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# PROJECT-BASED LEARNING FOR ENGLISH LEARNERS: PROMISES AND CHALLENGES

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The 2010 California Common Core State Standards (CCSS) and 2012 English Language Development (ELD) Standards require a shift in approaches to teaching Language Arts and ELD. The CCSS call for listening, speaking and writing through student collaboration and an interdisciplinary approach to literacy. Similarly, the ELD standards emphasize language development focused on communication and collaboration in creating written texts and oral presentations incorporating technology. These shifts, along with new assessment models, have surfaced renewed interest in Project-based learning (PBL). What exactly is PBL and how does it benefit English Learners (ELs) in attaining academic success and language proficiency?

We begin with a definition and brief history of PBL and its key criteria. We then propose an expanded notion of PBL that considers ELs' unique linguistic needs and conclude with two promising examples developed in partner school districts in southern California committed to applying these principles to culturally and linguistically diverse students.

## **DEFINING PROJECT-BASED LEARNING**

Inquiry-based learning is a generalized term that encompasses Task-based, Problem-based, and **Project-based learning (PBL)**. It refers to any learning methodology whereby students solve a problem or respond to an inquiry question by completing a project collaboratively. These methodologies can be conceptually traced to Dewey and Piaget's constructivist and experiential learning theories and

Freire's problem-posing approach (Memory, et al, 2004; Freire, 2005/1993). PBL originates from *Problem-based learning* used at the university-level for over 45 years in the medical, engineering, and science fields. Both methodologies share key components: (a) teacher as facilitator; (b) student-driven; and (c) addressing real-life problems. PBL research began about 20 years ago using post-secondary models of Problem-based learning and research in cognition (Barrows, 1996). However, there has been a variance in PBL research and development due to the diverse features used to define PBL and the lack of a universally accepted model. To ground our definition of PBL, we use Thomas' 5-component criteria (Thomas, 2000; Barron & Darling-Hammond, 2008) illustrated in Table 1.

**Table 1. PBL Criteria**

COMPONENT	CRITERIA
1. Centrality	Project is the key teaching strategy  Key concepts of the curriculum are learned to complete the project necessitating teaching that is de- compartmentalized and non-linear.  Direct instruction is used to fill necessary knowledge gaps
2. Driving Question	Question requires learning essential concepts/principles within a discipline
3. Constructive Investigation	Inquiry involves knowledge construction and transformation
4. Student-centered	Students collaborate to generate ideas and develop plans  Project is student-driven and includes opportunities for choice, independent work-time and development of self-responsibility
5. Authentic-content	Focus is on real problems/questions that produces a “real-world” product or presentation

### CHALLENGES IN IMPLEMENTING PBL

Although research on inquiry-based learning has yielded overall positive educational results in achievement and affective dimensions, the approaches are not without challenges. Issues such as the degree of skill and knowledge, time allowed for inquiry, quality of lesson design and ability to balance scaffolding, modeling and feedback can present a challenge to teachers (Barron, 2003). Likewise, students can experience difficulty managing time, generating and evaluating questions, and accessing necessary background knowledge or developing logical arguments (Edelson et al, 1999). Therefore schools and teachers need a supportive context and professional development that allows time to learn about PBL and develop authentic driving questions that align to the curriculum and promote interdisciplinarity.

### ENGLISH LEARNERS AND PROJECT-BASED LEARNING

There are parallels between PBL methodology and the intent of the new ELD standards that require a shift in how educators think about

language acquisition and learning. This refined perspective posits language acquisition as a non-linear and complex social process. It is through thoughtfully planned collaborations and interactions (Swain 2002) that ELs develop communicative (speaking and writing) and comprehension skills (listening and reading). These collaborations around content, for a specific and meaningful purpose and task, and a defined/target audience make English the main tool and resource for meaning-making. Thus, the use of different types of texts – oral and written- and engagement in a variety of activities are integral to language learning.

Enhancing student motivation is a major advantage of PBL given that students are intrinsically motivated to work on a task of their own interest. With more active engagement of reluctant students than in the traditional classroom, PBL provides a supportive and motivating context for speech to emerge (Kagan, 1995). Another advantage of PBL lies in the placement of students as the main decision-makers in how they learn

(Driscoll, 2000). In most cases, PBL provides students with a sense of personal responsibility, choice in leadership roles, and ownership of key decisions in learning (Evensen & Hmelo, 2000). These advantages may have a strong impact especially for EL students who have experienced more failure than success in learning situations (Olsen, 2010).

*In making the case for the use of the methodology with ELs, we propose a reconceptualization of PBL that augments Thomas’ components by highlighting the specific elements and application to the linguistic and cultural needs of students learning a second language (see Figure 1):*

1. Explicit goals and guiding activities that clarify purpose and ensure mastery
2. Expanded instructional supports with attention to language modes
3. Purposeful integration of metacognitive and metalinguistic strategies
4. Varied participation structures to maximize construction of knowledge
5. Multidimensional formative and summative assessments for ELs

### *Explicit Goals and Guiding Activities to Clarify Purpose, Make Connections and Ensure Mastery*

As previously described, key to PBL is the idea of **centrality** around a **driving question**. That is, the curriculum taught is essential to the project and driving question and emphasizes an interdisciplinary approach guided by the CCSS and discipline-specific standards. For ELs, teachers must also use the ELD standards to establish appropriate academic and linguistic goals that support and scaffold learning. Research on the effects of an interdisciplinary curriculum has shown, among other things, increased participation, motivation, and interest in learning (Catterall et al, 2012; Wirkala & Kuhn, 2011), as well as in critical-thinking and problem-solving skills for ELs (Barry, 2010). Sheltered instruction methodologies (Echeverria, Vogt & Short, 2004) emphasize the importance of making interdisciplinary connections to support ELs' comprehensibility and content knowledge acquisition. Increased EL engagement and motivation could reasonably follow. For this to happen, however, teachers should have clear goals based on the theme or "big idea" (e.g., interdependence) and clarity of purpose and outcomes ensuring a student-centered approach to solve the problem of inquiry while simultaneously gaining requisite content knowledge and language skills to meet standards. Secondly, delivery of direct instruction is carefully planned by identifying essential elements and degree of academic and linguistic challenge of the material. Finally, guiding activities prepare students to work together to perform the assigned task and provide multiple opportunities to understand and process content.

### *Expanded Instructional Supports that Integrate the Modes of Communication*

The use of PBL for ELs presents an opportunity to **actualize the shifts** in perspective on language learning from traditional formal and functional language theories to viewing "language as action" (van Lier & Walqui, 2012). The ELD Standards present the notion of using language to **Interact in Meaningful Ways** (Part I of the standards document), along with Part II, Learning How English Works and Part III, Using Foundational Literacy Skills. In PBL for ELs, the expanded use of instructional supports occurs through explicit attention to the three language modes identified in the ELD standards: Collaborative, Interpretative, and Productive to ensure maximum comprehensibility and multiple opportunities for students to interact with oral and written text as they attend to the **driving question**. Attention to the language demands is critical when making instructional decisions as to the type and extent of support needed to design additional instruction around linguistic needs.

Teacher modeling and input are key EL scaffolding strategies that can be utilized to maintain **centrality** on the problem of inquiry and provide guidance through direct instruction to fill in gaps in content knowledge and linguistic skills. Examples include the use of differentiated sentence frames during collaborative conversations, providing clear signals for students to recast their utterances through requests for clarification or offering choices of accurate grammatical structures, use of established routines for teaching skills including vocabulary routines and chunking of oral and written texts to process information. Additionally, text representation can be utilized to support ELs in interpreting texts and producing pictorial and written re-presentations of information, including the use of strategies such as pictographs for summarization or visualization as temporary scaffolds. Continual comprehension checks, through processes such as extensions and paraphrasing are also important.

### *Purposeful Integration of Metacognitive and Metalinguistic Strategies to Increase Academic Language Output*

A key quality of PBL is **authenticity**-- the product or task is anchored in a real-world problem that requires authentic solutions. This may prove effective in promoting second language development (L2), specifically academic language and has the potential to result in improved students' accuracy in L2 use with regards to syntax, vocabulary and register through increased metacognitive awareness. Research conducted with ELs (Calderón, Hertz-Lazarowitz, & Slavin, 1998) supports the notion that when ELs work in groups, it affords them more opportunities for interaction in English and helps improve L2 proficiency through problem-solving and dialogue. The cooperative nature of PBL may be highly effective for ELs since it offers two critical features of interactions to promote language-learning: "essentialness" and output (Keck et al, 2006). Essentialness has to do with the fundamental vocabulary or language constructions of a task and refers to the idea that language is acquired when learners produce language (Long, 1985). In doing so, they "notice" their linguistic needs (metalinguistic awareness) as a result of communication breakdown (Schmidt, 1990; Lyster, 2004). For example, when reporting the results of an interview, students repeatedly use "told" instead of "asked" when referring to the questions they posed. By incorporating technology to record and review interviews, ELs can recognize patterns of use and misuse in oral language production. With explicit focus on authentic language use, students can develop greater metacognitive and metalinguistic awareness to increase not only their content knowledge but their language competency. Furthermore, we contend that teachers

must consistently make use and support EL students' application of linguistic and cultural resources such as cognates, background knowledge and experiences, and to use these to discuss strategies and processes when encountering difficult vocabulary, syntax, comprehension breakdown or different register (Chamot, 2005).

**Varied Participation Structures to Maximize Construction of Knowledge and Increase Collaboration**

Hattie (2012) compiled evidence-based research on what works in schools to improve learning and found cooperative learning to be among the 10 most effective strategies. Use of collaborative grouping to promote **constructive investigation**, one of the hallmarks of PBL, requires careful planning and attention to grouping practices when applied to ELs. Various participation structures are required to maximize knowledge construction, with consideration for (a) the nature of the particular task; (b) the stage/ phase of the project and purpose of the collaboration; and (c) English proficiency level(s) of the students.

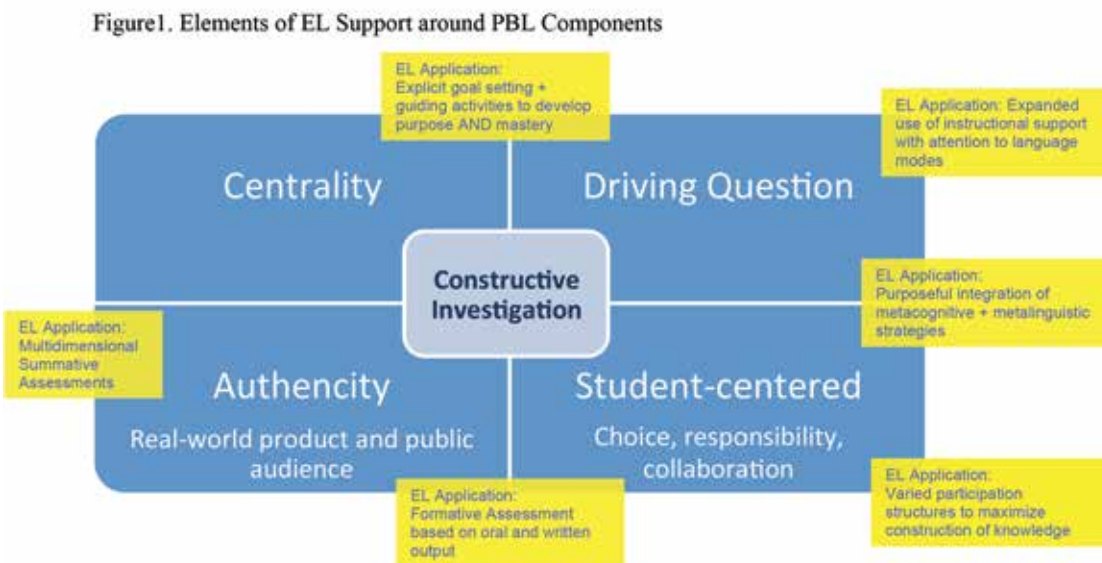
For example, if the project requires building background knowledge of a concept, students might first be grouped homogeneously by proficiency level to provide scaffolds such as primary language materials/support for the emerging proficiency levels, then regrouped heterogeneously across other student characteristics for activities that necessitate application of knowledge or skills. Heterogeneous grouping of ELs need to be carefully structured to be effective (Klingner & Vaughn, 1998; Peck, 1987) by taking into consideration the language demands of the cooperative task and the proficiency levels of the students.

**Multidimensional Formative and Summative Assessments- Monitoring ELs Oral and Written Development**

We propose that on-going assessment of EL students' understanding of concepts, language, and processes is necessary for successful project completion in PBL. Standards and content and language objectives should guide the assessment approach (Balderrama & Diaz-Rico, 2006).

For ELs, it is important to assess not only academic development in content and language but also in metacognitive strategies. Crabbe (2003) proposed a comprehensive model of components of language learning opportunities that include: (a) input, (b) output, (c) interaction, (d) feedback and, (e) learning understanding; the implications of which point to teachers' use of formative assessment processes to ensure that ELs demonstrate understanding of content and language. Authentic assessment tools and practices that mirror authentic learning experiences in PBL (Lavadenz, 1996) can also integrate the visual and performing arts, such as role-playing, and other performance-based tasks that are evidence of EL's oral and written development across proficiency levels. In addition, assessment of group work, formal presentations, periodic progress reports and analysis of Learning Logs are valuable forms of summative and formative assessments.

Figure1. Elements of EL Support around PBL Components





### **PBL IN PRACTICE: HIGHLIGHTS FROM TWO PROGRAMS FOR ENGLISH LEARNERS**

Our team at the Center for Equity for English Learners (CEEL) has developed and implemented two programs at several urban school districts in Southern California using PBL with ELs in mind: *Journalism for English Learners* and *Project STELLAR (Science Teaching for English Learners: Leveraging Academic Rigor)*.

The *Journalism for English Learner Program* was piloted and the results of Phase 1 of the implementation were reported in a previous edition of this publication (see *The Multilingual Educator Conference Edition, 2012*). This project is for ELs who have been enrolled 5 or more years in US schools and have not attained fluent-English status and are underachieving (LTEs). Students learn about journalism by studying the genre and researching and interviewing members of the community. The project culminates in the publication of their articles in a student newspaper. With the overarching goal to advance the English oral and writing skills, pre- and post-data analysis of CELDT and CST results show positive effect size gains for students involved in the project. Based on the results of Phase I, the program has been expanded to several districts and results of the program on student achievement in this “scale up” effort are underway.

Another example is the application of PBL for ELs is Project *STELLAR* - focused on Urban Ecology (a relatively new branch in Environmental Science). It seeks to develop language through inquiry and oral and written communication presentations. One of the modules culminates in a Public Service Announcement (PSA) based on data collected from a field study site. Students record and interpret data, then collect evidence from community mapping to provide a recommendation that will persuade their audience with their PSA. Research is being carried out that looks at student achievement and teacher’s understanding and efficacy in delivering the curriculum through PBL methodology.

### **CONCLUSION**

PBL offers great promise in enhancing and promoting educational success for ELs in that it promotes an authentic learning context that requires students to collaborate to develop projects and then present them to varying audiences so that teaching and learning become more “visible.” Both formal and informal evaluation of the quality of the products, and also of the language ELs produce will require them to also come out of the “shadows”. If well implemented, the educational community will need to work in partnership to conduct research to document the evidence of the potential of PBL for ELs in improving the schooling outcomes for California’s culturally and linguistically diverse student population. ➡

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3. Working with legislators and policymakers to ensure educational equity and resources for English Learners;
4. Creating powerful allies through educational, business and community partnerships;
5. Financial responsibility to carry out all key objectives;
6. Full involvement of our members in school and advocacy initiatives.