ELTEBI B                                              |   |   |   |   |   |   |   |   |   |   |   |   |
| Video reflections at RRC lab; formative assessment video proj.              |   |   |   |   |   |   |   |   |   |   |   |   |
| Student teaching placement in EL setting for 3rd group                       |   |   |   |   |   |   |   |   |   |   |   |   |
| Hold monthly meetings for paraprofessionals                                  |   |   |   |   |   |   |   |   |   |   |   |   |
| Level II STEM class offered                                                  |   |   |   |   |   |   |   |   |   |   |   |   |
| 3rd Level I students, student teaching; conduct ELTEBI B post                |   |   |   |   |   |   |   |   |   |   |   |   |
| 4th & 5th Level I students in 2nd semester ESL; practicum                    |   |   |   |   |   |   |   |   |   |   |   |   |
| Annual meeting for year-end report for sponsor                               |   |   |   |   |   |   |   |   |   |   |   |   |

### Year Five: January 1, 2016 – December 31, 2016

| Management Team meets monthly; Partner’s bi-monthly                          |   |   |   |   |   |   |   |   |   |   |   |   |

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**Note:** The table above illustrates the project timeline with key tasks scheduled from January 1, 2012, to December 31, 2016.
### Project Timeline: January 1, 2012 – December 31, 2016

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<th>Project Tasks</th>
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<td>4&lt;sup&gt;th&lt;/sup&gt; &amp; 5&lt;sup&gt;th&lt;/sup&gt; Level I students in 3&lt;sup&gt;rd&lt;/sup&gt; semester ESL endorsement</td>
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<td>Best Practices in video format; integrate tech plans/products</td>
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<td>NNELI PI and CoPIs debrief with program partners</td>
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<td>Curriculum and Policy of Best Practices revision</td>
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<td>Summative evaluations of products</td>
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<td>Annual meeting for final report for sponsor; RRC Final Report</td>
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### References


Mathematics. 90(8), 694-706.


