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## APPLICATION FOR GRANTS UNDER THE

**NATIONAL PROFESSIONAL DEVELOPMENT PROGRAM  
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## PROJECT ABSTRACT

**Name of IHE:** University of Rochester (Rochester, NY)

**Title of program:** Western New York Collaboration for ELL Success (Project CELLS)

**Consortia Partners:** BETAC; Rochester City School District; Monroe BOCES 2; Wayne-Finger Lakes BOCES; Genesee Valley BOCES

### **Project Description:**

This project addresses the need to better serve the approximately 6,000 English Language Learners (ELLs) in the Greater Rochester Area through a partnership between the University of Rochester (UR) - a IHE preparing school personnel, the Mid West Bilingual/ESL Technical Assistance Center (BETAC) –a state-funded organization providing technical assistance and professional development on ELLs to 67 school districts in western New York, the Rochester City School District (RCSD) - one of the five largest urban districts in NYS and with a population of 3,574 ELLs, and three of the four other BOCES in the region. The project is characterized by a comprehensive approach intended to enable all school personnel working with ELLs (i.e., ESOL teachers, content teachers, special education teachers, paraprofessionals, tutors, counselors and school leaders) in the region to better serve this population, as well as to increase the number of highly-qualified ESOL-certified teachers. As such, the project includes both pre-service and in-service components for the various populations identified above, as well as scholarships and some needed curriculum development. Other characterizing elements include: (a) a focus on teaching STEM, (b) special attention devoted to addressing the special needs of Students with Interrupted Formal Education (SIFE), and (c) developing capacity to offer professional development and training after the project ends by developing a cadre of PD providers and faculty committed to making key changes in their courses. The project capitalizes on the opportunities presented by the creation of a new “newcomer” program in RCSD, as well as the complementary expertise in providing professional development of the UR Warner Center for Professional Development and Education Reform (in STEM) and BETAC (in ESOL).

More specifically, the project has identified the following goals, related initiatives and expected outcomes over the 5 years of the project (Note: all professional development [PD] experiences listed below will involve 15-40 contact hours of instruction, as well as field-based assignments with opportunity for support from project personnel; they are designed to serve an average of 20 participants each; the number in parenthesis indicates how many times each activity will be repeated):

### ***GOAL 1. Increase content teachers’ ability to effectively teach ELLs and SIFE***

- *1a. PD on ELLs and SIFE for STEM and ESOL PD providers (2)*
- *1b. PD on ELLs and SIFE for UR teacher education faculty (1)*
- *1c. Enhanced UR teacher preparation program with integrated attention to ELLs (4)*
- *1d. PD on ELLs for K-12 STEM teachers and other supporting personnel (23)*
- *1e. New graduate course on serving ELLs for content teachers (4)*

**Expected outcomes:** 15 teacher education faculty and 40 STEM and ELL PD providers will learn about needs of ELLs and best practices to teach them, as well as be ready to participate in designing and co-teaching selected PD experiences offered by the project; up to 200 content pre-service teachers and 460 K-12 STEM in-service teachers will become better aware of the needs

of ELLs and SIFE, learn about best practices and instructional materials to serve these students, and adapt one of their lessons/units to better serve the needs of ELLs in their classes; up to another 60 content teachers taking the summer course will learn in more depth about best practices to teach ELLs and also be prepared to write curriculum and assessments for ELLs.

**GOAL 2. Increase ESOL teachers' ability to effectively teach STEM to ELLs**

- 2a. New methods course on teaching content for UR ESOL pre-service teachers. (4)
- 2b. PD on teaching STEM for ESOL in-service teachers (3 each in math and science)

Expected outcomes: Up to 48 pre-service and 60 in-service ESOL teachers will learn to use research-based pedagogical approaches and innovative curricula and instructional materials to enable ELLs to achieve national and state STEM standards (including the new common core state standards (CCSS) for math and science).

**GOAL 3. Provide high-quality curriculum for SIFE in "newcomer" programs**

- 3a. Developing SIFE curriculum (including a stand-alone "Pathways to Education" unit and activities for credit-bearing math and science courses).
- 3b. PD on SIFE units for teachers in "newcomer" programs (6 – 2 per unit)

Expected outcomes: Three SIFE units will be designed and implemented in the new RCSD "newcomer" program, and instructional materials will be produced for other teachers interested in teaching these units; up to 24 ESOL teachers will be ready to teach each of these SIFE units in "newcomer" programs across the region.

**GOAL 4. Increase ESOL teachers' ability to more effectively teach SIFE**

- 4a. New SIFE learning experiences for UR ESOL pre-service teachers. (4)
- 4b. PD on SIFE for in-service ESOL teachers. (4)

Expected outcomes: Up to 48 pre-service and 80 in-service ESOL teachers will learn about the needs of SIFE, best practices to serve them, and high-quality curricula and instructional materials for this population.

**GOAL 5. Increase school leaders' and counselors' ability to serve ELLs and SIFE**

- 5a. PD on ELLs and SIFE for PD providers in counseling and leadership (1)
- 5b. PD on ELLs and SIFE for UR counseling and leadership faculty (1)
- 5c. Enhanced UR counseling preparation program with integrated focus on ELLs (4)
- 5d. Enhanced UR leadership preparation program with integrated focus on ELLs (4)
- 5e. PD on ELLs and SIFE for in-service counselors and K-12 school leaders (6)

Expected outcomes: 7 counselor education faculty, 5 school leadership faculty, and 16 PD providers in counseling and/or leadership will learn about needs of ELLs and best practices to support them, design high-quality learning experiences about ELLs as appropriate to the pre-service courses and/or PD they already teach, as well as be ready to participate in the design and co-teach selected PD experiences offered by the project; up to 60 pre-service school counselors, 90 pre-service school leaders, and 120 in-service counselors and school leaders, will gain knowledge about the needs of ELLs and SIFE and best practices to serve these students, so as to better support ELLs and SIFE in their schools.

**GOAL 6. Increase the number of highly-qualified ESOL-certified teachers**

- 6a. Recruiting pre-service scholarship recipients to pursue ESOL certification
- 6b. Recruiting in-service scholarship recipients to pursue ESOL certification

Expected outcomes: 48 more teachers will have achieved ESOL certification.

**Priorities addressed:**

- Competitive Preference Priority 1. Novice applicant
- Competitive Preference Priority 3. Promoting STEM education
- Invitational Priority 2. Improving preparation of all teachers to better serve ELLs

**GPRA Measure Targets:**

Expected numbers of:

- *Pre-service (ESOL and content) teachers to be served*: 50, 100, 100, 100, 100
- *Pre-service (ESOL and content) teachers to complete the program*: 0, 50, 50, 50, 50
- *Pre-service (ESOL and content) graduates to be placed in instructional settings serving ELLs*: 0, 20, 30, 30, 30
- *Pre-service teachers expected to complete the program and be certified in ESOL*: 0, 8, 8, 8, 8
- *In-service (ESOL and content) teachers to be served*: 115, 185, 190, 190, 190
- *In-service (ESOL and content) teachers to complete the program*: 80, 115, 100, 100, 115
- *In-service (ESOL and content) teacher completers serving ELLs*: 0, 80, 115, 100, 100 (+)
- *In-service content teacher completers to be certified in ESOL*: 0, 4, 4, 4, 4
- *Paraprofessionals serving ELLs*: 50 total throughout the project

Additional measures:

- *Pre-service school counselors to be served*: 0, 20, 40, 40, 40
- *Pre-service school counselors to complete the program*: 0, 0, 20, 20, 20
- *In-service counselors to be served*: 10, 10, 10, 10, 20
- *In-service counselors to complete the program*: 10, 10, 10, 10, 20
- *Pre-service administrators to be served*: 0, 30, 60, 60, 60
- *Pre-service administrators to complete the program*: 0, 0, 30, 30, 30
- *In-service administrators to be served*: 10, 10, 10, 10, 20
- *In-service administrators to complete the program*: 10, 10, 10, 10, 20

(NOTE: given our region's demographics, we expect all counselor and administrator participants to serve at least some ELLs)

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## Western New York Collaboration for ELL Success (Project CELLS)

*PIs: Mary Jane Curry and Judi Fonzi (University of Rochester)*

### 1. QUALITY OF THE PROJECT DESIGN

#### 1.1. Project overview

English Language Learners (ELLs) represent the fastest growing student population in the United States and will comprise 40% of the K-12 population by 2030 (Thomas & Collier, 2001). Immigrant/refugee children are more likely than others to fail or drop out of school (Warren, 1996), as for example, ELLs who reported speaking English with difficulty had only an 18% likelihood of finishing high school (NCES, 2008). New York State (NYS) is one of five states that together are home to 68% of all ELLs (Capps, Fix, Murray, Ost, Passel, & Hervantoto, 2005), yet there is a documented shortage of ESOL-certified teachers in the state (U.S. Dept. of Education, 2010) and content teachers feel ill-prepared to serve ELLs mainstreamed in their classes. The proposed project is designed to increase support for the nearly 6,000 ELLs in the Greater Rochester Area (NY) to improve their learning of the English language as well as support them in achieving the learning goals articulated in the new common core state standards (CCSS) (<http://www.corestandards.org/>), which NYS has recently adopted. ELLs in the region, and in the Rochester City School District (RCSD) in particular, have not been performing well academically, as indicated by the fact that the RCSD is in Year 4 of citation for the NYS Education Department Annual Measurable Achievement Objectives (AMAO – [www.p12.nysed.gov/nclb/cladcep/1011/legaliii](http://www.p12.nysed.gov/nclb/cladcep/1011/legaliii)) for ELLs under Title III. Because the new CCSS increase rigor in ELA and mathematics (and, soon, other subjects as well), school personnel in NYS who serve ELLs will need support implementing these new standards.

Recognizing that this situation requires a comprehensive and systemic approach, our plan includes training opportunities for all personnel working with ELLs (i.e., ESOL teachers, content teachers, special education teachers, paraprofessionals, tutors, counselors, and school leaders) – at both pre-service and in-service levels – as well as scholarship opportunities to increase the number of ESOL-certified teachers and some needed curriculum development. The project is also characterized by a focus on (a) improving ELLs’ learning of math, science and technology (STEM) by improving both STEM teachers’ ability to better serve the needs of ELLs in their classes and ESOL teachers’ ability to teach STEM effectively; and (b) addressing the special needs of Students with Interrupted Formal Education (SIFE), students who have come from homes in which a language other than English is spoken, have entered a U.S. school after second grade, have had at least two fewer years of schooling than their peers, and function at least two years below grade level in reading and mathematics (DeCapua, Smathers, & Tang, 2009); there is a growing concentration of SIFE in Rochester (which in 2010 alone received over 700 refugees, including 30-40 new SIFE in RCSD).

Thus, in addition to the complementary expertise provided by the partners (as identified below), the project capitalizes on the unique opportunities offered by the creation of a “newcomer” program (serving predominantly SIFE) to start in Fall 2011 in RCSD, which currently does not have an established curriculum for SIFE, and a concurrent NSF-funded Noyce project (Noyce MTF hereafter) that trains 24 RCSD math and science “master teachers” to better support the needs of all students in high-need schools. As a strategy to build long-term sustainability, we will train local university faculty and professional development (PD) providers to offer the PD and courses developed in the project.

## **1.2. Consortium members**

The proposed project is made possible by a consortium that includes (a) the **University of Rochester (UR)** Warner School of Education – a higher education research institution that prepares highly qualified and innovative teachers, counselors, and school leaders, and includes the Warner Center for Professional Development and Education Reform (Warner Center) with nationally recognized expertise in STEM professional development; (b) the **Mid West Bilingual/ESL Technical Assistance Center (BETAC)** –a state-funded organization serving 67 school districts in western New York, which is part of a network of centers providing technical assistance and professional development to administrators and teachers on program development and research-based practices to foster academic achievement of ELLs; (c) the **Rochester City School District (RCSD)** - one of the five largest urban districts in NYS and the one with the highest poverty rate in the state and eleventh in the U.S., with a population of 3,574 ELLs who represent 56 languages, 107 ESOL teachers, 150 secondary math and science teachers, over 1,000 elementary teachers, and more than 300 building leaders and school counselors; and (d) three of the four Boards Of Cooperative Education Services (**BOCES**) operating in the area - Monroe 2, Wayne-Finger Lakes, and Genesee Valley – which support 56 school districts in the area, with more than 1,000 additional ELLs. The plan described in this narrative was developed collaboratively with representatives from all partners, capitalizing on their respective expertise in ESOL education, STEM education, professional development, and knowledge of the needs of the populations to be served, with each partner playing important roles in its implementation.

## **1.3. Project goals and their related rationale, activities, and expected outcomes**

Given the complexity of the proposed project, in this section we will identify the project's key goals and for each goal articulate its rationale (building on the research literature

and the needs identified by the partners during planning), list the key activities to pursue each goal, and identify the specific objectives (in terms of measurable outcomes) we expect to achieve through these activities. A description of each activity will follow in 1.4.

***GOAL 1. Increase content teachers' ability to effectively teach ELLs and SIFE***

*Rationale:* While the majority of ELLs are increasingly served in mainstream classes, few content teachers feel well-equipped for this role (Lee et al., 2008), as a focus on ELLs has not traditionally been included in teacher preparation programs (Meskill, 2005). In particular, the literature suggests that most content teachers are not sufficiently aware of the multiple challenges experienced by students for whom English is not their first language – especially SIFE, who are struggling with a lack of traditional schooling in addition to language proficiency (Sarr & Mosselson, 2010). Nor are most teachers familiar with strategies to adapt lessons and instructional materials so as to mitigate these challenges and make content more accessible to ELLs (Gibbons, 2008) or with practices to improve instruction based on data on student learning.

The project planning sessions with representatives from RCSD and BOCES confirmed that these national trends are experienced in our region as well. Therefore, increasing both in-service and pre-service content teachers' ability to serve ELLs was identified as one of the top priorities of the project. We chose to focus our in-service professional development (PD hereafter) efforts on STEM teachers – i.e., math and science specialists at the secondary level, as well as the generalists who teach these subjects at the elementary level or in special education settings – for a number of complementary reasons: (a) the common practice of mainstreaming ELLs first in STEM classes (given the assumption that learning these subjects is less dependent on language proficiency [Wright & Li, 2008]), (b) the low performance of ELLs in STEM (NCES, 2009) and its implications in terms of ELLs' access to many professional careers

(Garrison & Mora, 1999), and (c) the Warner Center expertise in STEM education and PD, and in particular the potential synergy with the concurrent Noyce MTF project. Finally, we recognized that to achieve our goals in terms of pre-service and in-service training, as well as to ensure long-term sustainability, we would need to develop a cadre of professional development providers and higher education instructors able to provide that training, both during and after the grant funding period. These considerations translated in the set of activities identified below – and described in more detail in section 1.4.

Key activities (numbers in parentheses indicate how many times each activity will be repeated throughout the five years of the project; PDs range from 12-40 hours; courses are all 3 credits):

- *1a. PD on ELLs and SIFE for STEM and ESOL professional development providers (2)*
- *1b. PD on ELLs and SIFE for UR teacher education faculty (1)*
- *1c. Enhanced UR teacher preparation program with integrated attention to ELLs (4)*
- *1d. PD on ELLs for K-12 STEM teachers and other supporting personnel (23)*
- *1e. New graduate course on serving ELLs for content teachers (4)*

Expected outcomes/ measurable objectives (the targets in terms of program completers identified below are based on the number of participants we expect for each planned PD – 20 unless otherwise indicated – and the number of graduates from each UR pre-service program – which average about 50 teachers, 20 school counselors and 30 school leaders each year, with teacher preparation programs lasting 15 months and all other programs 2 years):

- Up to 15 teacher education faculty (*trained in 1b*) and 40 STEM/ESOL PD providers (*1a*) will be able to offer project training opportunities for pre-service/in-service content teachers.
- Up to 200 content pre-service teachers (*1c*), 460 K-12 STEM in-service teachers (*1d*) and 50 paraprofessionals (*1d*) will (a) become aware of the specific needs of ELLs and SIFE; (b)

become familiar with best practices and instructional materials to serve these students; and (c) adapt at least one of their units to better serve the needs of ELLs in their classes.

- Up to 60 additional content teachers (1e) (15 per course offering) will achieve all the objectives articulated above, as well as be prepared to write curriculum and assessments for ELLs.

### ***GOAL 2. Increase ESOL teachers' ability to effectively teach STEM to ELLs***

Rationale: ESOL-certified teachers are increasingly expected to teach content to their assigned ELL students to help them achieve the established standards – which are going to be even more rigorous with the new CCSS standards. Yet the standards set by accrediting organizations (TESOL/NCATE, 2010) expect ESOL teacher preparation programs to focus on teaching about language learning, and thus most ESOL teachers are not prepared to teach content, especially in STEM subjects that require specialized pedagogical content as well as content knowledge (e.g., NCTM, 2009; NRC, 2000). Therefore, the project will provide specialized training in STEM teaching to pre-service and in-service ESOL teachers.

#### Key activities:

- 2a. New methods course on teaching content areas for UR ESOL pre-service teachers (4)
- 2b. PD on teaching STEM for ESOL in-service teachers (3 each in math and science)

#### Expected outcomes/ measurable objectives:

- Up to 48 pre-service (trained in 2a) and 60 in-service ESOL teachers (2b) will learn to use research-based pedagogical approaches and innovative instructional materials to enable ELLs to achieve national and state STEM standards.

### ***GOAL 3. Provide high-quality curriculum for SIFE in “newcomer” programs***

Rationale: In addition to the language challenges common to all ELLs, SIFE students often have limited literacy in their native language or in English as well as limited schooling experience,

and thus need to learn U.S. schooling practices along with language and academic content (Sarr & Mosselson, 2010). At the local level, these challenges have been confirmed by an ethnographic study on SIFE served by the RCSD (Hos, in preparation). As districts such as RCSD are recognizing that these unique circumstances call for special “newcomer” programs, they have also identified a lack of quality curriculum and instructional materials to be used in these programs (DeCapua et al., 2009). To address this pressing need, as identified by the director of the new RCSD “newcomer” program, we will develop three curricular units (a stand-alone “orientation” unit we call “Pathways to Education,” and a sequence of math and science lessons to be used in credit-bearing courses in these subjects at the secondary level) that will be used in this new program, along with supporting instructional materials and professional development to enable teachers in “newcomer” programs to benefit from this curriculum.

Key activities:

- *3a. Developing SIFE curriculum (including a stand-alone “Pathways to Education” unit and activities for credit-bearing math and science courses).*
- *3b. PD on SIFE units for teachers in “newcomer” programs (6 – 2 per unit)*

Expected outcomes/ measurable objectives:

- Written materials will be available for SIFE secondary teachers to draw on for credit-bearing math and science courses as well as for a stand-alone “orientation” unit (*as a result of 3a*).
- A high-quality “orientation” unit, credit-bearing math course, and credit-bearing science course, will be offered on a regular basis at the new RCSD “newcomer” program Y2-5 (*3a*).
- Up to 24 ESOL teachers (*trained in 3b*) will implement each of these instructional experiences.

**GOAL 4. Increase ESOL teachers’ ability to more effectively teach SIFE**

Rationale: As mentioned in the previous point, SIFE have specific needs that set them apart from

other ELLs, yet most ESOL teachers are not sufficiently aware of these additional needs nor of strategies to address them. Therefore, we have planned two complementary activities to strengthen the preparation of ESOL teachers at the pre-service and in-service level.

Key activities:

- 4a. *New SIFE learning experiences for UR ESOL pre-service teachers.* (4)
- 4b. *PD on SIFE for in-service ESOL teachers.* (4)

Expected outcomes/ measurable objectives:

- Up to 48 pre-service (*participating in 4a*) and 80 in-service ESOL teachers (*4b*) will (a) become aware of the special needs of SIFE, and (b) become familiar with best practices and instructional materials to serve SIFE (including those developed in 3a).

***GOAL 5. Increase school leaders and counselors' ability to serve ELLs and SIFE***

Rationale: Addressing the unique academic needs of ELLs and SIFE requires the full understanding and support of other school personnel besides teachers. Counselors play a major role – especially for SIFE, whose prior experiences often led to post-traumatic stress disorder and other mental health issues (DeCapua et al., 2009). School leaders (such as principals, assistant principals, curriculum coordinators) are also critical to secure services and resources for ELLs and SIFE, as well as to establish a supportive culture and expectations. Similarly to Goal 1, we have planned a set of complementary activities to address the preparation of counselors and administrators at the pre-service and in-service levels, as well as to develop internal capacity to sustain these initiatives after the grant ends.

Key activities:

- 5a. *PD on ELLs and SIFE for PD providers in counseling and leadership* (1)
- 5b. *PD on ELLs and SIFE for UR counseling and leadership faculty* (1)

- 5c. Enhanced UR counseling preparation program with integrated focus on ELLs (4)
- 5d. Enhanced UR school leader preparation program with integrated focus on ELLs (4)
- 5e. PD on ELLs and SIFE for in-service counselors and K-12 school leaders (6)

Expected outcomes/ measurable objectives:

- 7 counselor education faculty (*participating in 5b*), 5 school leadership faculty (*5b*), and up to 16 PD providers in counseling and/or leadership (*5a*) will be able to offer the training for school leaders and counselors designed as part of this project.
- Up to 60 pre-service school counselors, 90 pre-service school leaders, and 120 in-service counselors and/or school leaders, will (a) become better aware of the needs of ELLs and SIFE; (b) gain knowledge about best practices and programs to serve these students; and (c) take some action to implement appropriate programs for ELLs and SIFE in their schools.

**GOAL 6. Increase the number of highly-qualified ESOL-certified teachers**

Rationale: There is a documented shortage of certified ESOL teachers – both regionally and nationwide (U.S. Dept. of Education, 2010). We aim to increase the number of highly-qualified ESOL-certified teachers by attracting more (a) undergraduates who may not have thought of TESOL as a potential career to the UR 39-credit pre-service teacher preparation program and (b) certified content teachers in areas where there is excess capacity (such as some foreign languages, ELA and elementary) to pursue ESOL as an additional certification through the Certificate of Advanced Study (CAS) offered at the UR.

Full scholarships have proven very effective in securing a qualified and diverse pool of applicants – as for example in the last three years applications tripled and enrollment doubled in the UR math and science teacher preparation program as a result of being awarded an NSF grant that offered 10 full scholarships per year. 50% scholarships can also be effective, especially

when combined with federal initiatives such as the TEACH program (which currently provides \$2,000 tuition support per semester to full-time students pursuing teaching certification in high-need fields such as ESOL). Based on these considerations and the UR ESOL teacher preparation program capacity, we are proposing to offer each year six 50% scholarships and two full scholarships for pre-service ESOL teachers enrolling in the UR program, as well as four full scholarships for content teachers pursuing additional certification in ESOL. The Warner School has committed to cover half of the cost of each scholarship.

Key activities:

- *6a. Recruiting pre-service scholarship recipients to pursue ESOL certification (on-going)*
- *6b. Recruiting in-service scholarship recipients to pursue ESOL certification (on-going)*

Expected outcomes/ measurable objectives:

- 48 more teachers will have achieved ESOL certification (32 as their first teaching certification through *6a* [GPRAs 1.1] and 16 as an additional certification through *6b* [GPRAs 1.5]), benefiting from the program enhancements made in the UR program described above.

In addition to the outcomes specific to each project goal, as identified above, given the shortage of ESOL teachers and the number of ELLs mainstreamed in regular classrooms in the region, we also expect that 95% of the ESOL teacher completers and at least two-thirds of the other teacher completers will be providing services to ELLs within 1 year as well as 3 years after program completion (GPRAs 1.2, 1.3, 1.4, 1.6). We also expect that ELL students served by project completers will show gains in achievement when compared with their other peers, and thus their school districts will show progress with respect to NYS Annual Measurable Achievement Objectives for ELLs.

In addition to serving directly the 6,000 ELLs in the Greater Rochester Region, the activities planned by this project will also benefit other ELLs and SIFE across the nation through the curriculum materials developed in activity 3a, and the webinars that BETAC will create based on selected PDs developed in the project.

#### **1.4. Description of key project activities**

To minimize repetition, we organized this section by *type* of activity – rather than by project goals as in the previous section – and articulated up front the following key principles and approaches that inform multiple activities, with references to the literature supporting them:

- Language teaching and materials should be student-centered in order to build on students’ prior knowledge, life experiences, and interests; engage students in studying topics of interest and relevance; incorporate authentic materials explored in interactive environments; and build students’ ability to construct knowledge of language and content for authentic purposes (Gibbons, 2008; Hakuta, Butler, & Witt, 2000; Shrum & Glisan, 2005).
- The inquiry approach to STEM learning – which is consistent with CCSS and recommendations from national organizations about teaching math and science (e.g., Bransford et al., (2000); NCTM, 2009; NRC, 2000) – emphasizes the importance of engaging all students in scientific reasoning, problem solving and explanations, and thus supports a content-based language learning approach (Nordmeyer, 2008).
- There are some basic principles that can be used to make any lesson more accessible to ELLs and thus should be known by all teachers – such as using advance organizers, modeling, visual and verbal scaffolding, partner/collaborative learning (Gibbons, 2008; Herrell & Jordan, 2008) and creating multimodal learning environments (e.g., Moschkovich, 2002).

- At the same time, there are some content-related instructional practices that teachers can use such as the SIOP model of preparation, building background, comprehensible input, strategies, interaction, practice/application, lesson delivery and review/assessment (Echevarria, Short & Powers, 2006) as well as specialized vocabulary building (Snow, Lawrence & White, 2009).
- The principle that ELLs learn Basic Interpersonal Communication Skills earlier than fully mastering Cognitive Academic Language Proficiency (Cummins, 1984) could be useful for all school personnel as they interact with ELLs and their families (Gebhard & Willett, 2008).
- The distinction between ELLs, “newcomers,” and SIFE is useful as these populations have diverse needs which may call for different practices/interventions (DeCapua et al., 2009; Sarr & Mosselson, 2010).
- To increase the effectiveness of the courses and PD offered in the project, we will employ principles and strategies identified as most effective in the teacher education literature (e.g., Darling-Hammond & Bransford, 2005; Borasi & Fonzi, 2002), such as engaging participants in “experiences as learners” and case discussions in addition to readings and presentations, and providing scaffolded opportunities to apply what they learned in their everyday practice.

#### ***1.4.1. Developing needed SIFE curriculum (activity 3a)***

The first SIFE unit we plan to develop (“Pathways to Education”) was motivated by the specific needs identified in the ethnographic study of SIFE in the RCSD (Hos, in preparation) to learn about the U.S. educational system, schooling practices, and expectations, as well as paths available to them to pursue careers of their choice. We are planning this unit as a stand-alone that could be used in the new RCSD and similar “newcomer” programs, as well as in shorter “orientation” activities organized by district with a smaller newcomer and SIFE population. The other two units will consist of an adaptation of math and science lessons addressing content in

the existing Rochester curriculum, so as to enable students in the new “newcomer” program to earn credits towards graduation.

Each of the three planned SIFE units will be developed by a collaborative team led by the PI (Curry) and Project Director (Hos), and including the teacher(s) assigned to that unit in the RCSD “Newcomer” program (Pathways: Fall 1; Math & Science: Summer 1). A first draft of the unit plan will be shared and reviewed with a larger group of ESOL and content teachers for feedback and improvement, then field-tested in the RCSD “newcomer” program (Pathways: Spring 1; Math & Science: Year 2). All three units will then be used on a regular basis in the “newcomer” program for the rest of the project. A set of guidelines and supporting instructional materials to enable other teachers to use the same curriculum will be prepared by Curry and Hos after field-testing, benefitting from what is learned from this experience (Years 3-5).

***1.4.2. Developing capacity to deliver project’s PD and pre-service offerings (1a, 1b, 5a, 5b)***

As we expect the project PD offered to ESOL and content teachers (i.e., activities 1d, 2b, 3b, 4b – for a total of 44 offerings) to be co-taught by an ESOL and a STEM expert, we need to develop a cadre of STEM and ESOL PD providers that can facilitate these experiences together – hence the decision to involve both groups in activity 1a. Similarly, since we plan to offer PD to counselors and school leaders together (as we believe that these two groups need to coordinate their efforts to best serve ELLs and SIFE), we will also hold the PD for counseling and leadership PD providers (5a) as well as faculty (5b) together.

Participants in the activities involving PD providers (1a, 5a) will be recruited by all partners, targeting individuals that have both interest and capacity to deliver relevant PD offerings planned in the project; in particular, we will secure the participation of some of the STEM master teachers trained by the Noyce MTF project to provide quality STEM PD to their

peers. All faculty teaching required courses in the UR teacher, counseling, and school leadership preparation programs have already committed their participation to the project for both the relevant training (1b, 5b) and implementation components (1c, 2a, 4a, 5c, 5d).

Whether involving PD providers (1a, 5a) or faculty preparing pre-service school personnel (1b, 5b), we envision this training as comprising a series of 2-4 meetings (of 2-3 hours each) involving presentations, discussions of readings, and hands-on activities on (a) the specific needs of ELLs and SIFE and (b) principles and best practices to address those needs – informed by the literature mentioned above. Following these meetings, the PD providers in 1a and 5a will engage in a critical review of the design of the PD they will be expected to facilitate; each group of faculty (i.e., teacher preparation, counseling, and school leadership) will instead follow by engaging in an examination of current required course syllabi and internship in their program – to share what they are already doing vis-à-vis ELLs, brainstorm learning experiences about ELLs to add, and decide the best places to do so – and then charge each instructor to revise their assigned courses/internships accordingly and share their plans with the group.

#### ***1.4.3. In-service PD offerings (1d, 2b, 3b, 4b, 5e)***

All PD offered in the project will be designed by the project leadership team (with input from other PD providers, as discussed in the previous section), informed by the specific needs identified by the LEA partners and by Hos' ethnographic study of SIFE in RCSD, and capitalizing on BETAC's rich experience in offering PD in ESOL as well as the Warner Center's successful history of offering PD on STEM teaching. We expect each PD to involve 15-40 hours of meeting time, plus readings and field-based activities – although we also plan to offer a selection of the PD later in the project using a webinar format (capitalizing on BETAC's expertise in this area), so as to better reach school personnel in rural areas and potentially open

up such PD to a national audience in the future. Participants will also receive support by BETAC staff as well as the Project Director as they try to apply what they learned in the PD.

With the only exception of 3b and 4b (which will be facilitated by the Project Director with the support of a SIFE teacher), each PD will be facilitated by at least an ESOL and a “content” specialist (i.e., a math, science, counseling or leadership PD provider depending on the audience). Whenever possible, we will try to pair a member of the project leadership team with another PD provider trained through activity 1a – so as to ensure continuity as well as increase the region’s capacity to offer these PDs.

We expect each PD session to serve an average of 20 participants – with the only exception of the PD on the new SIFE units (3b), where we estimate an average of 12 participants given the smaller number of teachers involved in “newcomer” programs. Participants’ recruitment will be a shared responsibility of all partners; participants will be encouraged to come in “teams” from the same school or district – so as to be able to support each other as they follow up with changes in their site. To achieve maximum impact, we are also planning to encourage all the Noyce STEM Master Teachers (who as part of their training are required to attend PD to better serve all students, and are expected to serve as resources to other teachers in their district), as well as other coaches and leaders, to participate in the first offerings of each training; we believe that this will not only encourage others in their building to participate in the project, but it will also enable the participating Noyce STEM Master Teachers and coaches to include a focus on ELLs as they support other teachers in improving their instructional practice.

Additional information about specific PD activities is provided below:

- *1d. PD on ELLs and SIFEs for K-12 STEM teachers and supporting personnel:* In this PD (~15-20 hours), STEM teachers will (a) become aware of the special needs of ELLs and SIFE

in their classrooms; (b) learn research-based principles and pedagogical strategies to design and adapt STEM lessons/learning experiences to address these needs; (c) critically examine existing STEM instructional materials for ELLs and other tools available to support ELLs; and (d) adapt and implement some STEM lessons and assessments to better address ELLs' needs, reporting back to the group. The examples and instructional materials used in this PD will be customized for secondary math teachers, secondary science teachers, and elementary teachers teaching STEM, respectively. We plan to offer each of these variations multiple times throughout the project (Year 1: 1 of each; Year 2: 2 elementary, 1 math, 1 science; Years 3 & 4: 3 elementary, 1 math, 1 science; Year 5: 2 elementary, 2 math, 2 science) – choosing both central locations to serve the entire region and a few within the BOCES serving rural districts. While content teachers will be given priority, these PD will also be open to paraprofessionals, tutors and volunteers supporting ELLs in the partner districts.

- *2b. PD for ESOL in-service teachers on teaching STEM:* In this PD (~30-40 hours), ESOL teachers will (a) become familiar with STEM learning standards (with a focus on CCSS); (b) learn research-based principles and pedagogical strategies to design math/science learning experiences that can support their students in achieving these standards; (c) critically examine high quality STEM instructional materials and develop strategies for adapting them for ELLs; and (d) design and implement some math/science lessons reflecting these principles, reporting back to the group. We plan to offer two variations of this PD: one focusing on K-12 math, and one focusing on K-12 science. Given the smaller numbers of ESOL teachers in the region, we will offer each version three times over the duration of the project (both math and science in summer of Year 1, science in summer 2 and 4, math in summer 3 and 5).

- *3b. PD for teachers in “newcomer” programs to use SIFE curricula:* We are planning to design three distinct PD offerings in this category (each offered twice during the project in summer): on the Pathways to Education unit (Y1+3), on the math course (Y3+5), and on the science course (Y2+4). In each case, participants will (a) be introduced to the featured SIFE unit’s goals, contents and sequence of recommended learning experiences; (b) have the opportunity to become familiar with the instructional materials available to support the teaching of the unit; and (c) begin to adapt the curriculum for use with their SIFE the following year.
- *4b. PD on SIFE for in-service ESOL teachers:* In this PD (15-20 hours, offered once each in Years 2-5 during the school year), ESOL teachers will (a) become familiar with the literature on SIFE as well as local issues about SIFE; (b) learn research-based principles as well as specific pedagogical strategies to better serve SIFE (both directly and by supporting content teachers working with these students in their classes); (c) learn strategies to adapt curriculum, assessment, and instructional materials for SIFE; and (d) critically examine existing instructional materials for SIFE (including the units for Newcomer programs developed in 3a).
- *5f. PD on ELLs and SIFE for in-service counselors and K-12 school leaders:* In this PD (15-20 hours, offered once in Years 1-4 and twice in Year 5), participants will (a) examine research and local data about ELLs and SIFE; (b) become aware of best practices and structures to serve these students (including strengths and limitations of existing curricula and instructional materials); and (c) begin to work in teams to identify desirable innovations for their school/district and an action plan to pursue at least some of them.

**1.4.4. Pre-service offerings (1c, 1e, 2a, 4a, 5c, 5d)**

The project will involve a comprehensive review and enhancement of the UR teacher preparation (1c), counseling preparation (5c) and school leadership preparation (5d) programs, so

as to include a focus on ELLs, as well as additional experiences for ESOL teachers (2a; 4a) and a new course on ELLs serving multiple audiences (1e). These enhancements will be designed by the UR faculty as part of their participation in the training described earlier in section 1.4.2, and implemented with all UR students in these programs starting in summer of Year 1 (and thus affecting four cohorts of students in each program). To ensure that these learning experiences are implemented as intended and that a focus on ELLs/SIFE permeates the entire program, some workshops will also be held with new internship supervisors and adjunct instructors teaching courses in the program at the beginning of each academic year, starting in Year 2. In addition to infusing a greater awareness of ELLs within each of these programs, we expect these enhancements to involve (but not necessarily be limited to) the following:

- *Teacher preparation (content teachers) (1c)*: Since all UR pre-service teachers take a survey course, “Topics in Teaching & Schooling,” we will develop a module in this course to address the needs of ELLs and SIFE, as well as basic principles for communication and differentiated instruction. Building on this common ground, instructors in all teaching methods courses will also incorporate readings about adapting instruction for ELLs specific to their content area, and expect their students to apply what they learned in the design of lesson and unit plans assigned in these courses. Instructors of the two required literacy learning courses will also incorporate readings and activities focusing on the linguistic needs of ELLs.
- *Teacher preparation (ESOL teachers) (2a+4a)*: Our future ESOL pre-service teachers will engage in a minimum of 20 hours of field experiences involving SIFE – including observations, tutoring and small group teaching of students in the new RCSD “newcomer” program organized in collaboration with the director of that program. To support and fully capitalize on these experiences, additional readings and activities about SIFE will also be incorporated in our

current ESOL methods courses (4a). All scholarship recipients will also be expected to take an additional elective course: the new methods course preparing generalists to teach all four core content areas (i.e., math, science, social studies and ELA), which will familiarize students with recommended learning standards and pedagogical approaches for each subject (2a).

- *Counseling preparation (5c)*: We expect to include new modules on working with ELLs and SIFE within our required courses in Multicultural Counseling, Assessment and Appraisal, and Crisis Management, while also adding readings and activities in other counseling courses throughout the program as appropriate. Practical experiences with ELLs and SIFE will also be included in the required Practicum experience.
- *School leadership preparation (5d)*: Similarly, we expect to include new modules on ELLs and SIFE in our required courses in instructional leadership and school law, as well as relevant readings in other courses within our programs preparing school leaders.
- *New elective course on working with ELLs (1e)*: This new graduate course will be open to pre-service and in-service content teachers (as well as other education professionals) interested in learning about how to better serve ELLs and earning graduate credits for this work (for example, if they need to obtain a master's degree to obtain Professional Teaching Certification – a requirement in NYS). This new course will be similar to the PD in 1d, although with more demanding readings and writing assignments as commensurate for a 3-credit graduate course. For the duration of the grant, this course will be offered tuition-free to project participants.

#### ***1.4.5. Recruitment of scholarship recipients pursuing ESOL certification***

We will have two types of scholarship recipients: (a) pre-service teachers who will complete the UR 39-credit Master's ESOL teacher preparation program (which can be completed in 15 months full-time), and (b) current content teachers who will complete the UR CAS

program leading to an additional teaching certification in ESOL (and which can range from 8 to 20 credits depending on the students' previous area of certification). The pre-service Master's program includes, in addition to foundation courses common for all teachers, a sequence of three methods courses on teaching a second language, a course on Language and Literacy in Education, 100 hours of field experiences in ESOL, and two student teaching experiences in ESOL (one at the elementary and one at the secondary level). The CAS includes 50 hours of ESOL field experiences and one student teaching experience, as well as the specialization courses that were not part of the student's previous teacher preparation program. Both programs are informed by the principles and pedagogical practices articulated at the beginning of section 1.4, and will benefit from the enhancements described above in 1.4.4 (including the new elective content areas methods course, which all scholarship recipients will be required to take). Therefore, we believe that these programs can prepare highly qualified ESOL teachers who can attend to the needs of ELLs and SIFE and have pedagogical strategies to effectively teach content as well as language.

Strategies to recruit each group of scholarship recipients are described below:

- *Pre-service recruitment strategies (6a)*: Building on the UR's successful experience in recruiting recipients for the NSF-funded scholarships for future math and science teachers, we are planning to provide key information to undergraduates at the UR and other regional institutions about the current shortage of ESOL teachers, the UR ESOL teacher preparation program, and scholarships available through the grant, by: (a) direct mailing; (b) posting on undergraduate departments' webpage; (c) reaching out to key "influencers" such as academic advisors; (d) reaching out to career service staff; (e) holding information events; and (e) working directly with the office of minority students affairs in each institution (to increase

applicant diversity). To reach beyond our region, we will also purchase information on GRE test takers and mail them relevant information, as well as promote the program through the Institute for Recruitment of Teachers (a consortium of institutions based at Phillips Academy Andover aiming to “deepen the pool of talented minorities entering the teaching profession in our country”) with which we already have a long-term collaboration.

- *In-service recruitment strategies (6b)*: All partners will disseminate information about ESOL teacher shortages and the scholarships available through the grant for in-service teachers to their staff as well as qualified applicants to their teaching positions. We also plan to capitalize on the local network provided by the Coordinating Committee on ESOL Resources (CCER) on whose board the PI serves, as well as the NYS Association of Foreign Language Teachers – for example, using their listserv to publicize the program and scholarship opportunities.

## **2. QUALITY OF PROJECT PERSONNEL**

Given the many complementary components of this project, and the multiple audiences to be served, securing a leadership team that reflects the expertise required and represents the various partners in the consortium was a priority. To avoid repetition, in this section we introduce the key players and their qualifications, while just touching on their main responsibilities, which will be discussed in more detail in the Project Management section (3.1).

### **2.1. Qualifications of the project co-principal investigators**

*Principal investigator: Dr. Mary Jane Curry*, associate professor at the UR’s Warner School of Education, brings to the project extensive expertise in ESOL education, which has included research and publications (including 2 books and 10 peer-reviewed articles), curriculum development, and directing the UR ESOL teacher preparation program for 8 years. A major line of research for Curry has been studying access to academic discourse and practices for ELLs–

such as ELL immigrants/refugees attending community colleges in the United States, ELL scholars working in southern and central Europe, and ELL faculty and students in engineering schools in the U.S. Curry has also participated in local and federal grants that have combined ESOL and STEM, most notably an NSF-funded IGERT grant where she designed and taught a course on STEM communication. Given this expertise, Curry will oversee all curriculum development and pre-service activities, and be ultimately responsible for all project activities.

*Co-Principal Investigator:* PI Curry's expertise in ESOL is well complemented by co-PI **Dr. Judith Fonzi**'s record in STEM education and professional development. Fonzi, an associate professor at the Warner School, is also the Director of the Warner Center for Professional Development and Education Reform. Fonzi brings to the project over 30 years of experience as a mathematics teacher and teacher educator, long-term connections with the RCSD (where she taught for 8 years, offered PD for over 15 years, and served in a number of district-wide committees), scholarship in STEM education and professional development (e.g., Borasi & Fonzi, 2002) and experience as PI or co-PI of 6 government-funded math professional development and reform projects for a total of over \$6M. Given this expertise, Fonzi will oversee all PD activities and liaison with partner schools.

## **2.2. Qualifications of other key project personnel.**

*Project Director:* **Rabia Hos** is a PhD candidate at the University of Rochester's Warner School, and a visiting instructor responsible for teaching and advising pre-service teacher candidates in Warner's ESOL teacher preparation program. Certified as an ESOL teacher, she previously taught for six years in RCSD and was the ELL coordinator for a charter school within the city. Building on her experience as a 16-year-old immigrant to the U.S. from Turkey, her research

focuses on adolescent refugee students with interrupted formal education in secondary schools, including her nearly completed dissertation on the experiences of SIFE in the RCSD.

*Other key UR personnel:* The project will also benefit from the specialized expertise of **Dr. Cynthia Callard** (part-time middle school mathematics teacher and part-time assistant professor in the Warner Center with extensive experience designing and facilitating math PD in the region) in math teaching and PD, **Stephanie Martin** (a former elementary teacher with 14 years of experience now on the staff of the Warner Center providing PD and consulting services to local schools) in elementary teaching and PD, and **Mary Rapp** (assistant professor in the UR school leadership program and former principal and assistant superintendent for curriculum and instruction) in school leadership .

*BETAC point person:* **Annalisa Allegro** (MS) has been the Director of the Bilingual/ESL Technical Assistance Center (BETAC) since 1992. Prior to this position she was a bilingual teacher and ESOL teacher for 9 years, worked as a resource specialist for the National Clearinghouse for English Language Acquisition (NCELA), and served in the New Jersey Dept. of Education. As a member of the leadership team, Allegro's participation on the project will be critical for developing professional development modules, recruiting PD providers and participants from her district associates (including another local school district offering a Newcomer program), and leveraging resources.

*Other BETAC personnel:* Support to participants and PD offerings will also be provided by **Ellen Paz**, Resource Specialist (with 12 years of experience teaching ESOL), and **Paul Tucci**, professional development specialist (with 10 years of experience teaching ESOL, and 5 years as a science teacher in an elementary summer science program).

*RCSD point person: Miriam Ehtesham-Cating* is the Executive Director of ELL at the Rochester City School District. In this position she manages a department of 16 staff that serves more than 3,500 ELLs and their educators through coursework, professional development, and mentoring. As a member of the leadership team, Ehtesham-Cating will be the point person for all grant activities involving the RCSD, ensuring that the PD and SIFE curriculum successfully meets the needs of ELLs, teachers, and administrators in the district. She will also be pivotal in helping to recruit PD providers and participants from RCSD.

*Other RCSD personnel:* Key roles in the project will also be played by *Mary Andrecolich-Diaz* (director of the new RCSD “newcomer” school) who will ensure that the SIFE curriculum meets the needs of her students, and also facilitate access to the school for various project activities, *Dr. Bonnie Rubenstein* (Director of Counseling for the RCSD and a part-time faculty in the UR counseling preparation program) who will lead the design and facilitation of PD for school leaders and counselors as well as enhancements in the UR counseling preparation program, and *Michael Occhino* (19-year veteran science teacher in the RCSD and advanced doctoral student at the Warner School) who will participate in the design and offering of science PD activities.

*BOCES contact persons:* Each of the partnering BOCES has identified a contact person responsible for recruiting PD participants and providers, and as a liaison to the project (*see letters of commitment in Other Attachments*)

*Program evaluators:* *Dr. Constance Smith* will be the project lead evaluator. Dr. Smith has a Ph.D. in education, and has been working as a program evaluator in the program evaluation section of the Warner Center since 2008. She will bring to this project her experience as the lead evaluator for four grant-funded projects including the already mentioned Noyce MTF (NSF award #1035283 & 0733817; ED-08-PO-0570; ED-IES-09-C-0018). While employed in the

Warner Center, Dr. Smith can be considered an external evaluator as she will not be involved in any other project activity and will act independently.

### **3. QUALITY OF THE MANAGEMENT PLAN**

#### **3.1. Responsibilities for and timing of key project activities**

*NOTE: In what follows, the time to be devoted to each key “type of activity” by key project personnel (except when the activity is part of the individual’s regular job responsibilities) has been indicated at the end of each section as a percentage of FTE for the year, based on an estimate of the number of working days required for each activity, and using the following equivalencies: 1% AY = 2 days; 1% CY = 2.5 days). See the budget narrative for more details.*

- *Curriculum development:* The design of each SIFE unit (3a) will be done by Curry and Hos with the teacher(s) assigned to teach that unit in the RCSD “newcomers” program, who will subsequently field-test that unit, in consultation with Andrecolich-Diaz. Curry and Hos will also be mainly responsible for writing instructional materials for future implementation of each unit, with input and feedback from SIFE teachers (3b). *(Curry, Hos: 15% Y1; 5% Y2-5)*
- *PD to PD providers and faculty:* This PD will be offered at the beginning of the project (Fall 1) to develop capacity to offer all the rest of the PD and courses. Curry will be mainly responsible for planning and facilitating the sessions with faculty, with the support of Hos and Fonzi when working with teacher education faculty (1b) and of Rubenstein and Rapp when working with counseling and leadership faculty (5b); Curry and Hos will also repeat an abbreviated version of these PD with adjuncts and internship supervisors in Y2-5. Fonzi and Allegro will be mainly responsible for planning and facilitating the sessions with PD providers, with the support of Hos when working with ESOL and STEM PD providers (1a) and of Rubenstein and Rapp when working with counseling and leadership PD providers (5a); the same individuals

will be ultimately responsible for the design of all the other PD offered in the project. (*Curry, Fonzi, Hos, Allegro, Rubenstein, Rapp: 5% Y1*)

- *Pre-service initiatives*: ELL-focused learning activities within the UR teacher preparation (1c, 4a), counseling (5c) and school leadership (5d) programs will be developed in Year 1 and implemented in Years 2-5 (and beyond) by the faculty assigned to teach each course (*as part of their regular responsibilities*), with support and “guest activities” provided by Curry and Hos upon request. Hos will teach the new elective ELL course for content teachers each summer starting in year 2. (*Curry: 5% Y2-5; Hos: 10% Y2-5*)
- *PD providers*: Most PD offerings within 1d and 4b will each be offered by one of the following key project personnel (i.e., Fonzi, Callard, Martin and Occhino for STEM; Hos, Allegro and BETAC staff for ESOL) along with another PD provider among those trained in activity 1a. PD on the SIFE units developed in the project (3b) and PD on SIFE for ESOL teachers (4b) will be offered by Hos with the support of another SIFE teacher. PD for counselors and school leaders will be offered by Allegro, Rubenstein and Rapp, along with one of the PD providers trained in 5a. These PD will be offered throughout the project starting with summer 1, according to the schedule provided in section 3.3. (*Fonzi, Hos, Allegro, Rubenstein, Rapp: 5% Y1-5*)
- *PD participants' recruitment and PD logistics*: Participants to the PD for PD providers (1a & 5a) will be recruited by all key personnel, capitalizing on the many highly-qualified people who are already providing ESOL or STEM PD in the partner districts and the Noyce STEM Master Teachers; final selection will be done by Fonzi and Hos with input from other members of the leadership team. All other PD participants (for 1d, 2b, 3b, 4b, 5f) will be recruited by the partner school districts (RCSD and BOCES), through their respective contact persons.  
  
Whenever the demand for a specific PD offering exceeds this capacity, the selection will be

made by Hos and Fonzi making sure that all partners are ultimately served proportionately and fairly. The logistical organization of each PD activity will be the ultimate responsibility of Hos, with support from Warner Center staff. (*Hos: 10% Y1-5; Fonzi: 5% Y1-5*)

- *Support to participants after PD:* Hos, Allegro and other BETAC staff will offer on-demand support and consulting to PD participants as they try to implement what they learned in the PD. (*Hos, Allegro, BETAC: 5% Y1; 10% Y2-5*)
- *Scholarship recipients' recruitment (6a, 6b):* Recruitment and selection of scholarship recipients will be done by Curry and Hos (*as part of their role as faculty in the UR ESOL teacher preparation program*), in collaboration with the Warner School admissions in Y1-4.
- *Evaluation:* Evaluation will take place throughout the project, as described in section 4, under the leaders of Smith and with the support of other Warner Center program evaluation staff for data collection and analysis (*Smith, evaluation team: 211.5 days throughout project*).
- *Project administration:* With the support of Hos, Curry will be ultimately responsible for overseeing all project activities, completing annual reports, and coordinating all curriculum development, and Fonzi will be responsible for the in-service component of the project (*Curry: 10% Y1-5; Fonzi, Hos: 5% Y1-5*)

### **3.2. Summary of key personnel time commitment to the project**

By combining the time commitments articulated in the previous section, here is the total time commitment for each personnel over the five years of the project: **Curry** (20% AY and .5 summer month, + .5 summer month in Y1 only); **Fonzi** (10% AY + 10% AY Y1 only); **Hos** (50% CY); **Callard, Rubenstein, Rapp, Martin, Occhino** (5% AY + 5% AY Y1 only); **Allegro and other partner contact persons** (as part of their regular responsibilities).

### 3.3. Timeline for accomplishing key project activities and objectives

The following table summarizes when specific activities will be implemented over the five years of the project, and the number of “completers” resulting from the implementation of each activity (a key measure for monitoring the accomplishment of the measurable objectives identified in section 1.3). The number in parenthesis preceding the number of “completers” indicates the number of times an activity will be repeated in that year; abbreviations (such as P= pre-service; I=in-service) have been used to keep the table shorter – see section 1.3 for full titles.

Activity	Completer type	Year 1	Year 2	Year 3	Year 4	Year 5
1a. PD on ELLs	<i>PD providers/T.</i>	(1) 20		(1) 20		
1b. PD on ELLs	<i>Teacher ed. fac.</i>	(1) 15				
1c. Teacher prep.	<i>P-content teachers</i>		(1) 50	(1) 50	(1) 50	(1) 50
1d. PD on ELLs	<i>I- content teachers</i>	(3) 60	(4) 80	(5) 100	(5) 100	(6) 120
1e. Course on ELLs	<i>P/I content teachers</i>		(1) 15	(1) 15	(1) 15	(1) 15
2a. Content methods	<i>P-ESL teachers</i>		(1)	(1)	(1)	(1)
2b. PD on STEM	<i>I-ESL teachers</i>	(2) 40	(1) 20	(1) 20	(1) 20	(1) 20
3a. SIFE units dev.	<i>N/A</i>	Pathw.	STEM			
3b. PD - SIFE units	<i>I-ESL teachers</i>	(1) 12	(2) 24	(1) 12	(2) 24	
4a. SIFE-teacher pr.	<i>P-ESL teachers</i>		(1)	(1)	(1)	(1)
4b. PD on SIFE	<i>I-ESL teachers</i>		(1) 20	(1) 20	(1) 20	(1) 20
5a. PD on ELLs	<i>PD prov/Cs. +lead.</i>	(1) 16				

5b. PD on ELLs	<i>Couns. + Lead. Fac.</i>	(1) 12				
5c. Counseling prep.	<i>P-counselors</i>		(1)	(1) 20	(1) 20	(1) 20
5d. Leadership prep.	<i>P-school leaders</i>		(1)	(1) 30	(1) 30	(1) 30
5e. PD on ELLs	<i>Counsel.+Sch.Lead.</i>	(1) 20	(1) 20	(1) 20	(1) 20	(1) 20
6a. Schol. (P)	<i>P-ESL-certification</i>		8	8	8	8
6b. Schol. (I)	<i>I-ESL-certification</i>		4	4	4	4

#### 4. QUALITY OF THE PROJECT EVALUATION

Consistent with DOE program guidelines and best practices in program evaluation, we will conduct a full-scale (formative and summative) evaluation of the program to determine:

- A. *The quality of each component of the program – i.e., (1) quality of PD offered to project participants; (2) quality of graduate pre-service program offered to UR students – so as to evaluate the quality of the “inputs”.*
- B. *The impact of the program on participants’ learning – i.e., the extent to which various program participants (pre-service/in-service content teachers – goal 1; pre-service/in-service ESOL teachers – goals 2 and 4; pre-service/in-service school counselors – goal 5; pre-service/in-service school leaders – goal 5; and other personnel – goal 1) gained awareness about (a) needs of ELLs and SIFE and (b) best practices to serve these populations.*
- C. *The impact of the program on the participants’ practices – i.e., effectiveness of pre-service/in-service content teachers’ instructional practices with ELLs [goal 1]; effectiveness of pre-service/in-service ESOL teachers’ instructional practices in STEM courses [goal 2]; effectiveness of pre-service/in-service ESOL teachers’ instructional practices with SIFE*

[goals 3 & 4]; programs to support ELLs and SIFE initiated by pre-service/in-service school leaders and counselors [goal 5]; and test scores of ELLs served by program completers compared with averages in the same district [all goals].

D. *The impact of the program on specific GPRA's* – i.e., (1) number of pre-service program completers who obtain ESOL certification (GPRA 1.1) [goal 6]; (2) number of in-service program completers who obtain ESOL certification (GPRA 1.5) [goal 6]; (3) number of pre-service program completers who are hired/ assigned to teach ELLs at program completion (GPRA 1.2) and 3 years after completing the program (GPRA 1.3); (4) number of paraprofessional program completers serving ELLs (GPRA 1.4); and (5) number of in-service program completers serving ELLs (GPRA 1.6).

The following evaluation data will be collected and will play a key role in the evaluation:

- *PD observations:* At least one per type of PD and course developed in the project using the PD Observation protocol developed by Horizon Research for use in NSF systemic reform projects to monitor the quality of these professional development experiences; anecdotal data on participants' learning and understanding will be collected simultaneously; formative feedback will be given to the project staff. .
- *Course syllabi:* Teacher Education, Counseling, and Leadership Faculty course syllabi will be examined to determine the extent to which faculty are embedding information about SIFE and ELL students in their courses as a result of the PD received.
- *Assignments:* Course and PD instructors will evaluate participants' major assignments (including lesson plans and assessments that have been "adapted" to give ELLs greater access), to provide data on the learning individuals are gaining from the program.

- *Pre-service teacher achievement data:* Data on pre-service students' achievement in the new courses developed in this program will be examined and tracked.
- *Course/PD evaluations:* At the end of each PD/course, participants will complete a feedback and evaluation form to provide project staff with data for improving the programs.
- *Interviews:* Selected stakeholders (including PD providers, ELL & STEM pre-service and in-service teachers and other participants) to provide a richer understanding of the quality of the developing program and its impact.
- *Class observations:* At the very beginning of the project, and then again during the last two years of the project, a program evaluator will observe a sample of participants' classroom teaching and evaluate these lessons using the Sheltered Instruction Observation Protocol (SIOP – Echevarria et al., 2000) and the Reformed Teaching Observation Protocol (RTOP), observational instruments designed to measure use of approaches to teaching content to ELL students (SIOP) or to measure “reformed” teaching (RTOP – Sawada & Piburn, 2000).
- *Institutional records:* Admission, attendance and graduation/certification data for pre-service participants will be tracked, participant ongoing involvement with ELL and SIFE students will be collected using participants' surveys modeled after a survey developed to follow teacher retention and involvement in STEM teaching and leadership in previous NSF grants.
- *Student data:* Achievement of ELL students in participating teachers' classrooms will be tracked using state assessment data and course completion data from partner districts; this data will be compared to the overall district data for ELL students to determine impact at the classroom level.

The evaluation data thus collected will be triangulated to address our key evaluation questions as summarized in the table below:

<i>Evaluation focus</i>	<i>Relevant evaluation data</i>
(A) Quality of program components	PD observations; course evaluations; interviews
(B) Impact of program on participants' learning	Baseline data; assignments; PD observations; classroom observations; interviews
(C) Impact of program on participants' teaching effectiveness	Baseline data; class observations; student data
(D) Impact of program on GPRA	Institutional records; survey data

Annual reports will be prepared to provide formative feedback for the project staff to inform their future planning and implementation. A final report will be prepared at the end of the project to provide the summative evaluation. This report will identify the extent to which the project goals identified in section 1.3 have been achieved, addressing each of the foci identified in the first column of the table above.

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