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# An Empirical Study on Teachers' and Students' Perception of Project Based Learning

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An Empirical Study on Teachers' and Students' Perception of Project Based Learning

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Masters of Education in Teaching English to Speakers of Other Languages

by

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University of Central Oklahoma  
Bachelors of Arts in Philosophy, 2011

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This thesis is approved for recommendation to the Graduate Council.

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## Abstract

This research focused on the perceptions of Project Based Learning in an English as a Foreign Language context in one private Guatemalan school. The research examined the perceptions of teachers and students on Project Based Learning by implementing a four-week project in one classroom. This research also examined the difference between the girls' and boys' perceptions of Project Based Learning. The participants included one teacher and 18 students aged between 15 and 16. Mixed method was used to derive quantitative and qualitative data from surveys, an interview, and observational data. The results concluded that the teacher had a positive experience implementing Project Based Learning. The teacher found Project Based Learning to be likable and an effective way to teach English. The students considered the project to be successful, likable, and an effective way to learn English. This research supports the implementation of Project Based Learning in an EFL context in Guatemalan private schools.

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## Chapter I

### Introduction

Traditional teaching strategies have long been used in English as a Foreign Language (EFL) classrooms in developing countries. One fundamental aspect of traditional teaching strategies is teacher-centered instruction. Teacher-centered learning espouses the notion that the learner is a passive vessel waiting to be filled with knowledge. Educational philosophers like Paulo Freire have dubbed this the “Banking” model of education because it lends itself to the idea that learners are empty accounts where teachers make deposits (Freire, 1970). While these strategies work to some degree, research also indicates that teacher-centered classrooms fail to educate students in a lasting and meaningful way. That is, the information taught may not be recallable for some students after their initial exposure to it (Udovic, Morris, Dickman, Postlethwait & Wetherwax, 2002). If this is implicated through research for native speakers and English Language Learners (ELLs) who study in a native English-speaking environment, then it follows that ELLs learning in an EFL setting may also have difficulty recalling information in a teacher-centered classroom.

According to Bas (2008), a challenging aspect of the teacher-centered approach is its inability to nurture students who learn through multiple forms of input. While traditional teaching strategies promote verbal and mathematical intelligences they tend to deny learners the ability to develop interpersonal, intrapersonal, kinesthetic, spatial, musical, existential, and naturalistic skills. In this increasing globalized world, learners face challenges that necessitate a variety of skills and the ability to adapt. Therefore, a more encompassing, holistic teaching strategy is needed to promote the development of all types of intelligence and the range of marketable skills needed to produce well-rounded students.

Research indicates that Project Based Learning (PBL) can be a more effective teaching strategy than traditional methods (Simpson, 2011). According to a highly cited review of research compiled by Thomas (2000), Project Based Learning “seems to be equivalent or slightly better than other models of instruction for producing gains in general academic achievement and for developing lower-level cognitive skills in traditional subject matter areas” (p. 34). These studies provide evidence to support the efficacy of PBL on academic performance.

There is also evidence that PBL promotes student collaboration as well as professional collaboration among teachers and that teachers and students *like* Project Based Learning more than traditional teaching methods (Thomas, 2000). This collection of research speaks volumes for promoting the implementation of Project Based Learning in the United States. There is also a significant amount of data that suggests these findings transfer to other countries and cultures as an approach to language learning. However, there is a lack of data about the efficacy or perceptions of PBL in Central America, specifically in Guatemala. Therefore, it is critical that further data be collected to determine the outcomes of Project Based Learning in Central American countries such as Guatemala.

### **Statement of the Problem**

Research suggests that traditional teaching methods sometimes fail to impart certain aspects of the target language in lasting ways or promote a variety of skills (Udovic, Morris, Dickman, Postlethwait & Wetherwax, 2002; Bas, 2008). Where traditional teaching methodologies fall short, PBL may be able to help. PBL can fulfill the requirements for a holistic, globally relevant methodology that allows situations wherein learners can produce meaningful, authentic language that makes lasting connections. Numerous studies have



suggested the benefits of PBL in various countries; however, there is a lack of research and collected data to determine if PBL positively impacts student learning in schools in Guatemala.

### **Purpose of the Study**

The purpose of this study is to determine and examine students' and teachers' perceptions of PBL in a Guatemalan school. This study will compile data from the perspectives of teachers and students in the Instituto Guatemalteco Americano in Guatemala City, Guatemala to determine the perceptions of PBL.

There is a need to expound upon PBL and its satellite methodologies and to understand the culture of the educational system in Guatemala. In 1938, John Dewey advocated for the idea that learners learn best by doing. His educational philosophy stressed the need for experiential education where the learner plays an active role in achieving knowledge instead of it being presented as a static, finished product (Dewey, 1938). PBL is constructivist pedagogy that allows learners to build on previous knowledge to tackle more complex problems and activities (Simpson, 2011). This gives students greater opportunities to connect with subject matter and engage with the curriculum on a deeper, more meaningful level.

The world is dynamic and with the increasing hostile political systems around the globe, there has never been a more important time to teach social cohesiveness and collaborative learning. A fundamental aspect of Project-Based Learning is the importance of group work for brainstorming and problem solving (Guyen, 2014). At the very basis of collaborative learning is authentic conversation springing forth from learners. These intercommunicative skills function as necessary abilities for the classroom and the world that exists outside the classrooms.

To better understand the setting, culture, and participants in this study, information about Guatemala and more particularly the capital, Guatemala City, is required. Guatemala is

topographically diverse. It is home to mountainous volcanic regions and contrasting tropical lowlands. The Pacific and Atlantic oceans provide a quality source of food for coastal villages and supply ample idyllic tourist destinations. Guatemala is known for its high levels of biodiversity and rich historical landmarks such as the ancient Tikal Mayan Ruins (Hearne & Santos, 2005).

While there is much beauty to be discovered in this diverse country, a long and devastating civil war and abundant government corruption has impacted this country in several negative ways (McAdams, 2012). Guatemala suffers from high rates of poverty, especially in the heavily indigenous-laden highland areas. The literacy rate for citizens above the age of fifteen is 70.6%, the lowest in the region (USAID, 2004). According to the World Bank (2003), poverty and illiteracy plague the indigenous communities much more than their non-indigenous neighbors. There is also a notable educational disparity between indigenous and non-indigenous students in Guatemala (McEwan, 2007). One factor may be the linguistic diversity present in this population. According to one study, 33% of school-aged children report Spanish as their second language. These children rarely receive adequate second language assistance (McEwan, 2007). McAdams (2012) stated that the indigenous peoples of Guatemala are among those most affected by lack of quality education. This research study examined the ethnographic information of the participants to determine the percentage of indigenous heritage represented. While 55% of the country as a whole is considered indigenous, only 19% of the population of Guatemala City claims indigenous heritage (UN-Habitat, 2003).

Guatemala City, the economic, judicial, and industrial capital of Guatemala, where this study took place, boasts a population of almost three million people (UN-Habitat, 2003). Located in the South Central part of the country, Guatemala City is the most populous capital in all of

Central America. The city, which was founded by the Spaniards in 1776, is divided into 21 separate zones. Each zone has its own characteristics. The study will take place at a private high school in Zone 4, which is generally viewed as up-and-coming.

### **Background of the Problem**

While Project-Based Learning is not a new concept in the United States it is a fairly recent teaching concept in Guatemala, where this research took place (Wrigley, 1998). According to the World Bank (2011), more than half of the population of Guatemala lives below the poverty line. In addition to extreme poverty, Guatemala is one of the most violent countries in the world, notwithstanding active war zones (UNODC, 2012).

### **Significance of the Study**

This study is significant for EFL teachers and learners in Guatemala and in other similar developing countries. The educators, faculty, and students at Instituto Guatemalteco Americano were directly affected by this study and benefitted from its actualization, analysis, and conclusions. By taking part in this study, the participants and the school were exposed to a new language learning approach. This exposure enables the school and teacher participant to decide if this approach enhances the quality of education at IGA or if changes should be made to address the challenges of PBL. Either way, participating in this study gave the school more experience with a language learning methodology.

While some studies of Project-Based Learning and EFL students in developing countries have been published, the area of study still lacks significant data. This research adds to the preexisting data and could benefit future researchers in this field. EFL teachers face a growing number of challenges each year, especially in developing countries (Al Barwani, Al-Mekhlafi, & Perur Nagaratnam, 2013). Therefore, research undertaken in this field may ameliorate some

challenges those teachers face and provide data to improve the efficacy of their teaching strategies.

### **Research Questions**

To facilitate a basis for the proposed research and to guide the research, the following research questions were posed:

1. What are the perceptions of Project Based Learning from teachers and students in one Guatemalan School?
2. What impact does student gender and ethnicity (Hispanic or Indigenous) have on perceptions of Project Based learning?

### **Methodology**

According to Burke Johnson and Onwuegbuzie (2004), mixed method research incorporates the strengths of the qualitative and quantitative methods without being hindered by their weaknesses. Therefore, a mixed method approach was used in this study by incorporating qualitative and quantitative data.

One classroom of students participated in this study. While the teacher and discipline were selected intentionally by IGA, the section was chosen at random. The participating class was Ninth Grade Section A. The discipline, social studies, was chosen because the administration at IGA believed it would be more conducive to PBL than other disciplines. The Social Studies teacher of Ninth Grade Section A was interviewed upon completion of the classroom project. Surveys were given to all student participants and the participating teacher. Observational data was incorporated into the study with researcher observation conducted in the classroom.

## **Definition of Terms**

The following terms are defined to facilitate the understanding of this research study:

1. Project Based Learning (PBL) is a pedagogical approach based around projects that are multifaceted, challenging, and engage the learner in a meaningful, authentic way.

Projects spring forth from student direction and are realized through real life products or presentations (Thomas, 2000).

2. English as a Foreign Language (EFL) is the study of English by nonnative speakers in an environment that does not speak English as a first language (Gunderson, D'Silva, & Odo, 2014).

3. Content-Based Instruction is a methodological approach to language teaching in the context of content. It posits that language and content can be learned simultaneously. (Herrera, 2015)

## **Chapter II: Literature Review**

### **Introduction**

To better understand the perceptions of Project Based Learning (PBL) in an EFL classroom in Guatemala, the following research has been systematically compiled and reviewed. PBL has been the focus of numerous research studies; PBL has also been widely studied as a language learning methodology in English as a Second Language classrooms. PBL in an EFL context is less well known, although research is rapidly increasing. Guatemala has been the backdrop for education research as well as sociopolitical and ethnographic research. However, there is little research to be found about the perceptions of English language teaching in Guatemala. Furthermore, PBL and EFL in Guatemala have not, as far as the researcher can tell, ever been studied.

### **Project Based Learning**

Project Based Learning is an approach that holds meaningful projects as its base (Lamar & Mergendoller, 2010). The word “meaningful” is important because projects must spring from students’ authentic interest and a true desire for investigation. Projects must be thoughtful, student-centered, and challenging. Projects must also be drawn out over an extended period of time (Thomas, 2000). Projects provide a medium for learners to acquire language skills authentically. PBL by its nature creates an environment whereby learners use language in a variety of different ways to achieve project goals. Not only do learners use language skills but they also develop social, cultural, and mathematical skills during projects (Helm & Katz, 2010). Collaboration and critical thinking are foundational components of project work. These 21st century skills are considered must-have skills for many employers.

In a highly cited review of research, Thomas (2000) lists five key components for

defining PBL, “centrality, driving question, constructive investigations, autonomy, and realism” (Thomas, 2000, p. 3).

**Centrality.** Centrality means that projects must be central to the curriculum. Essentially, projects must be the curriculum. Projects work to support curriculum goals and curriculum goals work to support the project goals. Authentic projects work in conjunction with educational standards.

**Driving Question.** The driving question is an essential part of the project because it drives students to achieve project goals. The goal of the project is the pursuit of knowledge, or the answer to the driving question. Therefore, the project itself is built around the question. Lamar and Mergendoller (2010, p. 2) said that, “A good Driving Question captures the heart of the project in clear, compelling language.” In PBL, all aspects of the project can be traced back to the driving question.

**Constructive Investigations.** Constructive investigation details the types of activities and processes that are involved in PBL. The project must have an active investigation that requires students to use skills that were previously unknown to them to achieve project goals. It should also be considered difficult for students. In this way, students are challenged by the project and acquire new knowledge during the project.

**Autonomy.** PBL requires that students have a certain level of autonomy during the project. Because PBL is a student-driven methodology, much of the responsibility for deciding which paths to take to achieve project goals and the eventual outcomes of the project, falls on the students. Outcomes are not predetermined by teachers, nor are the paths taken to achieve the outcomes. Students’ autonomous choices and decisions lead the project.

**Realism.** Projects must be based in the real world with real life challenges and queries.

This criterion helps students develop skills for dealing with life outside the classroom. Realism also aids in the authenticity of the project. Because projects are based on real life, students are likely to have sustained interest in working on and completing project goals.

### **Project Based Learning and English as a Foreign Language**

EFL classrooms are unique from other English teaching classrooms because they exist in an environment where English is not the dominant language. PBL projects in an EFL context can be different from PBL in ESL or classes for native speakers. For example, a common aspect of a PBL project is interviewing subjects from the school or wider community. In an EFL context, these interviews may take place in the language of the surrounding community, not the target language. In this case, it might be advantageous for students to understand some foundations of translation work or tweak the project whereby students are immersed in the target language throughout all aspects of the project. Situations such as this help to explain the distinct situation that EFL educators face when trying to implement PBL. Another factor that makes PBL in an EFL context unique is culture, especially if the teacher is not from the home country. Being culturally sensitive throughout the project and creating project goals that adhere to local customs and traditions is important. However, PBL can work in EFL classrooms because projects can be varied and uniquely suited to the classrooms and the cultural experiences and requirements of the home country (Kean & Kwe, 2014).

**Effectiveness to learn English.** Various studies have been conducted to determine the efficacy of PBL in an EFL context. Simpson (2011) conducted mixed method doctoral research with Thai university students to determine the effectiveness of PBL in an EFL context. Simpson found that the use of PBL increased learners listening and speaking skills. The data derived from this study also showed major gains in reading skills and vocabulary knowledge for student



participants. The project was multifaceted and used a variety of authentic materials to satisfy the PBL requirement that projects be based in the real world (Thomas, 2000). The activities that were implemented were interactive and meaningful to participants. This peaked student interest and helped to maintain and enhance learner motivation. Throughout the project students kept a diary, which played an important role in increasing writing skills. The use of authentic written materials, the diaries, and other writing exercises lead to an increase in student vocabulary, and improved grammar, sentence structure, spelling, and punctuation. These findings speak to the effectiveness of PBL as an English Language Learning methodology in an EFL context.

Shafaei and Rahim (2015) conducted a study using PBL to address the need for vocabulary in language development. The researchers discussed the need for breadth (quantity) and depth (quality) of vocabulary knowledge as well as how PBL can be used to teach English collaboratively and effectively. Guided by research questions that pertain to Iranian students' retention and recall of vocabulary while using PBL, the researchers used experimental design to conduct a study with 40 high school EFL learners. A pretest was used that determined the participants had little knowledge of the stimulus vocabulary that was intended to be studied. The results indicated that the students in the experimental group did significantly better than the control group on recall and retention. Test scores for both groups fell when the delayed posttest was taken; however, the experimental group still did significantly better than the control group. The researcher suggests that traditional methods fail to teach vocabulary as effectively as PBL.

**Content-Based Instruction and EFL.** Content-Based Instruction (CBI) is designed to integrate content with language learning. While CBI has been around for many years, it has been reimagined and has reemerged as a popular methodology for EFL instructors (Herrera, 2015). Heidari-Shahreza (2014) studied the effect on EFL learners' attention, engagement, volunteering,

and verbal interaction while using CBI in an EFL classroom in Iran. The four qualities were considered “motivational behaviors” for students. The study indicated that the 72 participating university students had higher levels of motivation during content courses with an L2 medium than in language courses alone (Heidari-Shahreza, 2014). This suggests that students may stay more engaged throughout the course of language learning,

### **Perceptions of Project Based Learning**

How students and teachers perceive PBL is an important factor in PBL implementation and project success. If teachers believe PBL is too challenging then a project may be doomed to failure before even beginning. Several studies address the perceptions of PBL from teacher and students. In one study, Farouck (2016) used PBL to discover how students learn a foreign language, what language skills EFL students might acquire, and what effects PBL might have on the willingness of EFL students to communicate. Farouck posited that because PBL is collaborative and communicative in nature, students will increase their willingness to communicate. Farouck used a questionnaire to gather data on the perceptions and experiences of the participants. Many students agreed that PBL increased their confidence levels, alleviated anxieties, and grew their intrapersonal skills all of which improved their willingness to communicate. According to the questionnaires, students learned English mostly through in-class activities, collaboration with peers, dictionaries, and the internet. Most of the students agreed that receptive and productive skills were enhanced. Students also developed technological skills such as software skills, photo editing, and more precise informational gathering on the internet. In this study students’ perceptions of PBL were mostly positive.

Habók and Nagy (2016) conducted a study to determine teachers’ perceptions of PBL. A total of 109 teachers completed a questionnaire that gathered data on the preference for using

PBL and how teachers' perceive their role in the classroom. The researchers' analysis determined that teachers prefer to use methodologies such as PBL because it is collaborative in nature. The researchers also found that teachers perceive themselves as motivators, personality shapers, and value transmitters. This is important when considering the teacher's role in PBL as a facilitator and guide, not a ruler as is the case in most traditional classrooms. Overall, the students and teacher in these studies had positive perceptions of PBL as a language learning methodology.

**Likability of PBL.** One important aspect of student and teacher perceptions is the likability of the methodology being used. Research studies have addressed the likability or the perception of positive attitudes toward PBL. A 2014 study conducted by Hsu incorporated a cultural study of the target-language country with Project Based Instruction in an EFL setting. Hsu outlined the various benefits that have been cited in recent research concerning Project-Based Instruction such as motivation, self-efficacy, leadership, and increased language and personal skills. This study's aim was to determine the effectiveness of cultural studies and PBI. Thirty-four college-aged freshman students participated in the study. Their levels ranged from intermediate to upper-intermediate. The project was an integration of cultural festivals from around the world. The findings from this study suggested that in general the students liked the project and agreed that it enhanced the course. The participants did, however, indicate that the project was time-consuming and that they lacked sufficient time management skills for completing it. The results did suggest that students like the autonomy that PBL provided and that it increased their reading and writing skills. Although there were some mixed reviews about this particular project, and definite ways of improving it, participants generally agreed that the overall benefits outweighed the challenges. It also seems to be a positive enhancement for

teaching cross-cultural studies.

In a descriptive qualitative study with 25 students and one teacher, Rochmahwati (2015) implemented PBL in a level one TEFL course designed to train teachers in EFL methodologies. From interview and observational data the researcher found that the students had “significantly positive” attitudes to PBL (Rochmahwati, 2015, p. 42). The data further concluded that there were significant advantages to PBL that could be perceived. Two of the advantages were increased class participation and learning by doing. This supports the claim that students like PBL.

### **Gender Disparities in Perceptions of Project Based Learning**

Harari, Jorgensen, and Stolk (2014), studied the goals of women and men in a PBL setting using a modified version of Bloom’s taxonomy method. The participants totaled 114 engineering students enrolled in a small university where 56 were women and 58 were men. At the beginning of the project students wrote goals that were submitted to the teacher. Each goal was then coded according to the learning domain (affective, cognitive, psychomotor and social). The researchers found that there were significant differences across the learning domains for men and women. The differences included a greater reliance on social goals than affective goals for women. This could mean that women prefer PBL environments because of the collaborative nature of PBL and the focus on the classroom as a community. Men’s goals were more directed towards presenting information. As the researchers put it this focuses on “communicating *to* others, rather than engaging *with* others (Harari, Jorgensen, & Stolk, 2014, p. 3). Many of the women’s stated goals referred to building confidence and self-efficacy while the men’s affective goals focused on having a positive learning experience with PBL. While interesting and relevant, results from this study could be less generalizable to the larger population because the study’s

environment was the male-dominated area of engineering.

### **Challenges for Educators**

Educators face a long list of challenges when implementing PBL in EFL environments. Inadequate teacher training, lack of resources, and differences between local cultural expectations and the PBL approach are just a few of the hurdles teachers have to overcome in order to implement PBL in their EFL classrooms. Implementing PBL in the classroom can be more difficult than one may expect due to the multi-faceted, intrinsically challenging factors of PBL (Thomas, 2000).

One challenge for teachers may be a lack of time. PBL requires that teacher spend a considerable amount of time researching and preparing for the project (Thomas, 2000). The amount of work a teacher has to do before the project begins depends on the type of project and what expertise the teacher already has about the subject matter of the project. Because projects develop from the authentic interests of students, the students could theoretically develop a project where the teacher has little to no prior knowledge. This may also be the case if an EFL teacher is based in a country or culture that is not her own. Time may also be a concern if the teacher is overwhelmed with class schedules or other demands.

In another study, Harris (2014) surveyed 105 teachers to determine their perceptions of the challenges of implementing PBL. The teachers were in the first years of implementation when surveyed. Of the challenges the participants faced, the majority listed “Time to implement” as the most challenging aspect of PBL implementation. Implementing PBL in the classroom as well as the time it takes to plan the project were also listed in the open response answers in the survey. The participants also listed other aspects of PBL such as “Meeting all of the testing accountability requirements,” “Implementing the project within the school’s schedule,” “Fitting

all of the standards,” and “Designing the project” as the most challenging parts of PBL implementation.

Different educators find different aspects of PBL challenging. Some teachers find sustained student engagement challenging. According to a case study conducted by Brooks (2016), students struggled to maintain focus during project tasks. While student autonomy is supposed to address the problem of student engagement, not all teachers find that it is a viable option for the classroom, much like the teacher depicted in the case study. The teacher also felt that student readiness, balancing the curriculum and project, and again availability of time were challenging aspects of PBL

### **Education in Guatemala**

There is significant research presenting the struggles of the Guatemalan Education system. Reports from USAID and the United Nations outline the lack of educational funding from the government and the mismanagement and corruption of international aid earmarked for education (USAID, 2004). Guatemala has a national curriculum but teachers rarely receive access to the curriculum or the teaching materials required to teach the curriculum (McAdams, 2012). Public school teachers also face challenges and difficulties when entering the classroom. Many are unprepared to lead classes and therefore provide substandard education. Most teachers in Latin American are required to have two to four years of training at a university. There is a proposal put forth to raise this standard by two years, but it faces resistance from local educators (McAdams, 2013). Poor quality education shows in the amount of student preparedness by primary students. Only 41% of students reach national standards in math and only half of students are reaching national standards in reading (USAID, 2014).

There is data to suggest the education system in Guatemala is improving. More students are attending secondary school each year. The statistics show, however, that Guatemala still lags behind other Central American countries when comparing number of years enrolled in school (McAdams, 2013). USAID is also working with the Guatemalan government to develop curriculum, content standards, and assessments that teachers can use. Many standardized tests have also become available in Spanish and local indigenous Mayan languages to better support those students whose second language is Spanish (USAID, 2014). USAID also helped the Ministry of Education to create more transparency within the ministry, which led to a certification of management by the international community (USAID, 2014). This may lead to less corruption and embezzlement of funds earmarked for education.

Many of the problems that public schools face do not apply to private schools in Guatemala. For example, the participating school for this study, IGA, has an in-house training program for teachers. Therefore, lack of teacher training in universities ceases to matter when teachers are trained by professional teacher trainers on the job. Private schools also have a disproportionate amount of non-indigenous students. Indigenous students have been shown to be more affected by poverty and hunger. Indigenous students are also more often taught in their nonnative language without language support (Galicia & Aldana, 2016). Because of the inherent exclusivity and affluence of the private schools population, private schools rarely have to deal with poverty, hunger, and language support for non-native Spanish speakers. In Guatemala, the number of private schools is on the rise in recent years. Galicia and Aldana (2016), believe this fact is increasing the inequality found in the Guatemalan education system.

## **Summary**

The purpose of this Literature Review was to compile literature that held meaningful and significant results for the content of this study and the research questions posed therein. The literature consistently indicated that PBL is a mostly positive, effective, and likable methodology for teaching English. However there are challenges that educators face. Many of these challenges have to do with time such as time to implement, time to plan the project, time to research the project, and time to also successfully teach the content standards that educators must teach. This literature review also discussed the hardships that educators face in Guatemala, although the hardships are significantly less burdensome for educators in the private sector of education. Reviewing this literature prepared and aided the researcher in completing the study.



## Chapter III: Methodology

### Introduction

The literature indicates additional research is needed to better understand Project Based Learning (PBL) as an EFL teaching strategy in Guatemala. The purpose of this study is to determine and examine the students' and one teacher's perceptions of PBL in a Guatemalan school. To meet this purpose, the researcher partnered with a school in Guatemala City, Guatemala to implement PBL and study its effects on students and teachers. The participating school, Instituto Guatemalteco Americano (IGA) is a private high school and language institute based in Guatemala City, Guatemala. The curriculum was designed to teach EFL and content area instruction through mostly traditional teaching methods with a heavy reliance on multimedia technology and smart boards. The school, IGA, is situated in an economically developed area in Guatemala City and is well established in the community, having been founded in 1963 as the first binational center in Guatemala. Binational centers are autonomous agencies dedicated to promoting and sharing American culture and education, usually doing so in an English-language medium (USIS). While there are several binational centers sprinkled throughout the world, the centers are especially concentrated in Central and South America.

While IGA has several branches, including adult and infant courses, the focus was on the IGA school, which hosts a total of 756 students. IGA has been interested in implementing PBL for the past six years and has used a modest form of PBL in some classrooms, by relying on driving questions created by teachers with minimal student input.

To incorporate qualitative and quantitative data, mixed method was used to conduct this research. Burke Johnson and Onwuegbuzie (2004) posit that using mixed method enables support from both types of data, which ensures a substantive quality of research. Mixed method

allows the researcher to use aspects of qualitative and quantitative data that enhance the quality of data collected without being subjected to the drawbacks of either method.

### **Sampling Procedure**

There are 756 students enrolled in 34 different EFL and Content Area Instruction classrooms at IGA. Of the 34 classrooms at IGA, a ninth grade classroom was chosen by the IGA administration to participate in this study. For this study, the principal of IGA selected the Social Science content class taught in English. The principal also chose the participating teacher for the study. The group of students, however, Ninth Grade section A, was chosen randomly by the administration. Ninth Grade Section A studies eight to ten different disciplines each day. Because it is a binational center some classes are taught in Spanish and others in English. The participating Social Science class is taught in English. The class met for forty-minute periods on Mondays, Tuesdays, and Wednesdays and for thirty-five minute periods on Thursdays and Fridays. The class schedule for Ninth grade Section A was as follows: Monday 11:00 – 11:40, Tuesday 7:10 – 7:50, Wednesday 10:20 – 11:00, Thursday 9:20 – 9:55 and Friday 9:20 – 9:55. The teacher of Social Sciences for Ninth Grade Section A was interviewed upon completion of the project. A survey was also administered to all student participants and the teacher participant.

The population that was studied was a selection of 18 enrolled students and one teacher at IGA in Guatemala City, Guatemala. The students ranged from 15 to 16 years of age. There was no specific language level or assessment test required to place the students into the ninth grade. Therefore, the student-participants in this study range in English language abilities.

### **The Project**

The project entitled, “EcoDream,” was a four-week project that began on February 12th, 2018 and ended with a culminating presentation on March 9th, 2018. Prior to the official start

date of the project, students developed several questions of interest during periods of group study. The curriculum that was studied during the project dealt with recycling, trash, climate change, and sustainable development. Because Project Based Learning is supposed to work alongside the curriculum, the project was developed with these topics in mind.

**Week One.** During the first week of the project, the researcher worked with the participating students to develop a driving question based on the questions of interest that the students had already compiled. The driving question came directly from the students, then was altered by the researcher and finally, approved by the students. The final Driving question was, “What can we do to reduce trash output and energy consumption at IGA?” Based on this question, the teacher and researcher worked together to fully develop the project. This included creating project roles for groups, pairs, and individual students and a project timeline, which were then posted in the classroom for the students. Throughout the project development students were consulted for opinions and critiques of the project. All steps taken to address project goals were created during class discussion with the guidance of the teacher and researcher. In this way the project remained student-centered and teacher-guided.

**Weeks Two and Three.** Throughout the second and third weeks of the project, the researcher supported the teacher and students from a distance through video, email, and shareable Google docs. The participating teacher and students took control of the project with only some researcher support. During these weeks the bulk of the project goals were completed. In an attempt to see how much trash output was produced at IGA, students diagrammed all the trash can and recycling bins at IGA, weighed the trash contents of the bins, and calculated the amount of trash and recycling. As a side question, students investigated where the trash was taken in Guatemala City. Students also designed an image to represent the project and researched

Green School Initiatives. The students wrote interview questions as a whole, and in groups, conducted interviews to gather data about what people are throwing away (paper, plastic, organic, non-recyclable). The interview data also helped the students determine how many people were recycling. Each student also researched an “Energy Saving Fact” to use during the presentation.

**Week Four.** The interviews were compiled into an excel spreadsheet with frequencies and percentages. Using this method helped the students understand the collected data in a clearer way. Students used the data from the interviews to draw conclusions and make suggestions to reduce trash output and encourage recycling at IGA. The Project culminated in a presentation for all 9th grade students. The presentation lasted 40 minutes and included the steps students took to collect data and detailed the suggestions for reducing trash and energy output at IGA.

### **Data Collection Procedure**

The procedures for collecting data were systematic and confidential. Institutional Review Board approval was requested and received and informed consent was obtained from IGA prior to the commencement of this study (see Appendices A and D). Following IRB approval, data were collected. The researcher alone was responsible for and had access to the interview notes and recordings, surveys, and observational notes. All participants in the study were informed in writing of the purpose of the study as well as the ability to opt out of the study (see Appendices B and C).

The classroom teacher was interviewed prior to the surveys, and concurrently with the collection of observational data. Interview notes were placed in a sealed envelope immediately following the interview. The interview recording was kept in a password protected external hard drive. A typed survey was printed on letter-sized paper and administered to the teacher and

students. The completed surveys were placed in a sealed envelope to preserve confidentiality. Observational notes were placed in sealed envelopes upon completion of each observation. All sealed envelopes were placed in a locked filing cabinet throughout the duration of the study. Once the data were collected and compiled, it was organized in an Excel spreadsheet to promote the ease of analysis.

### **Instrumentation**

The instruments used to collect data in this action research project were varied to enhance the quality of the research. All materials except the Teacher Survey and Interview questions had certified Spanish translations to ensure accuracy and understanding on behalf of the researcher and the participants (See Appendices E, F, G, H, I, and J)

**Interviews.** The teacher that participated in this study was interviewed upon completion of the project. Informed consent was obtained from that participating teacher prior to the interview process. The interview was conducted in English. The interview was scheduled according to the participant's availability and took place in a comfortable and familiar environment for the participant. The interview questions were scripted with an open format, allowing the participant to address and expand each answer with personal thoughts and experiences. The interview was recorded with the participant's consent. Questions 1-4 were demographic in nature, requesting age, years of teacher training, years of experience teaching EFL, and years of experience teaching PBL. The next six questions were the participant's opinions on PBL as a teaching strategy for teaching EFL, using PBL in a classroom with limited resources, PBL and the indigenous community, PBL and student participation, PBL and student attendance, and PBL as opposed to the National Guatemalan Curriculum.

**Survey.** For the purpose of this study, survey data were collected by the researcher to gather information on students and teachers at IGA in Guatemala City, Guatemala. To achieve triangulation and promote the reception of data from differing perspectives, two surveys were given: one for the teacher and one for students. Informed consent was embedded in the survey. The surveys were hand-delivered to the classroom at the beginning of class and a ten-minute time slot was available for students and teachers to complete the survey.

**Teacher survey.** The Teacher's Survey was divided into two sections: Demographic questions relating to Research Question Two and questions relating to Research Question One. The survey, which was comprised of ten questions, took approximately five minutes to complete. The first four questions asked demographic information about the participant including age, ethnicity, gender, and number of years of teaching experience. The next six questions pertained to Research Question One and asked about the participants' perceptions of PBL in Guatemala. Four questions were on a five point Likert scale and two questions were open response.

**Student survey.** The student's survey was divided into two sections: Demographic questions relating to Research Question Two and questions relating to Research Question One. The survey contained ten questions and took approximately five minutes to complete. The first four questions requested demographic information including, age, ethnicity, gender, and number of years enrolled at the IGA Institute. The next six questions asked about the students' perception of PBL in Guatemala. Four of these questions were on a five point Likert Scale and two questions were open response. The questions addressed the students' perception about the levels of participation, enjoyment, effectiveness of language learning when engaged in PBL.

**Observation.** A detached observational method was used when collecting observational data for this action research project. Consent was acquired from the administration and the

teachers involved in this section of data collection. The researcher observed classroom interactions and happenings in an unobtrusive manner to stymie any influence imposed on the students and teachers. The researcher sat at the back of the classroom and took notes about student-to-student interactions and student-to-teacher interactions.

### **Data Analysis Procedures**

The raw data collected in this study was analyzed in a variety of ways. Data derived from the research was systematically evaluated using the qualitative and quantitative methodologies. Data collected that was conducive to a qualitative method was coded using themes while numerical data was analyzed for frequencies and percentages.

Themes and coding was used to parse the interview, the open-response survey questions, and the observational data. The researcher used fixed themes to code this data; however, other themes arose as the research was being conducted (Hatch, 2002). Because open-response questions were used in the survey and during the interview, direct quotes were available to the researcher to allow participants' thoughts and experiences into the publication as well as provide personal anecdotes for the reader, which increased the strength of the results.

Demographics were compiled and recorded in an Excel spreadsheet. The demographic data were divided using percentages of the total population. This enabled the reader to understand the data in a more meaningful way.

Data from the student surveys was analyzed using descriptive statistics. The Likert scale questions were analyzed using an excel spreadsheet. A Fisher's Exact test was used to analyze the Likert Scale response questions in the survey to determine the differences between the selected demographics and perceptions of PBL.

## Chapter IV: Results

The purpose of this study was to determine and examine the students' and a teacher's perceptions of PBL in a Guatemalan school. The results in this study provide insight into the challenges and achievements EFL students and educators faced when implementing PBL in a Guatemalan school. There were 19 surveys administered for the purposes of this study: 18 student surveys and one teacher survey. One interview was conducted with the participating teacher and observational data was collected.

### Descriptive Statistics

**Teacher.** Demographics were collected from the participating teacher from the survey and the interview. The participating teacher was a male of Hispanic descent aged 36 to 54 that had been teaching at IGA for five to ten years. At the time of PBL implementation, the participating teacher had 10 years of experience as an EFL teacher, all of which were at IGA, the participating school. All the training the participant received was from IGA which houses an Academic Unit dedicated to teacher training and observation.

**Students.** The demographic information for the 18 student participants was collected from the first four survey questions. All students were between the ages of 14 and 15 and all students identified as Hispanic. This statistic was not representative of the total population of Guatemala City wherein 19% identify as Indigenous, but it may be a more accurate representation of the IGA school community. The majority of student participants were female (66.6% or 12) with a minority of male participants (33.3% or 6). Most of the students had been enrolled at IGA for three to four years, but 16.7% (3 students total) had only been enrolled for one to two years.



### Research Question One

The first Research question inquired about the students' and teachers' perceptions of PBL in a Guatemalan School. To meet this end, a ten-question survey for the teacher and students, a teacher interview, and observational data were collected.

**Teacher survey.** The teacher survey included four demographic questions, four survey questions on a Likert scale, and two open response questions. The teacher requested a survey written in English. The answers to the four Likert scale questions are indicated by italics. The teacher found the implementation of the project *very challenging, but accomplishable*. The teacher felt that the project was *mostly successful*. The teacher thought that the project was an *extremely effective* way to learn English. And overall, the teacher *extremely liked* using PBL in the classroom. Two survey questions were open response. The first question asked what the teacher liked the most about using PBL. The teacher responded with four attributes of PBL, "Variety of activities, Students' Participation, Real World, and need English Production." When asked about the changes that would most improve the experience with PBL, the participant responded, "more time for the next project."

**Teacher interview.** The participating teacher agreed to do an interview about the experiences and implementation of PBL in the classroom. The participant had some experience with PBL before the start of the project, but considered those experiences to be, "not a complete version" of PBL. When asked about the effectiveness of PBL, the teacher said PBL seems to be effective for language learning because students use language "in a very real context." The teacher did not find it difficult to implement PBL but did say that time was an issue, especially trying to split time between content and the project. The teacher indicated that PBL *drastically* increased student participation in class and believed that it had a positive effect on student

attendance. The teacher perceived PBL to be more effective than Guatemala's National Curriculum, but stressed again the need for more time.

**Classroom observational data.** The researcher observed a total of 5.6 hours of class time. Approximately half of this time was dedicated to content learning and the other half was focused on the project. The most notable observations made were the instances of Spanish speaking in class. Because the Social Science class is taught in English, it is supposed to be an English-only environment where the students related with one another and the teacher in English. However, as this group of students is a homogenous group of Spanish speakers, it seemed nearly impossible to keep them speaking English only throughout the class. The researcher also observed all students actively participating in the project, regardless of gender.

**Student surveys.** The surveys were given to students upon completion of the four-week project implemented by the teacher and the researcher. A certified translator translated the student survey to Spanish. Student participants were allowed to answer open response questions in English or Spanish, but most wrote in Spanish. These answers were translated to English by a human translator.

Student participants also completed two open response questions in the survey. These questions were coded for themes. Of the 18 student participants, only 17 completed the open response questions. The first open response question asked what students liked the most about the project. The most significant recurring theme presented in this question was the class liked working together as a team. Seven out of the seventeen participants or 41% indicated that what they liked the most was the collaborative nature of the project. A continually used word was "unimos" meaning united or joined. Two students discussed the poster design as their most liked part of the project. Two other students said that weighing the trash (part of their project) was

what they liked the most and another two students indicated that the presentation was their favorite part. Two students liked that the project was outside of the normal classroom routine. Other students liked the investigative aspects, using English, and drawing the diagrams.

The second open response questions asked what changes would most improve students' experience with PBL. The most common theme amongst the responses was that no changes were needed to the project. Five out of the seventeen or 29% of the completed surveys indicated that no changes were needed. Three students suggested that different activities would make the experience with PBL better. Two other students said more time was needed to complete the project. Two students made suggestions about improving the presentation. Other students said changes would be to take the project more seriously, weigh the trash at the end of the day, improve the investigations, speak more English, and learn more vocabulary prior to the project start date.

Students responded to survey questions about their perceptions of PBL, or more specifically, the project itself. The four Likert scale questions were analyzed using descriptive statistics, which included frequencies and percentages. For ease of analysis, the 5 Likert scale criteria (Extremely, Mostly, Moderately, Somewhat, and Not At All) have been combined into three categories: Mostly, Moderately, and Somewhat. The first of the Likert scale questions asked how challenging students found the project. Two out of the eighteen respondents (11%) found the project *mostly* challenging while only 33% or 6 out of 18 found it *somewhat* challenging. The majority of respondents, 10 out of 18, (55%) found that the project was *moderately* challenging. The second Likert scale question asked students their perceptions of project success. The vast majority, 14 out of 18 or 78% considered the project to be *mostly* successful. Two students (11%) found it *moderately* successful and two students (11%) found it

*somewhat* successful. The next question asked about students' perceptions on the effectiveness of PBL as a language learning methodology. One student did not complete this portion of the survey, while only 6% or one student thought the project was *somewhat* effective for learning English and only 6% or one student thought the project was *moderately* effective for learning English. The majority of students, 15 out of 17 or 88%, considered the project to be *mostly* effective for learning English. The last Likert scale question asked students about the likability of the project. One student did not complete this portion of the survey. One other student or 6% found that the project was *somewhat* likeable, while two out of the seventeen students found it *moderately* likeable. Most students found it *mostly* likeable, exactly 14 out of the 17, which is a percentage of 82%.

### **Research Question Two**

This study purported to answer whether there was a difference in perceptions of PBL with regard to gender and ethnicity. The impact of gender and ethnicity (Hispanic or Indigenous) on perceptions of PBL in Guatemala was the basis of Research Question Two. It was hypothesized that there would be a proportional representation of indigenous people in the school compared to the population of Guatemala City. The researcher discovered this was not the case, as all 18 student participants identified as Hispanic. Therefore, the data were not able to indicate whether or not ethnicity has any effect on the perceptions of PBL in this study.

There is sufficient data to understand if gender has an impact on perceptions of PBL. A Fisher's Exact test was conducted to determine if there was a difference in perceptions. According to McDonald (2014), a Fisher's Exact should be used when the sample size is smaller than 1000 and a Chi Square test should be used on data with sample sizes larger than 1000. Therefore, it was determined that a Fisher's Exact should be run to show the difference in

perceptions of PBL between boys and girls in this study. There were four Likert scale questions on the survey, which determined perceptions of PBL. The subjects of these questions asked how the students perceived the challenge, success, effectiveness, and likability of the project. For ease of analysis the 5 Likert scale criteria (Extremely, Mostly, Moderately, Somewhat, and Not At All) were combined into three categories: Mostly, Moderately, and Somewhat.

The first Likert scale question asked how challenging students found the project. The Fisher's Exact test found that there was no significant difference in how males and female perceived the challenge of the project. The probability that one gender perceived the project to be more or less challenging than the other was  $\sim 0.27$ . Additionally, the second Likert scale question asked how successful students found the project. The Fisher's Exact test found that the exact probability that one gender perceived the project to be more or less successful than the other was 0.56 indicating no significant difference in perceptions. The third Likert scale question asked if students found the project to be an effective way to learn English. The Fisher's Exact test found that the exact probability that one gender perceived the project to be more or less effective than the other was 0.51 indicating no significant difference in perceptions. Furthermore, the fourth Likert Scale question asked how much students liked the project. The Fisher's Exact test found that there was no significant difference in perceptions according to gender. The exact probability that one gender perceived the project to be more or less likable than the other was 0.35. the results indicated that there were no significant differences in student perceptions according to gender regarding challenge, success, effectiveness, and likability of the project in PBL.

**Summary**

The results from this mixed method study were multifaceted and contained data from three separate points of view, that of the participating teacher who implemented PBL in the classroom, that of the participating students who enacted the project, and that of the researcher as observational data. Data from differing sources helped to triangulate and increase the depth of the study. The results followed directly from the methodology proposed in Chapter III and the research questions that lay as a foundation of this research. The conclusions of these results will further be discussed in Chapter V.

## **Chapter V: Conclusions**

The purpose of this study is to determine and examine students' and teachers' perceptions of Project Based Learning in a Guatemalan school. To this end, the data collected in this study has been analyzed and the results have been documented. Some conclusions may be drawn from the results of the study. This chapter addresses the research questions put forth in this study, which seek to determine the perceptions of PBL in a Guatemalan school and discover if males and females have differing perceptions of PBL.

### **Research Question One**

Research Question One inquired about the students' and teachers' perceptions of PBL in a Guatemalan School. Overall, the results from the data indicated that the participants (both teacher and students) perceived the project to be mostly successful, effective as an English Language Learning methodology, and likable. It can be concluded then that the participants perceived the implementation of PBL to be a positive experience. The perceived successfulness of the project may be due to this particularly well-suited group of students, one of which led the class, organized the project binder, and seemed to keep the project on track throughout the four weeks.

Results from the interview concluded that the teacher found the project to drastically improve student participation in class. An increase in class participation which is also supported by other research (Rochmahwati, 2015) is probably due to the collaborative nature of PBL, where even timid students get a chance to use their voice. In one open response survey question, students were asked what they liked the most about PBL. One major theme emerged: students liked the classroom unity felt during the project. Students perceived the project to be a unifying goal that all worked together to achieve. This also speaks to the collaborative nature of PBL. And

it addressed the 21st century skills that are supported and encouraged by PBL (Brooks, 2016). Many students will find these skills valuable in their future careers, as the need to collaborate and work well with peers is an important workforce skill.

The majority of students found that the project was moderately challenging. This indicates that the project was inline with a foundational component of PBL: it should be challenging for students (Thomas, 2000).

**Effectiveness.** Overall, the participants (teacher and students) perceived that PBL was an effective way to learn English. Specifically for the teacher, during the survey and the interview, the teacher indicated that he perceived the project to be an extremely effective way to learn English. Also, a majority of students found the project to be a mostly effective way to learn English. This suggests that not only can PBL be an effective method for EFL learners in all language skills (Simpson, 2011), but it can also be perceived as effective for language learning. In this way, efficacy matches perceptions of efficacy.

**Likability.** From the survey data a conclusion can be drawn about the likability of PBL in this study. During the survey the teacher and students were asked explicitly if they liked using PBL. In the teacher survey, the teacher indicated that he very much liked using PBL in the classroom. Also, a majority of students found the project to be mostly likeable which was the highest level of likability on the Likert scale questions. This is congruent with the findings in other studies such as Rochmahwati's (2015), where students had significantly positive attitudes to PBL.

**Challenges.** In this study, challenges occurred while implementing PBL. During the data collection, the teacher indicated how challenging implementation of PBL was and expressly stated this was the biggest perceived challenge faced. Students also responded to an open



response question about changes to make the experience with PBL better. In the teacher survey, the teacher indicated that he found the implementation of the project very challenging, but accomplishable. There was one challenge that consistently arose during the data collection. In the open response portion of the survey when asked about the changes he would make to the project, the teacher believed that having more time to work on the project would make the project better. This was addressed again during the interview where the teacher responded that the biggest challenge was time, especially sharing time between the content that is required and the project. This is consistent with other research that indicated time is the biggest challenge when implementing PBL (Thomas, 2000; Harris, 2014; Brooks, 2016). Two students also answered as part of the open response questions, that more time was needed for the project. This indicates that, at least a part of the student participants felt the same as the teacher participant with regards to the biggest challenge or the aspect of the project that should be changed.

### **Research Question Two**

The impact of gender and ethnicity (Hispanic or Indigenous) on perceptions of PBL in Guatemala was the basis of Research Question Two. Following the results of the survey, the demographics reported a completely (100%) homogenous group of participants that identify as Hispanic. Therefore, it could not be determined whether or not ethnicity impacts the perceptions of PBL in Guatemala. The impact of gender was studied by utilizing a Fisher's Exact test with data sets from females and males. There were four Likert scale questions on the survey that determined the participants' perceptions of PBL. The Fisher's Exact test showed that in all four questions regarding perception of PBL there was no significance difference in how females and males perceived PBL. This is misaligned with the results from other studies that suggest there is a difference in how females and males perceive PBL (Harari, Jorgensen, & Stolk, 2014). The

observational data also supported the findings of the Fisher's Exact wherein all students were seen participating in the project.

### **Implications for Teaching**

The findings in this research further support the implementation of PBL in an EFL context. The findings also support the implementation of PBL in Guatemala. While it cannot be concluded if these findings would be similar in a public school setting in Guatemala, the results indicate that PBL is positively perceived in a private school. The results further explicitly state some challenges that educators might find when implementing PBL in Guatemala. Some of these challenges, such as the need for more time, can therefore be solved before the project begins. Teachers in Guatemala, and more particularly at IGA, could benefit from the findings in this research if there is implementation of PBL in other classrooms. Based on the findings in this study, if teachers are struggling with class participation or lack of enthusiasm, PBL might be the answer to rectify these problems. Given the positive findings in this study, PBL could be successful, effective, and liked by teachers and students in Guatemala.

### **Future Research**

Further research is needed to determine the perceptions of PBL in developing countries such as Guatemala. A research study that involved school-wide implementation of PBL would be of value to this field. If an entire school were to implement PBL then a greater amount of data could be gathered which would yield more significant and generalizable results. This would also draw out more challenges of PBL implementation, which could be the sole focus of a study.

A study that took place in a public-school setting in Guatemala would also be an asset to this field of study as this study took place in a private school. In public schools, one might find

fewer students that come from affluent families and therefore a wider ranging population from which to study.

A study that involves more teachers and students with a wider range of demographics would also be beneficial. This would help to determine if there is a significant difference of perceptions of PBL between gender, ethnicity, age and other demographics. A study specifically focused on the indigenous population in countries like Guatemala could yield valuable results for those communities, which disproportionately suffer from a lack of quality education (McAdams, 2012).

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## Appendix A



**To:** Della R Adams  
**From:** Douglas James Adams, Chair  
 IRB Committee  
**Date:** 02/06/2018  
**Action:** **Expedited Approval**  
**Action Date:** 02/06/2018  
**Protocol #:** 1801093362  
**Study Title:** English as a Second Language and Project Based Learning: A Mixed Method Research Study in a Guatemalan High School  
**Expiration Date:** 01/29/2019  
**Last Approval Date:**

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

**Adverse Events:** Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

**Amendments:** If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Felicia Lincoln, Investigator



## Appendix B

# INVALID

### Project Based Learning and English as a Foreign Language

#### Consent to Participate in a Research Study

Principal Researcher: Della Adams

Faculty Advisor: Felicia Lincoln, PhD

#### INVITATION TO PARTICIPATE

You are invited to participate in a research study about learning English as a Foreign Language with Project Based Learning. You are being asked to participate in this study because IGA International School is investing time in implementing new and more efficient ways of teaching English as a Foreign Language.

#### WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

##### *Who is the Principal Researcher?*

Della Adams

Email: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

##### *Who is the Faculty Advisor?*

Felicia Lincoln, PhD

Email: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

##### *What is the purpose of this research study?*

The purpose of this study is to determine if Project Based Learning is an effective teaching strategy for EFL high school students in Guatemala.

##### *Who will participate in this study?*

A classroom of 20 students aged 14-17 are expected to participate in this study.

##### *What am I being asked to do?*

Your participation will require the following:

Class attendance and participation

##### *What are the possible risks or discomforts?*

There are no anticipated risks to participating in this study.

##### *What are the possible benefits of this study?*

The participant may be exposed to a teaching method that allows for a more create and likeable method of learning.

##### *How long will the study last?*

The participant will be asked to participate in a month-long project that occurs during normal class hours. The participant will also be asked to complete a 10 minute survey at the end of the study. The participant may be selected to participate in a 20 minutes interview after the study is complete.

##### *Will I receive compensation for my time and inconvenience if I choose to participate in this study?*

No.

## INVALID

*Will I have to pay for anything?*

No, there will be no costs associated with participating in this study.

*What are the options if I do not want to be in the study?*

If you do not want to be in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your job, your grade, nor your relationship with IGA Institute will not be affected in any way if you refuse to participate.

*How will my confidentiality be protected?*

All information will be kept confidential to the extent allowed by applicable State and Federal law and University Policy.

All data will be kept in a locked cabinet or in a passcode protected flash drive when data is submitted electronically. Data will be destroyed upon completion of the research.

*Will I know the results of the study?*

At the conclusion of the study you will have the right to request feedback about the results. You may contact the faculty advisor, Felicia Lincoln at flincoln @uark.edu or Principal Researcher, Della Adams at da010@uark.edu. You will receive a copy of this form for your files.

*What do I do if I have questions about the research study?*

You have the right to contact the Principal Researcher or Faculty Advisor as listed below for any concerns that you may have.

Della Adams

Email: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

Felicia Lincoln, PhD

Email: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP

Institutional Review Board Coordinator

Research Compliance

University of Arkansas

109 MLKG Building

Fayetteville, AR 72701-1201

479-575-2208

[irb@uark.edu](mailto:irb@uark.edu)

I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

---

## Appendix C

# INVALID

### **Project Based Learning and English as a Foreign Language Consent for a Minor to Participate in a Research Study**

Principal Researcher: Della Adams  
Faculty Advisor: Felicia Lincoln, PhD

**This is a parental permission form for research participation.** It contains important information about this study and what to expect if you permit your child to participate.

**Your child's participation is voluntary.**

Please consider the information carefully. Feel free to discuss the study with your friends and family and to ask questions before making your decision whether or not to permit your child to participate. If you permit your child to participate, you will be asked to sign this form and will receive a copy of the form. We must also have your child's assent to participate in this study.

#### **INVITATION TO PARTICIPATE**

Your child is being invited to participate in a research study about learning English as a Foreign Language with Project Based Learning. Your child is being asked to participate in this study because IGA International School is investing time in implementing new and more efficient ways of teaching English as a Foreign Language.

#### **WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY**

*Who is the Principal Researcher?*

Della Adams  
Email: [da010@uark.edu](mailto:da010@uark.edu)  
Tel: +1 (918) 839-7368

*Who is the Faculty Advisor?*

Felicia Lincoln, PhD  
Email: [flincoln@uark.edu](mailto:flincoln@uark.edu)  
Tel: +1 (479) 575-8729

*What is the purpose of this research study?*

The purpose of this study is to determine if Project Based Learning is an effective teaching strategy for EFL high school students in Guatemala.

*Who will participate in this study?*

A classroom of 20 students aged 14-17 are expected to participate in this study.

*What will your child be asked to do?*

Your child's participation will require the following:  
Class attendance and participation

*What are the possible risks or discomforts?*

There are no anticipated risks to participating in this study.

*What are the possible benefits to your child if he/she participates in this study?*

The participant may be exposed to a teaching method that allows for a more create and likeable method of learning.

## INVALID

*How long will the study last?*

The participant will be asked to participate in a month-long project that occurs during normal class hours. The participant will also be asked to complete a 10 minute survey at the end of the study. The participant may be selected to participate in a 20 minutes interview after the study is complete.

*Will your child receive compensation for time and inconvenience if you choose to allow him/her to participate in this study?*

No.

*Will you or your child have to pay for anything?*

No, there will be no costs associated with participating in this study.

*What are the options if I do not want my child to be in the study?*

If you do not want your child to be in this study, you may refuse to allow him/her to participate. Your child may refuse to participate even if you give permission. If your child decides to participate and then changes his/her mind, your child may quit participating at any time. Your child will not be punished or discriminated against in any way if you refuse to allow participation or if your child chooses not to participate.

*How will my child's confidentiality be protected?*

All information will be kept confidential to the extent allowed by applicable State and Federal law and University policy. All data will be kept in a locked cabinet or in a passcode protected flash drive when data is submitted electronically. Data will be destroyed upon completion of the research.

*Will my child and/or I know the results of the study?*

At the conclusion of the study you will have the right to request feedback about the results. You may contact the faculty advisor, Felicia Lincoln, PhD at [flincoln@uark.edu](mailto:flincoln@uark.edu) or Principal Researcher, Della Adams at [da010@uark.edu](mailto:da010@uark.edu). You will receive a copy of this form for your files.

*What do I do if I have questions about the research study?*

You have the right to contact the Principal Researcher or Faculty Advisor as listed below for any concerns that you may have.

Della Adams

Email: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

Felicia Lincoln, PhD

Email: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP  
 Institutional Review Board Coordinator  
 Research Compliance  
 University of Arkansas  
 109 MLKG Building  
 Fayetteville, AR 72701-1201  
 479-575-2208

**INVALID**

[irb@uark.edu](mailto:irb@uark.edu)

I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with me and, as appropriate, my child. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

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Appendix D  
**INVALID**



Instituto Guatemalteco Americano IGA  
Ruta 1, 4-05, Zona 4, Guatemala, Guatemala  
(502) 2422-5555

December 12, 2017

To whom it may concern:

After having consulted with all of the parties involved, we are happy to inform Della Adams that her proposal to do research on Project Based Learning during the Spring of 2018 at IGA School in its Guatemala site has been approved. She is welcome to begin work as of January of next year once school activities have begun.

We definitely see this as an opportunity for mutual growth and gain, and a partnership we are happy to continue building.

Should you need any further information or clarification, please contact Hector Alvarado; the institution's Academic Director ([halvarado@iga.edu](mailto:halvarado@iga.edu)).

Sincerely,

  
Ana Sylvia Ramirez  
Chief Executive Officer / CEO

**IGA Central**  
Ruta 1 4-05, Zona 4  
Guatemala, Guatemala 01004  
PBX: (502) 2422 5555

**IGA Zona 11**  
30 Avenida 8-48, Zona 11  
Guatemala, Guatemala 01011  
PBX: (502) 2422 5555

**IGA Quetzaltenango**  
14 Ave. "A" 2-35, Zona 1  
Quetzaltenango, Quetzaltenango  
09001  
TEL: (502) 7761 4769 / 79

**IGA Cobán**  
1 Calle 14-11, Zona 1  
Cobán, Alta Verapaz 16001  
TEL: (502) 7951 3777 y 7951 3901

[www.iga.edu](http://www.iga.edu)



## Appendix E

# INVALID

### INTERVIEW QUESTIONS:

1. How old are you?
2. How many years of teacher training have you received?
3. How many years of experience do you have teaching English as a Foreign Language?
4. How much experience do you have with Project Based Learning?
5. Do you think Project Based Learning is an effective teaching strategy for English as a Foreign Language?
6. Did you find it difficult to implement Project Based Learning with the resources that were available to you?
7. Do you find that Project Based Learning works well with the indigenous population in particular?
8. Do you find that Project Based Learning increased or decreased student participation in your class?
9. Do you find that Project Based Learning had any effect on student attendance?
10. Do you believe that Project Based Learning is as effective or more effective than Guatemala's national curriculum?

## Appendix F

1/6/2018

**INVALID**  
Project Based Learning (Teacher Survey)

### Project Based Learning (Teacher Survey)

**1. What is your age?**

*Mark only one oval.*

- 18-35  
 36-54  
 55-75

**2. What is your gender?**

*Mark only one oval.*

- Female  
 Male  
 Prefer not to say

**3. Which race/ethnicity best describes you?**

*Mark only one oval.*

- Indigenous  
 Asian/Pacific Islander  
 Black or African Descent  
 White/Caucasian

**4. For about how many years have you been teaching at IGA?**

*Mark only one oval.*

- 0-2 years  
 3-5 years  
 5-10 years  
 10 years or more

**5. Overall how challenging was it to implement the project?**

*Mark only one oval.*

- Extremely Challenging  
 Very Challenging, but accomplishable  
 Moderately Challenging  
 Slightly Challenging  
 Not Challenging at all



1/6/2018

**INVALID**  
Project Based Learning (Teacher Survey)

**6. Overall do you feel like the project was a success?**

*Mark only one oval.*

- Extremely Successful
- Mostly Successful
- Moderately Successful
- Somewhat Successful
- Not Successful at all

**7. What did you like most using Project Based Learning?**

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**8. Do you think the project was an effective way to teach English?**

*Mark only one oval.*

- Extremely Effective
- Mostly Effective
- Moderately Effective
- Somewhat Effective
- Not Effective at all

**9. Overall did you like using Project Based Learning in your classroom?**

*Mark only one oval.*

- Extremely Liked
- Mostly Liked
- Moderately Liked
- Somewhat Liked
- Did Not Like it at all

**10. What changes would most improve your experience with Project Based Learning?**

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## Appendix G

1/6/2018

**INVALID**  
Project Based Learning (Student Survey)

### Project Based Learning (Student Survey)

**1. What is your age?**

*Mark only one oval.*

- 14-15  
 16-17  
 18-19

**2. What is your gender**

*Mark only one oval.*

- Female  
 Male  
 Prefer not to say

**3. Which race/ethnicity best describes you?**

*Mark only one oval.*

- Indigenous  
 Asian/Pacific Islander  
 Black or African Descent  
 Hispanic  
 White or Caucasian

**4. For about how many years have you been enrolled at IGA?**

*Mark only one oval.*

- 1-2  
 3-4  
 5-6  
 7-8

**5. Overall, how challenging did you find the project?**

*Mark only one oval.*

- Extremely Challengin  
 Very Challenging, but accomplishable  
 Moderately Challenging  
 Somewhat Challenging  
 Not Challenging at all

1/6/2018

**INVALID**  
Project Based Learning (Student Survey)

**6. Overall, do you feel like the project was a success?**

*Mark only one oval.*

- Extremely Successful
- Mostly Successful
- Moderately Successful
- Somewhat Successful
- Not successful at all

**7. What did you like most about the project?**

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**8. Do you think the project was an effective way to learn English?**

*Mark only one oval.*

- Extremely Effective
- Mostly Effective
- Moderately Effective
- Somewhat Effective
- Not Effective at all

**9. Overall, did you like participating in the project?**

*Mark only one oval.*

- Extremely Liked
- Mostly Liked
- Moderately Liked
- Somewhat Liked
- Did Not Like it at all

**10. What changes would most improve your experience with Project Based Learning?**

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## Appendix H

### Aprendizaje Basado en Proyectos e Inglés como Lengua Extranjera Consentimiento para Participar en un Estudio de Investigación

Investigador Principal: Della Adams  
Consejero De La Facultad: Felicia Lincoln, PhD

#### INVITACIÓN A PARTICIPAR

Esta invitado a participar en un estudio de investigación acerca del Aprendizaje de Inglés como Lengua Extranjera con Aprendizaje Basado en Proyectos. Se le pregunta si quiere participar en este estudio porque el Colegio Intencional IGA está invirtiendo tiempo en implementar nuevas y más eficientes formas de enseñar Inglés como Lengua Extranjera.

#### LO QUE DEBE DE SABER ACERCA DE ESTE ESTUDIO DE INVESTIGACIÓN

*¿Quién es el investigador principal?*

Della Adams

Correo Electrónico: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

*¿Quién es el consejero de la facultad?*

Felicia Lincoln, PhD

Correo Electrónico: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

*¿Cuál es el propósito de este estudio de investigación?*

El propósito de este estudio es determinar si el Aprendizaje Basado En Proyectos es una estrategia de enseñanza efectiva para estudiantes de inglés como lengua extranjera a nivel de secundaria en Guatemala.

*¿Quien participará en este estudio?*

Se espera que participen en este estudio una clase de 20 alumnos entre las edades de 14-17 años.

*¿Qué se solicita que haga?*

Su participación requiere lo siguiente:

Asistencia y participación en la clase.

*¿Cuáles son los posibles riesgos e incomodidades?*

No se prevén riesgos por participar en este estudio.

*¿Cuáles son los posibles beneficios de este estudio?*

El participante puede estar expuestos a un método de enseñanza que permita un método de aprendizaje más creativo y agradable.

*¿Cuánto durará el estudio?*

Se solicitará a los participantes participar en un proyecto de un mes que se llevará a cabo en horario normal de clase.

También se pedirá a los participantes completar una encuesta de 10 minutos al finalizar el estudio. Se le puede solicitar al participante participar en una entrevista de 20 minutos después de que el estudio finalice.

*¿Recibiré compensación por el tiempo invertido o inconveniencia si decido participar en este estudio?*

No.

*¿Tendré que pagar algo?*

No, no habrá costos asociados con participar en este estudio.

*¿Cuáles son las opciones si no quiero ser parte del estudio?*

Si no quiere ser parte del estudio, puede negarse a participar. También, puede negarse a participar en cualquier momento durante el estudio. Ni su trabajo, nota, u relación con el Instituto IGA se verá afectada de ninguna manera si se niega a participar.

*¿Cómo se protegerá mi confidencialidad?*

Toda la información se mantendrá confidencial hasta el punto permitido por la ley Federal y Estatal aplicable y la Política de la Universidad.

Todos los datos se mantendrán en un armario cerrado o cuando se envíen electrónicamente en una memoria flash protegida con contraseña. Los datos se destruirán al finalizar la investigación.

*¿Sabré los resultados del estudio?*

Al finalizar el estudio tendrá derecho de solicitar retroalimentación acerca de los resultados. Puede contactar al consejero de la facultad, Felicia Lincoln a [flincoln@uark.edu](mailto:flincoln@uark.edu) o investigador principal, Della Adams a [da010@uark.edu](mailto:da010@uark.edu). Recibirá una copia de este formulario para sus archivos.

*¿Qué hago si tengo preguntas acerca de este estudio de investigación?*

Tiene derecho de contactar al Investigador Principal o al Consejero de la Facultad nombrados abajo por cualquier inquietud que pueda tener.

Della Adams

Correo electrónico: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

Felicia Lincoln, PhD

Correo electrónico: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

También puede comunicarse con la oficina para el Cumplimiento de Investigación de la Universidad de Arkansas, detallada abajo, por si tiene cualquier pregunta acerca de sus derechos como participante, cualquier inquietud, o problema con el estudio.

Ro Windwalker, CIP

Coordinador de la Junta de Revisión Institucional

Cumplimiento de Investigación

Universidad de Arkansas

109 MLKG Building

Fayetteville, AR 72701-1201

479-575-2208

[irb@uark.edu](mailto:irb@uark.edu)

He leído la declaración anterior y he podido hacer preguntas y expresar inquietudes, las cuales el investigador ha respondido satisfactoriamente. Entiendo el propósito del estudio, así como los posibles beneficios y riesgos involucrados. Entiendo que la participación es voluntaria. Entiendo que nuevos e importantes hallazgos desarrollados durante esta investigación se compartirán con los participantes. Entiendo que no he renunciado a ningún derecho al firmar el formulario de consentimiento. Me han dado una copia del formulario de consentimiento.

---

## Appendix I

### Aprendizaje Basado en Proyectos e Inglés como Lengua Extranjera Consentimiento para que un Menor Participe en un Estudio De Investigación

Investigador Principal: Della Adams  
Consejero De La Facultad: Felicia Lincoln, PhD

**Este es un formulario de permiso de los padres** para participar en una investigación. Contiene información importante acerca de este estudio y que esperar si da permiso a su hijo a que participe.

#### La participación de su hijo es voluntaria.

Por favor lea la información cuidadosamente. Sienta libertad de hablar del estudio con amigos o familia y hacer preguntas antes de tomar una decisión y darle o no permiso a su hijo de participar. Si le da permiso a su hijo de participar, se le pedirá que firme este formulario y recibirá una copia del mismo. También debemos tener el consentimiento de su hijo para participar en este estudio.

#### INVITACIÓN A PARTICIPAR

Su hijo está invitado a participar en un estudio de investigación acerca del Aprendizaje del Inglés como Lengua Extranjera con Aprendizaje Basado en Proyectos. A su hijo se le preguntará si quiere participar en este estudio porque el Colegio Internacional IGA está invirtiendo tiempo en implementar nuevas y más eficientes formas de enseñar Inglés como Lengua Extranjera.

#### LO QUE DEBE DE SABER ACERCA DEL ESTUDIO DE INVESTIGACIÓN

*¿Quién es el investigador principal?*

Della Adams

Correo Electrónico: [da010@uark.edu](mailto:da010@uark.edu)

Tel: +1 (918) 839-7368

*¿Quién es el consejero de la facultad?*

Felicia Lincoln, PhD

Correo Electrónico: [flincoln@uark.edu](mailto:flincoln@uark.edu)

Tel: +1 (479) 575-8729

*¿Cuál es el propósito de este estudio de investigación?*

El propósito de este estudio es determinar si el Aprendizaje Basado en Proyectos es una estrategia de enseñanza efectiva para estudiantes de Inglés como Lengua Extranjera a nivel de secundaria en Guatemala.

*¿Quien participará en este estudio?*

Se espera que participen en este estudio una clase de 20 alumnos entre las edades de 14-17 años.

*¿Qué se solicitará a su hijo que haga?*

La participación de su hijo requiere lo siguiente:

Asistencia y participación en la clase.

*¿Cuáles son los posibles riesgos e incomodidades?*

No se prevén riesgos por participar en este estudio.

*¿Cuáles son los posibles beneficios para su hijo si participa en este estudio?*

El participante puede estar expuestos a un método de enseñanza que permita un método de aprendizaje más creativo y agradable.

*¿Cuánto durará el estudio?*

Se solicitará a los participantes participar en un proyecto de un mes que se llevará a cabo en horario normal de clase. También se pedirá a los participantes completar una encuesta de 10 minutos al finalizar el estudio. Se le puede solicitar al participante participar en una entrevista de 20 minutos después de que finalice el estudio.

*¿Recibirá su hijo compensación por el tiempo invertido o inconveniencia si decide participar en este estudio?*

No.

*¿Tendrá que pagar algo su hijo?*

No, no habrá costos asociados por participar en este estudio.

*¿Cuáles son las opciones si no quiero que mi hijo sea parte del estudio?*

Si no quiere que su hijo sea parte del estudio, puede negarse a que participe. Su hijo puede negarse a participar aunque usted haya dado permiso. Si su hijo decide participar y luego cambia de parecer, su hijo puede parar de participar en cualquier momento. Su hijo no será castigado o discriminado de cualquier manera si usted se niega a que participe o si él decide no participar.

*¿Cómo se protegerá la confidencialidad de su hijo?*

Toda la información se mantendrá confidencial hasta el punto permitido por la ley Federal y Estatal aplicable y la Política de la Universidad.

Todos los datos se mantendrán en un armario cerrado o cuando se envíen electrónicamente en una memoria flash protegida con contraseña. Los datos se destruirán al finalizar la investigación.

*¿Sabré yo o mi hijo los resultados del estudio?*

Al finalizar el estudio tendrá derecho de solicitar retroalimentación acerca de los resultados. Puede contactar al consejero de la facultad, Felicia Lincoln a [flincoln@uark.edu](mailto:flincoln@uark.edu) o investigador principal, Della Adams a [da010@uark.edu](mailto:da010@uark.edu). Recibirá una copia de este formulario para sus archivos.

*¿Qué hago si tengo preguntas acerca de este estudio de investigación?*

Tiene derecho de contactar al Investigador Principal o al Consejero de la Facultad, nombrados abajo, por cualquier inquietud que pueda tener.

Della Adams

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Felicia Lincoln, PhD

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También puede comunicarse con la oficina para el Cumplimiento de Investigación de la Universidad de Arkansas, listada abajo, si tiene cualquier pregunta acerca de sus derechos como participante, cualquier inquietud, o problema con el estudio.

Ro Windwalker, CIP

Coordinador de la Junta de Revisión Institucional

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He leído la declaración anterior y he podido hacer preguntas y expresar inquietudes, las cuales el investigador ha respondido satisfactoriamente. Entiendo el propósito del estudio, así como los posibles beneficios y riesgos involucrados. Entiendo que la participación es voluntaria. Entiendo que nuevos e importantes hallazgos desarrollados durante esta investigación se compartirán conmigo y según sea apropiado, con mi hijo. Entiendo que no he renunciado a ningún derecho al firmar el formulario de consentimiento. Me han dado una copia del formulario de consentimiento.

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## Appendix J

# Aprendizaje Basado en Proyectos (Encuesta para los Alumnos)

¿Cuál es su edad?

14-15

16-17

18-19

¿Cuál es su género?

Femenino

Masculina

Prefiero no decir

¿Cuál raza o etnicidad lo describe mejor?

Indígena

Asiático/ Isleño del Pacífico

Descendiente Africano o Negro

Hispano

Blanco o Caucásico

¿Cuántos años ha estado inscrito en IGA?

1-2

3-4

5-6

7-8

¿En general, que tan difícil sintió el proyecto?

Extremadamente desafiante

Bastante desafiante, pero alcanzable

Moderadamente desafiante

Algo desafiante

Para nada desafiante

¿En general, siente que el proyecto fue exitoso?

Extremadamente exitoso

Mayormente exitoso

Moderadamente exitoso

Algo exitoso

Para nada exitoso