Project-Based Learning:

Sixth Graders Explore an Environmental Problem in an EFL Class

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Medellín

November 2018

Abstract

This action research project explores the impact of using Project-Based Learning when sixth graders explore the environmental problem of wasting water in an EFL class at a public school in Medellin. Actions such as reviewing and recycling content, scaffolding students' comprehension and production, and elaboration of poster were implemented. Data was analyzed from a student-teacher journal, advisor observations, students' work and self-assessment. The findings indicate the relevance of the unit (sub)topic for students, their ability to learn concepts about wasting water, to identify causes and consequences, and to suggest solutions in their lives. Students also showed an initial effort towards working collaboratively. Institutional factors related to continuous interruptions or cancellation of classes were a limitation for the project.

Key words: Project-based learning, EFL sixth graders, environmental problem, recycling, reviewing and scaffolding

Degree Requirements

This action research project is submitted as a requirement of the Bachelor of

Education in Teaching Foreign Languages (English-French) at the Escuela de Idiomas,

Universidad de Antioquia, in Medellín, Colombia.

Acknowledgements

I would like to thank my parents for all the emotional support they gave me, their patience, and their ongoing dedication that helped me with the goal of developing professionally. I would like to dedicate this work to my son as a way of thanking him for being in my life. This project required that I spend less time with him, but I think he would be proud of me. To my friends who always encouraged me to do my best no matter the difficulties experienced, I thank them dearly. To my grade 6 students at Monseñor Francisco Cristobal Toro, I thank you a lot, as you showed me how to become a better teacher. To my advisor, I thank her for her insightful support and guidance during this process.

Preface

Nowadays, teaching and learning a foreign language in Colombia has become one of the most important goals for the Ministry of Education given global changes and a need for local economic and sociocultural development. However, curricular public education reforms have not improved the proficiency levels of English for students according to the national standards in the Colombia Bilingüe program. Given this, it was important for me as an EFL secondary school teacher to make changes in the traditional instruction that sixth grade students experience in a public school in Medellin. Specifically, I was interested in trying out Project-Based Learning for two reasons. First, I have had direct experience with PBL with similar aged students in a private language context in Medellin. Second, I was aware that research studies have shown positive results for teachers and students in different contexts while exploring topics and learning English. Moreover, as I had completed my primary grades at the public school, I felt I needed to give something back to students there. Therefore, I decided to explore the impact of using PBL with sixth grade EFL students when they explored an environmental problem to learn English.

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Description of the Context

Monseñor Francisco Cristóbal Toro is a relatively small, public secondary school in the city of Medellín. There are approximately 977 students who come from the lower income neighborhoods of Aranjuez, Santa Cruz, and Popular 1. For many years, these neighborhoods have been rampant with different types of violence and drug problems. Nowadays at the school, students are considered a vulnerable population with higher incidences of alcohol and drug use at an early age. As well, other problems such as unwed pregnancies, and discrimination and bullying at school a concern for educators and the community. The school attempts to address the importance of students developing harmonious, social relationships with a respect for differences in all grades. This idea is part of the school's developmental mission, which is aimed towards inclusion and preventing expressions of discrimination among students. That is why, the school has a project 'Cristóbal Diversa' in which students from the LGBT[1] community get together and plan activities to raise awareness about respecting gender diversity, avoiding discrimination, and bullying.

Concerning its academic program, the school's PEI recommends a humanistic and inclusive pedagogical approach to education from preschool to grade 11. For students, it is important that their teachers develop methodological strategies to promote active and meaningful learning experiences in the different subjects, such as natural sciences, mathematics, geography, history, Spanish, Literature, and English as a foreign language. To support the EFL teachers and motivate students towards learning English, the school has visiting native teachers as part of the English Teaching Fellowship Program through the Ministry of Education. They work collaboratively with the EFL teachers grades 10 and 11, and give occasional assistance to teachers in the lower grades. By 2010, the school's vision is

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[1] LGBT meaning Lesbian Gay Bisexual Transsexual. Currently, this concept has been expanded to include Queer.

to be recognized as an educational institution with high academic standards, and a bilingual program of study.

      The school's curriculum for English in grades 3 to 11 is based on the Ministry of Education's Colombia Bilinge Program, which adopted the standards of the Common European Framework of References for Languages. The framework promotes communicative competence in the four skills across proficiency levels from A1 to C2. Students are expected to have an A1 level in Grade 6, and a B2 level in Grade 11. For the sixth grade in which this action research project will be carried out, students learn English through topics such as Democracy and Peace (Coexistence in the Classroom), Health (Physical Routine), Sustainability (the Environment), and Globalization (Value of Local Cultures). To explore the topics, teachers and students are encouraged to use the series textbooks and students' workbooks, Way to Go, provided by the Ministry of Education. This material is designed with a communicative approach to learning English, and it is available in the school library. Teachers sometimes develop projects with students who show their final work on a bulletin board at the school. Some projects related to special holidays or a worldwide observance such as Language Day.

      In the grade six English class, 37 students, 19 boys and 18 girls between 10 and 15, study two hours of English on Wednesdays and on Thursdays. They do not have an assigned classroom as the school is undergoing renovations. Subsequently, the English class is held in the school auditorium, a room in the basement, in any available room at the school and occasionally in the English room. Despite these conditions, many students are interested in learning English, knowing that it is important for their lives. There are only a few students who indifferent to learning this foreign language. Students' English is limited due to an emphasis on learning vocabulary for two hours a week in previous years. In addition, some students have showed some difficulties with writing skills as they come from primary school

where they were not used to write. During class, most students seem to have positive social relationships among themselves. Yet, there are a few students with negative attitudes and behavior towards others. This class has a few students with special needs; there is a student with Down syndrome, another student with an attention deficit disorder, and another with severe depression.

I have a male Cooperative Teacher (CT) who comes from Chocó. He has a Bachelor's Degree in Teaching English and Spanish from Universidad Pontificia Bolivariana. He also has a 'Specialization'[2] in Pedagogy and Education from Universidad del Área Andina. Although he is new to this school, he has been teaching EFL for almost 25 years in secondary schools. My CT teaches grades 6, 7 and 8. This is his first experience as a Cooperating Teacher in our undergraduate program.

As a student-teacher, I am finishing my last year in the program. This is my first experience teaching EFL in a public school. I have basic English to children and teenagers at private language institutes in Medellin. I am quite familiar with the Communicative Approach, and Project Work, which I think, lets students explore topics in a creative and interesting way and develop communicative competence. I also think it has a positive impact on student engagement and learning.

Statement of the Problem

The focus or problem I observed during an observation period in grade six was students' lack of interest and engagement, which made it difficult for students to learn English. I believed that this problem was related to an emphasis on learning grammar, pacing difficulties, a lack of connection between the lessons, and the use of grades as a way to get students to work.

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[2] 'Specialization' would be equivalent to a diploma degree from a college or university.

Early on during observations, I saw students reacting negatively to grammar lessons. The teacher indicated they were to work on the pages 3 and 4 in their workbooks. There were grammar exercises with writing Wh- questions *[for answers shown]*, and indefinite articles to indicate the number of objects in a visual. I saw them talking among themselves about personal things. I even saw one student sleeping at his desk. There were other students fooling around *[in]* the classroom. (Teacher journal, March 1, 2018)

Likewise, I saw similar behavior in students in another class and after I questioned several students about that, they spoke about not liking the English class. In my journal, I wrote: "One student next to me was with her head on the desk, and I asked her why she did not pay attention. She answered she did not like this class…" Another student sitting close by agreed. "Another student near us joined the conversation and supported her point of view..." (Teacher journal, March 14, 2018)

As I continued to observe classes, I recognized that there were pacing difficulties as students were expected to complete one or two activities for each class, which also led to student distraction. "Students only had to complete one or two grammar activities such as filling-in- the-blanks or multiple choice, among others. (Journal entries, March 1, 21, 22; April 4, 2018). Some students would not do the work, act out, and copy from classmates towards the end of the lesson. Consequently, many of them were not remembering grammar from one class to another, indicating that they were not learning English.

Students would spend the class time talking about personal issues, fooling around and telling jokes, and throwing papers. Only towards the end of the lesson would students focus on the exercises assigned by the CT. As few students could do the work, I saw others copying work from their classmates. There was a small number of students who just did nothing. From one class to

the next, students had difficulties remembering the grammar content, and they

could not move ahead. (Teacher journal, April 4, 2018)

When my CT tried to explain the grammar exercises, students were also distracted. "Students

talked among themselves. They did not pay attention to the teacher's explanation about the

exercises they have to do in the workbook. Students who were seated in the chairs at the back

of the classroom were fooling around and talking." (Journal, April 18, 2018).

When I spoke to my CT about his focus on grammar during the lessons, he expressed

a belief that students needed to learn grammar before being able to communicate in English.

(Personal communication, March 14, 2018). Consequently, my CT decided to grade

everything at the end of each class to make students do the work. Yet, the assessment criteria

was different from that established by the school. Instead, students were assigned a grade if

they brought their dictionary, textbook, and workbook to class, even if they did not use it.

(Journal, March 1, 14, 2018). I believed that assigning grades this way put a lot of pressure

on students, and affected students' attitudes towards the English class. When I talked to my

CT about this situation, he thought that teachers need to be an authority, be strict, and be

serious in front of students. Instead, he questioned whether students had an interest to learn

English even though it was a mandatory subject. (Teacher journal, April 4, 2018)

Given those issues, I wanted to make changes so students could be more successful

learning English. I thought that if students had the opportunity to learn about a topic related

to their lives through English, I would be better able to connect the lessons and bring

different activities for them to work on. With this idea, I considered Project-Based Learning

as a dynamic approach for students that could get them interested and engaged with the

classes. In addition, I wanted my CT to observe lessons in which grammar was not the focus

but other content and specific skills taken from the standards.

Research Question

- What is the impact of using PBL when EFL Sixth Graders explore an environmental problem?

General Objective:

- To determine the impact of using PBL when EFL Sixth Graders explore an environmental problem.

Specific Objectives:

- To connect an exploration of the environmental problem to specific sixth grade standards.

- To provide contextualized, comprehensible language input in the unit lessons.

- To scaffold students' production during the activities.

- To promote student self-reflection with the environmental problem and final product.

Theoretical Background

In this section, I will provide a definition of what Project-Based Learning (PBL) is, how it changes roles for teachers and students, the stages in its implementation, and how it has led to positive changes in EFL instruction in secondary schools in Colombia.

What is PBL?

According to several scholars, PBL is a language education approach that involves student-centered learning (Fried-Booth, 2002; Hedge, 1993). This approach has been associated with other approaches such as Content-Based Instruction and Task-Based Learning, and cooperative learning. Stoller (2002) claims that students can learn content exploring themes and they can develop language while working together and completing some specific tasks. The themes explored by students can be real-life problems to solve or

products to develop, thereby contextualizing learning for students (Katz, 1994). This idea relates to meaningful learning, as Fried-Booth (1993) believes that students can create associations between the knowledge they acquired in the classroom and what they live in the real lives.

Using authentic materials to explore themes and problems in real contexts can help students gain knowledge (Stoller, 2002) and to develop language (Fried-Booth, 1993). Beckett & Slater (2005: p.110) supports these ideas and claims that PBL is "...an activity or a sociocultural context that provides opportunities for ESL teachers to teach the English language, school and social cultures, curriculum content, and various skills." In other words, Project-based instruction aimed to provide students different opportunities to receive "comprehensible input" and "produce comprehensible outputs" (Eyring, 1989). Therefore, while students explore themes and engage in the process of trying to solve a problem, they can also meet required standards that are integrated into PBL (Gonzalez, 2016).

With PBL, students can develop communicative skills in the second language (Stoller, 2002). Haines (1989, p.1) suggests "that multi-skill activities focusing on topics or themes rather than on specific language targets" can be used. An integration of the communicative skills with themes throughout the learning process would be important for my students and I in this project. Our classes would not be focused on grammar items, but on the acquisition of language as a whole. In fact, this approach would lead students to use what they have learnt before and build on their previous knowledge or experience. Stoller (2002, p.110) recommends that "the themes explored should be linked to students' reality, experiences, interests or concerns, and foster the acquisition of language with communicative purposes". Therefore, I believe that PBL is a viable approach to implement with my grade 6 EFL class, as according to Haines (1989, p.1), it as "an approach to learning which complements

mainstreams methods and which can be used with almost all levels, ages, and abilities of students".

Changing Roles with PBL

Due to its nature, PBL changes roles for teachers and fosters students' involvement in the creation of the projects from the beginning until the end. On the one hand, teachers become guides as they support the students' learning process (Stoller, 2002). On the other hand, students become decision-makers and active participants in the classroom. They have more responsibility and participation making decisions or developing the tasks required to achieve the final result, which can be a creative product to show. During the learning process, "students can recycle known knowledge and skills in a relatively natural context" (Haines, 1989, p.1). Also, students can share ideas, experience and resources working individually, in small groups, and as a class (Stoller, 2002). This way of working in class would be very important and relevant for my students and their context.

Phases of PBL

There are different ways of working with PBL that depend on multiple factors and conditions in which the project is carried out. Factors that can influence the nature of the project are the curricular objectives, course expectations, students' proficiency levels, students' interests, time constraints, and availability of materials (Stoller, 2002). This author also believes that PBL is a versatile and adaptable approach for teachers and students. Although projects can be highly structured to unstructured (Henry, 1994), I would like to develop a semi-structured project with my students. This type of project is defined and organized in part by the teacher and in part by students. In my project, I think it is very important that student decision-making is encouraged.

Concerning the basic phases of PBL, Sharan (1998:97-121) reports that selecting a topic, making plans, collecting information, developing products, and sharing results with others are essential. I will follow these basic phases. Another step that Stoller recommends which I will use is to have students evaluate the project. What the author also suggests is for the teacher to prepare with the language requirements prior to each step with bridging activities. Various project evaluations surveys are available for teachers to use in the EFL classrooms.

Benefits of PBL

Multiple benefits appear for students as they work towards the final result or products of their projects. Through PBL, students develop a sense of belonging. They are allowed to make decisions, state their opinions, and have their interests taken into account as they develop their own projects. Benefits related to an increase in students' confidence, autonomy, motivation, engagement, participation, and responsibility, among other concepts have been cited by different scholars. Fried-Booth (2002, p.6) asserts that "opportunities exist for students to develop their confidence and independence as they work together...by collaborating on a task". Another scholar, Stoller (2002, p.110) agrees that "Project work is potentially motivating, stimulating, empowering, and challenging. It usually results in building students' confidence, self-esteem, and autonomy…". An increase in student motivation and engagement and responsibility has been reported by Fried-Booth (1986) and Hilton-Jones (1988). Increased involvement as well as an improved class environment has also been suggested by Stoller (2002). Therefore, "By integrating Project work into the classrooms, educators create vibrant learning environments that require active student involvement..." (Stoller, 2002: p.107). Several of these benefits have been reported by secondary school teachers using PBL with students in EFL classes in Medellín.

Using PBL in Secondary Schools in Medellín

Related to the implementation of Project work in Colombia, there are some studies carried out in EFL classes in public secondary institutions. Those studies have been focused on using PBL for different purposes such as to increase student responsibility with the activities and to improve communicative competence in English. These projects have had positive impacts on students' proficiency levels, class performance and their behavior. Focusing on one structured PBL project with a grade 7 class, Toro (2007, p. 228) found that students reported "positive attitudes and behavior towards the project topics (sports and music genres) and group learning (only when students worked with friends) which enhanced their responsibility during learning activities." Also, he reported that using "scaffolding and reviewing language content" helped students increased their confidence learning English. His students improved their class performance with the project as a result of giving ongoing positive feedback on their progress." An increase in student confidence and improved communicative skills was reported by Marín (2017) when she used a somewhat semi-structured PBL project with her grade 8 class. However, Marín does cite several difficulties with this approach related to a lack of time to implement the project, a large number of students with classroom management issues with group work (not working with friends), and their lack of commitment questioning the meaningfulness of the project.

Action Plan

For my action research project, I decided on the several actions during the three stages of PBL. These actions were based on the theoretical background and my knowledge and experience with the context.

First Stage

   a) Introduce students to PBL, its benefits, and get students' opinions.

b) Introduce and motivate students with exploring an environmental problem by showing a video from National Geographic and having them decide on a (sub)topic and driving question, final product, and audience.

c) Raise students' awareness of collaborative work during the project. I would have them participate in an experiential activity and design a class contract. I would form heterogeneous groups based on my familiarity with the group (their interests, levels of engagement, and ability with English), and encourage them to assign roles.

Second Stage

d) Use the KWL(E) chart to direct exploration of the environmental problem

e) Design lessons with communication skills taken from the sixth-grade standards.

f) Sequence lesson activities from simple to complex, and recycle topic information and

g) Language features in context.

h) Have students present their final products.

i) Have students reflect on how well they did with their project.

Third Stage

j) Have students assess their group products and presentations with self- and peer assessment.

With these actions, I predicted that most of the students would probably like the idea of exploring an environmental problem through PBL. I thought that students would be interested with the English class and they would participate during the lessons. I believed that students would be able to share their knowledge and/or personal experience. I thought that most students would try to understand and use English during the class activities and presentations of their final products. To do this, I considered that they would try to work more collaboratively with each other. If there were students who did not want to work with

others, I thought over time, they would be more accepting and tolerant to help and learn from each other.

With these actions and predictions, I decided on my data collection in order to determine the effectiveness of my actions. I kept a teacher journal during this process with my observations and reflections. I arranged for my advisor to observe my classes and complete an observation feedback form. Lastly, I gathered students' class work with the activities and their final products, and their perceptions about learning English through PBL in two self-assessment forms.

To analyze qualitative data from my journal, I used Burns (1999) stages: assembling, reading, coding, creating categories, and finding relationships among the data sources. Although the advisor's observation form had established categories, I tried to see if they could be connected to the categories appearing from my journal. I reread my journal entries and my advisor's forms and I took some notes of possible themes based on the recurrent patterns in the data. I also coded relevant information that could help me answer my research question. I must admit that this process was very difficult for me and it took a lot of time. Students' ongoing class work and their final products were assessed and graded. With the student self-assessment forms, I tallied their answers to the items and I grouped their written answers and tried to connect that information to the other data collection instruments. When all the information was analyzed, I created a chart with possible categories that were evident in various data sources.

Development of Actions

Since the objective of this action research project was to determine the impact of using PBL when EFL Sixth Graders explore an environmental problem. I tried to carry out some teaching strategies following the principles of PBL. I designed twelve (double-period

lessons with 110-minutes) exploring the environmental problem of wasting water before students created their final product or posters. The lessons were connected to several standards of English from the Ministry of Education in Colombia (see Appendix B – Basic Standards of English, Colombia Bilingüe). The initial three weeks beginning PBL with students, we began by identifying global and then local environmental issues. I also talked to students about PBL and its benefits, and I showed them final products that students of mine in another context had worked on as a way of motivating students, and illustrating what they could do. Students made decisions about their subtopic, final product, and audience for the project. To highlight the importance of collaborative work, they did an experiential activity and thought of ideas to put into a group contract for that purpose.

During the following 5 weeks, students were busy learning vocabulary and content about wasting water, i.e. the causes, consequences, and solutions, as they were exposed to different types of input (a reading, a water fact sheet, two handouts, and a video). In those lessons, students reviewed recycled, scaffolded, and personalized content for their comprehension and production. After those lessons, students created their posters with simple recommendations for saving water. An overview of my lessons is included at the end of this paper (See Appendix B – Table of Summary of Lessons).

Findings and Interpretations

Four main categories emerged from the analysis of my data. Those categories were: Establishing (Sub) Topic Relevance: Moving from Global to Local; Reviewing, Recycling, and Scaffolding Content for Understanding and Production; and Creating the Poster about Saving Water.

Establishing (Sub) Topic Relevance: Moving from Global to Local

Most students expressed an initial interest with the general topic of sustainability and environment before they began to perceive its relevance for them. I announced we were going to explore a very interest topic and I wrote on the board Sustainability and Environment, but most of the class did not understand the meaning of those words. So, I said the words in Spanish and asked students: Do you like this topic? Most of them answered yes at the same time...Would you like to learn English through this topic? ¿Les gusta aprender inglés a través de este tema? Students: Si. (Teacher Journal entry 1, August 15, 2018)

Its relevance became apparent when students were given input about global environmental problems in a well-known documentary and they were engaged in a short discussion with direct statements, questions, and sharing of prior knowledge of the local context. Although a few students initially questioned that two problems (e.g. flooding and air pollution) were local, their understanding appeared to change.

> Ana: "That happens here in Medellín".
>
> Yefer: "No, eso es muy difícil de que pase aquí."
>
> Juan Manuel: "Oigan a este, usted no vio la vez que cayó granizo y se inundó la ciudad por todas partes."
>
> Lilas: "Muchachos no se dieron cuenta la vez que hacia los lados del sur se desbordó el río Medellín y se inundó el centro comercial Monterrey."
>
> Gustavo: "Profe y el Éxito, eso mera mata de videos."
>
> Ana: "What about the air in China? ¿Por qué la gente está usando tapabocas?"
>
> Daniel: "Profe por la contaminación del aire. Porque se pueden enfermar, darles cáncer y enfermedades respiratorias."
>
> Ana: "Guys, Do you think all those problems are affecting our lives?"
>
> Alejandro: "No, profe porque eso es por allá en China."

Ana: "¿Es decir que eso acá en Medellín no pasa?"

Janier: "Si profe, yo me acuerdo que a principio de año no tuvimos que venir a estudiar por la contaminación."

Lilas: "Si, Medellín estuvo en alerta roja por los niveles de contaminación en el aire, hubo pico y placa ambiental, la gente tenía prohibido hacer deporte en espacios abiertos y Medellín es declarada como una de las ciudades más contaminantes del país." (Teacher journal, August 15, 2018).

In another lesson when I brought local visuals of several environmental problems and wasting water (the subtopic they had already chosen), there was an immediate interest in who took the pictures and from where. Some students were able to name the problems in English after my prompting.

Ana: "What is the environmental problem in the picture?"

Ana: "Guys as I told you before [noise interruption], these are the pictures that I used... What/"

Student 1: "Contaminación del aire."

Ana: "English?"

Student 2: "Air pollution."

Student 3: "Contaminación de agua."

Student 4: "Water pollution"

Student 5: "Deposito de basura."

Student 6: "Robledo"

Student 7: "Profe, Did you take these pictures?"

Ana: "...our project is based on this." (You show a visual of wasting water.)

Student 8: "Desperdicio de agua."

Ana: "How do you say that in English? Is there something familiar for you?"

Students: "Yes"

Ana: "¿Hay algo familiar para ustedes?"

Student: "dos camiones"

Ana: "¿y Dónde son?"

Student: "Medellín"

Ana: "Podemos encontrar estos problemas ambientales aca en nuestra ciudad.

Ana: Is this something familiar for you? In our neighbourhood?" (Now there is

noise in the room.)

Ana: "Guys! Guys! What is the environmental problem we decided to

explore? ¿Cuál es el problema ambiental que decidimos explorar?"

Two students: "Contaminación, wasting water."

(Advisor class observation, September 5, 2018)

While those short conversations were important for establishing the relevance of the

(sub) topic, an issue of class management appeared, despite the fact that I had used visuals

rather than a question answer exchange to keep students engaged. (Teacher journal,

September 5, 2018). My advisor saw a difficulty with organizing students' contributions and

keeping distracted students from talking or making noise.

I saw your students quite motivated looking at the pictures of environmental

issues for the review activity. At one point, they began yelling out their

answers so I would suggest that you teach students the class routine of raising

their hands. It is important that your students listen to each others'

contributions. (Advisor observation, September 5, 2018).

Likewise, students also indicated on their survey that being distracted by classmates

and noise was a problem. Some of the students wrote on their survey that they were not that

responsible because of "…getting distracted and not understanding the activities, talking and not paying attention, having many things to do…" (September 12, 2018)

Despite that issue, the meaningfulness of the subtopic became more apparent when students talked about a final product for the unit and a possible audience. During a subsequent class, they expressed an interest in creating posters and having conversations with other students at the school in order to raise their awareness about not wasting so much water. They considered that their posters could be part of a school campaign.

Hacer carteles para apoyar el cuidado del medio ambiente. Hablar con los estudiantes para llegar a un acuerdo para no gastar tanta agua. Para mejorar el desgaste del agua tenemos que hablarlo y demostrar cómo malgastamos cosas cada día. Hacer una campaña en el colegio para dejar de malgastar el agua. Debemos ponernos de acuerdo y hablar con los estudiantes para no gastar tanta agua. (Students' notebooks, August 29, 2018)

After several other activities, all students (28, 100%) reported on an initial survey that the topic was related to their lives and relevant for them. Most students (27, 99%) believed it was interesting, while a few students even considered that they could learn English while exploring it. Only one student did not respond to this last item on the survey. (September 12, 2018)

Reviewing, Recycling, and Scaffolding Content for Understanding and Production

I started to reviewing and recycling concepts, content, and language with different input about wasting water, and its possible causes, solutions and consequences. For that purpose there were three main events related to students reading a short text about the student-teacher's cleaning routines and a page with a water facts, and watching a short video about how a young girl, Jessie, wastes water. During these events, students also completed handouts aiming towards their English production. After these events, I hoped students would

create their posters with simple recommendations (with should/should not) about ways to save water.

      Reading about Ana's cleaning routines and writing. With the short reading, I wanted students to identify a few details of how Ana wastes and saves water, and later make some recommendations for Ana and themselves. To help students' comprehension, I used reading aloud with some reading strategies (e.g. reviewing the visuals and the title, asking vocabulary and comprehension questions, restating ideas after the main ideas in the text, and rereading to students) in the class.

      Students showed comprehension of the visuals in Spanish and they connected the title to the subtopic.

          First, I asked students to look at the title and the pictures in order to predict the topic of the text. Some of them were very descriptive with the pictures saying: "Se está bañando."; "Está lavando la ropa." and "Está lavando la acera." Some others quickly identified the topic of the text: "Está desperdiciando agua." Then, I asked them to read the title again and identify what the environmental problem was. (Teacher journal, September 5, 2018).

    After this, I reviewed the visuals in English twice with students:

    Ana: "Here, she's taking a shower."

    Ana: "She is washing the clothes."

    Ana: "She is washing the sidewalk." (You went back to the first picture and used Spanish before asking students to recall the subtopic.)

    Ana: "Está bañando."

    Ana: "What is the environmental problem?"

    Students: "Desperdicio de agua"

Ana: "Wasting water."

Then you began to review the pictures again in English.

My advisor thought that those strategies helped student comprehension: "Before you read the text I thought it was a good idea that you previewed the text and asked what students could see in the pictures. There were new words and concepts for students which made understanding parts of the text challenging for them." Yet she also noticed that a few students were not looking at the picture being described (in English): "Some students did not know which picture you were referring to…" (Advisor observation, September 5, 2018).

While reading aloud, I stopped and asked students questions about the content and the vocabulary, and they usually responded showing comprehension in Spanish.

Exchange 1

Ana: "So she is obsessed with what?"

Student 1: "Cleaning"

Student 2: "Limpieza."

Ana: "yes"

Exchange 2

Ana: "What is reuse?"

Student: "reutilizar."

Ana: "What is toilet?"

Students: "Baño."

Ana: "Very good. And mop the floor?"

Students: "Trapear el piso"

However, one new vocabulary word stumped all students.

Ana: "What is showerhead?"

Students: "Ah--"

In addition, a classroom management issue appeared again when students were enthusiastically participating and sharing their answers at the same time: "Your students were motivated and engaged at once as they began yelling out their answers in Spanish; while you encouraged them to say it in English…They participated in a disorganized way…and there were some students distracted…" Again, trying to get all students' attention was a challenge for me.

Despite having used those strategies, in the next class students and I noticed that they still had some difficulties identifying…the vocabulary related to wasting water, and with reading skills. I reflected on that:

"I can identify students' difficulties with the reading comprehension activity. Most of them had problems with the vocabulary of wasting water: Running the tap, close the tap, full loads, washing machine, water hose, low flow shower heads, etc. …Some of them said that the reading comprehension activity was very complicated because they did not understand some of the vocabulary included in Ana's Cleaning routines. (Teacher journal, September 6, 2018).

Even with those reported difficulties and students not being used to reading texts, I saw that a number of students could identify the causes of wasting water, several actions to save water, by highlighting that information in the text, and copying it into a chart during that class. However, there were students who were not able to do that. In addition, students had to write possible solutions to not waste water. I noticed that while some students were able to write simple sentences using should/should not, others could not.

Water facts related to wasting water (recycling and building knowledge). To deal with that difficulty, I decided to bring a sheet of paper with sentences about water facts. I thought students might be able to read and understand less text. I asked them to read the page by themselves, and identify vocabulary they did not recognize for me to translate: "The words and sentences were: Flush the toilet, running the tap, close the tap, turn off/on the tap, save, reduce, reuse, waste, drip, wash, low flow showerheads, washing machine, rainwater collector, drain, water hose, full loads, walkways." (Teacher journal, September 6, 2018).

I wrote that information on the board with the translation and then students copied that information. After that, I asked them to reread to get a better understanding of the water facts. Quickly, I saw how some students began to translate the sentences from English into Spanish for comprehension: "Half of the students started to translate immediately the sentences …using the vocabulary and some of them their dictionaries…" (Teacher journal, September 6, 2018). When they finished, I asked some of them to share what they understood, and surprisingly, most of them started to yell what they thought the meaning was. They showed excitement learning about new water facts:

> Ana: "¿Ustedes sabían estos datos tan interesantes?"
>
> Melanie: "No profe, es más quién iba a pensar que una canilla que gotee desperdicie tantos galones de agua al año."
>
> Santiago:"Profe o que uno bota tanta agua por
> vaciar el baño, pero es que uno que hace si uno está acostumbrado. ¿Cómo va a dejar uno el baño sucio?
>
> Ana: Es verdad lo que dice Santiago, pero ¿qué podemos hacer para reducir ese gasto de agua?

Isaac: **"**Profe vaciar el baño con el agua de la lavadora. En mi casa también recogemos agua lluvia y la utilizamos para vaciar el baño o para trapear." (Teacher journal, September 6, 2018).

The only issue I noticed with this event is "that copying [words and sentences from the board] took a lot of time." (Teacher journal, September 6, 2018).

With those events, I realized that I would have to continue using that strategy [*recycling language*] to help students with the vocabulary and sentence structure for giving solutions: "I think that the sentence structure is not clear enough for them. So, I need to spend more time recycling vocabulary and completing exercises related to the subtopic [*wasting water*]". (Teacher Journal, September 12, 2018).

Reviewing vocabulary, causes and solutions again handout. Identifying that writing sentences with solutions for wasting water was difficult for some students, I decided to design another handout with scaffolding language production in class. That handout was based on traditional vocabulary exercises first, such as labelling pictures and completing sentences with vocabulary. I considered that, as they were familiar with those exercises in their workbooks, that would facilitate their comprehension and completion of the handout. Then, students were to classify those sentences into a chart with actions for saving and wasting water. Finally, students had to think about their homes and write how they save water and waste it. Even though the activity took more time, I could see how students reacted positively to completing the handout: "The development of the handout took one hour of class, more than I expected. But no matter this, I was very happy because I saw most of the students interested and developing the exercises." (Teacher journal, September 19, 2018). Besides, I realized that working that way got students engaged and improved the class management.

However, I still wanted to do more recycling with a different input to keep students engaged, and to help students learn the vocabulary and content.

Recycling vocabulary and content with a video. With a short video called –Please, save water Jess-, I believed the lesson helped students to review the vocabulary and content, and moreover, prepare students to write simple recommendations (sentences with should/should not) on their posters.

In my journal, I wrote:

We watched the video twice with the subtitles, and I stopped every time an action to waste water appeared. Most of the students identified and named the actions immediately and they started screaming them in Spanish….I asked them who knew how to name that in English. Some of them try to copy the sentences that were in the video. Others, tried to write the actions using the vocabulary worked on previously. (Teacher journal, September 26, 2018).

I noticed that some students were showing comprehension of the ideas from the video and they were trying to say them in English. In my journal, I wrote about one girl's contribution:

Melanie: "Profe, regar las plantas en inglés se dice water the plants ¿cierto?"

Ana: "Yes."

Melanie: "Entonces si yo digo: water the plants with a water hose, ¿está bien?"

Ana: "Yes, very good!"

When I asked students about a problem how Jess wastes water in the video, it became apparent that students "read" the visual and also the sentence, and got the idea. They were also able to say it in their words in English: "She uses a water hose to water the plants." At that moment, I thought that all the reviewing and recycling had helped students learn. During

this lesson, two students mentioned to me that they were able to understand the vocabulary and ideas in English: "…yo siento que he aprendido mucho…hasta entiendo las frases sin que las digan en español."; "Sí, y también cuando uno las lee ya más o menos sabe lo que significa y cómo se pronuncia, pues así sea un poquito…" (Teacher journal, September 26, 2018).

After this, I saw that students could give recommendations about how Jess could change her behaviors. Although their ideas were in Spanish, I wrote them in English on the board: "No deberías dejar la llave abierta cuando laves tus dientes."; "No deberías usar una manguera para regar las plantas."; "Deberías tomar baños más cortos."; "Debería lavar con cargas completas." I also wrote "should: debrías and should not: no deberías."

Then, I wanted students to personalize this problem by writing what actions they should do or should not do at home. I wrote a problem on the board and helped them write the solution: "Leave the taps dripping." Students began to say words:

> Students: "You".
>
> Ana: "next?"
>
> Students: "Should not."
>
> Ana: "and finally?"
>
> Students: "leave the tap dripping."

Then, I read the recommendation in English and then in Spanish to ensure comprehension: "You should not leave the tap dripping. No deberías dejar la llave goteando. Then, students started to write some recommendations in their notebooks. Finally, they shared them and I corrected what they wrote." (Teacher journal, September 26, 2018).

Reflecting on that lesson, I thought students were moving ahead with the content:

> So, for me it (the lesson) was more coherent and sequenced develop the class
>
> in the following order: correct the handouts [from the last class], watch the

> video, write the causes…possible solutions to the causes found, suggestion or
> recommendations using should and should not, and then present the posters
> samples that I selected from internet, and finally elaborate their drafts for the
> posters. (Teacher journal, September 26, 2018).

Almost towards the end of the project, I wrote about the impact of using these strategies in my journal:

> First, I noticed in previous classes I had to design my lessons trying to recycle
> the vocabulary, the topic, and simple sentences again and again. Second, I
> tried to design materials with traditional exercises that were familiar for them
> and to combine those that would help them to find a connection with their real
> context, so that they felt more engaged and interested in the class…Now, the
> positive results are appearing no matter the issues that arose and experienced
> during this process. That made me feel that my efforts were worth it. (Teacher
> journal, September 26, 2018).

These bridging activities mentioned before helped students to create their final posters.

Creating the Poster about Saving Water. Initially, I gave students several guidelines for the elaboration of their posters, so they would understand how to prepare them the best they could. I decided to explain this in Spanish to avoid any misunderstanding, and I showed them how to do it with an example on the board. I suggested that their poster be divided into four squares with a visual and clearly written sentence or recommendation (with should or should not) in English. Each student in the group was responsible for one square, but they had to monitor each other's work. When they were prepared, I showed them the assessment criteria for the posters, which we read, and I gave some examples for them. The criteria was related to creating an organized poster with topic vocabulary, relevant visuals for comprehension, and simple sentences (with should/should not) with appropriate recommendations for the students'

local context. Students understood and I thought they were very impressed with the rubric. I wrote in my journal:

> "All of them expressed that they have never had clear criteria to know what teachers were grading… That was very positive for them, as they considered this rubric fostered fairness, validity, and accuracy which is very important to me too." (Teacher journal, October 3, 2018).

After that, I gave them large sheets of paper to begin creating their posters, and I monitored their work. Most of the students seemed to be very motivated as they asked me for permission to listen to music while they worked.

While most of students were working in their poster, there was a group who did not want to work and they were fooling around. Therefore, I asked my CT to help them, and he did not. That is why I gave them more attention. Nevertheless, I was pleased when I saw a group of girls who were working well. After the break, there was another team with three boys and a girl having a problem. The girl said that she was not comfortable working with the three boys. More of the groups tried to write their own sentences asking me for correction. However, two other groups relied on the dictionary or google translator to write their sentences. I was able to tell those students that the translator does not necessarily give them the correct word when they had written "key" instead of "tap". Yet, there were other students to find attractive and relevant visuals for their posters.

After analyzing their posters, I could see that in general, they were organized with appropriate visuals and related sentences that showed simple recommendations on how to save water at home. I did see that some students used should and should not while others used imperatives. With their final posters, I believed that reviewing, recycling, and scaffolding help them to understand and produce English.

There were several limitations with the implementation of this project. First, I had planned to develop 24 hours of lessons over a 6-week period, but it actually took 22 hours over 9 weeks due to class interruptions and cancellations. Clearly, we had fewer hours with gaps between lessons that affected the development of the lessons and students' learning. Second, there were occasions when I got to the school and students and I had to go look for an available classroom for English, that on occasions had structural problems (e.g. a damp classroom with a musty smell, no technology, and poor lighting and air circulation) making it difficult to teach the lesson and for students to learn. Third, I would have liked to have had more support from my CT as we had a large class that made it difficult to keep all students engaged and support them during the English class.

Conclusions

Project Based Learning while exploring the environmental problem of wasting water was implemented with a grade 6 EFL class in a public high school in Medellin to determine its impact. PBL has been used by other teachers in different fields, including EFL, to motivate and engage students to learn with meaningful content for students that extends beyond the classroom. The findings of this study show that wasting water is an interesting and relevant topic for students to explore when they are given input that moves from a global to a local and then to a personal level. To help students learn topic vocabulary, the causes, solutions, and consequences of wasting water, several strategies such as reviewing, recycling, and scaffolding were used when students were given different input with a reading, a water fact sheet, and a video. Also, handouts were used in class to guide students' comprehension and subsequent written production. Student posters show that working together, although with some difficulties, they are able to make simple recommendations as to how they can

save water in their local context. Future research in similar contexts could explore how to move to a more student-centered, exploratory project.

Reflection

After this experience, I realized that being a teacher is a very demanding profession that is not valued enough in this country. In addition, education in Colombia has many gaps that need to be fixed in order to provide a real education with quality. The content explored in classes and the methodologies used need to be considered to foster a meaningful learning in students. Moreover, I consider that it is imperative that through education, the professional development in the country increase. To sum up, I believe that the common goal in public education needs to be revised in order to provide real opportunities for people from the most vulnerable sectors of our society. In this way, the high levels of inequality would decrease, hopefully.

References

Beckett, G., & Slater, T. (2005). The Project Framework: a tool for language, content and skills integration. *ELT Journal, 59*(2), 108-119.

Eyring, J. L. (1989).*Teacher experience and students response in ESL Project Work instruction: A case study.* University the California, Los Angeles.

Fried-Booth, D. L. (2002). *Project work*. New York: Oxford University Press.

Fried-Booth, D. L. (1986*). Project work*. New York: Oxford University Press.

Gonzalez, J. (2016). *Project-Based Learning: Starts Here*. Retrieved from https:/www.cultofpedagogy.com

Haines, S. (1989). *Projects for the EFL classroom: Resource material for teachers*. Walton-on-Thames, UK: Nelson.

Hedge, T (1993). Project work. English Language, *Teaching Journal, 47*(3), 276-277.

Henry, J. (1994). *Teaching through projects*. London: Kogan Page Limited.

Hilton-Jones, U. (1988, April). *Project-Based Learning for Foreign Students in an English-Speaking Environment.* Paper presented at The Annual meeting of the International Association of Teachers of English as Foreign Language, Edinburg, Scotland.

Katz, L. (1994). The Project Approach. *ERIC Clearinghouse on Elementary and Early Childhood Education.*ED368509. April 1994. Retrieved from goo.gl/oFuV2N

Marín, V. (2017). *Designing and Implementing a Project Based Learning Oriented English Syllabus to Help Eighth Graders Improve their Communicative Skills at a Public School in Medellin*, (Unpublished undergraduate thesis). Universidad de Antioquia, Medellin, Colombia.

Ministry of National Education, (2016). *Pedagogical Principles and Guidelines Suggested English Curriculum.* Medellin, Colombia: Colombia Bilingue.

Sharan, Y. (1998). Enriching the group and investigation in the intercultural

    classroom, European Journal of Intercultural Studies, 9(2), 1998, 133-140.

Stoller, F. L. (2002). Project Work: A Means to Promote Language and Content. In Jack C.

    Richards and Willy A. Renandya (Eds.), *Methodology in Language Teaching* (107-

    118). New York: Cambridge University Press.

Toro Bustamante, C.A (2007). Increasing EFL Students' Responsibility with Learning

    Activities through Project Work. *Íkala, 12*(18), 212-242.

Appendix A

Table with Summary of Lessons

Environmental Unit Lessons		
Beginning PBL	**Goal**	**Summary**
Learning English with PBL (3 lessons)	Students will become aware of what PBL is, its benefits, the importance of how to work in groups. Students will create a PBL group contract with their ideas and form groups.	Students watched some videos and pictures of PBL final products and they discussed and learn about its benefits. They also participated in an activity "unravel the knot" to reflect on the different aspects of collaborative work and they create a group contract with their ideas and form groups.
Environmental Issues (2 lessons)	Identify global environmental issues and reflect on if they happen in students' local context. Select the first subtopic for the project.	Students watched the documentary -Before the flood, identified various global environmental issues, and then reflected on which of them were part of their local context (home, school, and community). Students voted on which local issues (wasting water, waste disposal and waste of electricity) were important to explore in the unit.
During PBL	**Goal**	**Summary**
Taking actions on wasting water (7 lessons)	Students will associate and reflect on personal and family behaviors/actions from their daily routines that contribute to wasting water issue (causes) as well as on possible solutions and consequences. Students will raise awareness about the importance of saving water through a school campaign.	Students read a short story and identify the vocabulary related to wasting water as well as some causes and possible solutions to the problem. Students developed some handouts in which they label, highlight, classify information (causes/solutions), and wrote about their own negative/positive behaviors associated to wasting water. Students watched a video to identify common behaviors that contribute to the problem. Students watched 2 videos about the consequences of this problem and reflect on that. Finally, students create group posters to share with the school community to raise awareness about the problem explored. During these activities, they work individually and collaboratively in class.
Finishing PBL	**Goal**	**Summary**
Fostering awareness (3 lessons)	Students will elaborate their final poster in their groups. They must follow a criterion to accomplish with the task and will write recommendations to save water in a creative way using should and should not.	Students watched some posters samples about saving water and the rubric that would be applied to assess their final product. Then, they started to design their own. Even though, it was a group work. Each student had to assume a specific part in the elaboration of the poster. Finally, they shared what they created with the school community.

Appendix B

Basic Standards of English (Colombia Bilingue)

Escucha: Comprendo información básica sobre temas relacionados con mis actividades cotidianas y con mi entorno. Comprendo y sigo instrucciones puntuales cuando éstas se presentan de manera clara y con vocabulario conocido. Comprendo una descripción oral sobre una situación, persona, lugar u objeto.

Lectura: Puedo extraer información general y específica de un texto corto y escrito en un lenguaje sencillo.

Escritura: Utilizo vocabulario adecuado para darle coherencia a mis escritos. Escribo mensajes cortos y con diferentes propósitos relacionados con situaciones, objetos o personas de mi entorno inmediato.

SUGGESTED CONTENT: Lexical: Wasting water**. Grammar:** present tense, imperative. **Socio-linguistic/cultural:** Self-critical reflection

- ·   Expressions to describe wasting and saving water.
- ·   Expressions to report recommendations.

LEARNING OUTCOMES (Performance Indicators):

Knowing: Recognizes vocabulary regarding wasting water. Distinguishes actions in an oral or written text related to waste and save water.

Doing: Identifies and names common environmental issues in the school, community and city. Proposes simple actions to save water.

Being: Values the importance of save water. Respects the environment and natural resources (water). Shows an interest in learning from other students.