



## Future Focused English Language Learning (ELL): Collaborative Experiences Interwoven with Active Learning Methodologies

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### Abstract

*The continued demand and unique learning environment for English Language Learners (ELLs) is ever changing as educators focus on best practices to promote optimal learning for 21<sup>st</sup> century students. Central to the demand for revitalizing the classroom experience and infusing technology throughout the curriculum is the call from leaders in business and industry to prepare students to enter the 21<sup>st</sup> century workforce, particularly in Science, Technology, Engineering, and Mathematics (STEM) fields. Expert English language skills are often tantamount to achieving success in this endeavor and keeping up with the rapid pace of learning. Not only are well educated students expected to demonstrate observable and measurable ELL skills, they need to exhibit strengths critical to cross disciplinary fields.*

*This study will present instructional methods that focus on active learning environments, highlighting experiences from science disciplines, and emphasize direct ELL preparation to ensure success and promote purposeful collaboration. Teaching strategies and methodologies that promote active, hands-on learning in the ELL classroom and science will be discussed. Challenging activities will be suggested that can be adjusted for a variety of abilities across age groups featuring key transferable competencies. Exploration of best practices that build a culture of innovation and prepare students for the global workforce will be addressed. This type of curriculum offers strategies integral to ELL learning with focused interactions among students and teachers. Future focused ELL pedagogy and coursework reflecting cross disciplinary content and creatively engaged and involved students in an inclusive learning environment will be discussed along with accompanying assessment methods to build on students' strengths and prior knowledge. The goal is to demonstrate positive outcomes in both content and communication in a vibrant ELL learning environment as students confront rigorous expectations and crucial conversations. These collaborative connections interwoven with hands-on methodologies and active learning featuring evidence-based best practices and accomplishments will ensure optimum learning for ELL students as they set active goals to meet the expectations of leaders in business and industry integral to their success.*

### 1. Introduction

Change is forever in the wind and it is rapidly impacting students and educators across the globe. There are ongoing discussions and debates related to providing the best education possible when strengthening English language skills and boosting content knowledge. Educators are called upon to meet the escalating needs of business and industry, and to address rising competition globally. As concerns about a lower standard in education continue to surface, best practices for learners are debated among educators. Blending interdisciplinary content and language learning is energizing and beneficial for all constituents. It is not enough for students to become experts in the STEM fields or speakers of multiple languages. They need to create a balance that will serve them well in future endeavors and strengthen their contributions and accomplishments building on their knowledge and expertise. Active learning environments that allow for expansion of knowledge in both STEM content and language development present optimal opportunities for students. The unique nature of demands juxtaposed with opportunities makes this a crucial time for all educators. Examples of active learning in the sciences as they relate collaborative, engaged cross disciplinary achievement combining scientific inquiry and language learning will be provided below.

### 2. Review of the literature

Principles for multicultural practice suggest that teachers must be advocates for ethnically diverse students, acting to challenge them, support their victories, and serve as part of a support network when they encounter failure or feel discouraged. [1] There are significant concerns regarding teachers in the United States being prepared to work with ethnically, racially, culturally, socially, and linguistically diverse students. Teachers are pivotal in determining the kind of education that these

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students receive, yet the demographic and cultural divide is becoming more apparent as the numbers of individuals of color in teacher preparation and classroom education decrease. [2] Christensen points out that, as teachers, we have daily opportunities to affirm that our students' lives and language are unique and important. [3] In spite of efforts to the contrary, Lerner and Nagai suggest that the gap in academic performance focusing on diverse racial and ethnic groups is a significant boundary condition and directly relates to university admission policies that may be preferential. [4] There are many highly capable students from around the globe. And some of these students who are still in the process of learning English may not receive the recognition that they deserve or be overlooked by educators who translate their limited English skills into learning disabilities. These are only a few of the concerns that educators need to address when considering pragmatic pedagogy and practice for English Language Learners (ELL). Utilizing collaborative methodologies to actively engage students is highly recommended for future focused learning.

### **3. Instructional methods focusing on active learning environments**

Active and engaged learning makes an indelible difference in the educational experience. For example, accomplishments and educational achievements can be celebrated and reinforced when students have the opportunity to work in teams, collaborate, and experience shared success. Hands-on learning will support educational theories and abstract concepts providing authenticity and concrete experiences to enhance the learning experience. An excellent example of this is problem-based learning (PBL) often referred to as inquiry based or project-based learning. Individual projects are also beneficial. The publication *Easy English News* contains numerous articles and activities for students. Writing a resume is an example of an activity that helpful in assisting students to plan and reach future goals. [5] Clearly, integrating interactive technology is a creative tool to strengthen learning in the classroom and future workplace. Computers, tablets, smart phones and other mobile devices are becoming part of our daily life. They will revitalize routine learning experiences and captivate students particularly when gaming and innovative techniques are used to make learning come alive and simulate real life experiences.

### **4. Science disciplines**

Science is a discipline rooted in asking questions about the natural world and the use of investigative and analytical capacity to explore those questions. Rather than being perceived as a mode of study that intimidates, science can be used as a tool to bridge communication gaps for ELLs through the use of demonstration, modeling, experimental design, and computational thinking because it is a mode of study grounded in experience and application. [6] A strategy of emphasizing visual literacy, where figures like graphs, models, equations, can help to transcend language boundaries. [7]

Citizen science projects can be an excellent way to ameliorate language boundaries because they involve independent collection of data, which instills participant ownership in the project, and an analysis and interpretation in a collective forum. From eBird [8] to Monarch Watch [9], there are hundreds of regional projects that a class can take part in to gather real-world data and stimulate a conversation about observations in the natural world.

Another approach can involve placed-based, scaffolded inquiry thorough nature journaling, gardening, participation in science fairs, and service learning opportunities. These activities do not require a significant investment in materials, but can be transformative both for the participants and in the institutional landscape. Reflective activities like creating a portfolio are important for assimilating scientific observations and solidifying retention.

Investigative projects that include large real-world datasets can also be a great way to stimulate learning and reinforce communication thorough multiple platforms. The Ecological Research as Education Network (EREN) is a collaborative research data collection network of smaller undergraduate institutions that pool resources to execute a research project [10]. The National Ecological Observatory Network (NEON) provides a way to explore ecological change through time through continental-scale long-term datasets. This type of investigative science encourages students to work together in groups, but to take on roles where participants gravitate toward their strengths. These projects emphasize inquiry with quantitative reasoning, which will benefit language learners.

### **5. Cross disciplinary content**

Focusing on inspirational cross disciplinary activities will enhance English language learning and strengthen the content in both areas. This is particularly useful with older students who are seeking program components that lend themselves to quality preparation for the workplace. Refugees who are facing tremendous challenges may have impressive skills and experiences in the country that they



have left behind, yet will need to add competency in the target language to turn their abilities into transferable skills that will serve them well in their future endeavors. By using materials designed for content area instruction, students will be able to accomplish observable and measurable tasks that will resonate across cultures and disciplines when English is integrated into the curriculum. In order to realize measurable outcomes and results, it is necessary for content and language educators to work together organizing and implementing instruction based on theory and practice that will reach across disciplines. Pragmatic activities designed to strengthen both content in multiple disciplines, particularly in STEM areas, as well as language, will be beneficial in preparing students to enter the global workforce.

## 6. Evidence-based best practices

Best practices serve as a springboard for immersing students in activities that have research-based, proven results and provide solutions for measurable gains in language learning. Unfortunately, some students are challenged by interrupted formal educational experiences, and even more attention must be devoted to addressing their educational needs. Other, more fortunate or affluent students may have received formal education in English, but have not had the opportunity to actually use the English, practice verbal communication or interact with English speaking students. They may be use to traditional classroom settings with limited team experience or hands on activities. Collaborative, engaged learning activities for 21<sup>st</sup> century language learners that prepare them to enter the global workforce are vital to ensure future success, and bold approaches that were not exercised in the past are certainly more relevant now. Investigative techniques and tools that encompass the strategies necessary for collaborative and active learning are essential. Students are well served when they have access to best practices that are also rigorous and designed to meet established standards. Professional development, relevant assessment and accountability are essential ingredients to success. Professional, highly qualified and enthusiastic educators are also keys to revitalizing the learning experience and realizing measurable student gains.

## 7. Conclusion

The combination of cross disciplinary content and language skills is essential as educators celebrate a culture of innovation and prepare students to enter the 21<sup>st</sup> century workforce in a global competitive society. STEM education is often at the forefront and investigative science methods are synonymous with success in rigorous and complex active learning, as well as in the 21<sup>st</sup> century workplace where team work and collaboration are expected and highly valued. Students and educators who take advantage of collaborative language learning experiences infused in cross disciplinary settings will be able to address the complexity of unique learning environments and expectations of the ever changing workplace. These collaborative connections and transferable competencies across the curriculum will allow students to demonstrate a multiplicity of academic strengths critical to achieving their goals in both the educational arena and the global stage.

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