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*Exceptional Coaching for Early Language and Literacy-Enhanced (ExCELL-E):*

Refining an Effective, Research-based Teacher Professional Development Model

Barbara A. Wasik, Ph.D.

Carol Scheffner Hammer, Ph.D.

Annemarie H. Hindman, Ph.D.

Brook Sawyer, Ph.D.

Temple University

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## INTRODUCTION

High-quality, well-trained preschool, kindergarten and first-grade teachers are the key to ensuring that all American children learn to read. The need for effective instruction is especially pressing for children who are English language learners or from low-income backgrounds, as these children face staggeringly high and persistent risks for reading difficulties. The proposed *Development* project addresses *Absolute Priority 1* by refining and expanding the *ExCELL* (*Exceptional Coaching for Early Language and Literacy*) program, a well-researched professional development (PD) initiative with demonstrated effectiveness in improving teacher and student learning in high-poverty, high-minority communities (Wasik & Hindman, 2011a & 2011b). The proposed development work will: (1) begin by refining the Pre-K version of *ExCELL* (Competitive Preference Priority 6) by (a) incorporating technology (Competitive Preference Priority 8) and (b) integrating specific strategies for supporting English Language Learners (ELLs); (2) develop kindergarten and first grade versions that promote articulation between preschools and elementary grades; and (3) pilot the revised and expanded three-year version, *ExCELL-Enhanced* (*ExCELL-E*), which will be a highly cost-effective and innovative approach for delivering high-quality professional development to teachers serving the nation's most vulnerable learners. By the end of the project, *ExCELL-E* will be ready to be taken to scale and improve learning outcomes in high-poverty, high-minority districts across the country.

### A. NEED FOR THE PROJECT

Despite considerable investments, American children are struggling to achieve high levels of literacy (NAEP, 2010). This problem is of great concern, because reading forms the foundation for success in all academic areas, including literacy as well as social studies, math, and science. Unfortunately, the statistics are particularly dismal for poor, ethnic minority, and

linguistic minority children. Of the approximately 14 million children (or about one child in five) growing up in a household in poverty (Moore, Redd, Burkhauser, Mbwana, & Collins, 2009), 49% are not proficient readers by 4th grade, as compared to 20% of children from middle-income families. Approximately 50% of Black and Hispanic children fell below the basic level for reading proficiency, while only 22% of white children were in this group (NAEP, 2010). Astoundingly, in 4<sup>th</sup> grade, 71% of English language learners (ELLs) read at below-basic levels, as compared to only 31% of native speakers; of ELLs who met or exceeded basic levels, only 6% scored within the proficient range (Moore et al., 2009; NCES, 2009). The gap between weak and strong readers increases over children's schooling careers (Stanovich, 1986), so children who are poor readers in kindergarten rarely catch up and later face higher risks for academic difficulty, retention, and even high school dropout (Alexander, Entwisle, & Horsey, 1997). For example, by 8<sup>th</sup> grade, 75% of ELL children read at below-basic levels, as compared to 24% of native speakers, and only 3% of ELLs are proficient readers (NCES, 2009).

As the number of American children growing up in poverty and learning English as a second language continues to grow, it is imperative that we identify effective interventions to support their success in literacy and beyond. Districts, schools, and early childhood centers need more efficient systems of high-quality PD to help PreK through first grade teachers improve instructional quality and ultimately advance children's academic outcomes. The response must seamlessly align educators' efforts across grade levels, be innovative and effective, and lead to significant, scalable, and sustainable improvements in early learning outcomes.

*Lack of Effective Language and Literacy Instruction in Early Childhood Education (ECE)*

To learn to read, children need high-quality, developmentally appropriate experiences in preschool and beyond in five areas: oral language and vocabulary, phonological sensitivity,

alphabet knowledge, writing, and conventions of print (NELP, 2009). Currently, many curricula target language and literacy development, but very few are effective. The *What Works Clearinghouse* identifies only one curriculum as advancing kindergarteners and 1st graders' reading skills. No curricula are available that effectively support language and literacy from PreK through first grade, and none attend to poor and ELL children who are at the highest risk.

A primary reason why even well designed early curricula are not working is that teachers need effective professional development (PD) to help them translate scripts or lesson plans into effective classroom instruction (Yoon et al., 2007). This is especially true for teachers who lack higher levels of knowledge and qualifications. Sadly, our most vulnerable children are often served by the least qualified teachers. For example, in 2005, over 65% of Head Start teachers did not have a bachelors' degree (Hart & Schumacher, 2005), and only 11 states required PreK teachers to have a Child Development Associate (CDA) credential (Neuman et al., 2003). High quality, teacher-child interactions during which children are active participants are essential for promoting children's abilities. Yet, research estimates that 90% of children from low-income homes do not receive consistently high-quality instruction in language and literacy instruction in the early grades (Pianta et al., 2007). Observations of high-poverty PreK, kindergarten and first grade classrooms revealed that 93% of all of the talking is done by teachers (Dickinson, Darrow, & Tinubu, 2008), and this talk often focuses on behavior management ("Put X over here," "Take Y to your cubby") (Gest et al., 2006). Consequently, children have few opportunities to hear and use complex language and vocabulary. Further, many teachers have minimal knowledge about key aspects of code-related instruction, such as phonological awareness, and often overestimate their own understanding of these topics (Cunningham, Perry, Stanovich, & Stanovich, 2004).

Thus, teachers and children would significantly benefit if classroom curricula were

complemented with high-quality, ongoing PD. This PD needs to go beyond learning scripts; it must help teachers construct new conceptual as well as procedural knowledge that they can bring to their classrooms and flexibly adjust to their students' needs. The past decade has seen the development of new language and literacy PD models. Several of these PD models have raised the quality of instruction but have not examined the impact on child outcomes (Dickinson & Caswell, 2007; Neuman & Cunningham, 2009). Others have raised teacher quality and child outcomes in some areas (e.g., alphabet and phonological knowledge) but have not raised child vocabulary, a skill that underlies learning in all other domains (DeBaryshe & Gorecki, 2007; Jackson et al., 2007; Powell et al., 2010). Indeed, no PD model included in the evaluation of Early Reading First teacher training initiatives raised the full complement of child language and literacy skills (e.g., knowledge of letters, sounds in words, vocabulary) (Jackson et al., 2007).

*ExCELL PD model* (*Exceptional Coaching for Early Language and Literacy*), our PD model, is unique because it has been shown to improve the language and literacy instruction of early childhood teachers serving children at risk and to improve a constellation of language and literacy skills among those children (Dickinson, Freiberg, & Barnes, 2011; Marulis & Neuman, 2010). To our knowledge, *ExCELL* and Landry's CIRCLE model (Landry et al., 2006, 2009), neither of which were included in the ERF evaluation noted above, are the only two PD models that have demonstrated such effects in peer-reviewed empirical studies.

Three randomized controlled trials (Wasik et al., 2001, 2006, 2009, 2011b) demonstrated that Head Start teachers who received *ExCELL* training improved the quality of teachers' language and literacy instruction on standardized tools such as the ELLCO and CLASS ( $d = 1.00$ , on average, meaning that very large gains of a full standard deviation were made, moving from average to good quality, on both measures). In addition, children learned, on average, 85%-90%

of words targeted in the classroom (Wasik, Hindman, & Jusczyk, 2009). Also, children's standardized scores on the PPVT-III, a receptive vocabulary measure, increased substantially, exceeding expected learning over the academic year by 150% (average  $d$  of 1.50, a large and educationally meaningful effect, Marulis and Neuman, 2010). *ExCELL* also has a large and educationally meaningful effect on children's phonemic awareness ( $d = .80$ ). Finally, *ExCELL* children made substantial gains in alphabet knowledge (learning  $\approx 20$  letters during 1 yr in PreK), although peers in control classrooms made similar gains. One additional benefit of *ExCELL* for teachers and children is that the training has increased teacher retention in participating schools, likely because teachers were more successful in their classrooms and because they build support networks with others in their school and district to help them succeed.

#### Lack of Attention to English Language Learners (ELLs)

Another problem is that teachers do not sufficiently attend to specific language and literacy needs of young ELLs (Pianta, Cox, & Snow, 2007). About 5 million US school-age children have limited English proficiency, and this number will grow to nearly 18 million in 2020 (Fry, 2008). Yet only 35% of elementary-grade teachers have received 1 hour of training in promoting ELLs' learning (Russakoff, 2011), such as building links between children's knowledge of their home language and English, and scaffolding language interactions to support children's comprehension and use of English (Tabors, 2008). As a result, ELLs often struggle to learn English; for example, the Head Start FACES study (1997-2006) showed that ELLs leave preschool knowing less vocabulary than their monolingual peers. These gaps continue through school, with ELLs reading at lower levels than monolinguals in 4<sup>th</sup> and 8<sup>th</sup> grades (NCES, 2009). *ExCELL-E* will respond to this need by developing teachers' competence in providing evidenced-based instruction tailored to ELLs.

### Lack of Articulation between PreK and Primary Grade Programs

Unfortunately, there is often a lack of articulation between PreK programs and the early elementary grades, even when a district provides all 3 grades. As a result, children’s PreK gains may not be maintained. For example, the National Head Start Impact Study found that Head Start promoted student learning, but these advantages disappeared over K and 1st grade (DHHS, 2010). A “seamless and coherent educational pipeline” is needed between PreK and the early grades (Guernsey & Mead, 2010). The Chicago Parent Child Study (Reynolds et al., 1999) showed that consistent, high-quality instruction from PreK through early grades improved child achievement and decreased retention and special education referral. The proposed *ExCELL-E* development work builds on the success of *ExCELL* in Head Start to support teachers and children across three grades – PreK through 1st grade – of the school transition period in high-need settings. It will provide PreK through 1st grade teachers with a consistent framework for supporting children’s language and literacy development, fostering continuity of instruction for children as they progress through these critically important grades.

### Bringing Models to Scale

At the heart of *ExCELL*’s success is a multifaceted, intensive approach to supporting teacher learning—from lesson plans to teacher workshops and coaching. Although *ExCELL* improves teachers’ practices and promoting children’s language and literacy growth, the 9 months of extensive coaching (3 hours of individual training per week plus 1 hour of group training monthly) requires a considerable investment of time and money. This makes it challenging to replicate in multiple sites with fidelity and undermines efforts to bring *ExCELL* to scale. Districts across the country have experimented with various intensive coaching models, only to abandon them when they became overwhelmed by the demand (e.g., the Literacy Collaborative Project)

or when resources disappeared (e.g., Early Reading First, Small Learning Community grants).

By exploring a variety of innovative technologies, the proposed project will provide high-quality, scalable PD for early childhood educators in high-poverty districts. Other models have successfully used videos and other web-based instructional tools in preschools (e.g., Jackson et al., 2006; Pianta et al., 2008). However, no PD model currently includes PreK through first grade (targeting ELLs throughout) or has achieved the outcomes of *ExCELL*.

### High-need, Limited Resource Communities

The proposed project will be developed with two high-minority, high-poverty communities. Baltimore, MD and Lancaster, PA are school districts with diverse students and failing schools.

Table 1. School District Information

School District	Number of Elem. Schools	Number of Students		Poverty (FRPM) (%)	ELLs (%)		Race (%)			Sp Ed (%)
		Total	PK-1		All	PK-1	African-American	Hispanic	Asian	
Baltimore	56	42,830	19,200	84	3	5	87	4	1	20
Lancaster	13	10,984	2,150	77	18	38	21	58	5	19

Of Baltimore's 56 schools, 90% failed to make adequate yearly progress (AYP) this year, a sharp increase from previous years and one of the highest percentages in any district in the country (Baltimore Sun, 7/18/11). In reading, Baltimore's 4<sup>th</sup> graders are still 2 standard points below the national average. In 2010, 5 of Lancaster's elementary schools did not make AYP, with 2 of these under Corrective Action II. Moreover, while 30% of 3<sup>rd</sup>-5<sup>th</sup> graders in the state of Pennsylvania are not proficient readers, fully 49% of all Lancaster 3<sup>rd</sup>-5<sup>th</sup> graders fall below this cutoff, including 50% of African American children, 64% of Latino children, and 71% of ELLs. Thus, both districts have a critical need for stronger reading preparation in the early years.

However, both districts are undergoing somewhat of a revival. In the last 4 years, each has welcomed a new superintendent committed to stability and continuous improvement, and each has reorganized early childhood education programs and improved bilingual programs for ELLs.

In addition to representing the kinds of districts and student populations for which *ExCELL-E* is intended, both Baltimore and Lancaster promise to be strong, committed, and collaborative partners in developing and field-testing *ExCELL-E*. Thus, *ExCELL-E* will be developed within a large and small urban school district, and in districts that serve ELLs. In Lancaster, ELLs are found throughout all schools; Baltimore's growing ELL population is concentrated in specific areas of the city. Therefore, we will target schools in Baltimore that serve ELLs.

In sum, the need for this project is high, and the *ExCELL-E* PD model has strong research evidence as an exceptionally promising tool to meet this need. Regarding Absolute Priority 1, *ExCELL-E* most directly develops (through training) and rewards (through stipends from the research project and ongoing merit pay, part of both PA and MD governors' agendas) highly qualified teachers. When fully developed and integrated into districts, it will serve as a tool to recruit and retain strong teachers. Previous research shows that *ExCELL* teachers are more likely than peers to stay in their jobs, keeping their talent in their schools. Thus, *ExCELL-E* will engender significant, lasting improvements for the children and schools most in need.

## **B. PROJECT DESIGN**

### **B.1 PROJECT GOALS AND EXPLICIT STRATEGIES**

*ExCELL-E*, an enhanced version of *ExCELL*, will use technology, combined with targeted coaching and prototype lesson plans, to create an effective, feasible, and efficient intervention to train PreK, K, and 1<sup>st</sup>-grade teachers to provide high-quality literacy instruction by developing monolingual English speaking and ELL children's skills in four content areas: a) oral language, b) phonological sensitivity, c) alphabet knowledge and d) writing (Wasik & Hindman, 2011a). The proposed project has three goals aligned to *Absolute Priority 1* and *Competitive Preference Priorities 6* (Early Childhood) and *8* (ELLs). Through an iterative development process, we will:

**Goal 1:** Modify the existing, effective PreK *ExCELL* to create *ExCELL-E*, which will: (a) use technology to create a scalable version that maintains the significant gains among teachers and children, and (b) integrate practical strategies for promoting the outcomes of ELLs.

**Goal 2:** Develop *ExCELL-E* for kindergarten and 1st-grade, aligned with the PreK version.

**Goal 3:** Pilot and evaluate all 3 grade levels of the refined *ExCELL-E* intervention.

At the completion of the i3 grant, we will have a fully developed and evaluated language and literacy PD model for PreK, K and 1<sup>st</sup> grade teachers that includes:

- Web-based, interactive training modules that include teacher assessments
- Coaching that provides feedback and support of teachers using a three-leveled intervention strategy that includes video feedback, Skype calls, and classroom visits
- Prototype lesson plans that integrate grade-appropriate content
- Assessments (teacher fidelity measures, child progress monitoring measures) that ensure effective implementation of *ExCELL-E*

At that point, we will be ready to undertake a formal efficacy trial in preparation for scale-up.

**GOAL 1A: YEAR 1- CREATE A STREAMLINED *ExCELL* PREK VERSION THROUGH *TECHNOLOGY***

To make *ExCELL-E* cost- and time-efficient, we will employ technology to develop a secure website through which teachers participate (remotely) in five *webinars* and view *interactive videos*. Coaches will view videos of teachers' classroom instruction and provide *targeted coaching* that addresses teachers' specific needs. Teachers will participate in a *chat room* and will have access to model *lesson plans*. Through technology, teachers will be provided with multiple, meaningful supports, exposure to best practices, and ongoing assessments and feedback. The technology component will be developed with Jay Corey and Petersen Consulting.

At the beginning of the project, a Teacher Advisory Team (TAT) from each district will be

formed that consists of 6 teachers (2 each per grade) to provide detailed input on the development of all components of *ExCELL-E*, including the *ExCELL-E* website. They will meet with the Co-PIs on a monthly basis throughout the grant and with other key personnel and collaborators (see Management Plan) as appropriate.

**Obj 1A.1: Develop website, webinars, and chat room.** Modeled on *ExCELL*'s group workshops, coaches will lead five 2-hour webinars that will address 4 content areas: language, phonological sensitivity, alphabet knowledge, and writing. Although specific strategies for teaching ELLs will be integrated into each of the 4 content webinars, a fifth webinar will be devoted specifically to issues related to teaching ELLs. The webinars, presented via the *ExCELL-E* website, will be tailored to the needs of each grade. Each webinar will introduce the topic, explain why it is important for children's reading success, highlight what teachers can do to advance skills of native English-speaking and ELL children, and provide teachers opportunities to ask questions and share comments. Before and after the webinar, teachers will be assessed on the content using a time-sensitive online instrument. Immediate feedback will be provided to the teachers based on their responses (e.g., the system will identify incorrect answers, present the correct answer, and why it is correct). Coaches, who will review the teacher assessment data, will provide guidance for those who need additional support. Teachers will also have unlimited access to the recorded webinars via the website after the live presentation.

The website will also have an on-going ***chat room***, which will create a *learning community* through which *ExCELL-E* teachers can ask questions and share ideas, experiences, strategies, and resources. The chat room will be "run" primarily by the teachers but will be monitored and facilitated by coaches. When appropriate, coaches will post questions or add to the discussion to provide clarity and address questions that teachers have not been able to solve by themselves.

**Obj 1A.2:** *Develop interactive training videos of high-quality teaching strategies.* Five 1-hour interactive training videos will be developed to complement the content from each webinar. The videos will provide “how to” guidance in implementing the strategies targeted in the webinar and integrate how to use that specific strategy for ELLs (see Appendix J). Video content will be drawn from footage collected from the prior, successful Early Reading First grant in Baltimore City Head Start (Wasik & Hindman, 2011b). The first half of each video will focus on the specific strategies from the webinars (i.e., an expert explanation of that topic and video clips of teachers using those strategies). The second half will show teachers how to individualize instruction with attention to ELL children. Teachers will be able to revisit the videos as needed to support their mastery of the targeted strategies and reach fidelity of implementation.

As with the webinars, individual assessments will be embedded in the videos that evaluate teachers’ understanding of how the video examples demonstrated the conceptual information. Data from the teacher assessments will be provided electronically to the coaches, who will identify and respond to the specific needs of teachers during a scheduled Skype conference call.

**Obj 1A.3:** *Develop prototypes of lesson plans.* Prototype lesson plans will be developed outlining activities that support oral language, phonological sensitivity, alphabet knowledge and writing. Teachers will be able to use the lesson plans flexibly with any PreK curriculum (e.g., Creative Curriculum, High Scope). The lesson plans will be developed around common PreK themes (e.g., friends and family, farms) to guide teachers’ activities during core language and literacy times (e.g., book reading, center time, morning message, mealtime). For example, lesson plans will suggest a specific book; include suggested open-ended questions for before, during, and after reading (consistent with the training); and outline follow-up activities that support phonological sensitivity, alphabet knowledge and writing that are connected to the book reading.

**Obj 1A.4 *Develop computer-based fidelity (for targeted coaching) and child progress monitoring instruments.***

Fidelity Measure. A PreK fidelity measure will be developed and piloted in Year 1. (See Appendix J for a draft fidelity measure targeting book reading). The fidelity measure will be an observational checklist detailing critical language and literacy teaching behaviors that teachers have been trained to implement (e.g., asking open-ended questions). This fidelity measure will be used by coaches to assess teachers' implementation of *ExCELL-E* by (a) observing videos of teachers' classroom practices that were uploaded to the *ExCELL* website or (b) visiting classrooms that have been identified as in need of specific targeted training.

Progress Monitoring (PM) Measure. Through monitoring student progress, teachers can see whether children are learning what is being taught and determine how to modify instruction if children are not adequately learning (Landry et al., 2009; Wasik et al., 2009). During the development of the project, PM helps ensure that the PD is resulting in skill growth in children. *ExCELL*'s current student progress monitoring instrument will be adapted for computer-based administration and real-time data synching using iPads. The PM measure contains images of a sample of 10 vocabulary words from the most recent theme/unit, and 3 related comprehension questions. Working individually with each child, teachers will show each image, one at a time, using the iPad, ask the child to name the image (i.e., expressive vocabulary) and then record the response. Teachers will then ask each question and record the child's response. Teacher can use the PM measure as frequently as needed, and the measure can be tailored for individual students. Our current research suggests that assessing children 3 times/year has been very successful in improving teacher and child outcomes (Wasik et al., 2009).

**Obj 1A5. *Developing a 3-level coaching model.***

In Year 1, a three-level coaching mode will be developed. *Level 1:* All teachers will upload to the website a video of a specific classroom activity, such as a book reading or a phonological sensitivity or a phonics activity, to be reviewed by an *ExCELL-E* coach. The coach, provided by the *ExCELL-E* program (see management plan) will use the fidelity measures to review the videos and evaluate teachers' use of the target strategies. *Level 2:* Teachers having difficulty with implementing the strategies (i.e., demonstrating low fidelity) will receive detailed feedback by having comments embedded in their videos and returned to them via the website. These identified teachers will submit an additional video to determine if the coach's feedback was understood and if they changed their behaviors accordingly. Teachers who need additional coaching will discuss their second video with a coach through Skype. *Level 3:* Teachers struggling with implementation after remote coaching will receive a classroom visit from the coach, who will identify specific areas for training and develop an individualized coaching plan.

**GOAL 1 B: YEARS 1 & 2 - INTEGRATING ELL STRATEGIES INTO *ExCELL*.**

Given the increasing numbers of ELLs, *ExCELL-E* will not be effective without addressing the needs of ELLs. Therefore, *ExCELL-E* will *integrate* effective instructional strategies for ELLs *throughout* the PD model. In *ExCELL-E*, teachers will develop: (1) a new perspective on ELLs that shifts from a deficit to a strength model; (2) effective instructional strategies that work across language communities and levels of English proficiency (e.g., small-group readings in their native language or "picture walks" in English where language is simplified and gestures are used to aid comprehension); and (3) knowledge of effective learning standards for ELLs which include: joint activities among teachers and children; building language competence across developmental areas; connecting the content to children's experiences and knowledge; fostering of complex thinking; and encouraging dialogue and conversation (Doherty et al., 2003).

**Obj 1B.1** *Integrate content on ELLs into all components of ExCELL-E.* Having established foundational knowledge about ELLs through an initial webinar and interactive video, both conceptual and procedural knowledge about supporting ELLs' language and literacy skills will be added to all content and training efforts (e.g., webinars, interactive videos, lesson plans, and coaching). Teachers will be taught oral language and early literacy strategies that are effective with ELLs [identified by Drs. Hammer and Tabors (consultant), leading experts in early childhood ELLs]. We will also videotape in high-quality teachers' classrooms to expand our bank of clips focused on ELLs. Fidelity instruments will reflect strategies to support ELLs and child progress monitoring instruments will be tailored to ELLs. These will be integrated into the PreK version in Yr 1, and K & 1<sup>st</sup> grade versions in Yr 2.

#### **TESTING OUT THE COMPONENTS DEVELOPED UNDER OBJECTIVES 1A.1-1A.5 AND 1B.1**

As the Pre-K version of *ExCELL-E* is being developed in Year 1, the various components of the PD will be tested out with 2 PreK teachers in Baltimore and 2 in Lancaster (who have classrooms with at least 20% ELLs). Teachers will try out the website as though they were participating in *ExCELL-E*. Teachers will view the webinars (Obj 1A.1) and interactive training videos (Obj 1A.2) and complete the associated pre- and post-tests. Teachers will also review and provide feedback on the web-/computer interface(s), chat room (Obj 1A.1), and lesson plan prototypes (Obj A1.3). Additionally, teachers will provide feedback on the integration of ELL content into the program (Obj 1B.1). The project personnel will test out the computer-based fidelity instruments (Obj 1A.4) on the iPad while watching videos collected during *ExCELL* Early Reading First Project. The child progress monitoring instruments will be tried out to make certain that the iPad application works smoothly. Data and feedback gathered through this process will be used to modify the PreK version throughout the year.

**GOAL 1 C: YEAR 2 - REFINE PREK VERSION OF ExCELL-E**

**Obj 1C.1.** *Implement, evaluate, and refine the PreK version of ExCELL-E.* In Year 2, the complete PreK version of ExCELL-E will be implemented in 10 diverse classrooms in the 2 districts. As described in the Evaluation Section, qualitative and quantitative measures will be used to assess the implementation and effectiveness of each component and the entire intervention. These data will be used to make modifications prior to the pilot test in Year 4.

**GOAL 2 : YEARS 2-3 - DEVELOP KINDERGARTEN AND FIRST GRADE VERSIONS OF ExCELL-E  
ALIGNED WITH THE NEW STREAMLINED AND ELL INCLUSIVE PREK VERSION**

To ensure sustained PreK learning and articulation across grades, the successful PreK ExCELL-E model will be expanded into K and 1<sup>st</sup> grade. The research-based strategies needed to provide high-quality language and early literacy experiences for children are complementary across grades (Snow et al., 1998). Therefore, the K and 1<sup>st</sup> grade versions of ExCELL-E will build on the PreK model and combine technology, lesson plans, and targeted coaching to build children's language and literacy skills. The K and 1<sup>st</sup> grade versions will also incorporate effective strategies for supporting ELLs. Although each grade will include training in the four content areas (i.e., oral language, phonological sensitivity, alphabet knowledge, and writing), different topics will receive more or less emphasis depending on the distinct needs of each grade. In Year 2, development (Objs 2.1-2.3) will be targeted, with implementation in Year 3 (Obj 2.4). The TAT will continue to provide input during this process.

**Obj 2.1** *Develop webinars and interactive videos that present teachers with conceptual and procedural information on early language and literacy learning (including among ELLs).*

**Obj 2.2** *Develop prototypes of lesson plans.* In light of the more sophisticated aims of K and 1<sup>st</sup> grade literacy instruction, these activities will be more complex and involve more explicit

decoding and sight word development, but without sacrificing a focus on the purposes of reading and writing and the meaning of these texts.

**Obj 2.3** *Develop fidelity and progress monitoring instruments* (as with the PreK version).

Grade-appropriate fidelity and child progress monitoring instruments will be developed.

**Obj. 2.4** *Develop a 3-level coaching model.* The 3-level coaching model will be similar to the PreK version but will focus on K and 1<sup>st</sup> grade content and strategies.

#### **TESTING OUT THE COMPONENTS DEVELOPED UNDER OBJECTIVES 2.1 – 2.4**

As the kindergarten and 1<sup>st</sup> grade versions of *ExCELL-E* are developed, the components will be tested out with 2 kindergarten teachers in Baltimore and 2 in Lancaster (who have classrooms with at least 20% ELLs) as well as with 2 1<sup>st</sup> grade teachers per district. The same procedures will be followed as was outlined for the PreK version. Data and feedback gathered during the year will be used to modify the K and 1<sup>st</sup> grade versions throughout the year.

**Obj 2.5** *Implement, evaluate, and refine the K and 1<sup>st</sup> grade versions of ExCELL-E.*

In Year 3, the revised K and 1<sup>st</sup> grade versions will be implemented with 10 kindergarten classrooms and 10 first grade classrooms in Year 3. Data and feedback gathered during the testing of these versions will be used to make necessary refinements prior to the pilot in Yr 4.

#### **GOAL 3: YEAR 4 - PILOT ALL THREE GRADE LEVELS OF THE REFINED INTERVENTION, CONDUCT A PRELIMINARY EVALUATION, AND PREPARE FOR IMPLEMENTATION AT SCALE.**

In Year 4, the independent evaluator, *By the Numbers*, will conduct a randomized controlled trial pilot study with 20 classrooms at each grade (10 intervention, 10 control) – PreK, K, and 1<sup>st</sup> grade – for a total of 60 classrooms distributed across the 2 districts.

**Obj 3.1** *Conduct a formative evaluation that examines the implementation process.* Data collected during the implementation of the intervention (e.g., from webinars, interactive training

videos, and fidelity and child progress monitoring instruments) will be used to evaluate the implementation. Specifically, we will examine how many teachers show increased knowledge on embedded assessments after webinars and videos, and we will explore teachers' use of evidence-based practices using data from fidelity checks. Also, focus groups will be conducted to gather teachers' feedback on the training process and the actual implementation of the intervention in each grade. Also, we will monitor the amount of time teachers spend using each page of the website, which may reflect how valuable they have found *ExCELL-E* to be. The findings will be used to refine the intervention prior to bringing it to scale in a subsequent project.

**Obj 3.2 Conduct a summative evaluation of *ExCELL-E* with 4 aims:**

- (1) Investigate the impact of *ExCELL-E* on teachers' use of high-quality teaching strategies, and particularly those that are taught in *ExCELL-E*. We predict that *ExCELL-E* teachers will use more high-quality teaching strategies than control teachers.
- (2) Evaluate the effect of *ExCELL-E* on children's language and early literacy abilities. We hypothesize that children who received *ExCELL-E* will make greater gains than children in the control classrooms.
- (3) Investigate how *ExCELL-E* teachers' use of high-quality teaching practices affect children's outcomes. We predict that the treatment-control differences in child outcomes will be accounted for by teachers' use of high-quality language/literacy strategies.
- (4) Determine whether *ExCELL-E* has differential impacts for native English-speaking and ELL children. We hypothesize that *ExCELL-E* will produce improved outcomes for both native English speakers and ELL children.

**OUTCOMES**

The outcomes of the proposed project include: (a) development of a streamlined PD

intervention, incorporating strategies to support ELLs and aligned for PreK, K and 1<sup>st</sup> grade classrooms, that can be brought to scale; (b) development of high-quality teachers who employ high-quality teaching strategies as measured by the *ExCELL-E* fidelity measure, the CLASS (Pianta, La Paro, & Hamre, 2006; measures classroom quality), the Language Interaction Snapshot (LISn, Mathematica, 2008; measures quality of classroom language), and the ELLCO-Extension (Castro, 2008; measures quality of implementation of strategies to support ELLs); and (c) improvement of child language and literacy outcomes which includes increased receptive vocabulary (measured by the PPVT-4), expressive vocabulary (researcher developed curriculum based progress monitoring test), oral comprehension (oral comprehension subtest of the Woodcock Johnson Tests of Achievement), oral expression (narrative production task), and phonological awareness, alphabet and early reading (PALS). See Evaluation Plan on page 20.

## **B.2 ESTIMATED COST OF THE PROPOSED PROJECT**

In designing *ExCELL-E*, the goal is to develop an effective and teacher-friendly version for a reasonable cost. The most expensive pieces of the four-year budget are initial development of the website, webinars and interactive videos, which can be used by schools long after the project is complete. The costs for *ExCELL-E* are reasonable relative to its objectives, design, and potential significance, especially since the intervention has already demonstrated positive impacts on young children's language and literacy skills. The long-term economic savings attendant to investment in early intervention have been clearly documented (Barnett, 1995) and show that preschool improves achievement and reduces school failure and dropout rates especially when interventions focus on literacy (because of its overarching effect on children's success in school). *ExCELL-E* has potential for long-term, positive impacts in reading readiness and school success on vulnerable populations.

The proposed costs are based on estimates of expenses. The total start-up and operating costs are based on the cost of a school purchasing the interactive videos (\$4000), webinar trainings (\$2000), structured lessons (\$100/classroom), computer-based assessment tools (\$1000), and the cost for a project coach per teacher (\$2500). At approximately \$30/student, the cost to reach 100,000 students is \$3,000,000; to reach 250,000 students is \$7,500,000; and to reach 500,000 students is \$15,000,000. This cost does not include the coaches' salaries because existing school district personnel will be re-trained for this position. This cost is extremely reasonable given the high quality of this research-based intervention and the potential for positive outcomes.

### **B.3. ONGOING USE AND BENEFITS OF PROJECT PURPOSES AND ACTIVITIES**

*ExCELL-E* has great potential to be implemented in school districts. School districts are struggling to meet AYP and are in great need of research-based, effective PD interventions. When fully developed, BCPS and the School District of Lancaster will have access to *ExCELL-E* in order to recruit, train, and retain high quality teachers. To this end, issues of feasibility of implementation and sustainability are incorporated in the development of *ExCELL-E*.

*Feasibility of replication.* Having implemented *ExCELL* in multiple Head Start sites in Baltimore, we have learned lessons that, applied to *ExCELL-E*, will ensure its feasibility in high-poverty, urban early childhood classrooms. First, most of the training will be effectively and efficiently delivered to teachers using widely available technology. Second, the evidence-based strategies presented in the training can be easily integrated into any literacy curriculum or instructional approach that districts have adopted, making the training applicable for all schools and teachers. Third, the cost of the training is reasonable, as no significant add-on of staff is required. Finally, the intervention includes user-friendly, computer-based tools to consistently monitor fidelity of implementation and children's learning of the content.

*Partnership to Ensure Sustainability.* For any project to be successful and sustainable once supports are removed, schools must have 1) buy-in to the goals and objectives of the project; 2) ownership of the project, often established by collaborative development and input of all parties in the design and organization of the intervention; 3) a clear understanding of the value-added of the program to key personnel and children; and 4) easy, flexible strategies for maintaining the intervention in the complex school system (Datnow, 2010). An *ExCELL-E Systems Support Team* (SST) (led by Drs. Wasik and Hammer) will be created in Year1 to help district and school level staff to address these four factors in a systematic way and to ensure that *ExCELL-E* is ultimately sustainable in these sites. Each district will have a SST, including the Early Learning coordinators, ELL coordinators, key personnel involved in teacher PD, and principals and at least one teacher representative for each school. The SST will meet every other month (unless additional time is needed) to discuss problems, successes and milestones of the project. Involvement of district personnel in the development phase is key to district buy-in and program sustainability. We will work towards creating a Memorandum of Understanding (MOU) with each district that articulates organizational commitments, staff roles/responsibilities, and related resource allocations (e.g., space and regular time for teacher PD, district-generated data analyses, administration of staff surveys) to ensure clear expectations and systems of accountability.

### **C. PROJECT EVALUATION**

The key outcomes of the proposed project are to: (1) develop *ExCELL-E*, an effective, streamlined PD intervention, aligned for PreK, K and 1<sup>st</sup> grade, that can be brought to scale, (2) produce high quality teachers in Baltimore and Lancaster who employ high-quality teaching strategies that (3) result in improved child language and literacy outcomes. Teachers who participate in the *ExCELL-E* PD model will use higher quality language and literacy instruction

which will result in positive language and literacy outcomes for their students.

The evaluation will be conducted by Dr. Cathy Kassab, an independent evaluator with over 20 years of experience in program evaluation. Dr. Kassab holds numerous advanced degrees including a degree in statistics. She is majority owner of *By the Numbers*, a company specializing in program evaluation, needs assessments, statistical analysis of data, surveys, and focus groups. By the Numbers has extensive experience in independent evaluations, including the statewide evaluation of Pennsylvania's Even Start Program and Family Literacy Program, West Virginia's Reading First Program, and various federally-funded university programs.

**Outcome 1: Evaluation Plan, Developing PreK, K, and 1<sup>st</sup>-grade Versions of ExCELL-E**

*ExCELL-E* will be evaluated throughout the iterative development process. During Years 1 and 2, the members of the Teacher Advisory Team (TAT) will provide feedback about the components of the PD models as they are developed. In addition, 4 teachers per grade will try out the components of *ExCELL-E*. They will take the pre-/post-assessments embedded in the webinars and interactive videos. Additionally, the TAT and teachers will complete feedback forms about the web-/computer interface(s), chat rooms, lesson plans and integration of ELL content. The independent evaluator will gather and analyze these data and share them with the Co-PIs, who will work with the key personnel and technology collaborators to refine *ExCELL-E*.

In Years 2 (PreK version; Obj 1C.1) and 3 (K & 1<sup>st</sup> Grade versions; Obj 2.5), 10 teachers per grade level with varying levels of education and experience will be trained through *ExCELL-E*. Half will be from Baltimore and half from Lancaster. Participating teachers will have at least 20% ELLs in their classrooms. As teachers view the webinars and interactive training videos through the *ExCELL-E* website, data on their performance and usage of the online materials will be gathered. In addition, data on teachers' fidelity of implementation and use of the website will

be analyzed by the independent evaluator.

In addition, teachers and coaches will complete written evaluations of each webinar and interactive video using a Likert scale and 1-2 open-ended questions. These data will be sent to the independent evaluator for analysis. Further, focus groups will be conducted by the independent evaluator at the end of the each year to obtain teachers' feedback on the training and coaching process and the implementation of the intervention. The findings provided by the independent evaluator will be used by the Co-PIs and key personnel to refine *ExCELL-E*. At the end of Years 2 and 3, the independent evaluator will administer a posttest to the participating teachers to assess retention of information from trainings; analyses will control for pretest data. Also, the TAT, project coaches, and SST will be surveyed or interviewed to assess the extent to which milestones and objectives were met, difficulties were encountered, and feedback was actually used (as intended) in the development of *ExCELL-E*. The independent evaluator will be responsible for these tasks. Data from this formative evaluation will be used to refine the PD model before pilot testing in Year 4.

In Year 4, the procedures for evaluating the three versions of *ExCELL-E* discussed above will be repeated during the pilot. The independent evaluator will collect and analyze the data. These data will be used by Co-PIs and key personnel to refine *ExCELL-E* in preparation for an efficacy trial. Throughout the grant, the Co-PIs will assume responsibility for making certain that the key tasks of the project are being completed on time (See Management Plan).

### **Outcomes 2 and 3: Evaluation Plan, Teacher Quality & Child Language/Literacy Skills**

#### **Research Questions:**

1. Do teachers who participate in *ExCELL-E* use higher quality language and literacy practices, as compared to teachers in the control condition?

2. Do children in *ExCELL-E* classrooms have better language and literacy outcomes than peers in the control condition?
3. Do the high-quality teaching practices of *ExCELL-E* teachers affect children's outcomes?
4. Does *ExCELL-E* result in similar outcomes for native English-speaking and ELL children?

We hypothesize that *ExCELL-E* teachers will use higher quality teaching practices and that *ExCELL-E* children will have better outcomes, as compared to the control condition. Further, we predict that the treatment-control differences in children's outcomes will be accounted for by teachers' use of high quality language and literacy strategies. Also, we hypothesize that *ExCELL-E* will produce improved outcomes for both native English speakers and ELL children.

**Study Design: Participants:** In Year 4, 20 teachers in each grade (PreK, K, 1<sup>st</sup> grade) will participate, with half randomly assigned to *ExCELL-E* and half to the control group. (Note: Half of the teachers in each condition will be from Lancaster and half from Baltimore. All classrooms will include at least 20% ELLs.) Teachers involved in *ExCELL-E*'s development (Years 1-3) will not participate in Year 4. All children in the classrooms will be tested unless the parent does not give written consent. Parents will complete a background questionnaire addressing parental education, family characteristics, and home language usage.

**Procedures:** During the year, control teachers will follow their standard instructional practices. Intervention teachers will be trained to implement *ExCELL-E*.

**Classroom measures:** Fall classroom observations will be conducted by trained data collectors using the CLASS (Pianta, La Paro, & Hamre, 2006), the Language Interaction Snapshot (LISn; Mathematica, 2009), and ELLCO-ELL Extension (Castro, 2008). The CLASS is a commonly used observation tool designed to document overall quality of the instructional environment (e.g., emotional support, classroom organization and instructional support). The

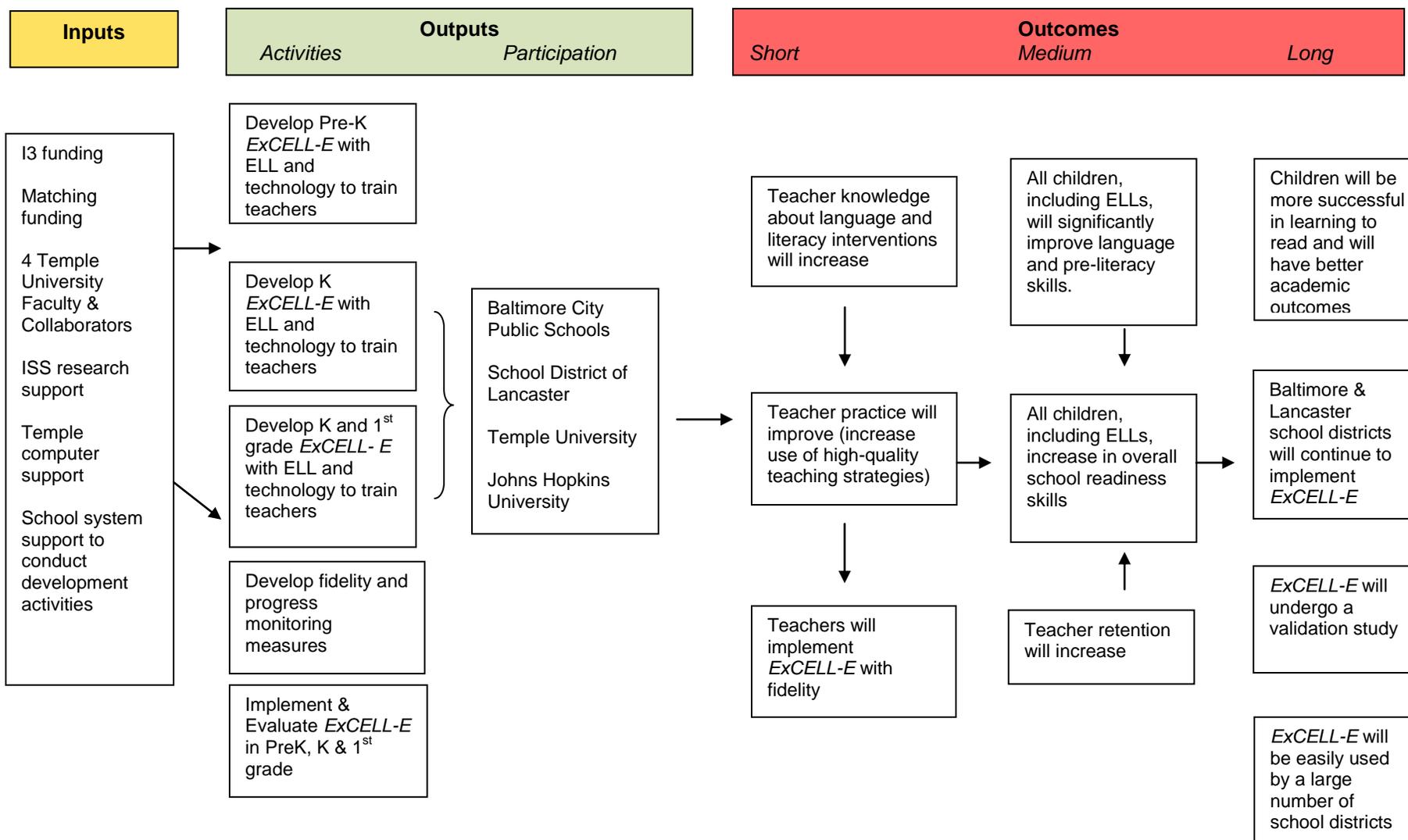
LISn is an observation instrument, used in large-scale studies such as First 5 LA and FACES 2009 that captures the quality of the classroom language instruction. The ELLCO-ELL-Extension documents teachers' usage of strategies to promote ELLs' abilities. (It can be used in isolation without the full ELLCO). These observations will be repeated in the spring. To ensure reliability, a second observer will conduct the observations in 20% of the classrooms. During the Year 4, implementation fidelity will be measured in *ExCELL-E* classrooms using the computer-based instruments three times per year. The fidelity measure will also be used in comparison classrooms to determine whether teachers in these classrooms employ similar high-quality language and literacy strategies; comparison classrooms will be assessed in fall and spring only. The independent evaluator, blind to classroom condition, will conduct fidelity checks.

Child Assessments. Trained data collectors will assess children's language and early reading abilities at the beginning and end of the school year using the instruments in the table below. Also, at the end of each instructional unit (i.e., approx every 4 wks, or 8-10 times per year), teachers will administer the progress monitoring instruments to the children in intervention and control classrooms. Because ELLs who speak various languages will participate and tests are not available in languages other than Spanish, all children will be assessed in English.

**Table 1. Child Outcomes Assessed**

<b>Developmental Area</b>	<b>Grade</b>	<b>Test</b>	<b>Reliability</b>
Receptive Vocabulary	all	Peabody Picture Vocabulary Test 4	Internal $a = .81$
Expressive vocabulary	all	Curriculum Based Vocabulary Test—Researcher developed	NA
Oral Comprehension	all	Listening Comprehension Subtest Woodcock Johnson Test of Achievement	Internal $a = .85$
Expressive Lang	all	<i>Narrative production task</i> - wordless picture bk	NA
Phonological Sensitivity	all	PALS- Phonological Awareness	Internal $a > .75$
Alphabetics	PreK	PALS upper- and/or lowercase	Internal $r > .99$
Early Reading	K, 1st	PALS - letter-sound correspondence, spelling, oral reading fluency, comprehension	Internal $a > .75$

Below, a logic model highlights the key inputs, outputs, and outcomes to be examined throughout the project.



**Assumptions:** Highly-quality teacher Professional Development (PD) in language and literacy will increase the quality of teachers' instruction and result in children with well-developed language and pre-literacy skills that are needed

**External Factors:** *ExCELL-E* will be developed and implemented in high-poverty schools with high concentrations of ELL children. The mobility rate for teachers in these schools is also high. This is a high vulnerable population that could benefit from this intervention.

**Research Questions 1 and 2.** The independent evaluator will conduct a summative evaluation of *ExCELL-E* to determine whether participation in *ExCELL-E* results in positive *teacher and child outcomes*. The independent evaluator will conduct statistical analyses estimating the effect of *ExCELL-E* on teachers' instruction and children's outcomes. Multivariate multiple regression will be used to assess the impact of the intervention on teacher quality (Outcome 2). Specifically, spring scores on teacher outcome measures (CLASS, LISn, and ELLCO-ELL Extension) will be regressed on a dummy variable indicating participation in the intervention, while controlling on fall scores, as well as relevant teacher covariates (e.g., education, experience, native language). Models for each outcome variable will be estimated singly and jointly through an omnibus test. To investigate changes in children's skills (Outcome 3), two-level multilevel models (children within classrooms) will be used to assess the impact of the intervention on spring scores on the child outcome variables (e.g. vocabulary, oral comprehension, and narrative abilities), while controlling on measures such as fall score, child gender, ethnicity, disability status, ELL status, age at time of testing (at the child level), as well as teacher education, experience, and ELL status (at level 2). As above, the models for the child outcome measures will be estimated both singly and jointly.

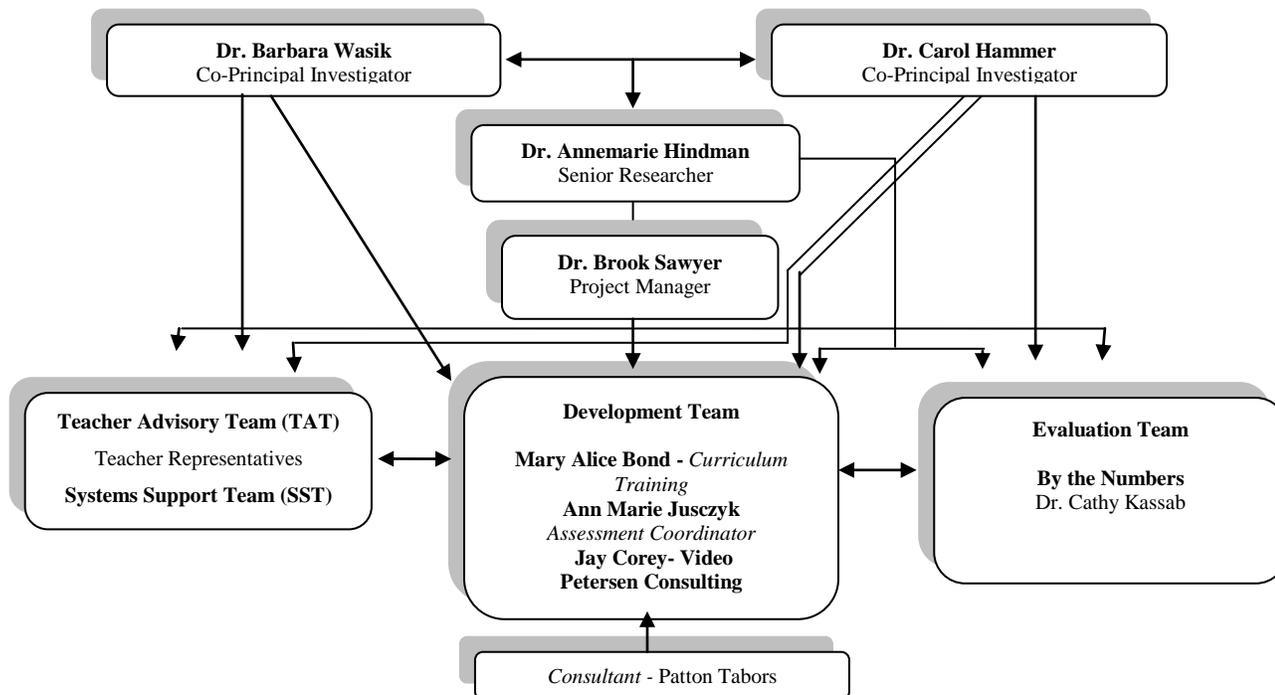
**Research Question 3.** The evaluator will add relevant variables (scores on CLASS, LISn, ELLCO-ELL, or fidelity measure, independently or as a single index) to the models addressing Research Question 2. If the intervention effect diminishes and these proximal variables emerge as significant predictors, it is likely that the intervention operates through these strategies.

**Research Question 4.** The evaluator will add on to the model addressing Research Question 2 by examining the interaction (effects coded) between ELL status and intervention. A significant interaction suggests that the intervention effects are different for ELLs.

As is often the case in pilot studies, we have sufficient statistical power to detect large intervention effects but not small effects. However, pilot data will provide important information (e.g., intraclass correlations, parameter estimates) needed to plan a scale-up project.

**D. MANAGEMENT PLAN AND PROJECT PERSONNEL**

The management plan will ensure that the program goals are accomplished in a timely fashion. Drs. Wasik and Hammer will be responsible for overseeing the entire project, with support from the project personnel (Drs. Hindman and Sawyer, Ms. Bond and Ms. Jusczyk). Weekly meetings with key personnel will be held throughout the project. The TAT will meet monthly with Drs. Wasik and Hammer. The SST will meet every other month. The technology components will be developed in conjunction with Peterson Consulting (website, webinars, chat room, etc) and Mr. Jay Corey (interactive videos). By the Numbers (Dr. Cathy Kassab) will conduct the evaluation. Table 2 identifies individuals responsible for each project component.



**Table 2. Responsibilities of Project Personnel and Collaborators**

	Key Personnel/Development Team					Collaborators		
	Wasik PI	Hammer Co-PI	Hindman	Sawyer	Bond & Jusczyk	Corey & Peterson Consult	TAT & SST	By the Numbers
Provide input throughout							X	
<b>Goal 1. Streamline the PreK <i>ExCELL-E</i> program</b>								
Obj. A1.1,1.2 Develop website, webinars, chat room, videos	X	X	X	X		X		
A1.3 Dev lesson plans	X	X	X		X			
A1.4 Dev fidelity & progress monitor	X	X	X		X			
A1.5 Dev coaching model	X	X	X	X	X			
B1.1. Integrate ELL content throughout	X	X w/ Tabors						
C.1.1 Implement, eval, & refine PreK version	X	X	X	X	X			
<b>Goal 2. Develop aligned K and 1<sup>st</sup> Grade versions</b>								
2.1 Dev webinars, videos	X	X	X	X		X		
2.2 Dev lesson plans	X	X	X					
2.3 Dev fidelity & progress monitoring	X	X	X					
2.4 Dev coaching model	X	X	X	X	X			
2.5 Implement, eval, & refine K & 1 <sup>st</sup> Grade ver.	X	X	X	X	X			
<b>Goal 3. Pilot all 3 Versions of the Refined intervention to Prepare for Scale up</b>								
Implement intervention	X	X	X	X	X			
3.1 Formative evaluation								X
3.2 Summative evaluation								X

The timeline and milestones for completing the Goals and Objectives are outlined in Table 3.

**Table 3. Project Timeline**

Months – Beg Jan 2012	Year 1				Year 2				Year 3				Year 4			
	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12
<b>Goal 1. Streamline the PreK <i>ExCELL-E</i> program</b>																
A1.1 Develop website & webinars, chat room	X	X	X													
A1.2 Develop videos	X	X	X													
A1.3 Dev lesson plans		X	X	X												
A1.4 Dev fidelity & progress monitoring		X	X	X												
A1.5 Dev coaching model	X	X	X	X												
B1.1 Integrate ELL content in all versions	X	X	X	X	X	X	X	X								
C1.1 Implement, eval, & refine PreK version				X	X	X	X	X								
<b>Goal 2. Develop aligned K and 1<sup>st</sup> Grade versions</b>																
2.1 Dev webinars, videos					X	X	X									
2.2 Develop lesson plans						X	X	X								

2.3 Dev. fidelity & progress monitoring						X	X	X								
2.4 Dev coaching model					X	X	X	X								
2.5 Implement, eval, & refine K & 1 <sup>st</sup> Grade ver.								X	X	X	X	X				
<b>Goal 3. Pilot all 3 Versions of the Refined intervention to Prepare for Scale up</b>																
3.1 Formative eval	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3.2 Summative eval												X	X	X	X	X

**Personnel**

*Temple University* is a Research Extensive University that has generated over \$116 million in sponsored projects, of which \$9 million are from the College of Education (CoE). Temple is a public university located in Philadelphia—an urban campus, racially and ethnically diverse, with more than 34,000 students. The CoE is the largest single provider of teachers to Philadelphia schools and plays a central role in regional school reform efforts working collaboratively with Philadelphia and surrounding districts and the state to improve student achievement.

In the College of Education, the Institute for Schools & Society (ISS, formerly the Center for Research on Human Development and Education), was established as an interdisciplinary research center. ISS has the infrastructure to administer large, federally-funded field-based grants. Since 1985, ISS has been awarded and successfully managed over \$108 million in work, largely aimed at improving the lives of children in socioeconomically challenged urban environments. If awarded, this grant would be administered through ISS, which will provide a computerized information management system, custom-designed to meet the technological support requirements for carrying out the essential administrative functions, budget monitoring, and activities scheduling. This management system also generates and maintains a database to monitor the project’s resource use and timely completion of proposed activities and deliverables.

The *key members of the team* were selected for their expertise in the specific area of the project to which they will contribute. Together, the staff brings decades of experience on large-

scale projects in high-poverty schools. Drs. Wasik, Hammer, Hindman, and Sawyer and Ms. Bond and Jusczyk have over 20 years of experience developing and implementing interventions, including curriculum and assessments, and training teachers and children in high-poverty schools. In addition, Drs. Hammer and Tabors bring their expertise of working with ELL populations, and Dr. Sawyer has experience in coordinating projects of this scale. Finally, we will subcontract with Jay Corey and Petersen Consulting Group, LLC who have the expertise needed to develop *ExCELL-E*, and also have experience working with schools and developing training. (See Appendix F for CVs and Appendix J for biographical sketches).

**Barbara A. Wasik, Ph.D.** (Co-PI) is a Professor and PNC Endowed Chair in Early Childhood Education at Temple University. She is a national expert on early language and literacy interventions for children who are at-risk for school failure. Dr. Wasik has been the PI on several federally funded large-scale projects, including two Early Reading First grants and interventions for children at-risk that have been implemented at scale. *ExCELL* is the result of her Early Reading First grants, and as reported in the Significance Section, has repeatedly demonstrated increases in teacher quality and educationally significant increases in Head Start children's vocabulary and phonological sensitivity skills in over 50 Head Start centers in Baltimore, MD. As a result, she is an expert in overseeing the development, implementation and evaluation of large scale, field-based interventions and randomized controlled trials such as the proposed study. In addition, Dr. Wasik has extensive experience in curriculum and materials development and in designing professional development interventions for teachers. She was one of the original developers of the reading/tutoring curriculum for *Success for All*, a school-wide reform intervention, and participated in bringing that intervention to scale, which currently is in 500 districts in 48 states. She was the lead developer on the literacy component of *Experience*

*Corps*, a nationally recognized volunteer intervention and is knowledgeable about both elementary school reading curricula and scaling up for intervention implementation in multiple sites. Dr. Wasik is currently developing the curriculum Scope and Sequence for BCPS for PreK through first grade and is very familiar with Common Core Curriculum Standards.

In addition to her decades of experience designing and implementing model lessons, teacher workshops, seminars, coaching activities, teacher observation protocols, and new teacher preparation, her recent work in the development of *ExCELL* training videos has added to her expertise in the design of training materials, particularly in the creation of video and digital media. Dr. Wasik has spent over 25 years working with the Baltimore City School district and Baltimore City Head Start, which, though considerably larger in scale, are comparable in needs and capacity as the proposed sites. As of 2007, she is a member Temple University's Million Dollar Diamond Club, for faculty awarded more than a million dollars in grant money.

**Carol Scheffner Hammer, Ph.D.** (Co-PI) is Professor of Communication Sciences and Disorders at Temple University. She is a national expert on children's language and literacy development, English Language Learners (ELLs) and school readiness interventions. Dr. Hammer has led 3 large, federally funded research projects with combined budgets of \$10 million and has experience leading large-scale, multi-site research projects. Currently, she is leading a multi-site, randomized controlled trial of a preschool curriculum, Tools of the Mind that is being adapted for ELLs. The project involves 80 teachers in New York and Florida and over 1400 children. She is also the developer of a home-based school readiness intervention designed to support young ELLs' language and literacy development that is undergoing a small, randomized controlled trial in Lancaster, PA. Dr. Hammer has extensive experience designing and implementing workshops, seminars and in-service training for early childhood educators that

focus on fostering young children's language and literacy abilities, and in particular the abilities of ELLs. Dr. Hammer has worked with several school districts and Head Start programs in Pennsylvania. She was a consultant to the School District of Lancaster's Early Reading First grant and has spent 10 years conducting research projects with the District.

**Annemarie Hindman, Ph.D.** (Senior Investigator) is Assistant Professor in early childhood education in the College of Education at Temple University. A former literacy coach with experience in two Early Reading First projects (in Baltimore and Detroit) which are similar to those in the proposed study, Dr. Hindman has experience implementing large-scale, field-based language and literacy interventions in high-poverty early childhood education settings. Her research and development work focuses on early language and literacy during the transition to school, particularly among populations in poverty. Her publications on language and literacy in Head Start and in other early childhood programs further demonstrate her knowledge of quantitative statistics, which will support the proposed research aims. Her work has been supported by the Spencer Foundation and the U.S. Department of Health and Human Services. She has sufficient knowledge of Spanish to translate materials for teachers and families.

**Brook Sawyer, Ph.D.** (Project Coordinator) is a Research Associate in Communication Sciences and Disorders at Temple University. Dr. Sawyer has numerous years of experience with designing, implementing, and evaluating early education professional development projects, including project recruitment, data collection, conducting analyses, and disseminating findings via presentations and publications; she recently served as project coordinator on an IES-funded Goal Two project focused on increasing early interventionists' use of assistive technology (PI: Jeanne Wilcox, Ph.D.). Of particular relevance to the current study, she has experience in developing technology-based training materials, such as creating training videos.

**Mary Alice Bond, M.A.** is a literacy coach and one of the developers of *ExCELL* at Johns Hopkins University Center for Social Organization for Schools (CSOS). A former preschool teacher, Ms. Bond has vast experience with curriculum development, program implementation, and teacher training. Ms. Bond has worked extensively with early childhood educators and will be the primary coach for *ExCELL-E*. Ms. Bond will work closely with the classroom teachers in the development of *ExCELL-E* materials and PD. She will be closely involved in the iterative development process of refining materials to be used in *ExCELL-E*.

**Ann Marie Jusczyk, B.A.**, is both a curriculum developer and the assessment coordinator for *ExCELL* at JHU's CSOS and will continue to serve in this capacity under the proposed grant. She has worked in child development for more than 30 years and is an expert in language development among young children. Ms. Jusczyk will work closely with the evaluation team in collecting the teacher and child data and overseeing the data entry for analysis. She has extensive experience in assessment development and developed the child progress monitoring measure for *ExCELL*. She also helped develop the fidelity measure for *ExCELL* and will support the development of measures for *ExCELL-E*.

**Patton Tabors, Ph.D.** (Consultant), an international renowned expert on ELLs, will consult on this project, in addition to a highly-qualified development, technology, and evaluation team.

(Please see Appendix J for additional biographical sketches.)

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