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Promoting Educator Networks: Standards-Based Instruction for English Learners (PEN)

PROJECT NARRATIVE

The Center for Applied Linguistics (CAL), in partnership with the TESOL International Association (TESOL), the University of Oregon's Global and Online Education Department (Global), and a team of Local Education Agencies (LEAs), overseen by the evaluation expertise of SRI International (SRI), proposes to conduct a four-year project, *Promoting Educator Networks: Standards-Based Instruction for English Learners* (PEN). PEN will convene and facilitate networks of teachers in an online platform called Oba to support implementation of the Common Core State Standards (CCSS), the Next Generation Science Standards (NGSS), and state-based standards to improve educational outcomes for English learner (EL) students. Project participants will be secondary mainstream teachers of Math, Science, or English Language Arts (ELA) with ELs in their classrooms from two PEN partner LEAs: Charlotte-Mecklenburg Schools (CMS) in North Carolina, and the Fresno Unified School District (FUSD) in California. PEN's goal is to convene networks of teachers who interact around its core elements, thus facilitating their implementation of standards-based, EL-relevant instruction and ultimately improving EL students' academic achievement. The five core elements are interdependent, overlap, and intersect across the project and among the teacher networks. They include: (1) the creation of Professional Learning Communities (PLCs); (2) the establishment and expansion of an Interactive Resource Repository (IRR); (3) Subject Matter Expert Sessions (SMES) presented virtually; (4) Online Professional Development (OLPD) activities split into mini-courses; and, (5) ObaWorld Implementation (OI), during which teachers integrate what they learn about standards-based, EL-relevant instruction into their own instruction.

Initial outcomes will include the following. First, through the creation of teacher networks, teachers will interact with one another through inquiry, critical thinking, practice-based

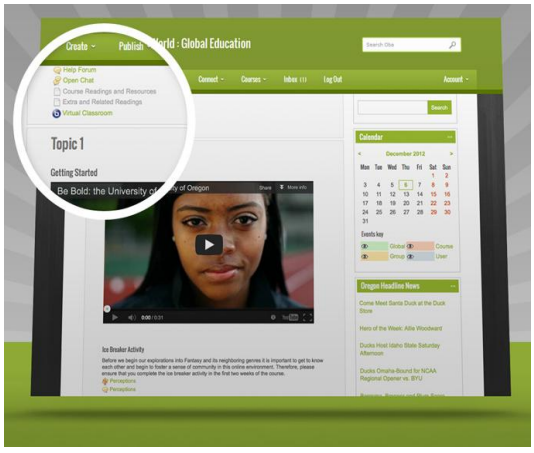
application, resource sharing, accessing expertise, and engaging in opportunities for mentorship around both standards-based instruction and EL methods. Second, as teachers become more knowledgeable and experienced through PEN activities, their implementation of standards-based, EL-relevant instruction will improve. Third, teachers' improved standards-based, EL-relevant instruction will positively impact EL students' English language proficiency (ELP) development and scores, as well as their content area achievement rates on Math, Science, and ELA standardized assessments. In the long term, ELs whose teachers participate in PEN will be better prepared to gain access to, and succeed in, college and the workforce. The PEN project will address Absolute Priority 5, Improving Academic Outcomes for English Learners, Subpart (a), Aligning and implementing the curriculum and instruction used in grades 6–12 for language development and content courses to provide sufficient exposure to, engagement in, and acquisition of academic language and literacy practices necessary for preparing ELs to be college and career ready.

A. Significance

1. Novel approach. The proposed project implements a novel approach to teacher professional development, as compared with what has been previously attempted nationally for three reasons. First, PEN is novel because of its emphasis on teacher networks. PEN's networks represent a move beyond traditional, static, highly structured PD and into a more dynamic, interconnected, and energized approach that leverages teachers' expertise and social capital. Second, PEN is fundamentally innovative due to its expansion of the Oba platform. PEN will utilize Oba for networking teachers with not only one another, but also with the project's five core elements. Third, PEN is unique because it targets the intersection of two previously rarely connected topics—standards-driven instruction, and methods for teaching EL students.

Launched in 2011, by the Global team, Oba streamlines functionality as one, single space for: (1) online course management; (2) live video streaming; and, (3) convening otherwise disparate social networks. Specifically designed for use with teachers and international accessibility, the term 'Oba' was derived from the word 'global.' Two platforms are part of the overall Oba system: ObaVerse is for use in teacher professional development and university-based instruction; ObaWorld is for use with students in K-12 settings. Theoretically, Oba's two platforms allow teachers to experience online PD in ObaVerse and then apply their learning with students in ObaWorld. The Oba platforms are currently accessed in seven countries and by 8000 users. Screenshots of ObaVerse and ObaWorld are in Exhibit 1 below.

ObaVerse



ObaWorld

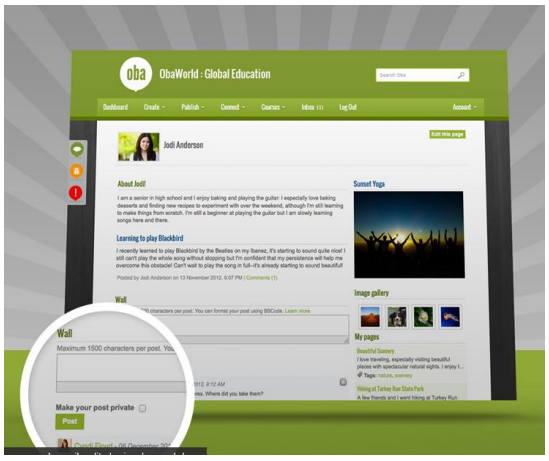


Exhibit 1: ObaVerse and ObaWorld screenshots

The five core interdependent and overlapping elements of the PEN project, which will be foundationally housed within the Oba platform, are further explicated below.

1. Professional Learning Communities (PLCs). Three staggered, two-year long PLCs will be convened at CMS and FUSD over the course of the PEN Project. PLCs 1 and 3 will involve 150 district-wide teachers from CMS and FUSD respectively (300 total). PLC 2 will include 50 teachers from each site (100 total). In addition to each PLC-based network, various small-group

break-outs (for example, all Math teachers; all 9th grade teachers; all Algebra teachers) will be created by both PEN staff and participants. Available activities for both the broader PLCs and break-out networks will include, for example, discussion boards, e-lists, newsletters, forums, a dedicated Youtube channel, video chatting, webinars, real-time collaborative workspaces, connecting with external social networking profiles (e.g., Facebook, Twitter, Pinterest, LinkedIn), and live, moderated discussions. During the course of PEN, participants will build a backpack of badges representing the competencies and skills they develop. Badge systems, similar to Boy Scouts' earned honors, can represent a range of achievements, including, for example, posting the most thoughtful strand on a forum, completion of an OLPD course, or attending a SME session. PEN will establish its own badge-based awards system for the project.

2. Interactive Resource Repository (IRR). The IRR will be the only one-stop location that has compiled all relevant and high-quality print and web-based resources regarding CCSS, NGSS, and standards-based instruction. PEN staff from Global will integrate powerful indexing and search tools to ensure that the growing IRR is representative of available resources, well organized, and searchable by media type, source, topic, and author. It will be deliberately interactive in nature and will become a collaborative space for participants to create, share, and rate resources. The IRR will be split into two sections: one for teacher professional development, and one for teachers' implementation of content. The PD section will include resources informing teachers' professional growth and the implementation area will include samples for use in practice (lessons, activities, assessments, glossaries, vocabulary lists, etc.).

3. Subject Matter Expert Sessions (SMES). Experts external to PEN staff will host monthly SMES, which will involve virtual presentations by a diverse range of highly-renowned scholars in standards-based and EL education. SMES topics might include, for example, Gary Cook

describing ELs and standards-based assessment; or, Guadalupe Valdés lecturing on literacy for secondary ELs. SMES will be archived in the IRR.

4. Online Professional Development (OLPD). PEN's OLPD will be mini-courses offered during year one of each PLC. PEN participants will be required to complete at least one OLPD mini-course in year one and may choose from up to eight more OLPD electives to complete, if interested. The required OLPD will be Standards-Based Math/Science/ELA Instruction for Secondary ELs (respective to participants' content areas). During the OLPD, participants will build portfolios that they will use during ObaWorld Implementation. Electronic badges will be awarded to model lesson plans, forum posts, activities, presentations, videos, and other content created during OLPD mini-courses.

5. ObaWorld Implementation (OI). In the second year of each PLC, PEN participants will begin OI, during which they will enroll their own students into ObaWorld and apply what they have learned in Year 1 specific to standards-based, EL-relevant instruction, as well as the Oba platform. PEN staff will provide mentorship and content-based feedback, as well as support for creation of interactive activities for use in ObaWorld that capitalize on its capabilities, including, for example, videos; forums; libraries; assessments; web resources pages; portfolio development; and presentations integrating animation, audio, video, and embedded assessments.

Taken together, PEN's five core elements reinforce professional development through the critical components of interaction, engagement, access to expertise, and online practice (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Kubitskey, 2006; Loucks-Horsely, Stiles, & Hewson, 1996; Penuel, Riel, Krause, & Frank, 2009). In this way, PEN serves as an exemplar for teacher professional development and expands existing national and international theory, knowledge, and practice around educator preparation. In addition, its emphasis on both

EL methods and standards-based instruction will promote successful alignment and implementation of curriculum and instruction used in grades 6-12 for language development and content achievement for ELs.

2. Advancement of theory, knowledge, and practices. The proposed PEN project will further develop and enhance theory, knowledge, and practice for teacher preparation in general, as well as for standards-based, EL-relevant instruction. In the three years since they were published, the CCSS for ELA and Mathematics (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) have been adopted by 46 states, and similar levels of adoption for the recently-released NGSS are anticipated. The rapid rate of standards adoption and expectations around implementation presents a formidable challenge for educators, who report struggling to understand how best to integrate these new standards into their instruction (Council of Great City Schools [CGCS], 2012; EPE Research Center, 2013; TESOL International Association, 2013). To address these concerns, education organizations have disseminated a variety of resources and other supports to facilitate implementation of new standards (ASCD, 2013; CGCS, 2012; EPE Research Center, 2013; Stanford University, 2013; TESOL International Association, 2013). However, few specifically address the intersection between standards and ELs.

Prior to the standards movement, teachers already felt generally under-prepared for teaching ELs (Gándara, Maxwell-Jolly, & Driscoll, 2005). Now they feel particularly unready to implement standards-based instruction for ELs (EPE Research Center, 2013). To address this need, the PEN project offers teachers a network-oriented, innovative, engaging, interactive opportunity to build and share not only resources, but also activities, lessons, and reflection around standards-based, EL-relevant instruction. A number of aspects of the CCSS and NGSS

present new challenges distinctly for the instruction of ELs , including the expectations that students will read and comprehend complex text on grade level by the end of the school year and that they will be able to speak, listen, read, and write about rigorous grade-level content. Beyond this, the CCSS and NGSS include numerous changes related to English language and literacy for classroom teachers at all grade levels, including a greater emphasis on language and literacy across the curriculum, a focus on informational text, and attention to argumentation skills.

Through PD, teachers will learn to recognize the language and literacy demands of content curricula, design instruction to meet these demands, and assess students' English language and literacy development (Duguay, Massoud, Tabaku, Himmel, & Sugarman, 2013; Santos, Darling-Hammond, & Cheuk, 2012). Content lessons, for example, should incorporate guidance for students to practice oral and written academic language. To facilitate this, teachers can provide sentence starters using graphic organizers or posted on the wall with cues such as, "My hypothesis is…," "The outcome that I least expected was…" The use of patterned structures and discourse features like these examples are particularly relevant in content areas (Anstrom et al., 2010). Teachers need guidance to recognize, instruct, and formatively assess patterns such as these. Within this context, the PEN project will provide teachers with a scholarly background on language learning as well as practical strategies and resources that they can then implement in their classrooms using ObaWorld.

The PEN project represents an innovative shift in teacher PD through integration of its five core elements (PLCs, the IRR, SMES, OLPD, and OI). Exhibit 2 illustrates how PEN will move beyond traditional approaches to PD and currently available online networks into a new, pioneering paradigm. Its unique combination of interaction, engagement, access to expertise and

online practice, courses and coursework, groups, messaging, and leveraging of participants' capital makes it highly innovative in nature and execution.

Old Paradigm (Traditional Models of Teacher PD)		**New Paradigm (PEN Project Model of Teacher PD)**
Static	- - - - →	Dynamic
Highly structured	- - - - →	Fluid, responsive
Discrete	- - - - →	Interconnected
Focused on individual practice	- - - - →	Capitalizes on networks
Driven by outside experts	- - - - →	Driven by teachers, with expert collaboration
Disjoined from classroom practice	- - - - →	Integrated with classroom practice
Teachers as trainees	- - - - →	Teachers as experts
Outside expert→teacher	- - - - →	Outside expert→teacher *and* teacher→teacher
Resources provided once	- - - - →	Resources added over time by teachers and other experts

Exhibit 2: Old vs. New Paradigm for Teacher PD

Because PEN staff includes the Oba developers, platform customization and changes to better support participants' needs will operate seamlessly. The Global team will collect data for the SRI evaluation, and data collected via the Oba platform will also be used to revise and improve PEN activities. Ultimately, PEN will enhance currently available practices for teacher PD, and will advance theory, knowledge, and practice around educator preparation, particularly for standards-based, EL-relevant instruction.

3. Improved outcomes. PEN will substantially improve on the outcomes achieved by other PD practices, particularly including better student outcomes, at both a lower cost and accelerated rate than has previously been possible. Because the majority of PD occurs online, PEN will allow engagement in its content without cost for travel, additional teacher pay, consultants, or materials. Teacher participation in PEN will positively impact both ELP levels and scores on content-based, standardized assessments for ELs. The PEN project targets one of the most at-risk and underserved student populations in the country—secondary ELs. Last school year, among ELs, more than 70% of 8th graders and nearly 80% of 12th graders scored "basic" in reading (Haynes, 2012). The PEN project is anticipated to significantly impact student test scores. For example, on the ACCESS test of ELP, the expected impact may be as significant as increasing

from Level 3, *Developing*, to Level 5, *Bridging*, in reading, writing, or oral language production. On standardized content tests, students impacted by PEN will also likely demonstrate improvement as a result of the project. In the long term, elevated student outcomes will also impact ELs' proclivity for college and careers.

Over the course of the project, the total 700 teachers at FUSD and CMS will impact an estimated 12,530 and 3,885 EL students respectively. Annual data will be collected from students' ELP tests and standardized content exams. Regarding teachers' reception of professional support and development through PEN, sources of data collection via the Oba platform, as aligned with the five core elements, will include automated self-report surveys, metrics regarding frequency of entry to various sub-sites within the five core elements, formative data regarding products shared and posted by teachers, quantities of badges obtained by teachers and break-out networks, and qualitative data collected through interviews and observations during site visits.

B. Quality of the Project Design

1. Addressing Absolute Priority 5: Improving outcomes for ELs. The PEN project will prepare teachers to better align and implement the curriculum and instruction used in secondary settings for language and literacy development among ELs that will result in sufficient exposure to, engagement in, and acquisition of, the academic language and literacy practices necessary for college and career readiness. This over-arching goal will be achieved by increasing the ability of PEN teachers to implement standards-based, EL-relevant instruction. As PEN teachers concurrently interact with new standards and build knowledge of best practices for EL instruction, they will likely improve student outcomes.

2. Project goals and action plan. PEN's goal is to improve teachers' integration of standards-based, EL-relevant instruction that supports the language, literacy, and content learning needs of ELs in ways that improve students' achievement scores to better prepare them for college and the workforce. PEN will address four over-arching goals. These are to: (1) Use PEN's teacher networks and five core elements (PLCs, the IRR, SMES, OLPD, OI), via the Oba platform, to innovatively expand traditional approaches to PD; (2) Facilitate teachers' implementation of standards-based, EL-relevant instruction; (3) Improve ELs' English language and literacy development, therefore enhancing access to rigorous core academic content; (4) Impact EL students' ELP and standardized content scores as a result of teachers' involvement in PEN. At PEN's conclusion, the field will benefit not only from the rich resources emerging from its networks, PLCs, and other components, but on a broader scale, from the establishment and evaluation of a comprehensive approach to preparing teachers. This exemplar approach ventures beyond traditional approaches to PD and is based around growing teachers' inherent resources

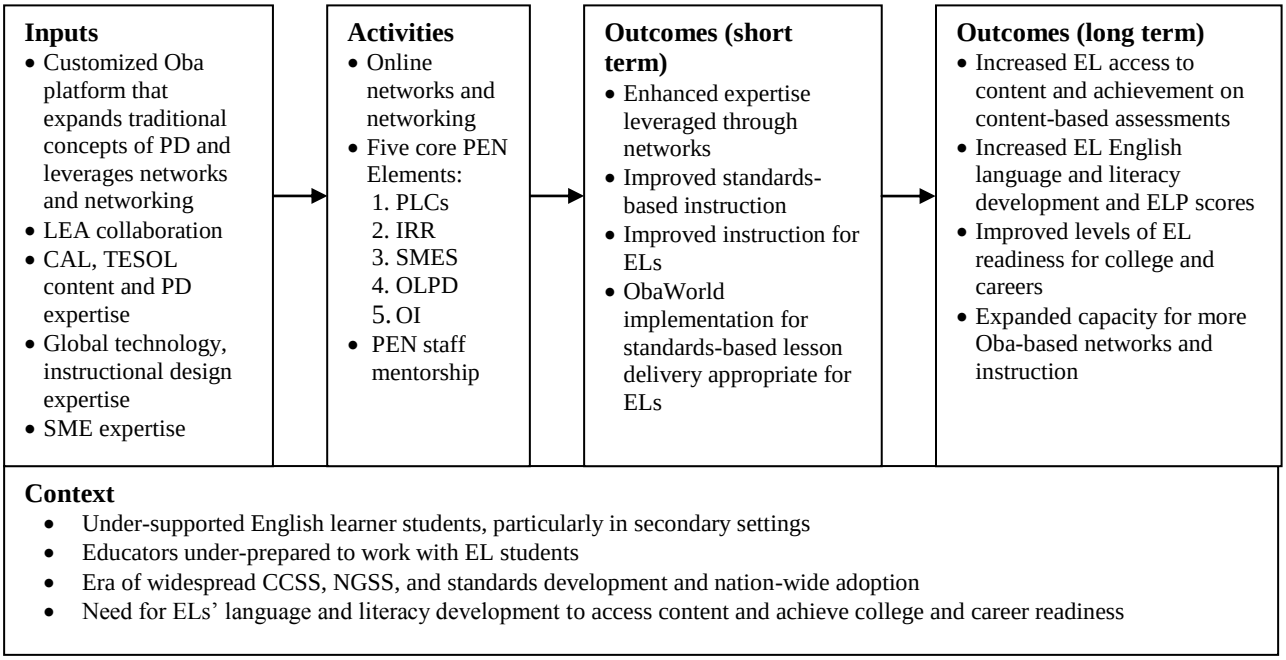


Exhibit 3: Logic Model

through leveraging shared networks. The Logic Model in Exhibit 3 illustrates the key inputs, activities, short-term and long-term outcomes, and contextual characteristics associated with the proposed project.

Inputs. To achieve PEN's goals of improving teachers' standards-based and EL-relevant instructional practices, and transform educator preparation, various inputs will be involved. Unlike approaches involving delivery and reception of PD content, the PEN core elements together are novel because they leverage interaction, therefore broadening and re-conceptualizing a more fluid, dynamic approach to PD. The PEN approach maintains characteristics that are commonly known as best practices for PD, but elevates them, particularly through diverse opportunities for interaction through the PEN network.

Key components of the inputs driving the PEN project involve the partnerships among CAL, TESOL, Global, SRI, and the LEAs, CMS and FUSD. The LEAs are central to PEN's success. CAL and its proposed staff have provided comprehensive, large-scale PD to over 1,500 teachers at CMS in the last five years and have a long history of working with, and providing technical assistance to, FUSD. In Fresno, CAL has conducted PD, coaching, and mentorship on EL methods, and conducted a research project funded by the Irvine Foundation with the goal of improving college and career readiness for secondary ELs.

Activities. All PEN project activities link to the goal of establishing and leveraging teacher networks that operate around two main topics: standards-based and EL-relevant instruction. The five core PEN elements will be carried out via the Oba online platform and driven by networks that emerge through and among the initial establishment of Professional Learning Communities. PEN's PLCs will essentially be the 'home room' for each large PLC-based network, as well as smaller, focused networks that will be both created by PEN staff and encouraged to emerge

organically around the four other inter-related core elements. In concert, the PLCs, IRR, SMES, OLPD, and OI will serve the broader endeavor of impacting teachers' instruction and improving student outcomes.

Outcomes. Short-term outcomes of the project will involve enhanced expertise among PEN participating teachers, which will be leveraged through their participation in networks associated with their PLCs. In the short term, PEN will improve teachers' instruction in two ways: first, to meet CCSS, NGSS, and state standards; and, second, through integration of best practices for ELs. In their second year of PEN participation, teachers will use the ObaWorld platform for standards-based, EL-relevant instruction with their students. In the long-term, ELs whose teachers are PEN participants will have greater access to rigorous academic content as a result of improved English language development and literacy skills. As an extension of ELs' improvement in the areas of content, language, and literacy, they will score higher on tests of ELP and content and will in turn, be better prepared for postsecondary education and the workforce. Further, PEN will have developed the foundation for expanding the innovative, Oba-based approach to teacher professional development.

3. Project goals, activities, and risks. PEN will seek to achieve four core goals. These are to (1) Use PEN's teacher networks to expand traditional approaches to PD; (2) Facilitate teachers' implementation of standards-based, EL-relevant instruction; (3) Improve ELs' English language and literacy development, therefore enhancing access to rigorous core academic content; and, (4) Impact EL students' ELP and standardized content scores as a result of teachers' involvement in PEN. To demonstrate the capacity to meet the project's goals, PEN activities and their relationship to each goal are explicitly outlined in Exhibit 4.

Goal	PEN Activities
Use PEN's teacher networks to innovatively expand traditional approaches to PD.	(1) Convene PLCs, including break-out groups by: sub-content area (e.g., within Math, Algebra), school, grade level, middle or high school; (2) Invite collaboration through forums, video chatting, sharing curriculum; (3) Encourage connecting with other social networking profiles; (4) Share resources, lessons, activities, and experiences with colleagues through the IRR, SMES, and OLPD.
Facilitate teachers' implementation of standards-based, EL-relevant instruction.	(1) Invite PLC-based interaction around standards and EL methods; (2) Build and grow the IRR for both PD and implementation of standards-based, EL-relevant resources; (3) Hold SMES hosted by EL experts directed toward standards-integration; (4) Facilitate OLPD mini-courses about EL methods and directly integrate standards; (5) Mentor teachers' OI for standards-based, EL-relevant instruction with students.
Improve ELs' English language and literacy development, therefore enhancing access to rigorous academic content.	(1) Foster PLC-based interaction around EL-relevant instruction; (2) Ensure that the IRR incorporates sources that directly address the intersection of standards-based instruction for ELs; (3) Ensure presenters for SMES emphasize EL strategies; (4) Offer OLPD that builds a foundation for EL-relevant pedagogy; (5) Provide mentorship that facilitates use of ObaWorld in language and literacy-rich ways for ELs.
Impact EL students' ELP and standardized content scores as a result of teachers' involvement in PEN.	(1) Provide explicit opportunities for sharing EL methods, strategies, and activities in PLC-based networks; (2) Build a robust implementation section in the IRR; (3) Connect OLPD with curriculum and practice and provide opportunities for real-world application; (4) Encourage comprehensive use of ObaWorld that promotes language and literacy development.

Exhibit 4: Goals and Activities

During Year 1, PEN will offer OLPD mini-courses that build a foundation for expanding teachers' knowledge and expertise around EL-relevant instruction that is guided by content standards. The OLPD courses will run for six weeks and equal fifteen seat hours, or one university level credit. A $50 fee has been allocated in the PEN budget to account for processing of at least one (and up to as many as teachers would like) university credit for all PEN participants. Credit would be transferrable and hosted by an accredited university, likely the University of Oregon. PEN participants will be required to complete at least the Content-Based Instruction for Secondary ELs methods course relevant to their respective content area (Math, ELA, or Science), offered in both the fall and

Content-Based Math/Science/ELA Instruction for Secondary English Learners
Oral Language Development: Listening and Speaking for Secondary English Learners
Literacy and Language Development for Secondary English Learners
Assessment across the Content Areas for English Learners
Standards-Based Instruction for English Beginners
Vocabulary Development in Content-Based Settings for Secondary English Learners
Sheltered Instruction for Secondary English Learners: Methods
Family and School Connections for Language Minority Schooling
Foundations of Language Minority Schooling: Research, Policy, and Practice

Exhibit 5: OLPD Courses

spring. OLPD mini-courses would require a 2.5-hour commitment per week. The one required and eight elective mini-courses are displayed in Exhibit 5. Five courses (including the required content course) would be offered each spring and fall and two offered in winter and summer sessions. Participants would only be permitted to enroll in up to four concurrent courses during the semesters and one during winter and summer sessions.

PEN staff is aware of the possible risks associated with teachers' involvement in the project. Risks might include not obtaining the necessary buy-in from participants for full engagement or losing participation due to challenges accessing the online Oba platform. To off-set these, the PEN project will include LEA points of contact charged with supporting PEN participation who will receive an annual $2500 stipend. In addition, each LEA's commitment to PEN (see Appendix G for LEA Letters of Support) would include willingness to contribute school- or district-based technical support. Another potential risk factor might be losing teachers who have limited technological aptitude. To address this challenge, break-out networks will be deliberately created by PEN staff that partner newer, novice teachers with older, expert teachers. Generally, a challenge for PEN may involve harnessing teachers' active investment in the project. To account for that possibility, opportunities to foster intrinsic motivation have been embedded across PEN's elements. For example, participants will be invited to build backpacks of badges that reflect gained competencies, knowledge, and skills that they can display on profiles. In addition, honors will be given to teachers who, for example, actively contribute to forums; post model lessons; or share successful portfolio artifacts.

Teachers' investment will also be provoked by the activities of the SMES in the overall project. Of the total 19 confirmed experts who will present sessions, sample presenters and topics are listed in Exhibit 6. SMES will be conducted monthly, will run approximately ninety minutes,

and will be archived in the IRR. The outline they will follow includes: introduction to the topic by PEN staff, expert lecture, question and answer, sharing and discussion of a model product (lesson, activity, resource) developed by a PEN teacher aligned with the SMES topic, question and answer, and wrap-up. For teachers, the opportunity to interact with experts, to have one's PEN product highlighted in their presence, and to ask questions directly to the expert will stimulate participants' levels of engagement in the overall PEN project. Participant feedback will be collected at the conclusion of each SMES and will help to inform the ongoing development and future planning for SMES.

SME	Topic
Okhee Lee	Literacy for ELs in the science classroom
Margarita Calderón	Using standards-based instruction for long-term ELs
Jill Baxter	Math instruction for ELs
Ester de Jong	Fundamentals of sheltered instruction for ELs
Guadalupe Valdés	Using the ELs' native language for CCSS instruction
Yong Zhao	Integrating technology for content-based instruction with ELs

Exhibit 6: SMES

The teacher networks convened and fostered through the five main interdependent PEN elements represent a novel and innovative approach to educator professional development that is grounded in strong theory about what scholars have shown to be promising approaches to preparing teachers. Further, its centrally focused content will not only improve teachers' professional capacity, but will do so specifically around their implementation of standards-based, EL-relevant instruction. In the long term, the goals and activities of PEN will improve ELs' English language and literacy skills, therefore enhancing their access to rigorous content and positively impacting their ELP and content achievement.

C. Quality of the Management Plan

1. Key responsibilities, objectives, timelines, milestones, metrics, and targets. The PEN Management Plan, outlined in Exhibit 7, articulates key responsibilities and objectives, including timelines and milestones for major activities and metrics for assessing PEN progress.

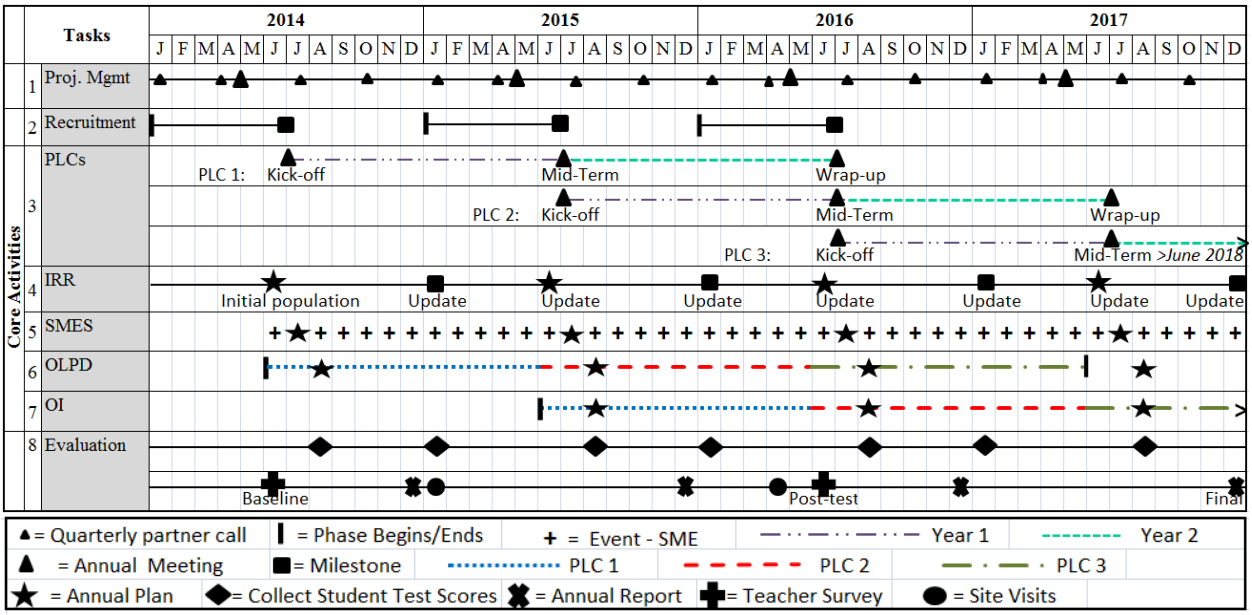


Exhibit 7: PEN Management Plan

To ensure efficient Project Management for Task 1, regular partner meetings will occur annually, quarterly, and at LEAs which will each include LEA points of contact. Annual meetings are anticipated to occur in May, will be in Washington, DC, and will be scheduled to align with the annual ED-hosted i3 grantee meeting. In addition to the annual meetings, all partners and LEA representatives will participate in quarterly conference calls throughout the duration of the project to provide updates on progress; identify milestones met, challenges emerging, and strategies for addressing challenges; and discuss upcoming deadlines. The third set of regular meetings will be kick-off, mid-term, and wrap-up sessions held at CMS and FUSD for each of the three PLCs. PEN staff will travel to each site for two days of meetings with PLCs and the LEA point of contact.

To address Task 2, SRI will work with Jennifer Pearsall at CMS and Elizabeth Fralicks at FUSD to conduct full project recruitment from January to June 2014. Recruitment for new PLCs will be revisited in Years 2 and 3 during the same period to address attrition and revisit PLC measurement strategies. Key milestones for PLCs, Task 3, include initial kick-off meetings, mid-term meetings, and wrap-up meetings. Due to project timeline logistics, the third PLC will not involve a wrap-up meeting. PEN participants' involvement in PLCs will be measured using a baseline survey in June 2014 and posttest in June 2016. Metrics used to measure PEN participation in PLCs and in general will be collected via the Oba platform and include the frequency of Oba visits, the amount of time spent logged in, types of interactions, and extent of use of the four other core elements (IRR, SMES, OLPD, OI).

Task 4, the Interactive Resource Repository, will be initially populated during the first six months of the project and presented at annual PLC kick-off meetings. Its key milestones and performance indicators will include regular updates at six month intervals and an Annual Plan completed each June. Its contents, organization, and emphases will be discussed during quarterly and annual PEN partner meetings. Task 5, SMES, will occur monthly beginning in June 2014. Between sessions, staff will review feedback collected by PEN participants and conduct appropriate revisions. Topics, themes, and additional experts will be explored during quarterly and annual partner meetings. Performance indicators will be collected and Annual Plans will be completed annually in July. Task 6, Online Professional Development sessions, will be offered in Year 1 of each PLC. Five six-week OLPD mini-courses will be offered in fall and spring and two during condensed winter and summer sessions. Performance indicators and Annual Plans for the OLPD will be completed in August of each year. Annual Plans for Tasks 5 and 6 will occur after their start dates in order to solicit feedback from participants. ObaWorld Implementation, Task 7,

will occur during Year 2 of each PLC. Performance indicators and Annual Plans will be completed in each August. Key milestones for Task 8 will involve bi-annual collection of student outcomes in August and January, collection of metrics regarding teacher participation automated via the Oba platform, surveys of teachers, one site visits per year in 2015 and 2016, and annual development and submission of Annual Reports to CAL each December.

2. Demonstrated commitment. The PEN project is built around the four-organization partnership among CAL, TESOL, Global, and SRI, and also will rely heavily on contributions, support, and feedback from CMS and FUSD. Letters of Support and Memoranda of Understanding from the partners, including LEAs (see Appendix G) demonstrate partners' commitment to PEN. Other key collaborators include the SMEs, each of whom has also submitted a Letter of Support (see Appendix G).

3. Feedback and continuous improvement. To ensure feedback and continuous improvement in the operation of all PEN activities, all partners, including LEA points of contact, will participate in quarterly conference calls. Objectives for the calls will involve providing updates on each partner's progress; identifying milestones met, emerging challenges, and strategies for resolving any issues; and upcoming deadlines. Feedback from the quarterly meetings will be archived and reviewed on an annual basis for adapting local implementation. Global will also provide comprehensive data regarding PEN and its access and usage, including detailed analysis of participation, outcomes, tracking manipulation, and artifact collection from PEN's core elements.

D. Personnel

Sarah Catherine K. Moore, Ph.D.*, PEN Director*, has been a teacher and conducted research and PD in K-12, university, and in-service settings. Her prior experience in PD, with online learning, and directing large scale projects has prepared her for successful direction of the PEN

project. As CAL's Coordinator of Online Learning, she oversees roughly 50 online courses and more than 25 staff, and manages an approximately $300,000 budget. She will devote 50% in Year 1 and 40% in Years 2-4 to PEN.

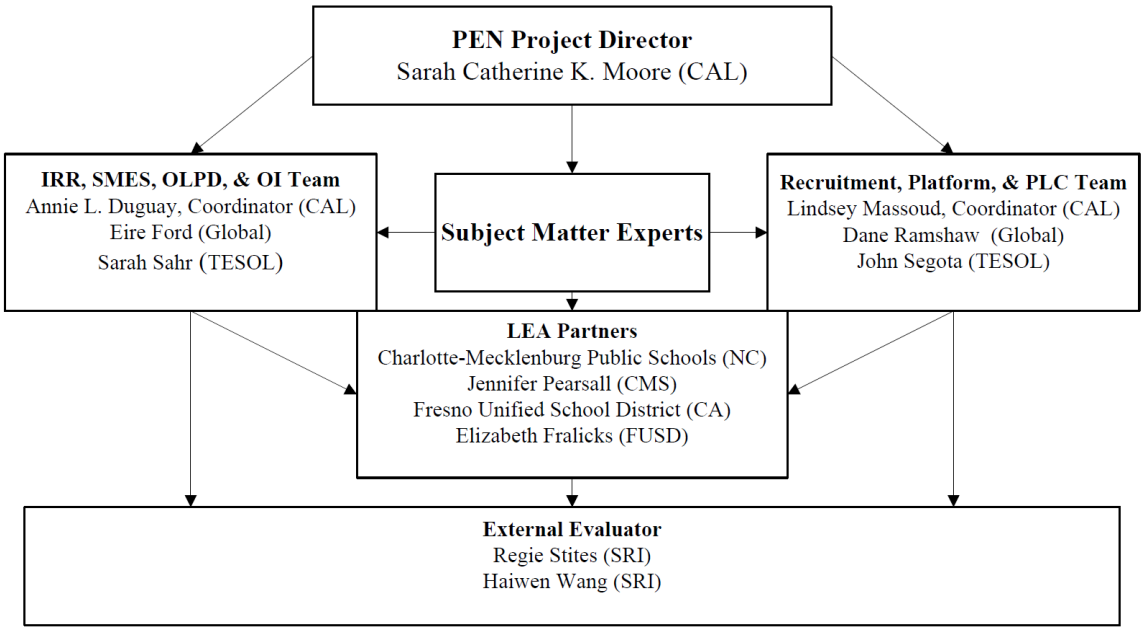


Exhibit 8: Organizational Chart

Annie Laurie Duguay, *PEN Coordinator*, has expertise as a STEM-focused and ESL teacher, PD provider, and EL program coordinator. She will devote 50% time in Year 1 and 40% time in Years 2-4 to PEN.

Eire Ford is an analyst programmer directing the cloud hosted infrastructure and operations that support Oba platforms at UO. He will provide technical and metrics support for PEN.

Sarah Sahr is Education Programs Manager at TESOL with experience as a secondary teacher and administrator. She designs and facilitates online PD for TESOL and will contribute to resource development and OLPD delivery for PEN.

Lindsey Massoud, *PEN Coordinator*, has experience providing teacher PD, developing online curriculum, and researching EL methods. She will devote 50% time in Year 1 and 40% time in Years 2-4 to PEN.

Dane Ramshaw pioneers new and innovative pedagogical practice through classroom technology, including work on the impact of Social Networking on student voices. He will guide collection of metrics via Oba and direction of Global's technical support for PEN.

John Segota is Associate Executive Director for Public Policy & Professional Relations at TESOL. He will contribute to fostering engagement in PLCs and networks and PEN outreach and dissemination efforts.

Jennifer Pearsall is Director of ESL Student Education for Charlotte-Mecklenburg Schools. She will be the CMS PEN point of contact.

Elizabeth Fralicks is the Manager of English Learner Services for secondary students at Fresno Unified School District. She will be the FUSD PEN point of contact.

Regie Stites, Ph.D. has twenty years of experience designing and directing large-scale educational research and evaluation projects. He will lead the PEN evaluation.

Haiwen Wang, Ph.D. is a quantitative analyst focusing on statistical modeling and applying rigorous methodology to educational research. She will conduct data collection and analysis for the PEN evaluation.

E. Quality of Project Evaluation

SRI will conduct a rigorous evaluation that will document the extent of PEN implementation at LEA sites—CMS and FUSD—and identify the impact of PEN participation on teachers and their students. The evaluation will employ an experimental design; participating teachers at each partner site will be randomly assigned to either the treatment condition (participate in PEN) or control condition (no PEN participation). A total of 700 teachers will be recruited at the teacher level for the study in the two districts combined. Online records of participation (Oba analytics), teacher surveys, interviews, and observations will provide data for an annual measure of PEN

implementation fidelity, including teachers' exposure to, and levels of involvement in, the core elements of the PEN model. Teacher outcomes will derive from teacher surveys supplemented by Oba analytics, teacher interviews, and observations. Student outcomes will be drawn from district data sets.

Evaluation questions and logic model. As illustrated in the logic model (see Exhibit 3, p. 10), the PEN project's five core elements are expected to lead to improvement of EL-relevant, standards-based instruction and increased English proficiency and academic achievement for ELs. Driven by the logic model, the evaluation will address the following impact, exploratory, and implementation questions: Impact questions. (1) Does PEN participation result in better standards-based instruction for ELs? (2) Does PEN participation result in improved English proficiency and achievement in reading, math, and science for ELs? Exploratory questions. (1) Is effective instruction related to student achievement, potentially mediating the PEN effect on student outcomes? (2) Among teachers in the treatment (PEN) condition, are higher levels of participation related to more effective instruction and higher student achievement? Implementation questions. (1) What is the level of fidelity to the PEN model in the two partner sites? (2) In what ways does PEN implementation differ within and across the two districts?

Sampling/Recruitment plan. SRI will randomly assign all recruited teachers to one of three groups: Group A = 300 teachers who will begin PEN participation in 2014-15; Group B = 100 teachers who will begin PEN in 2015-16; and Group C = 300 teachers who will begin PEN in 2016-17[i]. Exhibit 9 displays the treatment condition (PEN or Control) for each group of teachers in each year. The major focus of the evaluation will be an estimation of the two-year impact of PEN on both teacher and student outcomes by comparing Group A with Group C in 2015-16.

The one-year impact of PEN on student outcomes will be estimated by comparing Group A with Groups B and C in 2014-15 and Group B with Group C in 2015-16[ii].

Academic Year	Group A (n=300)	Group B (n=100)	Group C (n=300)
2014-15	PEN	Control	Control
2015-16	PEN	PEN	Control
2016-17	PEN	PEN	PEN

Exhibit 9: Treatment Conditions by Group and Academic Year

Student outcome measures. To assess students' achievement, SRI will collect bi-annual student test score data linked to teachers, using scores from each district's respective state standardized test[iii] and EL English proficiency tests (CELDT in California and ACCESS in North Carolina). SRI will analyze student achievement in ELA, Math, and Science in tested grades as well as on English proficiency tests. The impact of PEN participation will be analyzed for EL students of teachers included in the study after both the first and second years of teaching.

Teacher outcome measures. Teacher outcomes will be assessed using data from online surveys and will be supplemented by data from site visit teacher interviews and classroom observations. In the summer of 2014, a baseline survey instrument (pretest) will be developed and administered on the Oba platform prior to PEN implementation to teachers in Groups A and C. At the end of the second school year of implementation, the survey (posttest) will be revised and administered to teachers in these two groups. Survey items will be developed to assess teacher participation in PEN activities and implementation of EL-relevant, standards-based instruction. Data from site visit teacher interviews and classroom observations will support the interpretation of findings on teacher outcomes, but will be used primarily as measures of implementation.

Implementation measures. The evaluation team will use Oba analytics and site visit data to measure fidelity of implementation of the PEN model and to document teachers' participation in PEN, provide feedback to the development team, explore how different levels of participation might lead to changes in outcomes, and understand the experiences of teachers in the control

condition. Analytics data to be used as indicators of fidelity to the PEN model, for each participating teacher, will include: the frequency with which the teacher visited the PEN platform, the amount of time spent logged in, the type of interactions in which the teacher engaged while online, and the extent to which teachers utilized ObaWorld for standards-based lesson delivery to middle and high school ELs. To complement the analytics data, SRI will conduct two rounds of site visits to each district, the first in the winter of 2015 and the second in the spring of 2016. Each site visit will include interviews with a randomly-selected sample of roughly 36 teachers in the treatment and control conditions in each district. Each site visit will also include classroom observations of approximately 12 interviewed teachers (6 treatment and 6 control) in a mix of the three content areas. Teacher interviews and observations will highlight the implementation context, the factors influencing teachers' participation in PEN, and the strategies that teachers in treatment and control conditions employ to deliver standards-based instruction to ELs. Interviews will also address treatment teachers' experiences with the Oba platform and PEN activities, and the factors supporting or hindering implementation.

Analysis of PEN effect on teacher outcomes. Teacher outcomes collected from surveys will be comparable across sites. Thus, researchers will pool data from both sites to conduct the impact analysis. To estimate the impact of PEN on teacher outcomes two years into the intervention, Group A teachers will be compared with Group C teachers on the surveyed outcome indicators, adjusting for baseline indicators including teacher background characteristics. This analysis will be able to detect a minimum detectable effect size (MDES) of 0.26[iv]. Researchers will use the qualitative data to complement the quantitative findings. Interview and observation data will be analyzed to demonstrate how and why PEN did or did not influence teachers' classroom practice. This information will be used to illustrate and provide nuance to the quantitative findings.

***Analysis of PEN effect on student outcomes*.** SRI will conduct test score analysis for ELA, Math, and Science teachers separately. The analysis of ELA and Math results will combine the two districts due to the common Smarter Balanced assessments. Because of the different state assessments in Science, researchers will conduct separate analyses for each district and combine the impact estimates using a meta-analysis. For each subject, researchers will standardize scores at each grade/course level and conduct analysis combining all standardized test scores, while adjusting for grade-level effects as well as student and teacher background characteristics. This analysis will involve positing a two-level hierarchical model with student and teacher levels, with PEN effects estimated at the teacher level. The MDES is .20 for ELA and Math achievement, .25 for Science achievement, and .10 for EL English proficiency.[v]

***Mediation analysis*.** The researchers hypothesize that effective teaching may mediate PEN effects on student outcomes. To test this, SRI will examine whether improved instructional practice is related to improved student outcomes for teachers with survey data and student teacher linked data.

***Analysis of the relationship between the levels of participation and teacher and student outcomes*.** SRI will include only teachers in Group A to investigate whether greater levels of participation in PEN lead to more effective instruction and student outcomes.

***Implementation analysis*.** SRI researchers will aggregate implementation data from PEN's online Oba platform, report descriptive statistics, and utilize these measures to compile an annual index of fidelity of implementation. Threshold levels of implementation fidelity will be established and applied to analytics data related to each of the five core elements of the PEN model. Implementation data will also be used as predictors in analyzing the relationship between levels of participation and teacher and student outcomes (described above). The interview data

will provide a more comprehensive understanding of the district and school contexts that affect teacher participation in the core activities of PEN. Within each district, interview data will be analyzed to illustrate treatment teachers' experiences with PEN, including the factors influencing the frequency and the nature of their participation; teachers' interactions with the different components of PEN; and teachers' perceptions of the PEN materials, including the extent to which the materials help the teachers develop standards-based lessons for ELs. Interviews and observations with control group teachers will help establish the contrast between the treatment and control group, with respect to the supports available to teachers to design and deliver standards-based instruction to ELs. After within-district analysis, the research team will compare implementation themes across the two sites for an overall analysis of PEN implementation.

Reporting. Annual reports will integrate findings across data sources, report levels of fidelity and quality of implementation, and address impact and exploratory questions as appropriate. SRI will also provide informal formative feedback to CAL based on qualitative data gathered through interviews and analytics. The final report will include impact findings on the effectiveness of the PEN model of PD and support, as well as implementation findings. Results will also be presented at conferences and submitted for publication to peer-reviewed journals; project staff will make these papers broadly available digitally and free of charge.

i. Teachers will only be recruited for PEN participation if they (a) teach some EL students, and (b) teach a tested subject (i.e., English, math, or science). **ii.** We assume teachers will continue to use the Oba platform after the first year of PEN participation and that the intervention will take two years to have a significant impact on teacher and student outcomes. We will still investigate the one-year PEN effect on student outcomes including both Group A and B teachers in the treatment group to achieve maximum statistical power. **iii.** Both states will be using Smarter Balanced Assessments for ELA and math starting in 2014-15 in grades 3-8 and 11. We assume the two states will continue to use their current science tests (end-of-grade for grades 5 and 8, end of course in high school). **iv.** The power analysis for teacher outcomes assumes: (1) an annual attrition rate of 20%, leaving 360 teachers in treatment and control groups; and (2) that 25% of the variation in the outcomes is explained by teacher baseline survey indicators. **v.** The power analyses for student outcomes assume: (1) an annual attrition rate of 20%, leaving 360 teachers in treatment and control groups, among whom there are 90 English, 90 math, and 60 science teachers that have students with test data; (2) an average of 20 EL students per teacher; (3) that 15% of the variation in student test scores lies at the teacher level; and (4) that student pretest scores and other covariates explain 50% of the between teacher variation.

Exhibit 10: Endnotes