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CORPORACIÓN UNIVERSITARIA MINUTO DE DIOS- UNIMINUTO
FACULTAD DE EDUCACIÓN

LICENCIATURA EN IDIOMA EXTRANJERO-INGLÉS

TRABAJO DE MONOGRAFÍA

**(Fostering Content-Based English Vocabulary Through Project-Based
Learning in an EFL Classroom)**

Autor: María Luisa Fernanda Téllez Urrea

Bogotá, mayo 17 de 2019



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Abstract

This research project was implemented in Tibabuyes Universal School. Where fifth graders lacked of vocabulary in the foreign language, to evidence that description the researcher applied a diagnostic to test both the knowledge and content related to the 3Rs (Reduce, Reuse and Recycle) and English vocabulary comprehension. Results showed that English vocabulary acquisition needed to be meaningful for the students, the researcher used PBL (Project-Based Learning) linked to the topic the use of 3Rs. Mentioned that, students were conscious about environmental care and how this assumption becomes meaningful in a foreign language acquisition. To the development of the present study, the researcher established the aim: to foster content-based English vocabulary about the 3Rs through PBL in fifth graders in an EFL classroom at Tibabuyes Universal School. The researcher implemented qualitative research paradigm taking into account instruments such as students' artifacts, reflective field-notes and focus groups. It was evidenced the students' process regarding vocabulary acquisition and knowledge related to 3Rs. At the end of the project, students showed the importance of wastes use in the classroom by creating products made of plastic, food and paper waste using the vocabulary gained during each session showing that English can be learn to link real life topics and English subject.

Key words: 3Rs (Reduce, Reuse and Recycle), Vocabulary Acquisition and Project-Based Learning Approach (PBL).

Resumen

El proyecto de investigación fue implementado en el colegio Tibabuyes Universal. Dónde los estudiantes de quinto de primaria carecían de vocabulario en la lengua extranjera, para evidenciar dicha descripción la investigadora aplicó un diagnóstico que evaluara el conocimiento tanto en el contenido acerca del uso de las 3Rs (reducir, reutilizar y reciclar) como la comprensión del vocabulario en inglés. Los resultados mostraron que la adquisición del vocabulario en inglés necesita ser significativa por medio de temas de la vida real, tales como el uso de las 3Rs utilizando un enfoque de enseñanza que permita que los estudiantes desarrollen habilidades en contextos de la vida real. Dicho tema se escogió con la intención de que los estudiantes fueran conscientes del cuidado del medio ambiente. Para el desarrollo del presente estudio, la investigadora estableció el siguiente objetivo: fomentar el contenido basado en el vocabulario de inglés acerca de las 3Rs a través del enfoque aprendizaje basado en proyectos en quinto de primaria en una clase de inglés como lengua extranjera en el colegio Tibabuyes Universal. La investigación cualitativa fue implementada teniendo en cuenta los instrumentos tales como: artefactos de los estudiantes, notas de campo descriptivas y grupo focal. Donde fue evidenciado que los estudiantes adquirieron vocabulario y conocimiento acerca del uso de las 3Rs. Al finalizar el proyecto, los estudiantes demostraron la importancia del uso de los desperdicios en el salón creando productos derivados del plástico, comida y papel utilizando el vocabulario adquirido durante cada sesión demostrando que el inglés se puede aprender uniendo contenidos de la vida real y la materia inglés.

Palabras Clave: 3Rs (Reducir, Reutilizar y Reciclar), Adquisición del vocabulario en la lengua extranjera y el enfoque Aprendizaje Basado en Proyectos.

Table of Contents

1. Contextualization	3
2. Problem	5
<i>2.2. Research Question</i>	8
<i>2.3. Justification</i>	8
<i>2.4. Research Objectives</i>	9
2.4.1. General Objective	9
2.4.2. Specific Objectives	10
3. Referential Framework	11
<i>3.1 Background Framework</i>	11
<i>3.2. Theoretical Framework</i>	17
3.2.1. Acquisition of Vocabulary in an EFL Classroom	18
3.2.2. Project-Based learning (PBL)	19
3.2.3. The 3Rs “Reduce, Reuse and Recycle”	22
4. Methodological Design	26
<i>4.1. Type of Investigation</i>	26
4.1.1. Qualitative Research	26
<i>4.2. Method of Investigation</i>	27
4.2.1. Action research	27
<i>4.3. Stages of Investigation</i>	28
<i>4.4 Population and Sample</i>	29
4.4.1 Macro and Micro Context	29
4.4.2. Participants	30
4.4.3. Participants’ Characteristics	31
4.4.4. Sampling	31
<i>4.4. Data Collection Instruments</i>	32
4.5.1. Focus groups	32
5. Instructional Design	35
<i>5.1. Description of the Sessions</i>	35
<i>5.2. Vision of Learning</i>	39

	VI
5.3. <i>Vision of Classroom</i>	39
5.4. <i>Vision of language</i>	40
6. Results	41
6.1. <i>Analysis of Results and Methods</i>	41
6.2. <i>Interpretation of Results</i>	45
6.2.1. Category 1: Identification of Specific Content-based English Vocabulary related to the 3Rs	46
6.2.2. Category Project-based learning as an approach to connect Content and Language	57
7. Conclusions	63
7.1. <i>Suggestions</i>	64
8. Further Research	65
10 Annexes	71
<i>Annex A: Diagnostic Test Sample</i>	71
<i>Annex B: School's Permission</i>	72
<i>Annex C: Parents' Consent Letter</i>	73
<i>Annex D: Reflective Field- Notes (Sample)</i>	74
<i>Annex E: Focus Group (Vocabulary and Knowledge)</i>	75
<i>Annex F: Sample of Lesson</i>	95
<i>Annex G: Sample of the worksheet</i>	96
<i>Annex H: Gallery of Pictures</i>	97

List of Tables

Table 1: Methodology of the Pedagogical Intervention

Table 2: Evidence of the Arisen of the Categories and Subcategories

Table 3: Categories and Subcategories Stablished of the Present Research

Table 4: Table of the amount of words acquired before and after using PBL by the participants

List of Figures

Figure 1: Stages of PBL

Figure 2: Colors Codification

Figure 3: Action Research Circle

Introduction

“To learn a language is to have one
more window from which to look
at the world”
Chinese Proverb

As the proverb mentioned before, language is how students can see reality outside of the classroom. In a view of that, students are acquiring a second language vocabulary when it is linked with real-life issues, in that way learning of foreign language becomes meaningful. In accordance with that, teaching the 3Rs (Reduce, Reuse and Recycle) helped the students to become aware of caring the environment from their school most of all they are the generation that can save the Earth from the doom. Otherwise, they will face consequences in terms of environmental damages.

Lack of 3Rs practice is an environmental issue that needs to be tackled from different settings, not only from governmental entities but also from the school. Those are the main contexts where youth may be trained to learn the importance and value of reducing, reusing and recycling to preserve the nature for the sake of good quality of life. Therefore, the focus of the study is that students improve the acquisition of vocabulary related to 3Rs through project-based learning approach (PBL).

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Regarding the content of this research, in the first chapter, the reader will find the statement of the problem, the justification, the question and objectives. After that, the reader will find chapter two, which is divided in two sections. The first part is a compilation of studies related to PBL and the use of 3Rs. Here the reader can find a discussion regarding how these studies are different from this research and how these contributed to the design of it. The second part of this research contains the theoretical basis that supports the execution of the research. The theoretical framework contains three constructs: PBL, acquisition of vocabulary and 3Rs.

In the third chapter, information related to the methodology followed for the completion of the research can be found. First, the research paradigm and approach are explained; the reader will find a description of the setting, the context and the classroom where the research took place. Finally, all the instruments to collect information are presented. In chapter four, the instructional design of the implementation sessions is presented with their corresponding lesson plans.

In chapter five, the data analysis will be shown in order to describe the implementation results taking into account the instruments, objectives and theoretical framework. Finally, in chapter six, the reader will find the conclusions obtained from the data analysis considering the research question and objectives. Similarly, limitations and possible further ideas for research are presented

1. Contextualization

Environmental care is an issue that has gained media impact in recent years. “It matters because earth is the only home that humans have, and it provides air, food, and other needs.” (Kinhal, 2006, p.1). Following these ideas, if we do not protect this planet, human beings will die. That is the reason why it is important to teach this generation how to take care of it. According to Davis (1998) teaching children in early ages the importance to care about the environment is fundamental because they might be the only ones who can save the world. (p.142)

Under those circumstances, Ministerio de Educación (MEN) creates the program Colombia Bilingue (2004-2019) which purpose English curriculum map from pre-school to elementary school. Therefore, Colombia bilingue suggests the methodologies routes in accordance with the cross-curricular subjects. For instance, the students who are in fifth grade is recommend to apply project-based learning approach (PBL) considering that PBL is to reflect regarding a specific problem which purpose is to demonstrate, in this case the production in the foreign language. In addition, Colombia bilingue (2004-2019) suggests the module “the environment and community” (p. 216), which describes how the class must be taught taking into account the development of the methodology and the topic.

In connection with the previous part, the present study was applied in Tibabuyes Universal school located in Bogota, Colombia. Taking into account that one of the principles

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

that is mentioned in the institution's mission is "to foster ecologic and touristic principles to achieve job skills and improve life and environmental quality" (p. 10). It is connected with the topic (3Rs use), since fifth grades are facing environmental issues like the dump of wastes in the playground and lack of classification of wastes in the classroom that affects their context where they take their classes.

To create in students an environmental awareness regarding the use of 3Rs it was implemented PBL approach in order to link vocabulary acquisition in the foreign language learning and 3Rs. Therefore, PBL is one of the approaches that promotes real-life issues in order to students connect the world and their classroom and becomes meaningful when it is apply in foreign language learning.

2. Problem

In, the following section it will present the statement of the problem and the main characteristics that were identified. In addition, there will be the objectives that were established to develop the research.

2.1. Description of the Problem

The use 3Rs is one of the practices that leads people to be aware of the environmental issues that the world faces. “The 3Rs principle help us toward sustainable living” (Samiha, 2013, p. 131) in accordance with that, to create a conscious regarding the use of 3Rs starts teaching children the importance of caring the environment in order to they become conscious of the reality of the world. For that reason, the researcher proposed to work with students of fifth grade from Tibabuyes Universal School (Branch B) who are exposed to some environmental problematic issues inside and outside the school. Inside, which is the main focus of this research, students usually take their snacks and, a lot of trash is produced, students used to dump fruit and food leftovers, plastic waste and papers in the same bin inside the classroom without any treatment or specific separation/classification system.

Under those circumstances, students must be taught to take care of the environment that surrounds them and also the consequences that it carries if they are not concern about

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

the importance of classifying wastes. It is the specific moment at which the researcher decided to work on both; the topic of technical classification of wastes, focusing on the principles of the 3Rs and also, vocabulary acquisition in reference to these topics (3Rs) considering that it is an opportunity for the students to put into practice the second language by knowing and practicing specific vocabulary based on a meaningful context related to the environment.

The researcher considered important to teach about the awareness of identifying the colors according to the wastes like: organic, plastic and paper wastes in accordance to the Colombian Technical Standard [CTS] (2009) but, while the researcher applied the diagnostic, it was observed that students did not know the specific vocabulary to manage the topic. So that, the lessons developed included activities that lead students to learn not only language but also knowledge about the use of 3Rs in the classroom.

In regards of the acquisition of vocabulary, which is one of the components of language that is connected with 3Rs use. The acquisition of vocabulary is the main aspects when a person is learning a second language. According to Rivers and Nunan (1991, cited by Alqahtani, 2015) “The acquisition of an adequate vocabulary is essential for successful second language use because without an extensive vocabulary, we will be unable to use the structures and functions we may have learned for comprehensible communication” (p. 22). Besides, it is one of the elements of the language that helps students to make meaningful connections between the context and words, Wilkins (1972, cited by Alqahtani, 2015) said that, “without vocabulary nothing can be conveyed” (p. 22) which means that, without

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

vocabulary there could not be any association between the language and the topic that is connected with that.

Through the application of a diagnostic test, the researcher evidenced that students lacked of vocabulary since they had to be lead in the development of each exercise (section of the diagnostic test). For instance, students did not recognize specific vocabulary associated to the category “wastes”, however, they could identify the meaning of the 3Rs (Reduce, Reuse and Recycle) because those words were similar in Spanish.

Another situation was identified in the development of the exercise three of the diagnostic test; students had to draw pictures next to some specific words. It was evidenced that students just identified the ones that were similar to Spanish like: plastic, ecosystem, paper and compost but, in regards of the knowledge about the classification of the wastes and bins’ colors, students were confused identifying the wastes according to each R which is a set of specific vocabulary that the students did not know.

Based on the evidence obtained from the diagnostic test, the researcher chose some specific content and vocabulary that would be delivered to the students during the implementation sessions. The researcher decided to take into account the concept of the 3Rs (Reduce, Reuse and Recycle. These topics may appear to be advanced for young populations but, as Horwitz (1996, cited by Shakti and Dvivendi, n.d) considers, “deep environmental concern and an affiliation with nature often began in early childhood.” (p. 2), such statement supports the importance of presenting those concepts at early ages. Since the students are going to connect content and vocabulary that leads to create an awareness and action plan in order to care the environment from their contexts.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

2.2. Research Question

To what extent can the application of PBL in an EFL classroom foster English vocabulary acquisition and knowledge about 3Rs in fifth graders from Tibabuyes Universal School?

2.3. Justification

Taking into account the situation that students faced regarding wastes thrown in the classroom and outside of the school, teaching 3Rs (Reduce, Reuse and Recycling strategies) increases awareness about the problems that the environment faces. Also, students have the possibility to learn meaningfully because environmental issues can be connected with any academic area. Ms. Campbell (n.d, cited by Upstream, 2016) said:

Environmental education provides important opportunities for students to become engaged in real world issues that transcend classroom walls. They can see the relevance of their classroom studies to the complex environmental issues confronting our planet and they can acquire the skills they'll need to be creative problem solvers and powerful advocates. (p. 5)

As mentioned before, it is important to tell the students about what is happening in their country regarding environment issues; it means that when they understand the reality then; they are learning because they are developing skills to face the world. Considering the aforementioned, this research is important because it allows students to learn and understand the importance of caring the environment. For that reason, the students will use basic vocabulary related to 3Rs through different sessions in a way that they understand the main purpose of each activity.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

The project was focused on the use of the 3Rs activities where PBL (project-based learning) was the main approach to connect English language learning and real-world issues; According to Pinzon (2013) “When students get involved in real-world activities the language learning gains a high significance” (p.159). In accordance with that, it is necessary to show to students’ different points of view regarding language and the best way to do it is to bring the reality to the classroom. Besides when the students are motivated about a specific topic, language learning becomes interesting.

This project might be useful for English and Biology teachers as well as in the academic areas since project-based learning is one of the approaches that is a bridge between knowledge and English learning. As Kodriyah (n.d) states, “PBL in the classroom, students will actively engage in the classroom because it inspires the students to obtain a deeper knowledge of subject they are studying.” (p.141)

2.4. Research Objectives

2.4.1. General Objective

To pilot the application of project-based approach (PBL) in order to increase content-based English vocabulary acquisition and knowledge related to the 3Rs through in fifth graders in an EFL classroom at Tibabuyes Universal School.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

2.4.2. Specific Objectives

- To identify the students' needs according to their context connecting vocabulary and content related to 3Rs.
- To describe the improvements, if any, of applying project-based learning for vocabulary acquisition and raising awareness about 3Rs.
- To explain what was the impact of applying PBL in fifth graders related to vocabulary acquisition and raising awareness about 3Rs.

3. Referential Framework

3.1 Background Framework

The following chapter presents previous studies related to project-based learning applied in the English language. Therefore, those studies will support the present study in order to evidence that project-based learning could be the proper approach to learn foreign language and the connection with real-life topics.

The first study called “English teaching through project-based learning method in a rural area” (Pinzon, 2013, p. 151) was carried out in an 8th grade group in a rural institution located in Boyacá. Where the research identified the lack of motivation in learning English. For that reason, the researcher-researcher and students created a list with different real life topics where the most important were selected in order to carry out the project. Hence, the researcher applied the following instruments: a semi-structure interview in order to perceive students’ language skills, group interview where the research lead the conversation in order ask to the students how they felt during the project and the last instrument used consisted on artifacts that showed the students’ work. The project was named “The Wonderful World of the Fruits”, it comprised six sessions using project-based learning.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Regarding the results, it was observed that students improved in each skill of language. Besides, “when English learning is based on solving a problem the learning and teaching English process becomes more motivating” (Pinzon, 2013, p. 168); it means students were encouraged in English learning since the topics were close to their reality. However, this research is similar to the present study since both use Project-Based Learning approach, the only difference is related to the acquisition of vocabulary regarding the 3Rs.

The second study named “Project-based Learning and its Positive Effects on Iranian Intermediate EFL Learners’ Reading Ability and Vocabulary Achievement” (Soleimani, Rahimi and Sadeghi, 2015, p. 1) was focused on the effects that evidence applying PBL in a general science instruction to “EFL learners’ reading ability and their vocabulary size improvement in short term, and long-term vocabulary recall.” (Soleimani, Rahimi and Sadeghi, 2015, p. 1) so, the researcher divided the students by two groups: one experimental and the other control group. The first one, students received PBL instruction which it was applied a pre-test to know the students’ vocabulary size and reading proficiency. After that, students work in a cooperative project where they decided which topic to work in companion with the research-teacher in order to guide them in content and language. In the second control group, students received traditional instruction from textbooks.

As a conclusion of this study, the positive characteristics evidenced applying PBL students improved retention of knowledge also this approach speeds up vocabulary since the projects that students developed were focused on their interests. In contrast, the students from the control group did not evidence improvement in vocabulary achievement since they were

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

exposed to the same approach as the other experimental group. In accordance with that, the similarities that this study has with the present study is the use of the approach PBL but the only difference is the topic and the component of the foreign language also the population that the researcher used in order to apply PBL, it is important to highlight the difference of the population shows that PBL could be use no matter the course the main aspect is that project-based learning make the students become motivated and encourage to improve the second language and understand that English class it is not tough as it seems.

The following study is related to “Project-Based Learning as a 21st century teacher approach a Study in Nepalese Private Schools” (Raj, 2016, p.487). The present research described the teachers’ perceptions applying PBL in an English class but also the impact of teaching real issues to 21st century students. Having in mind that language skills are improved taking into account relevant topics close to their reality. In order to develop the study, the researcher selected five in-service English teachers to be interviewed and observed. Regarding the students, the researcher applied a semi-structured interview in order to ask the students about main issues related to the course.

As a result of the project, PBL is an effective approach since it increased students’ motivation due to meaningful learning. Also they develop new skills to be prepared to face the world. Regarding the in-service English teachers, it showed that they work as facilitators leading the students to construct learning. This project had a straight connection with the present one since PBL is the approach that it was used in order to students acquired and improved vocabulary related to 3Rs.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

The fourth study named “Increasing EFL Learners’ Oral Production at a Public School Through Project-Based Learning” (Vaca and Gomez, 2017, p. 57) made in a public school located in Bogotá, which the researchers focused on the improvement of speaking skills using PBL. Before the application of the project, the researchers identified that students were too shy to present activities regarding speaking skills and their partners mocked them because of their mistakes. To overcome this situation, the researchers developed three different projects related to topics about their daily lives to improve their communicative needs. In terms of the collection of data, the instruments used field-notes, transcripts of learners’ oral performance, and one interview.

Regarding the findings in the study, the researchers evidenced that PBL helped students to increase oral production through vocabulary learning because the more they practiced speaking activities, the more they increased the acquisition of new vocabulary. In addition, students improved their confidence at the time of speaking in front of their partners, and their interest in real-life topics. The study concluded that, implementing PBL improved students second language in speaking skills which connected the topics that they faced close to their context and learning but not only that students learned different where they also acquired values in order to respect their partners at time of showing their skills regarding English topics.

The fifth study named, “Project-based Learning in Reading: An Exploratory Study at a Colombian Public School” (D’Vera, 2017, p.1). which it was developed in a public school

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

located in Puerto Colombia (Atlántico). The researcher identified that students had poor scores in the previous pruebas saber 2010-2016 also the methodologies applied by the teachers that are not connected to real-world issues and students' needs that proves the students lack of motivation. Taking into account these issues, the researcher applied a methodology that focused on learners and real-life issues around their context. So, the researcher used "critical literacy reading instruction, the development of reading skills, as well as integrate new trends of critical literacy that support practices in foreign language class" (D,Vera, 2017, p.11) in order to implement it with project-based learning approach and students became engage that leads to improve their scores in second language learning.

Regarding the results, the researcher presents those results by three parts: the first one, it was presented from the pre-posttest in order to evidence the students level of reading and improvements. The second part is related to the learners' engagement and behavior in order to evidence this part, the researcher used an observation checklist. The third part, it was thinking aloud protocol where the reading strategies were applied in a PBL class. In accordance with that, the researcher demonstrated that PBL increased motivation and cooperative work, in addition students improved regarding reading comprehension skills since the readings applied were focus on real-life issues. Taking into account the description of the previous study it is evidence that has a connection with the present study since the main approach is PBL but the only difference is component of foreign language that is reading comprehension as well as the population and the level of complexity in order to students improve in reading comprehension.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

The last study called “The effect of project based learning in teaching EFL vocabulary to young learners of English: The Case of pre-school children” (Kimsesiz, Olgunsöz and Konca, 2017, p. 426) was carried out in a kindergarten located in Turkey where it was intended to evidence the effectiveness of teaching vocabulary to young learners through PBL. In order to develop the research, the following instruments were used: observations checklists, exam scores and a short survey. First of all, the researchers made a short survey for 150 teachers where they asked them about techniques that they use in order to teach English vocabulary. After that, they had in mind the teachers’ techniques then, they compared with PBL. Mentioned that, 28 students were randomly chosen for experimental PBL instruction and control groups for traditional instruction, both groups were expose to receive these classes in order to evidence the effectiveness of PBL.

Regarding the results of the study, the effectiveness of PBL was clear evidenced since the experimental group (PBL instruction) was students’ interests, it means that the topic to develop the project was not selected in advance showed that students increased their vocabulary in second language. However, the control group (traditional instruction) was passive in terms of participation since the topics were chosen carefully, students were leading according to traditional instruction. For that reason, there were no progress related to vocabulary learning. The contribution of this study to the ongoing research is focused in PBL approach and take into account the vocabulary learning, the only difference is the topic because it is focus on real-life concern, the use of 3Rs.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

To conclude this part, all the previous studies showed that the use of PBL is an approach that connects the content with language no matter the topic, but it demonstrates that students could learn bringing real-life issues to the classroom which they become familiar to the world that they are going to face in the future. In addition, PBL develops skills that improve students' language as well as cooperative work, in the same way to be responsible of their learning.

3.2. Theoretical Framework

The constructs that support the development of this research are going to be presented in the following lines. First of all, acquisition of vocabulary in an EFL classroom is explored because one of the main goals in this research is to expand students' vocabulary through PBL, hence it is necessary to review some theoretical aspects concerning PBL. Then, the construct of 3Rs is introduced as the main topic taught for students to learn meaningful. The third construct is called Project-Based Learning approach (PBL) here all the relevant theory regarding this method to structure an EFL class is discussed. The theory collected in this construct explains the procedures followed to design and implement the lessons in this research.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

3.2.1. Acquisition of Vocabulary in an EFL Classroom

Since the main topic of the research is related to vocabulary about 3Rs, it is necessary to explain clearly the meaning of acquisition of vocabulary in an EFL classroom. “Vocabulary acquisition is an essential part of the communication of meaning.” Wilkins (1972 cited by Perez and Alvira, 2016) mentioned that, the more students are exposed to acquire new vocabulary the more they success in second language learning.

The acquisition of vocabulary needs to be meaningful so that, the students can remind and associate it in other contexts. According to Perez and Alvira (2016), it is necessary to create connections between words, it means using previous vocabulary and putting it together with the new one for students to store more words and use them in other situations. In connection with that, to promote the increase of vocabulary in order to reinforce them so that students do not forget, as Schmitt (2008 cited by Perez and Alvira, 2016) states “most forgetting occurs after the learning sessions” (p.105). In order to help students to remember the words, it was necessary to take into account the following two strategies.

3.2.1.1. Word Cards

Word cards were a useful strategy since students could identify the written form and associate it with other words that were similar to it. For that reason, four strategies to teach the vocabulary were taken into account according to Nation (2008, cited by Perez and Alvira, 2016): “(1) choosing word or phrases and write them down on cards in order to see how they can be used, (2) going through the cards to explain to learners how to use the cards, (3) checking the words repeatedly to provide frequent opportunities to have contact with them, and (4) moving students to use the strategy often.” (p.106).

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

3.2.1.2. Association with Pictures

The association of pictures was another strategy to strengthen students' vocabulary acquisition, as Thornbury (2004, cited by Perez and Alvira, 2016) affirms, "This allows visual learners to associate what they see or imagine, making the words more memorable for them." (p.106) When students identify the words through images they become motivated and learn meaningful since students like drawings, colors, images, and so on. This is why, students could remember those words easily.

Therefore, the intention of using word cards and association with pictures in the application of the research, support the vocabulary acquisition because in order to students understand the words it becomes more relevant when they are learning.

3.2.2. Project-Based learning (PBL)

The origin of this project-based learning approach started from the educational expert and theorist John Dewey (cited by Ulrich, 2016) who stated that there must be a connection between the world and academic subject matter in order to create a significant learning, students need to be prepared to face real issues. Nowadays, PBL has been applied in different academic areas in order to improve students learning, 21st century skills and increased students' motivation (p. 55). Taking into account that, PBL is an approach that increase students learning regarding the connection between knowledge and real issues. Regarding the development of the present study it intends that students through the application of PBL

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

learn foreign language having in mind their reality in a way that learning becomes relevant and important.

Project-Based learning is one of the most useful teaching approaches since it increases students' motivation in a specific academic area. Buck Institute for Education (BIE) (2016, cited by Rodriguez, 2016) is "a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks" (p. 7) it means PBL encourages students to learn through solving real issues about their context in such a way that students connect life and learning. Additionally, students improve their skills regarding to cooperative and communicative learning.

On the other hand, PBL has an Element that helps pupils to increase their responsibility regarding their learning. According to Thomas (2000, cited by Kalabzová, 2015) "challenging questions or problems, that involved students in design, problem-solving, decision making, or investigative activities; give the students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations." (p.1).

Another advantage of PBL in terms of EFL classroom application is that students learn better the second language by doing. It means that, when language is connecting with real life topics, language become meaningful. Since the present research was applied in fifth graders which main topic was the 3Rs, students created products made of different wastes and vocabulary that they used become meaningful while they were working on those products. In addition, according to Nasser (2015) "The nature of project based learning can

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

be seen as integrative” (p.13) As it was mentioned, PBL is an approach that link content and learning in the second language.

In the following figure presents the stages of the PBL that were taken into account in the implementation of the present study.

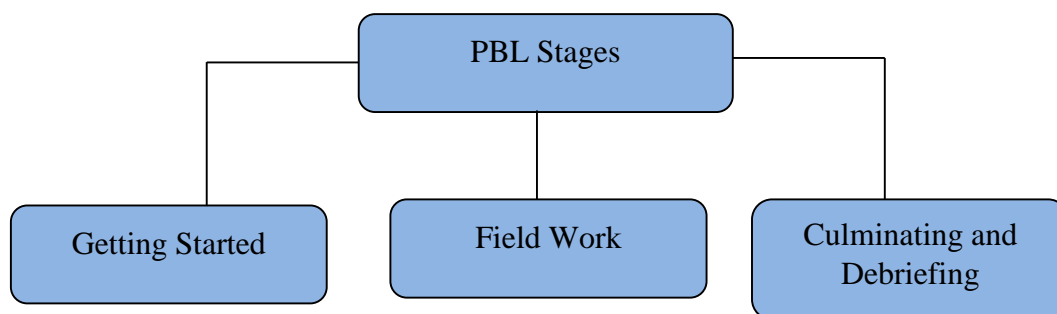


Figure 1. Stages of PBL, Katz and Chard (1989, cited by Pinzon, 2013)

According to Katz and Chard (1989, cited by Pinzon, 2013) there are three stages of PBL: The first is getting started, in this part the teacher asks some questions about a specific topic chosen by the teacher also students participate by giving their opinions about what they have learned or remember about that topic. In this stage, students are going to be led to identify a possible solution to those questions. The second stage field work, in this stage students make some connections about previous knowledge about a specific topic and new knowledge regarding to English language like vocabulary and how they are improving the language. The last stage is culminating and debriefing events (p. 159). Taking into account that students were exposed to use vocabulary in second language and the contend; the use of 3Rs. It was necessary to use PBL stages in order to students practice vocabulary and create

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

the practice of classifying wastes due to become an example to the others students. In addition, those stages prepare the students to give their solutions in order to implement a conscience of care the environment from their classroom. Kodrijah (n.d) “They prepare and present information through different artifacts and their own contributions” (p.338) as it was mentioned, students are going to present what they have been working on, it means their products are evidences that answer the question that was formulated at the beginning of each session implemented.

3.2.3. The 3Rs “Reduce, Reuse and Recycle”

To approach to the 3Rs, it is important to talk about environmental care because it is a concern that everybody have to take into account. Nature is only thing we have to survive in our planet, because our environment matters because if we do not start to be responsible of care it, the next generation will not have nothing. That is the reason why teachers are also part of this responsibility where we teach the students to care the environment takin into account that academic areas like English learning can be connected in order to students learn meaningful.

The paragraphs hereafter deal with a short explanation about one of the most important practices in order to care the environment; the 3Rs. Taking into account that 3Rs means Reduce, Reuse and Recycle. Those concepts were created to raise awareness, in order to protect the nature. For that reason, to teach students about the use of 3Rs in the classroom makes the students become responsible about their environment due to the fact that they become example for the adults in order to improve natures’ conditions.

3.2.3.1. Reduce

Reduce or reduction according to National Institute of Environmental Health Sciences [NIH] is “to make something smaller or use less, resulting in a smaller amount of waste” (p.1). One of the most common wastes produced is food, in order to reduce it there are other uses like feeding animals and creating compost to nourish a plant also reducing electricity like light, it helps to take care of the earth. Another example of reducing is avoiding buying things that you do not like to eat, for example, if you buy olives but you don't like them, you can give them to another person or create compost to sow a plant.

3.2.3.2. Reuse

It is to give another use to that material instead of throwing it away. This R means that not all the things we consume must be trash, there are other ways to employ it. According to Peck (2018) reuse is “to use items that have reusable qualities” (p. 2). Taking into account that, the materials that we can reuse are like plastic bottles, glass jars, plastic bags and so on.

3.2.3.3. Recycling

First of all, according to Norma Técnica Colombiana (2009) recycling is a mechanism where the waste is transformed in order to use it with a different purpose. These practices are

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

important for modern societies that produce vast amounts of waste and affect the environment in multiple ways.

Norma Técnica Colombiana (2009) depicts recycling practices as a complex process compound of different stages such as industrial conversion, waste separation, selective recollection, reuse, transformation and commercialization. Recycling is not just to classify things, it is to be conscious about what the materials that can be recycled are and which ones are not. That is the reason why in the present project students understand how they can recycle and use old paper, create a new one and use it to do handicrafts.

As to recycling practices in the educative context, some authors define recycling practices as an important activity for schools since students will acquire a sense of responsibility in the future when they become an active agent of the society. According to Bullman (2007) “School recycling programs offer the opportunity to reduce the solid waste stream, educate on proper waste reduction practices, and instill a sense of leadership and responsibility in young people.” (p.1) Besides, “Reducing waste, reusing materials and products, and recycling are some of the most powerful ways individuals, households, institutions and businesses can protect their communities and the environment.” (p.2). The aforementioned supports the importance of fostering the 3Rs to teach students how to reduce, reuse the material and recycle it, they are decreasing water contamination, trees deforestation and different environmental issues both inside and outside of the school.

When it comes to waste separation, there is a crucial aspect to understand. The trash bins are coded with colors, and each color has a purpose. According to Norma Técnica Colombiana (2009) the following chart presents the type of waste that each color is

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

intended for. The information provided in the chart below was employed to teach students the correct use of the bins, in that way, participants became aware of the colors and classify wastes.

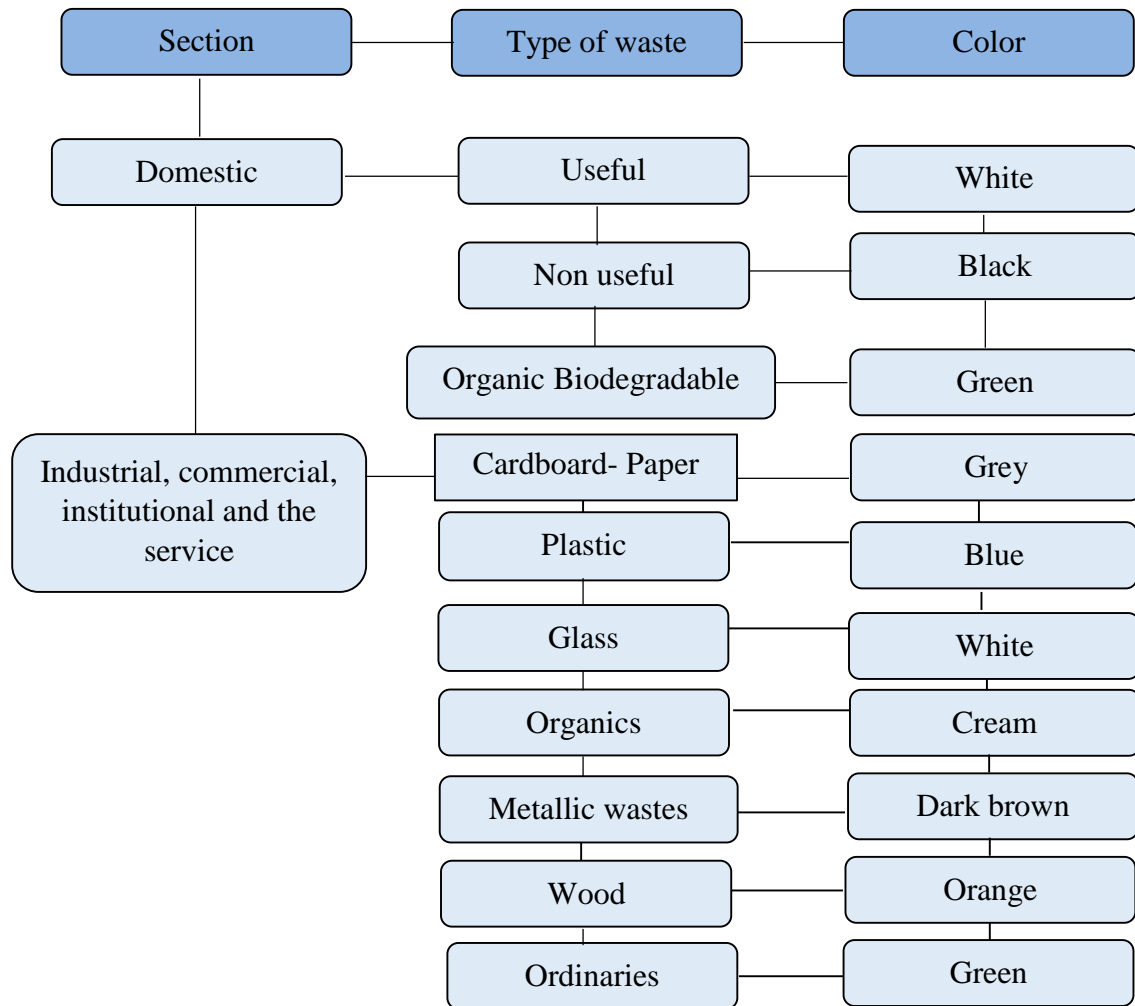


Figure 2. Colors codification, (ICONTEC Norma Técnica Colombiana 24, 2009) translation by the author

To conclude this section, the relationship between the previous studies and the theoretical framework that support the present study has a wide advantage since it guarantees the usefulness in the EFL classrooms and the connection with real life topics like environmental care.

4. Methodological Design

4.1.Type of Investigation

4.1.1. Qualitative Research

According to Creswell (2014), qualitative research “is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (p.4). In this research, the project was implemented to promote English vocabulary about 3Rs; students might improve both second language learning in terms of acquisition of vocabulary and the way they take the responsibility promoting the awareness of caring environment by using the 3Rs. Johnson and Christensen (2014) regarding qualitative research, they say that qualitative research is focused on describing the perception and views of a specific group of people that is being studied. In the same way, the research kept in mind the students’ perceptions about environmental issues in their school as a way to encourage them to learn both language and real world issues related to classification of the wastes and vocabulary reinforcement in second language learning.

Additionally, Johnson and Christensen (2014) believe that “qualitative researchers do not usually collect data in a numerical form. Rather, they conduct observations and in-depth observations, and the data are usually in the form of words” (p.37) That fits the approach of

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

the ongoing research which relies on a focus group interview, students' artifacts, field notes. these instruments evidence the process of the project in order to answer the research question. Taking into account that, the researcher will explain how many words about 3Rs the students have acquired. The application of the activities will prove students' improvement related to English vocabulary about 3Rs and knowledge regarding the classification of wastes in the classroom.

4.2. Method of Investigation

4.2.1. Action research

Action research is a procedure where teachers gather information about an educational setting where the importance is to improve teaching in students' learning (Ellis, 2011, cited by Creswell, 2012). The present project emerges from the main issues regarding the lack of vocabulary in second language and the use of the 3Rs. Therefore, PBL is used in order to improve English vocabulary about 3Rs by carrying out different lessons about this topic. To a make this connection between these topics from different academic areas, it was necessary to design different activities that pointed out to the main objective of the project. Valuable ideas for the creation of lessons and activities were provided by a handbook for teachers, the Environmental Protection Agency (EPA). This workbook focuses on environmental education.

Action research is focused on a specific problem identified in the classroom where the practitioners are doing their practicum (Lewin, 1946; Stringer, 1996, cited by Johnson and Christensen, 2014). In this sense, the problem was identified in the educational setting

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

(Tibabuyes Universal School) the researcher identified a need to promote a different way to teach English while doing her practicum. Based on the aforementioned, according to Ferrance (2000) “action research specifically refers to a disciplined inquiry done by a teacher with the intent that the research will inform and change his or her practices in the future” (p. 1). Using vocabulary about 3Rs in English along with PBL was a way to evidence that students acquired the language, it also got students interested in each English class because they enjoyed learning it by doing.

4.3. Stages of Investigation

In order to carry out the project, the following action research process was taken into account

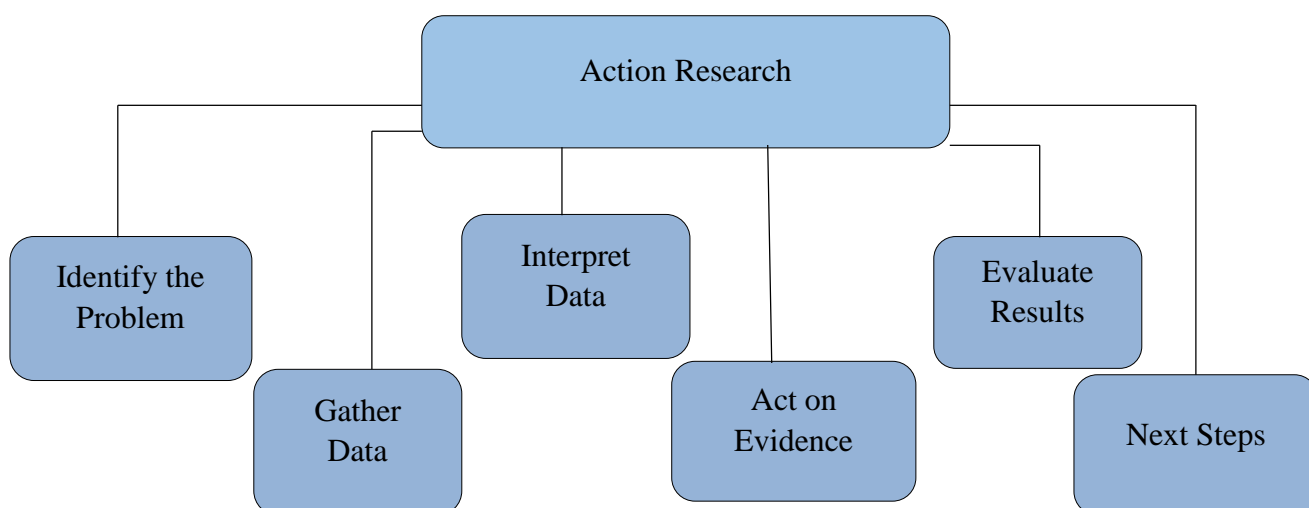


Figure 3. Action Research. (Ferrance, 2000)

In the first stage, it is necessary to identify the problem, in the case of the present project it was identified during the practicum. After having identified the problem, in the

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

second stage, three instruments were taken into account to gather data. In the next stage, the interpretation of data was focused on main aspects in order to answer the research question. In the stage of act on evidence, the researcher made the pertinent changes throughout the implementations based on data gathered and the literature review. After evaluating results stage, vocabulary improvement regarding 3Rs was assessed. The last stage, called “next steps” corresponds to the emerging questions related to the collection of data as well as the spotted advantages in order to improve English learning.

This research can also be considered as an action research since the present study is going to focus on a specific issue that needs to be improved in order to contribute both in language teaching and learning field. Rapoport (1970, cited by Baskerville, 1997) states that action research “aims at contributing both to the practical concerns of people in a mediated problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework” (p. 2). In this case, students connected real issues and language as a way to promote collaboration in order to learn together and they also became an example to other students to show them that language can be connected regardless the topic.

4.4 Population and Sample

4.4.1 Macro and Micro Context

Tibabuyes Universal School is a public school whose socioeconomic status is two, it is located in Tibabuyes district, Suba neighborhood eleventh town in Bogotá. The institution

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

is divided in three branches: the first one is branch A, which allocates grades from preschool to eleventh grade; the second is branch B, which space is smaller and has room for few students from primary to tenth grade; and branch C, which size is small too and there are some primary graders and some high school graders. Regarding the institutional educative project (PEI) the main approach is human constructivism by J.D Novak, which students learn by making connection between previous knowledge and the new one, consequently, it leads to the building of a new knowledge (p.46) since institutions' approach is focused on association, students learned vocabulary about 3Rs through images that led to relevant and meaningful connections.

Additionally, the rulebook (2017-2018) describes the institution with the following words:

“We are an educative institution that is committed in people’s training by the excellence principles to act in the investigation, the ludic and human communication, fostering ecologic and touristic principles to achieve the development of workplace skills and improve their quality of life and environment (p. 10)

Based on that, this institution has an aim of taking care of the environment but also, the responsibility to train students for real situations that they are going to face when they finish their high school. Teaching English vocabulary through Project-Based Learning could make a difference since the sessions were focused on 3Rs and students had the opportunity to experience English learning from a different and more vivid point of view.

4.4.2. Participants

Regarding the English level students are in basic level (A1) according to the Common European Framework of Reference (CEFR) this means they can understand the most

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

common phrases. Taking into account that, students from the present institution understand specific commands like (greetings, specific instructions at time of develop an exercise), this means that the teacher sometimes has to be clear giving the topic and the instructions.

4.4.3. Participants' Characteristics

The participants in the pedagogical intervention are twenty-four fifth graders between the age of nine and eleven years. The group is distributed in fifteen girls and nine boys and most of the students belong to the socioeconomic status two. In terms of the way those students learn many of them are visual learners. Therefore, students learn connecting image and words. In addition, they identify similar words to their mother tongue. In accordance with that, the researcher chose those participants in order to evidence how they improve English vocabulary from a different approach like PBL using the topic 3Rs.

4.4.4. Sampling

The participants were chosen by the method Simple Random Sampling. "Subjects in the population are sampled by a random process, using either a random number generator or a random number table, so that each person remaining in the population has the same probability of being selected for the sample." (Frerichs, 2008, p. 3-1), in this case it was necessary to number the students in order to protect their confidentiality.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

4.4.Data Collection Instruments

In order to carry out this research, the following instruments were applied: students' artifacts, focus group and field notes. In the following paragraphs the reader is going to find a brief explanation of each instrument.

4.5.1. Focus groups

This instrument fits perfectly the purpose of determining how many students improved after the implementations. Marczak and Sewell (1998) define this instrument as a group of people composed by 7 or 10 participants who get together to discuss a specific topic or issue and, the researcher is the person who manages the conversation in order to get information about that topic. Besides, the question of the project was focused on the students' improvement regarding vocabulary 3Rs through PBL. After applying the sessions, there were two moments of the focus group: 1. Students were part of a discussion about the knowledge of 3Rs, 2. The discussion was related to vocabulary acquisition about 3Rs. While the focus-groups were developed, it was evidenced students participated actively in the project showed their improvements in the acquisitions of vocabulary about 3Rs.

In addition, Nagle and Williams (2013) say that focus group is a group of interaction in which the participants are going to make connections with different topics while they are discussing about the main issue (p.2). Taking into account that, the researcher created a conversation group which student were encourage related to talk about the use of 3Rs where they demonstrated their improvements regarding vocabulary acquisition. Also, when the researcher, named as moderator (M), asked some questions using both English and Spanish, students made meaningful connections and got the answer in English.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

4.5.2. Students' Artifacts

The students' artifacts supported the present study since it is necessary to evidence if the students improve or not. Borko et al., (2007) said that students' artifacts are the evidence used by researchers to demonstrate a compilation of different activities done by the students during the development of the project. Bearing this in mind, fifth graders were led to develop different guides that showed the acquisition of vocabulary regarding 3Rs. In addition, students worked on creating products made of plastic, food and paper waste as an evidence of the development of the project and how those activities reinforced and promoted English language learning. Students' artifacts also helped to get evidence that students improved vocabulary related to 3Rs by comparing how many words students had before the application of the activities and the improvements after the test. Apart from this, it is very important to demonstrate through these artifacts the effectiveness of using English language in other subjects like science in order to allow students enjoying and learning in a different way, in addition, using PBL activities make students to understand the language better.

4.5.3. Field Notes

Field notes is "documenting needed contextual information" (Phillippi and Lauderdale, 2017, p,2) bearing this in mind, field notes were designed to describe in detail student's perceptions and behaviors. The detailed description shows students' development through the different activities. The straight connection with the question of this project is that field notes were the other evidence that showed in detail students vocabulary and knowledge.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

There are three kinds of field notes: methodological notes, descriptive notes, and analytic notes. Methodological notes have a description focused on the increment of learning from the fieldwork in order to reach the main purpose of the project. The second kind of field notes is descriptive notes, “it comes from two sources: watching and listening” (Bernard, 2006, p.397) so, descriptive notes are focused on main characteristics needed to be analyzed in order to describe key details like: the environment, context, participants, social status, English level, so on. Finally, Bernard (2006) believes that “the analytic notes are the product of a lot of time and effort” (p.398), it means these notes are related to previous articles, chapters and books in order to support the ongoing study.

Taking into account the kinds of field notes, the type of field notes that fit the present study is reflective notes the researcher focused on the evidence collected through pictures, description of students’ development and improvement in English vocabulary as well as the practice of the 3Rs in the classroom.

4.5.4. Ethics

Since the project was carried out with children, it was necessary and crucial to send a consent letter to their parents asking them if they would allow them to participate. Hence, regarding confidentiality, students’ names were not used; instead, numbers were used to analyze their information.

5. Instructional Design

In the following chapter, the reader will find an explanation of how the eight sessions were designed and implemented following the stages of PBL: Getting started, field work, culminating and debriefing events and evaluation phase in order to students achieve the aim of the project. After that, the reader will see the definition of the three visions which are: vision of learning, classroom and language of the research. Finally, the reader will find instructional design and the lesson plans applied.

The pedagogical intervention was designed in order to foster the acquisition of English vocabulary about 3Rs in the same way to raise awareness of taking care the environment from the classroom. The lessons plans were implemented in the first semester of the present year and each session was divided by topics like food, plastic and paper waste.

5.1. Description of the Sessions

The researcher designed every lesson plan according to topics (plastic, food and paper waste) and the use of PBL as the main approach to introduce the session. Before to describing each lesson plan, it was necessary to apply a diagnostic test to observe students' knowledge and vocabulary about 3Rs (Annex 10.1) After that, in the session two, it was implemented

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

the first lesson plan. here students acquired vocabulary about 3Rs related to food waste and develop a worksheet which they put into practice what they learned in the class. (Annex 10.6)

In the third session the second lesson plan was applied. Students practiced previous vocabulary and learned new ones through warm up activities and a worksheet that students answered. During the fourth session was applied the last lesson plan (paper waste) where the students practiced the whole vocabulary they have seen so far through a worksheet taking into account new words related to paper waste.

Regarding the next sessions, the focus group was related to knowledge and vocabulary about 3Rs (Annex 10.5), these sessions were applied as way to discover how many words students have learned and the knowledge that they have showed related to 3Rs through the use of PBL. The last part, the sessions were devoted to the application of test and students' presentation of their products made of wastes. (Annex 10.8)

Hereafter, there is the complete description of the sessions applied during the implementation of the project according to the planned activities.

# Session	Activity	Activity description	Materials
1 st session March 13 th , 2019	<ul style="list-style-type: none"> • Introduction of the project • Diagnostic test 	In the first place the project is going to be introduced in order to have students deciding if they are going to participate or not. Then, they are going to do a diagnostic, where it is going to be observed the knowledge and vocabulary about 3Rs. At the end of the session students are going to receive a permission letter that their parents must sign to approve their participation in the project	Diagnostic Test

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

<p>2nd session</p> <p>March 18th, 2019</p>	<p>Lesson plan #1</p> <p>What can we do with food waste?</p>	<p>The teacher is going to introduce the topic what it is going to focus both the content and language (vocabulary) as a product students are going to learn the nourish of a plant by planting a plant using compost which it is going to be reflect the use of the vocabulary about 3Rs through the process.</p>	<ul style="list-style-type: none"> • Soil • Food waste • Plant • Plastic pots • Rubber gloves
<p>3rd session</p> <p>March 19th, 2019</p>	<p>Lesson plan #2</p> <p>Have you ever wondered what happens with the plastic that you throw away?</p>	<p>In this session, students are going to participate sharing their ideas about what they can do with the plastic waste also to identify if they can reuse, reduce or recycle it. Also they are going to practice previous vocabulary and new one. At the end, they are going to create a product using plastic waste</p>	<ul style="list-style-type: none"> • Plastic bottle • An old sock • Some little rocks • Markets • Glue
<p>4th session</p> <p>March 20th, 2019</p>	<p>Lesson plan #3</p> <p>What do you do with paper waste?</p>	<p>At the beginning students are going to participate in a short activity where they remember previous vocabulary and learn new one. After that, they are going to share their ideas about the proposed question also to remember the 3Rs vocabulary. At the end of the session they are going to create a product using paper. For example, create paper using recycle paper, newspapers and old notebooks</p>	<ul style="list-style-type: none"> • Paper waste • Plastic container • A blender • 3 Strainers made of wood • Three pieces of cloths • Some hooks to hang the paper to let dry
<p>5th Session</p> <p>March 27th, 2019</p>	<p>Focus-group</p> <p>Knowledge about 3Rs</p>	<p>In this part students are going to participate in a short focus group interview where the questions are going to be focus on knowledge about 3Rs. It is important to highlight that they are going to have some</p>	<ul style="list-style-type: none"> • Voice recorder • A large place where the moderator can listen

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

		help regarding images that remind them some words	students' answers <ul style="list-style-type: none"> • Images about 3Rs
6 th Session April 1 st , 2019	Focus-group Students' acquisition vocabulary about 3Rs	In the second part of the focus-group students answers some questions regarding the vocabulary that they have seen so far in the project and how they have improved it	<ul style="list-style-type: none"> • Voice recorder • A large place where the moderator can listen students' answers • Images about 3Rs
7 th session April 3 rd , 2019	Application of the Test	Students are going to take the same diagnostic test that they took at the beginning of the project. This test is applied in order to get evidence of the students' improvement of the vocabulary about 3Rs as well as the knowledge about that	<ul style="list-style-type: none"> • Test paper
8 th session April 11 th , 2019	Final Result "Students' presentation about their products made of wastes"	Students are going to present their creative products through an exposition where they also perform the vocabulary that they learned to the other students	<ul style="list-style-type: none"> • Poster with the title • Green globes • Markets • Stand for the students' products

Table 1. Methodology of the pedagogical intervention (author's creation)

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

5.2. Vision of Learning

The vision of learning will be experiential because being aware of 3Rs is a real world concern and students will connect learning and world issues while they use language. Since the use of PBL is the approach to connect these academic subjects, it was necessary to create a project where students were involved actively and share their ideas about caring the environment better with their partners thought he use of language in order to increase the interest on learning. In this sense, Tudor (2001) believes that “these activities rest on the engagement of students’ human curiosity and desire to share ideas with others” (p.80). As it was mentioned before, students will be able to acquire English vocabulary about 3Rs through different activities, then to show their schoolmates that English is not about just language, it is to enjoy learning from a different view. In addition, Vygotsky (cited by Zambrano and Bernal, 2015) said that when children are interacting with others they are learning in a way that the teacher leads them to understand meaningfully (p.40).

5.3. Vision of Classroom

The vision of classroom is that the place where students are preparing to face the world through relevant activities that develop communicative and social skills. According to Tudor (2001), “the goal is making the classroom a meaningful preparation for ‘real-world’ communication.” (p.112) considering that, the classroom is the place where students connect their life with language. Besides, in the research, the classroom is the setting where students learn English in a different way because it is focused on real problems where students put into practice the 3Rs using the PBL approach.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

On the other hand, Shore (cited by Contreras and Chapetón, 2016) said that teachers must deal with students where the main purpose is that children learn taking into account that teacher is guiding the knowledge. As it was mentioned previously, the classroom must be the place where students learn and teachers have the responsibility to lead students in a way that they understand the world from their context.

5.4. Vision of language

The vision of language for this instructional design is language as self-expression as Tudor (2001) states that “language is the medium by which we build up personal relationships, express our emotions and aspirations, and explore our interests” (p.65). Many students are interested in the topic 3Rs because it is related to environmental care, so students could learn language through familiar topics like ecology. It means that language is not the only main objective of learning, it is also a meaning of self-expression.

Moreover, many teenager students have the belief that they have to learn English because of their future, better job opportunities and other false paradigms. Therefore, these might be the reasons that students do not enjoy learning a foreign language. Hence, students are going to connect real-life topics like the use of the 3Rs with second language in a way that they become aware about their context, it means the environment especially if it is close to them, the classroom environment.

6. Results

Before to explain in detail the results, the researcher will evidence the implementation of the eight sessions were designed and implemented following the fundamentals of PBL and the vocabulary about 3Rs.

In addition, there will be a description of the procedure that it was taken into account at the time of analyzing the information gathered. According to Khan (2014) grounded theory “is a method of discovery, treated categories as emergent from data, relied on direct and, often, narrow empiricism, and analyzed a basic social process.” (p. 227) Mentioned that, through the development of this project it was necessary to use three instruments to evidence the improvements of the students regarding English vocabulary about 3Rs, for those categories and subcategories.

6.1. Analysis of Results and Methods

The following section it is going to present the analysis of the information that was gathered according to those sessions. Then the reader is going to find a description of the development of the data and the method employed to analyze the results in this research. Furthermore, the categories that emerged from the implementations of each session will be explained.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

In order to present the information collected, it was necessary to take into account what Glaser and Strauss (1967, cited by Khan, 2014) say about grounded theory “The theory that was derived from data, systematically gathered and analyzed through the research process.” (p.226) as it was mentioned before, the information must be separated in order to make the connections with each category.

The following levels of coding were taken into account to develop the analysis of the data. According to Böhm (2014):

- **Open Coding:** Taking into account that the information needed to be separated in small pieces. According to Bohm (2014), “as a first step it is advisable to analyze single short textual passages (line by line). Subsequently larger paragraphs or even whole texts maybe coded. In order to avoid simple paraphrasing” (p. 271). Therefore, open coding helped to focus on specific participants’ answers in every instrument implemented in order to evidence what their improvements regarding vocabulary of the 3Rs were.
- **Axial Coding:** the present step makes connections with the categories but these are more detailed and specific instead of long phrases or paragraphs as it was explained in the previous step. (Bohm, 2014, p. 272) the subcategories created had to be linked to the main category to demonstrate validity in gathering information.
- **Selective Coding:** since the categories had a relationship, it arose a main category which had a direct connection with the research question too.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Category	Evidence		
1. Identification of specific vocabulary related to the 3Rs	Instrument 1/ Field notes	Instrument 2/ focus-group	Instrument 3/ Students' Artifacts
1.1 subcategory: Association of images and vocabulary about 3Rs	Session 3 (Reflective field notes) "Paper waste" The teacher put all the vocabulary seen so far on the board, it means the flashcards. In that way students identified the image and matched to the correct word...	Question 5: what wastes go in the blue bin? Answer: Ss: plastic, S5: lid, S2: bag. The students had to choose the blue bin and identify the wastes through images	Worksheet #3, 2nd activity S5 identified the images and the words since at the beginning of the class students were required to identify the images and the word
1.2 Subcategory: Listening Comprehension of words related to 3Rs	Session 3 (Reflective field notes) "paper waste" the warm up activity consisted that students identified previous vocabulary and learn the new one. So, the teacher asked to the students about the new words pointing out the images (paper, box, carton) since the students did not what is, the teacher said "it belongs to paper waste"...	2nd question: Moderator: What I need to create compost? S1, S2, S3, S7, S13: Egg shells, fruit peels, vegetable peels and food waste	Worksheet #3, 1st activity Students had to complete a crossword regarding the words that they have seen so far where they have to identify the vocabulary taking into account the descriptions of those words...
1.3 Subcategory: Interiorization of words	Session 1 (Reflective field-	Focus-group: Vocabulary	Diagnostic: 2nd activity. Students

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

acquired regarding the topic 3Rs	notes) it was observed that students had lack of vocabulary in terms of the words presented in the diagnostic also they had to ask for some help to remember what is the meaning of the words	the moderator showed some images where one of this were plastic bottle and S7-S10 : Plastic bol and the Moderator: reply the question about what is that image and the students S8, S9, S11 and S12 said: compost! until a S1 said: Plastic bottle	had to draw a picture next to the words that they recognized, many of them recognized around 3-7 words taking into account that those words are similar to Spanish...
2. Project-based learning a facilitator of specific content-based vocabulary	Instrument 1/ Field notes	Instrument 2/ focus-group	Instrument 3/ Students' Artifacts
2.1 Subcategory: Meaningful Learning	Session 2 (Reflective field-notes) at the beginning students review the vocabulary seen in last session in order to recall the words. After that, it was necessary to do an activity which students identify the 3Rs and the wastes that must be thrown in every bin according to the color to remember the main concept	¿Se acuerdan del significado de las 3Rs? S9 : Reuse S1 : Resi... Moderator: Ok... 1st? S2 : Reduce, Reuse S1 : y Recicle Moderator: just the only one you missed, the pronunciation. La última palabra fue que se equivocaron en la pronunciación es "Recycle" Ss : Recycle!	Worksheet #2, 2nd Activity: students had to draw three wastes that they can Reuse and Reuse (Recycle was used in the 3rd worksheet "paper waste")

Table 2. Evidence of the arisen of the categories and subcategories

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

6.2. Interpretation of Results

Since the main objective was to foster content-based English vocabulary about the 3Rs through PBL, the following categories and subcategories that were identified during the implementation of the lessons were established.

Research Question	Categories	Subcategories	Core category
To what extent can the application of PBL in an EFL classroom foster content-based English vocabulary acquisition in fifth graders of a public school?	Identification of specific vocabulary related to the 3Rs	1.1 Association of images and vocabulary about 3Rs. 1.2 Listening Comprehension of words related to 3Rs 1.3 Interiorization of words acquired regarding the topic 3Rs	Increase of English vocabulary about 3Rs through PBL (project-based learning)
	Project-based learning a facilitator of specific content vocabulary	2.1 Meaningful Learning	

Table 3. Categories and Subcategories established of the Present Research

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Considering the analysis of the instruments (Students' Artifacts, Focus-group and Reflective Field-notes) two categories arose, in order to present the improvements in terms of vocabulary acquisition and knowledge about 3Rs.

The first category named "Identification of specific vocabulary related to the 3Rs" was created to evidence the improvements that students had during the implementation of the project in terms of English vocabulary acquisition. So, three subcategories arose; those ones were identified in the analysis in detail of each piece of information: (1) association image and vocabulary about 3Rs, (2) listening Comprehension of words about 3Rs, and (3) number of words acquired regarding the topic 3Rs.

The second category called project-based learning as an approach to connect Content and Language, this one emerged from the evidences of implemented PBL as a way to present vocabulary of 3Rs. There was one category arose, named "Meaningful Learning Content and Language" this one evidenced the straight connection between language and knowledge.

6.2.1. Category 1: Identification of Specific Content-based English Vocabulary related to the 3Rs

This category is established by the analysis of the three instruments: focus groups, reflective field notes and students' artifacts applied during the implementation of the project.

The first category was focused on the students' acquisition of vocabulary through different exercises used in each implementation. To support this part, the researcher chose the following parts from the reflective field-notes and focus group:

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

“Students remembered some concepts regarding 3Rs in Spanish because most of them were taught in the ecology subject, but at the same time it was difficult for them to identify the same concepts in English because they believed that English is related to grammar, vocabulary about school supplies, body parts, rules, and so on. Therefore, for them the diagnostic test was a little difficult to understand in English since the topic was 3Rs vocabulary. For that reason, many of them asked for help in order to know the meaning of those words” (Reflective Field-notes, session 1 application of the diagnostic test).

“Q: What I need to create compost? Answers: S1. Fruit peels! S2. Vegetable peels! S5. Egg shells and S9. food waste! (S1, S2, S5 and S9, taken from focus group-vocabulary)

6.2.1.1. Subcategory Association of images and vocabulary about the 3Rs

One of the ways to acquire vocabulary is the connection between images and words, “this allows visual learners to associate what they see or imagine, to make the words more memorable for them, and to retrieved the words easily from their long-term memory into a working memory” (Thornbury, 2004, cited by Pérez and Alvira, 2016, p. 106). In the present research, students evidenced through different worksheets the improvement of English vocabulary related to 3Rs since they had to develop activities that all of the time remind the words and associate it.

The improvement regarding vocabulary was evidenced since students were exposed to acquire vocabulary from the first topic “Food waste” to the last topic “Paper waste” where

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

those words were reminded through warm up activities, worksheets and even, recordings where students use the vocabulary about the 3Rs.

In the following part, the researcher shows specific excerpts that demonstrate evidence about students' acquisition of vocabulary related to the 3Rs through the three instruments applied:

Reflective field-notes

“The teacher put all the vocabulary seen so far on the board, in the way of flashcards. In that way students identified the word and matched it with correct image. Teacher said: Tell me what are the vegetable peels? Answer S7: the student picked the correct flashcard and matched it with the correct image” (Session 3 "paper waste")

Focus group – vocabulary about 3Rs

“Question 5: what wastes can go in the blue bin? Answers: Ss. plastic, S5. Lid and S2. bag.” The students had to choose the blue bin and identify the wastes through images

Students' Artifacts

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

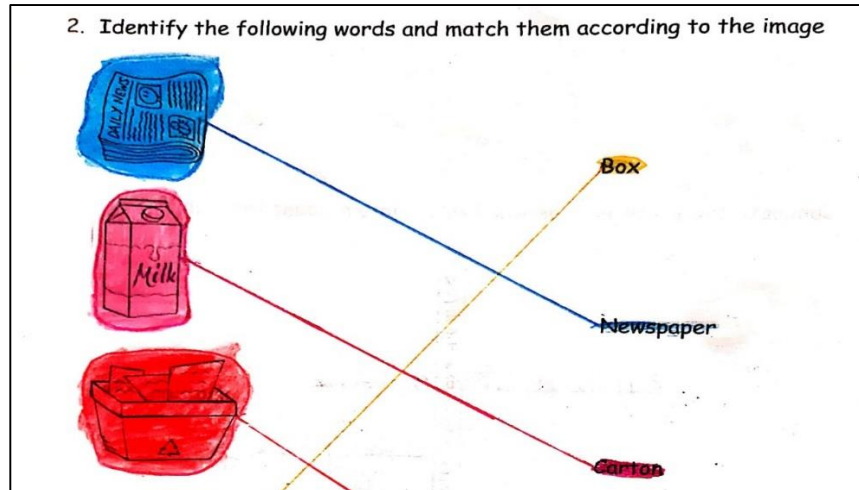


Image 1. (Students' Artifacts, Worksheet #3, 2nd activity, S5)

This activity represents the vocabulary practiced regarding the topic “Paper Waste” and how those words were representative in order to identify the words. The student (S5) identified the words presented at the beginning of the lesson since the student had an approach to the vocabulary she did not have to ask for the meaning of the words or even look to the board. When those vocabularies are presented with pictures, students remember easy and fast.

The excerpts show how the participants improved due to the practiced vocabulary related to the 3Rs through different activities, despite of some pronunciation errors like the words “recycle, egg, shells and bag”. Taking into account that the vocabulary was presented in a different way like identifying pictures and words, it could be said that students were motivated because the more they got immersed in the acquisition of foreign language, the more they learn. There was an aspect that was identified, the students of fifth grade like images even when they had to just color the pictures or participate in the classroom

Example 2.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Reflective field-notes

“Something curious of this session was when students were exposed to the new words. Some of the students recognized them easily. Also, students were able to identify words like: plastic bottle and reuse since those words were similar to Spanish. For example, you are going to look for the word plastic bottle and stick it to the correct image. Answer S3: chose the correct word and matched with the picture drawn in the big poster”

Session 2, plastic Waste”

Focus group – vocabulary about 3Rs

“Moderator: Super, I’m going to show you the word and you are going to identify the image, ok. Answer: S1-S10. Egg shells and S12. ich shill! M: what’s the name...? Answer: Ss. Egg shells!!!

Students’ Artifacts

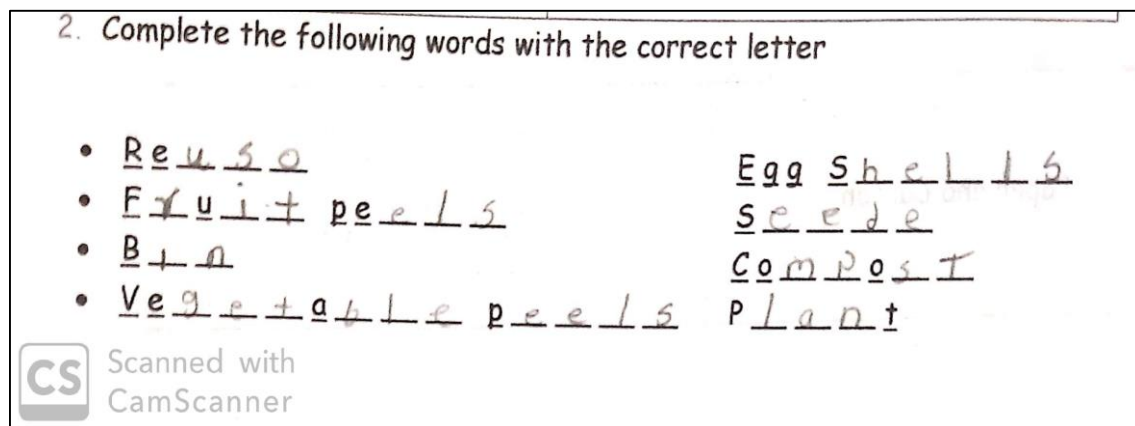


Image 2. (Students’ Artifacts, worksheet #1, 2nd Activity, S10)

In correlation with the first evidence from the subcategory association of images and vocabulary about the 3Rs. It proves that students connected the words and the images despite

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

of the ones that are similar to Spanish. Taking into account that in the excerpt of the students' artifacts it was necessary to leave the images and the names on the board in order to students identify the words and completed them in the activity which it helped the students in the focus group to remember the words in order to identify the images.

6.2.1.2. Subcategory Listening Comprehension of words about 3Rs

It is important to highlight that students' vocabulary acquisition is not only related to translating the words or make associations between words and images. It is to make students to become aware about meaning in order to reach the word, it means that, sometimes it was not necessary to tell them the meaning in Spanish to lead them to the vocabulary. "Listening comprehension as an interactive process in which listeners are involved in constructing meaning" (Rost, 2002; Hamouda, 2013, cited by Pourhosein and Banou, 2016, p.16-71) while students understand the vocabulary they are also building depth definitions.

Reflective field-notes

"In the warm-up activity students identified previous vocabulary and learned the new one. So, the teacher asked to the students about the new words like (paper, box, carton) saying aloud short concepts. Since the students did not what is, the teacher said "it belongs to paper waste" and the S1: carton! the student answer in Spanish since it was the 1st time the topic was introduce (Session 3 "paper waste")."

Focus group – vocabulary about 3Rs

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

“2nd question: What are the wastes made of paper? Moderator: ¿qué me entendiste?

Asnwer: S1. Papel y deseacho de papel M: ¿cómo se llama en inglés? Answer: S1.

Paper waste”

Students’ Artifacts

1. Complete the following crossword taking into account the clues.

Down

1. With that organic material, you use it to drink water
2. You need it to nourish the plant
4. You use it to make the plant grow
7. You use it to close your bottle
8. It is the rigid external part that covers eggs

Across

3. It could contain water or other different types of liquids
5. Old newspapers and papers make part of this category
6. You use it to throw away some litter
9. Your mother use it to carry some food products

Image 2. (Students’ Artifacts, Worksheet #3, 1st Activity, S2)

Taking into account that the subcategory was related to listening comprehension of words about 3Rs the students evidenced their improvement through the application of the instruments despite of the limit regarding the implementation of the sessions. For instance, in the part of the field notes I could identify that students reach to the answer when I started

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

to teach them new vocabulary about plastic waste, so I tell them easy and brief concepts related to that word, it is important to say that the concepts that I applied were used with words that students previously learn in the last sessions. For that reason, many of the participants comprehend the vocabulary. In the other instrument (focus-group) I applied the same strategy but through questions, for example, what are the wastes that go in the blue bin? In this way students answered in English. Regarding the students' artifacts students had to just listen and according to what they listened students had to complete the crossword. However, in the same clue phrases students struggle with unknown vocabulary, so this activity had to be led by the teacher-researcher

Example 2.

Reflective field-notes

“Many of the participants identified the words easily, not just the ones which were similar to Spanish also the difficult ones in terms of pronunciation. Example: warm up activity. Look for the word “Straw” (in this part it was necessary to give him some help like use easy concepts in order to the student identified the word) Answer: S5 identified the word and matched with the correct image.” (Session 3 “Paper waste”).

focus group – vocabulary about 3Rs

“What I need to nourish a plant? Answers: S1. Seeds, S2. fruit peels, S3. compost, S10, S11 and S1. food waste...”

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Students' Artifacts

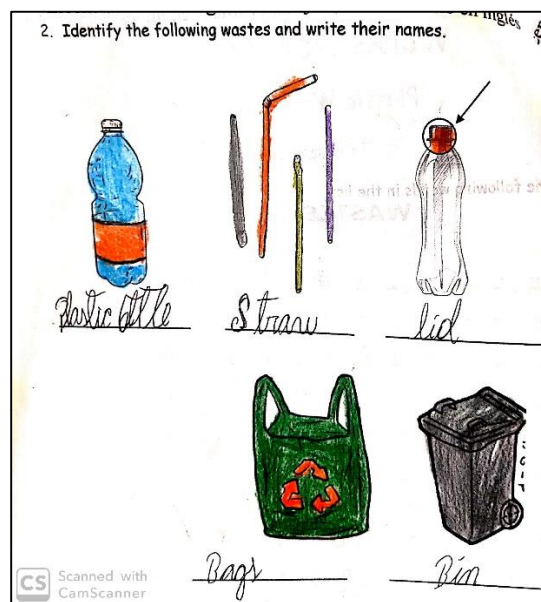


Image 3. (*Students' Artifacts, Worksheet #2, 2st activity, S2*)

Having in mind both evidences, students understood many of the words presented in each session even the vocabulary that it was not similar to Spanish. In the first evidence students just listen carefully to the concepts with some help from me and they identified the word while the other evidence students had to identify alone the words, it means as soon as I told them the word they had to choose the correct image. In the part of the focus group, I used questions in order to observe how many words the students have been acquiring during each session. So it was evidenced that when they understand words similar to Spanish or they have some aids like images they understand and produce the answer in English. Regarding the students' artifacts students had to just listen the words and write them according to the image, it is important to say that students got some help regarding the writing part that was

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

the reason I left the words on the board in order to students connect and understand word and image.

6.2.1.3. Subcategory Interiorization of words acquired regarding the topic 3Rs

Regarding the number of words that students acquired, it is important to recognize that students learned more words. At the beginning, a diagnostic test was applied in order to identify students' current vocabulary. Through the comparison of the number of words, that students knew before the implementation and the new ones that students learned through the sessions, it was determined that there was an improvement. In the following part, the instruments used showed how students improved vocabulary in terms of the amount of words.

Reflective field-notes

“It was observed that students had lack of vocabulary in terms of the words presented in the diagnostic. Also they had to ask for some help to remember what the meaning of the words are” (Session 1)

Focus group – Vocabulary about 3Rs

The following table explains the number of words that students identified in the diagnostic test made before the implementation of the lessons and the vocabulary acquired after the sessions. The design of the table evidences improvement of students' vocabulary.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Before - Diagnostic test		After - Session about 3Rs vocabulary	
S1	6 words	S1	11 words
S2	10 words	S2	10 words
S4	7 words	S4	10 words
S5	5 words	S5	11 words
S6	3 words	S6	10 words

Table 4. Table of the amount of words acquired before and after using PBL by the participants

Students' Artifacts

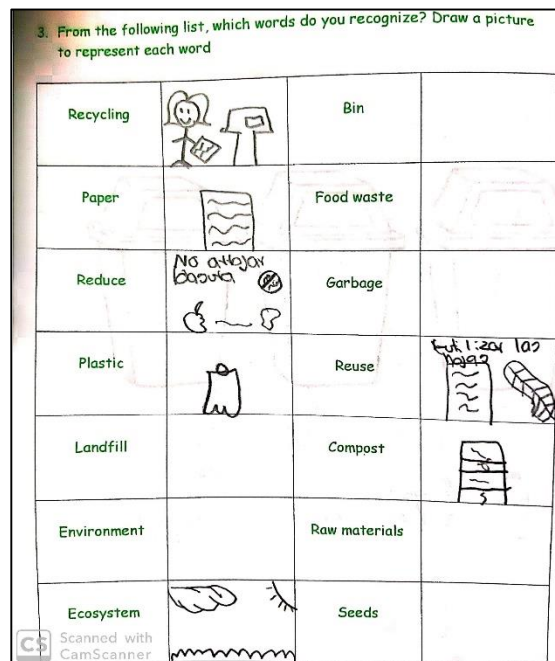


Image 3. (Students' Artifacts, Diagnostic, Activity #2, S4)

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

The purpose of this chart is to demonstrate that students improved the acquisition of vocabulary related to 3Rs through the application of PBL approach before and after the implementation of the lessons. The example above taken from the S4 showed the words that the student identified in the diagnostic, they were seven and they were similar to spanish. Based on the previous excerpts there were few students that improved vocabulary since there were absent students during the lessons implemented. However, the absent students could remember some words that we learned.

6.2.2. Category Project-based learning as an approach to connect Content and Language

This category was identified from the analysis of the information collected through the instruments in which the connection between language and content was evidenced.

Below some images of students' artifacts are presented in order to demonstrate the effectiveness of applying PBL in a foreign language learning.



FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM



Image 5. Final products made by the students during the implementation of the project

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Therefore, PBL was the bridge to implement creative products as a final presentation of the project, in this part, students showed their creations made of food, plastic and paper waste. Which they presented their products using some the vocabulary that they learned to the other students from another grade.

6.2.2.1. Subcategory Meaningful Learning Content and Language

Kodriyah (n.d) says that “PBL moves students from passive learning into active learning and is able to improve knowledge retention and the learners’ ability to apply prior knowledge in creating their final products.” (p.337) While students incremented their vocabulary they were also acquiring and improving knowledge of the content like the 3Rs.

In the present subcategory the researcher is going to present the excerpts from each instrument in order to evidence the connection of content and language using PBL.

Reflective Field-notes

“Before students learn new vocabulary, students learned remembering the use of the 3Rs and the wastes that must be thrown in every bin according to the color. The use of resources like pictures helped to the students to remember which wastes were in the correct bin” (session 2, Plastic Waste)

focus group – Students’ knowledge about 3Rs

“Q: ¿Se acuerdan del significado de las 3Rs? Answer: S1 Reuse, Resi...

Moderator: Ok... 1st? Answer: S1, S2 and S9. Reduce, Reuse y Recicle.

Moderator: ¡La última palabra se equivocaron en la pronunciación es “Recycle”

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

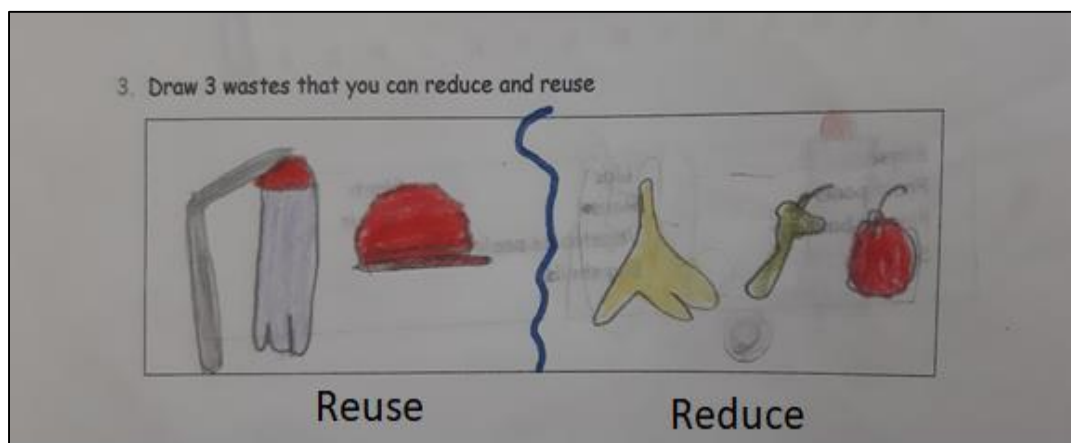
Students' Artifacts

Image 4. (Worksheet #2, Activity 3rd, S4)

The previous excerpt evidenced that students learned language and content. In this case, the main exercise was related to draw three kinds of wastes for the two Rs “Reduce and Reuse.” Recycle was not used because that R was used in the last session “paper waste”. Therefore, this part of the activity helped students to remember previous vocabulary as well as knowledge regarding 3Rs.

Other instruments students were learning in all of the sessions about 3Rs and demonstrated that they improved and enjoy knowing more about ecology without leaving aside the second language.

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Example 2.

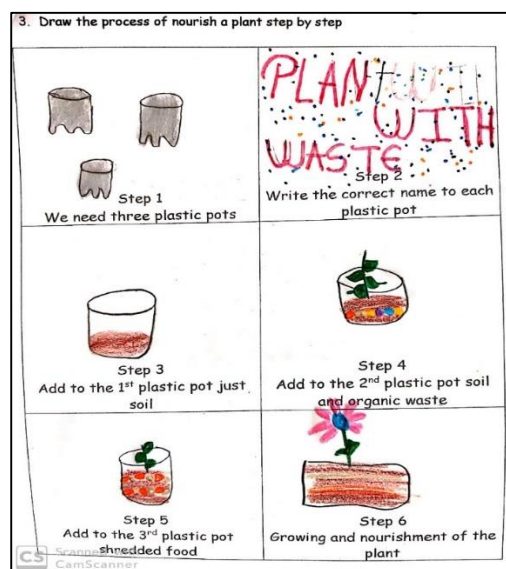
Reflective field-notes,

“At the beginning of the session it was necessary to remember the bins and the colors of each one but we only focus on the blue bin since the main topic was (Plastic waste). So, there was a big poster with different images and the bins on the other side of the picture, then students circled the wastes that went in the blue bin” (Session 2, Plastic Waste)

focus group – Students’ knowledge about 3Rs

“Question: Could you please help me to identify the wastes (Se acuerdan que era wastes, verdad?) Answer: S1. Desechos, residuos. That goes in the blue bin? M: sh... ella me los va a identificar. M: ¿te acuerdas? ¿cuáles son los que van en la caneca azul? Answer: Ss. Los Plastic, plastic wastes!

Students’ Artifacts



FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

Image 5. (Students' Artifacts, Worksheet #1, Activity 3, S5)

Having in mind the previous excerpt, it was observed that students while students were working on vocabulary they were also learning about an important topic like 3Rs where they connect two academic areas ecology and English language. In addition, when the students were working on their products like nourish a plant with food waste, creating a poppet for your pet with plastic waste and making paper made of recycling paper, students were exposed to learn meaningful.

Taking into account the research question, to what extent can the application of PBL in an EFL classroom foster content-based English vocabulary acquisition, the researcher evidenced that students improved their vocabulary acquisition related to the 3Rs. According to Katz and Chard (1989, cited by Kodriyah, n.d), the stages of PBL helped the students to develop the project but at the same time learning meaningful the second language creating final products that show they have learned. Through the application of the study, students became engaged in each activity since they were not only doing exercises to practice vocabulary also they were learning by designing their creative products.

The present chapter described in detail, the data collected and presented the different evidence on students' improvement regarding vocabulary and knowledge about 3Rs. In the following chapter, the conclusions as a whole regarding the question and the objectives planned at the beginning of the action research are presented.

7. Conclusions

The aim of the present study was to determine the application of project-based learning approach (PBL) in order to increase content-based English vocabulary acquisition and knowledge related to the 3Rs. The use of PBL was the main approach to connect content and vocabulary. Therefore, these are the main conclusions identified taken from the results of the data analysis.

- Students improved vocabulary acquisition in foreign language being immerse in PBL classes
- The participants dominated the 3Rs topic and felt confident to use a second language in order to express their opinions with the other students.
- Students were encouraged to work cooperatively where it was evidenced that all of the students helped each other, in both vocabulary acquisition and knowledge related to the use of 3Rs.
- Regarding the use of PBL approach in EFL classroom, the connection between vocabulary and bringing real life issues to the students' context made the students become concern of the reality that they face regarding wastes inside and outside of the school.
- They learned meaningfully because they were able to use vocabulary learned

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN EFL CLASSROOM

to express new ideas about the content they learned during the lessons. For example, when they presented products that they created from each kind of waste.

- PBL is a better approach for students learn a second language because when they are creating something no matter the academic area, the knowledge that they are acquiring become relevant, important and interesting.
- PBL classes are related to connect content and subject area that could be another way that students become motivate to improve the learning in foreign language.

7.1. Suggestions

Project-based learning needs to be explored in depth since it has different aspects that help the students in the improvement of English learning also teaching. In addition, PBL is one of the approaches that is focus on real life issues where the students become aware about what is happening around their context.

8. Further Research

Regarding present research, there were some aspects identified during the implementation of the study that are worthy exploring. One of these was: the application of the English skills through project-based learning, since the present project evidenced the improvement that students had regarding acquisition of vocabulary but, when the students wanted to say their point of view about the topic “3Rs” it was difficult because it was necessary to use grammar

It is important to highlight that, the use of PBL in English language can be connected to other academic areas like mathematics, social studies taking into account English as the basis of building knowledge.

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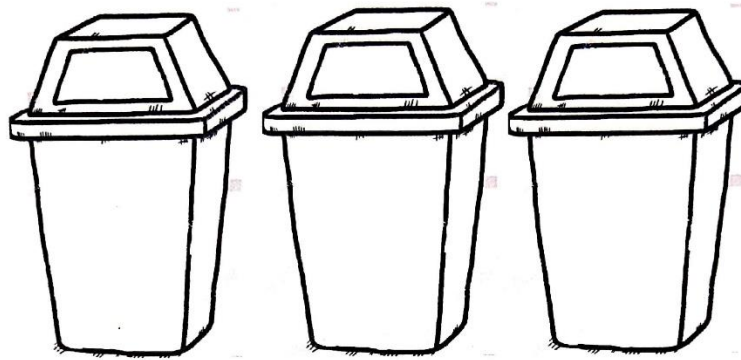
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10 Annexes

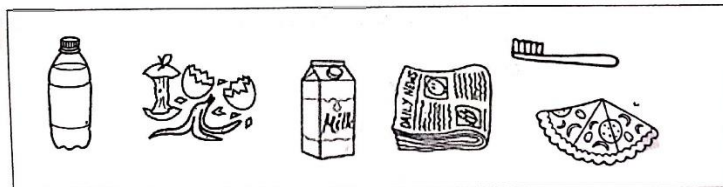
Annex A: Diagnostic Test Sample

Diagnostic Test

1. What are the main colors to classify wastes? Color each bin to them.



• What of the following wastes would you put inside each bin?



2. What do you usually do with the wastes in your classroom?

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

Annex B: School's Permission

School's Permission

Bogotá D.C, febrero 21 de 2019

Directivos

Colegio Tibabuyes Universal - Sede B

FORMATO DE AUTORIZACIÓN

Respetados Directivos

Mi nombre es María Luisa Fernanda Téllez Urrea, estudiante del programa de Licenciatura en lengua Extranjera de la Corporación Universitaria Minuto de Dios. En este momento me encuentro desarrollando mi monografía de grado cuyo objetivo es el de promover el cuidado ambiental y fortalecer el aprendizaje del inglés en el aula de clase, se pretende desarrollar el siguiente proyecto de investigación: “Promoción de la adquisición de vocabulario a través de la práctica de las 3R: Reducir, Reciclar y Reutilizar bajo la metodología de enseñanza basada en proyectos” a través de este se pretende que los estudiantes aprendan vocabulario en inglés y, además, que mejoren las condiciones del medio ambiente inmediato que los rodea (su aula de clase).

La implementación de este proyecto se llevará a cabo en ocho sesiones, cada una de las cuales se aplicará semanalmente. A partir de la implementación se hará recolección de información de los participantes la cual se manejará de manera confidencial, protegiendo la identidad de los niños según las regulaciones internas del colegio y las legales en torno a la protección de los menores.

Cualquier información adicional que se requiera, estoy en la disposición de brindarla tan pronto como sea solicitada.

Para finalizar, agradezco muy amablemente la firma de este consentimiento

Marivel Reina
Asesora de monografía
Uniminuto

Orlando Brijaldo
Rector
Colegio Tibabuyes Universal

María Luisa Fernanda Téllez
Investigadora
Uniminuto

Hugo
Coordinador
Colegio Tibabuyes Universal- Tarde

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

Annex C: Parents' Consent Letter

Solicitud de Permiso Enviado a los Padres

Bogotá, 13 de marzo, 2019

Colegio Universal Tibabuyes

Un cordial saludo a los padres de familia

Mi nombre es Maria Luisa Fernanda Téllez Urrea, estudiante del programa Licenciatura en Lenguas Extranjeras con Énfasis en Inglés de la Corporación Universitaria Minuto de Dios.

Por medio del presente permiso, le solicito amablemente su autorización para que su hijo/a participe en un proyecto de investigación, denominado promoción del vocabulario en ingles acerca de la práctica de las 3R's (Reducir, Reutilizar y Reciclar) cuyo propósito es que los estudiantes den buen uso de los residuos que se generan cada día en su aula de clase. Además, adquieran vocabulario en ingles el cual mejorará el aprendizaje de dicha lengua. La participación en este proyecto requiere que su hijo/a, durante la clase de inglés desarrolle algunas actividades académicas que permitan alcanzar el objetivo principal del proyecto.

Es importante resaltar que la información obtenida será confidencial y se utilizará únicamente con un objetivo investigativo, de esta manera, las entrevistas y actividades realizadas en clase en las que participe su hijo/a se tratarán de manera confidencial.

La participación de este proyecto es totalmente voluntaria. Si su hijo/a decide retirarse del proyecto en cual cualquier momento, esto no acarreará ninguna consecuencia académica. Dicho lo anterior solicito muy cortésmente completar el formato que se encuentra en la parte de abajo por favor devolverlo con su hijo/a.

Si tiene alguna duda, acerca del proyecto puede escribirme al correo mtellezurrea@gmail.com o comunicarse al número 3152969455, de manera cordial atenderé cualquier duda que surja.

Cordialmente

Maria Luisa Fernanda Tellez Urrea: _____

AUTORIZACIÓN

He leído el procedimiento descrito arriba. Voluntariamente doy mi autorización para que mi hijo/a _____, participe en el estudio de la investigadora María Luisa Fernanda Téllez Urrea acerca de promover vocabulario en ingles acerca de las 3R's (Reducir, Reutilizar y Reciclar) a través del enfoque aprendizaje basado en proyectos con los estudiantes del curso 504. He recibido copia de este procedimiento.

Padre o Madre de Familia

Fecha

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

Annex D: Reflective Field- Notes (Sample)

Field-Notes

Session 1: Food waste

Length of the activity: 1 hour	Date: March 18 th 2019
Students (participants) 504	Reflective field notes
<p>S1: The student had to identify what are the wastes throw away in the big picture and which ones go in the blue bin. At the beginning it was difficult for him to identify what are the wastes that go in that bin so his classmates helped him.</p> <p>S2: This student had to do the same exercise but she had to circle the ones that went to the green bin. At the beginning she did it good but at the same time she was insecure, so another student helped her to identify more wastes.</p> <p>S3: The student made the same exercise but this time chose the ones that are in the grey bin, since the picture was clear with the images. The student could identify the paper wastes easily.</p>	<p>Before to describe this session, it was necessary to divide it in two parts where the first part was related to vocabulary. This part the students identified the vocabulary related to wastes and bins' colors, then it was focused on food wastes which was the main topic of the session. In this part I showed to the students the word and the image in order to they understand the meaning.</p> <p>After that, students work in a guide in order to practice that vocabulary while the students were working on that, it was necessary to left the pictures on the board in order to they could identify the spelling of each word. In addition, students were leading in each part of the guide since it was in English students needed some help to develop each activity. Despite of leaving the flashcards on the board some students could identified the word without looking at the board.</p> <p>On the other hand, in the second part of the session students worked in the productive part. However, it was important to remind the previous vocabulary in order to students apply the vocabulary to the activity that they were going to do. For this part students had to use plastic bottles, food wastes "fruit peels, vegetable peels and egg shells" and soil. They prepared the soil and the food waste as well as the plastic bottle, in order to create the pot to start to nourish the plant. While the students were doing the process students remembered the vocabulary. It is important to mentioned that it was necessary to ask them about the words that they have seen so far. However, I had to use Spanish to remind them the meaning using descriptions.</p>

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Annex E: Focus Group (Vocabulary and Knowledge)

Vocabulary related to 3Rs

- A continuación, yo les mostrare unas imágenes del vocabulario que hemos visto y me van a decir cómo se llaman en inglés



Fruit peels	Paper	Carton	Plastic bag
7	10	10	3
Bin	Seeds	Plant	Vegetable peels
12	5	9	12
Egg shells	Box	Lid	Straw
10	11	10	11
Plastic bottle	Water		
1	1		

- Ahora les describiré el significado de cada palabra y ustedes me dirán cuál es el nombre de ese residuo.

Description	# people that say the word
What I need to create compost	5
What I need to create paper	4
You use it to carry products	1
¿De qué están hechas las cajas de jugo?	1
¿Con que tapamos las botellas?	10

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¿Con que tomamos el jugo de caja?	1
¿Recuerdan el significado de las 3Rs?	2
What is the name of the wastes made of plastic?	4
¿Cuáles son los residuos de plastic waste?	3
What is the name of the wastes made of food?	1
What is the name of the waste made of paper?	1
You can do plastic pots to create a plant	4
What I need to create compost?	3

Transcriptions (Focus group – Session #6)		
Student S(N°)	Moderator (M)	Students (Ss)
S1-S12	Researcher Moderator (M)	All the Students

M: ¡Buenas tardes chicos!

Ss: ¡Buenas tardes!

M: Bueno, en este momento les haré algunas preguntas acerca del vocabulario de las 3Rs. ¡Se acuerdan! La semana pasada nos enfocamos en el tema de las 3Rs, para esta sesión será vocabulario en inglés. Listo, yo les voy a mostrar las imágenes y ustedes me van a decir cómo se llaman. ¡Listos!

M: The moderator showed the picture

S1- S10: Lid!

M: That's right

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EFL CLASSROOM

M: The moderator showed the picture

S1- S11: Straw!

M: Now I'm going to show you the word and you identify the image, ok

S1-S10: Egg shells!

S12: ich shill!

M: What's the name...?

Ss: Egg shells!

M: Maybe you will recognize this one!

Ss: Vegetable peels

M: Next!

S1-S9: Plant!

M: Right guys, perfect!

M: This one...

S1: Seds!

S2-S6: Seeds!

M: Perfect! This one

Ss: Bin!

M: This one

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EFL CLASSROOM

S6: Box, box

S3, S4, S6, S7, S8, S9: Plastic!

S1, S2, S5: Plastic bag!

M: That's right! Just three people did it

M: This one

S1-S11: Carton!

S12: Cartón! (In Spanish)

M: But do you remember the other way to call this?

S4, S5, S12: Box, box, box!

M: Ok!

S1-S9: Cartón!

S2: Que plastic ball... carton!

S12: Me confundí pinche!

M: Don't worry!

S1-S10: Paper!

M: Ok

S1: egg... fruit pe...

S8-S9: Fruit peys

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EFL CLASSROOM

S2, S3, S4, S5, S6, S7, S10, S11: Fruit peels!

S1: Que me equivoque (giggles) disque fruit pers

M: The moderator showed the following picture

S7-S10: Plastic bol

M: which one?

S8, S9, S11, S12: Compost!

S1: Plastic bottle!

M: Ok, all right!

M: Ahora yo les voy a decir algunos de los significados, es decir, yo les voy a decir lo que significa y ustedes me van a decir que palabra es en inglés. ¿Se acuerdan el significado de las 3Rs?

S9: Reuse

S1: Resi...

M: ok... 1st?

S2: Reduce, Reuse

S1: Y recicle

M: la última palabra que se equivocaron en la pronunciación es "Recycle" [ˌriːˈsaɪkəl]

Ss: ¡Recycle!

M: ¿Cuáles son los residuos de plástico?

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EFL CLASSROOM

S5: Plastic bag, plastic bottle

S4: Lid!

S5: Lid

S12: Y el straw

M: Ok... what I need to create compost?

S5: Egg shells

S9: Food waste!

S1: Fruit peels!

S2: Vegetable peels!

S10: Compost...

Ss: Laught

M: Of course it's correct! It's the same

M: What I need to nourish a plant? /¿Que necesito para nutrir una planta?

S1: Seeds!

S2, S3: Fruit peels

S10, S11: Compost!

S1: Food waste

M: It's the same thing! How many people say that?

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

S6: Three!

M: What I need to create paper?

S12: Box

S10: Paper

M: What I need to create paper?

S1: Paper, carton, box

M: Another person! Carton

S10: Plastic!

M: Plastic to create paper, no!

S1: Box?

M: It's the same thing to carton but you all right

M: Ok, next... puedes cargar diferentes productos en ella...

S5: Plastic bag!

M: Yes!

Ss: Aaaaa

S4: ¡Lo tenía en la punta de la lengua!

M: Ok... ¿de qué están hechas las cajas de cartón?

S1: De carton!

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EFL CLASSROOM

S2: Paper

M: And what else?

S8: Box...

M: But how do you say that in English?

S4: Carton!

M: ¿Con qué tapamos las botellas?

S1- S10: Con lid! Lid, lid...

M: ¿Con qué tomamos el jugo que viene en cajita?

Ss: Box, compost

S11: The straw

M: Yes, that's right! we use the straw...

M: What's the name, ¿Cuál es el nombre de todos los productos hechos de plastic?

S1: Plastic bag, plastic bottle...

M: ¿Cómo se llaman esos residuos?

S1, S2, S3, S5: Plastic waste!

M: Yes...

M: What are the wastes that are made of paper?

M: ¿Qué me entendiste?

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EFL CLASSROOM

S1: Papel, y desecho de papel

M: ¿cómo se llama eso?

S12 Peis war

S1: Paper waste!

M: Paper waste... you alright!

M: What are the wastes made of food?

S2: Vegetable peels

S9: Compost

M: Yes, but what's the name?

S1: Food waste.

M: Perfect!

M: Listo chicos, quiero felicitarlo por que lo han hecho muy bien. Así que muchísimas gracias

Thanks for coming!

Ss: Bye

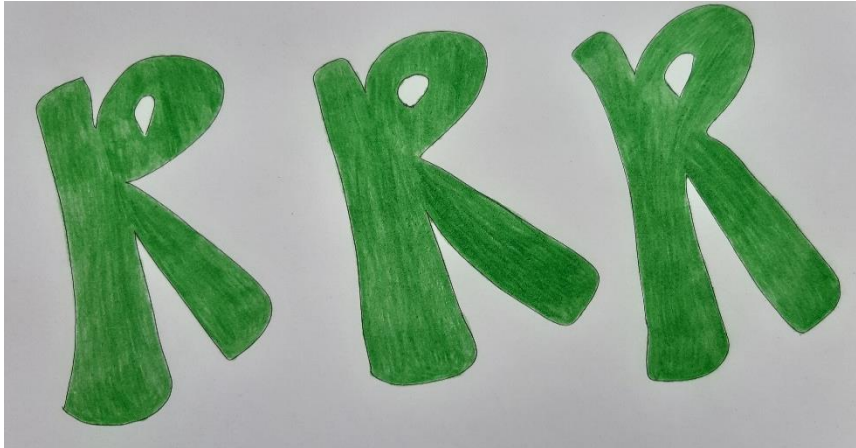
M: Bye

2nd Focus group - Students' Knowledge about 3Rs

Questions

- ¿Recuerdas cuál es el significado de las siglas 3Rs en inglés?

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- Qué tipo de residuos utilizarías de acuerdo a cada una de las Rs. Menciona uno de cada R en inglés



- De acuerdo a los residuos que has mencionados que otro uso podrías darle a los mismos

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- Menciona cuáles son los tres residuos que se necesitan para crear compostaje



- ¿Recuerdas cuáles son los colores de cada caneca de acuerdo al residuo que se deposita en ellos, en Inglés?



- De acuerdo a las imágenes identifica cuáles son los residuos de plástico, papel y comida en inglés.

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EFL CLASSROOM

M: La primera es. ¿recuerdan cuál es el significado de las siglas 3R's en inglés?

S1: Recycled,

S3: Reduce

S4: Reuse

M: There's missing one, "falta una más!"

S1: Recilk

M: ¡Recycle! Pero está bien súper, no importa la pronunciación lo importante es que lo recordaron

M: Que tipo de residuos utilizarías de acuerdo a cada una de las R's. Menciona cada una de ellas en inglés. Por ejemplo, para reduce que utilizarían allí, alguno de los residuos

S5: Paper, fruit peels

M: Fruit peels, ok

S6: Egg shells

M: ¿Qué más se puede reducir?

S3: Paper

S4: Vegetal peels

M: ¡Vegetable peels! Pero ese es más para reuse

Ss: ¿Bombillos, la luz?

M: The light

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

S7: Cartón

M: Como decimos electricidad en inglés, ustedes se acuerdan, eso lo vimos...

S1: Light

M: Light or electricity, listo

M: Y para reciclaje, recycle

S1: Paper,

S8: Bottle, plastic brotel

M: Plastic bottle! ¿Pero ustedes creen que eso se recicla o se reusa?

M: ¿Reduce o reuse?

S5: Reuse

M: Reuse! Ok bien, que más “the paper”

S1: Fruit peels

M: Which one? por allá escuche algo

S8: Cartón

M: Carton! Claro que si el cartón también se puede reciclar. En ingles lo decimos igual. Ok seguimos

M: De acuerdo a los residuos que ya han mencionado algunos de ustedes, que uso le daban a cada uno de ellos. Por ejemplo, que hacían con las fruit peels.

S5: ¡Para crear compost!

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

S9: Para la compost

M: ¡Compost! ¿Y qué más?

S10: Yo con el paper lo reciclaba

M: Recycle, remember recycle

M: ¿Qué más? Por ejemplo, con el...

S1: Egg shells

M: ¡Para las botellas! ¿Qué hicimos con las botellas?

S2: hicimos lo de la plant

M: The plant, sí?

M: Recycle paper

S10: Utilizamos una botella como base, la mojamos y lo revolvimos con papel y creamos una hoja de papel.

M: Eso es utilizar el proceso para hacer papel con papel reciclado, listo. ¿Qué más hemos utilizado, ustedes se acuerdan que más hemos utilizado?

M: El plástico

S2: Plastic

M: Compost

S1: Fruit peels, egg shells

M: ¿Algo más nos falta?

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

S5: Vegetable peels

M: Ok

S7: Food waste

M: ¿Y cómo se llaman los desperdicios de plástico?

S1: Waste plastic

M: Plastic waste! Great!

M: ¿Menciona cuáles son los tres residuos que se necesitan para crear compost?

M: Ok quiero escuchar a otros, por acá

S9: Fruit peel

S6: Egg shells

S4: Vegetabol peels

M: Vegetable peels! Bien chicos súper

M: ¿Recuerdas cuáles son los colores de cada caneca de acuerdo al residuo que se deposita en ellos, en inglés?

Ss: Yo, yo, yo, yo...

S3: Green

S8: Blue bin

S1: Green bin

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EFL CLASSROOM

S3: White bin

Ss: ¿Cómo era que se llamaba ese?

S5: Grey bin

M: Bien chicos, súper. Necesito una voluntaria, mi amiga

M: Could you please help to identify the wastes “¿se acuerdan que era wastes, verdad?”

S1: Desechos, residuos

M: Wastes that go to the blue bin? Desperdicios que van en la caneca azul

M: Sh... ella me los va a identificar

M: ¿Te acuerdas? ¿cuáles son los que van en la blue bin?

Ss: Los plastic

M: Plastic ...

S1: Water

M: Plastic wast...

Ss: Plastic wastes

M: Entonces mi amiga me va ayudar a identificar un plastic waste

S5: Estudiante identificando uno de los residuos de plástico

M: Ok ¿cómo se llama ese?

Ss: Plastic

FOSTERING CONTENT-BASED ENGLISH VOCABULARY THROUGH PBL IN AN
EFL CLASSROOM

S5: Lid

M: Lid, ok

M: Plastic...

Ss: Plastic bottle

M: Perfect! ¿Que otro?

M: ¿Cómo se llama este?

S2: Bag

M: ¿Que otro iría ahí? ¿Cómo se llama ese, se acuerdan?

S8: Straw!

M: ¡Straw, perfecto! ¿Hay algo más?

S1: ¡Esta!

M: Muy parecida la anterior “plastic bottle” muy bien

M: Ahora me van a ayudar a identificar los residuos para la green bin

S6: Cartón

M: Ponlo allí, mmm ¿estás seguro que es en la Green?

Ss: No... es food waste

M: ¿Cómo se llama este?

S9: Fruit peels

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EFL CLASSROOM

M: ¡Perfect! ¿Qué otro?

S5: Vegetable peels

M: ¡Good pronunciation!

M: Dale, ponlo

S10: Egg shells

M: Muy bien, super

M: Let's go with the grey bin, grey bin

S1: Poper

M: ¡Paper! ¿Cómo se llama ese?

S4: ¡Cartón!

M: ¡Eso se llama de otra manera!

Ss:

M: ¡Box! Se acuerdan lo vimos la semana pasada

M: ¿Se acuerdan de este?

S2: Planti seeds

Ss: Bin

M: Súper, listo chicos

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EFL CLASSROOM

M: Por ultimo quiero preguntarles, ¿cómo se han sentido en las sesiones que hemos visto de plastic waste, food waste y paper waste? **Ss:** happy, enjoy

Corporación Universitaria Minuto de Dios
Licenciatura en Lenguas Extranjeras con Énfasis en inglés



Lesson Plan # 2

Title: Have you ever wondered what happens with the plastic that you throw away?

Environmental Objective: Students will learn how to reuse a plastic bottle creating poppet for their dogs

Learning objective: Students will use vocabulary about plastic waste.

Materials: Big images about different wastes like: plastic, food and paper waste. Pictures about the three bins.

Beginning

Warm up: The teacher is going to bring a big picture about different wastes thrown on the grass and two bins, where students could identify plastic waste and food waste in order to classify it in the correct bin and practice previous vocabulary

Procedure

Presentation: The teacher is going to present different flashcards where students will identify the main vocabulary of plastic waste. In addition, the teacher is going to ask a question where students will participate actively.

Question: Do you reuse plastic waste? And what do you do with that?

Practice: Students are going to practice the vocabulary and the topic seen in the presentation before by developing a guide.

Production: By the end students are going to be organized in groups where they are going to use plastic bottles designing creative poppets for their dogs

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Annex G: Sample of the worksheet

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Worksheet # 1 Jose Ruben Guillen Delgado

Food Waste

5TH Grade

1. Match the following words with the images

<p>Reuse</p>	
<p>Fruit peels</p>	
<p>Vegetables peels</p>	
<p>Bin</p>	
<p>Paper and Carton</p>	

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EFL CLASSROOM

Annex H: Gallery of Pictures



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