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Teacher's Role in Collaborative Problem Solving in a Partially Flipped Classroom

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Research Report submitted

in partial fulfillment of the requirements for the degree of

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TESOL Certificate by Anaheim University

Directed by Albedro CADENA AGUILAR

Universidad de La Sabana

Department of Foreign Languages and Cultures

Chía, Colombia

August 2017

Declaration

I hereby declare that my research report entitled:

The Role of the Teacher Applying Collaborative Problem-Solving Activities in a Partially
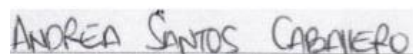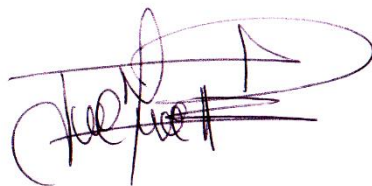
Flipped Classroom

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Date: August 2017

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Signature:

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Abstract

The purpose of this study was to analyze the role of the teacher when applying collaborative problem activities in a partially flipped classroom. Twenty-six students from sixth grade at a private school in San Gil and their English teacher participated in this study. It was decided to carry out this project since teachers lack specific strategies to help students for lifelong learning, to turn classes into student- centered ones, work collaboratively, and foster autonomy. This may encourage teachers to improve their role during the lessons by acting as facilitators of learning through the questioning technique, assigning roles during the collaborative work, and reflecting on their own practice. The intervention consisted of six weeks in which a variety of data collection instruments was used to gather the information for this project. The results revealed that the teacher could improve his role by using the collaborative problem-solving activities in a partially flipped classroom strategy and could foster self-directness in students by means of the platform and allowing them to ask questions related to the grammar focus during the lessons.

Key words: *role of the teacher; collaborative work; problem-solving activities; partially flipped classroom, self-directed skills; critical thinking; questioning technique.*

Resumen

El propósito de nuestra investigación fue mejorar el rol del profesor al momento de aplicar actividades colaborativas de solución de problemas en un aula parcialmente invertida. Veintiséis estudiantes de sexto grado y su profesor de inglés de un colegio privado en San Gil participaron en este estudio. Las investigadoras decidieron llevar a cabo este proyecto debido a que los profesores carecen de estrategias específicas para ayudar a los estudiantes a aprender significativamente en clases, centrando su atención en el alumno a través del trabajo colaborativo y al mismo tiempo fomentando la autonomía. De este modo, se anima a los docentes a mejorar su rol durante las clases al actuar como facilitador del aprendizaje empleando herramientas didácticas como: la técnica de preguntas, asignar roles a los estudiantes durante el trabajo colaborativo y a reflexionar sobre su propia práctica pedagógica. Este proceso se llevó a cabo durante seis semanas en las que se utilizó una variedad de instrumentos de recolección de datos. Los resultados mostraron que el profesor pudo mejorar significativamente su rol mediante el uso de la estrategia mencionada al fortalecer la independencia en los estudiantes a través del trabajo en la plataforma y permitiéndoles hacer preguntas para aclarar dudas sobre los temas gramaticales durante las clases.

Palabras claves: *rol del profesor; trabajo colaborativo; actividades de solución de problemas; aula parcialmente invertida; habilidades autodirigidas; pensamiento crítico; técnica de preguntas.*

1. Introduction

1.1 Introduction to the study

Classrooms in Colombia are built-up of capable students who can learn a foreign language. The only problem is that teachers, who are teaching English, are lacking appropriate strategies, such as student-centered lessons, fostering autonomy, developing critical thinking and problem-solving skills to make learning meaningful. For this reason, this paper refers to the teacher's role as a facilitator in the classroom and the way he uses collaborative problem-solving activities to deal with the learners' processes.

Teachers could make students 'learn' in their classes in the traditional way or 'thinking outside the box'. By traditional, it is meant that teachers just act as instructors in the classes. Thinking outside the box views the students as active participants who can produce, analyze, solve problems and contribute to their own learning process by themselves. As Dwyer (2006) points out: "the ideal now is for a more democratic, student-centered approach, in which the teacher facilitates communicative educational activities with students" (p.1).

Thus, this research paper aims to analyze the role of the teacher as a facilitator when applying collaborative problem-solving activities in a partially flipped classroom. The target

population is a 26-student group from sixth grade and their English teacher. Two researchers

were in charge of gathering and analyzing the information.

1.2 Rationale of the study

A private institution located in San Gil, Santander, where students can study a full-time

schedule at the levels of preschool, elementary and high school. The school has an

intensification program of English outsourced to Faster School, a language institute. Therefore,

students in sixth grade have an A2 level of the language according to the Common European

Framework of Reference (CEFR).

Although students are facing the intensification studying the language eight hours a week,

they lack interest in learning English and for that reason; they do not have a lifelong learning, as

it is noticed in the following excerpt:

"*Teacher, we don't have any interest in learning the language, we don't put any effort and

that is why that our results are basic*". (Informal interview, Student 1)

Considering this, researchers found an interesting fact, which was that teachers need for

training on how to foster learning by providing meaningful contexts and understanding the

importance of acquiring a second language for students' life.

1.3 Needs analysis and problem statement

To state the problem of this study, it was necessary to design two different surveys that were specific for 58 students from sixth grade and two teachers that were intended to be the subjects of this study, but due to external circumstances, the target population consisted of 26 students and one teacher at the moment of the application. Both students and teachers answered the surveys using the google forms that was the tool that researchers used for this purpose.

Evidence of the difficulties students of sixth grade at a private school face, correspond to the situations the teacher-researchers identified through classroom observation that provide sustainable arguments to define the research problem. Students are taught the main topic, they apparently learn it and can do the practice under the guidance of their teachers when the other lesson comes and students have to practice the topics by themselves, they are not able to do anything arguing that they do not remember or do not know about the topic. In the following excerpt researchers prove this:

"Teacher, you explain very well and we understand everything very well at the moment, what happens is that we are humbling and when we have to solve the activities [SIC]*, we don't want to do it because it is difficult for us".* (Informal interview, Student 2)

"When you explain we don't pay attention because we know that you are caring for our work and if we need you, you are there for us". (Informal interview, Student 3)

This information puts into evidence how the English learning process of the students do not show the results that teachers expect they can attain, since they have developed a strong dependence on the teacher as it can be noticed in the following testimonies of student 4 and 5:

"When the teacher ask to solve an exercise [SIC]*, he has to help us to start doing it because we don't know how to start, what would be the order and then we can continue working".* (Informal interview, Student 4)

"In class, we always need our teacher's opinion to feel confidence on what we are doing. We always need that he correct us each thing we write" [SIC]. (Informal interview, Student 5)

Therefore, they cannot solve any activity without his help. It is visible that teachers act more as instructors than facilitators. That is, students do not see the guidance by their teachers but the one who must provide them every answer regarding learning the L2.

Moreover, through informal interviews held with students, they commented that they did not feel involved in the development of the lessons since there is no connection between the class and their context as is stated by student 1in the following excerpt:

"We cannot understand the English language because we don't see when we can use it and that is why we don't want to learn it". (Informal interview, Student 1)

King-Dow Su (2008) based on research, says "materials facilitate selection, organization, and integration of to-be-learned information" (p. 340). In other words, learners need to have an organized lesson in which they find the connections between the lessons and their needs as relevant information, so they can develop all the skills.

Thus, the information obtained causes reflection in the teachers about their role and if the way they develop the class is one which makes students learn for life as well as, if it involves meaningful learning and challenging activities to facilitate the learning process. In fact, figure 1 shows that a 46.6% of students see the teacher's role more as an instructor or guide, considering that students do not know what a guide is.

In your opinion, what is the role of your teacher in the lessons? / En tu opinión, ¿Cuál es el papel de tu profesor en la clase?
(58 responses)

The owner o... —2 (3.4%)
A guide / Un... 35 (60.3%)
A co-learner... —2 (3.4%)
An instructor... —27 (46.6%)
A lecturer / U... —0 (0%)
Other / Otro.... —1 (1.7%)

0   5   10   15   20   25   30   35
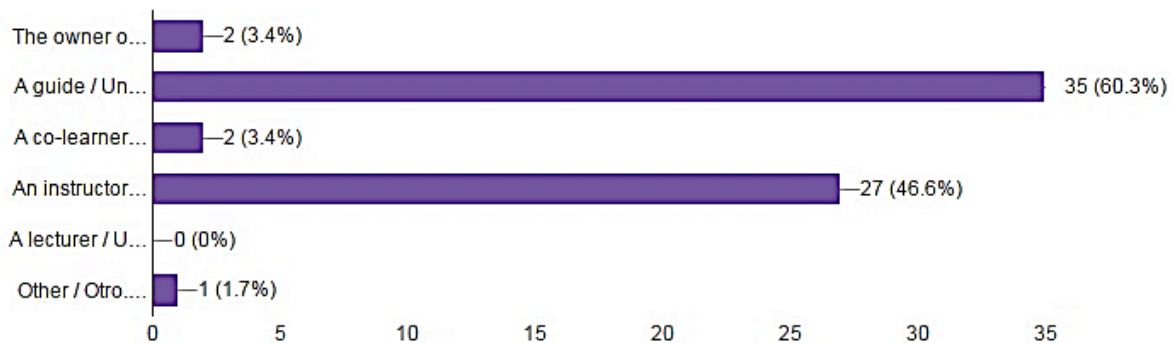
Figure 1. Bar Graph Showing Students' Answers about The Teacher's Role

Most of the students stated that their teachers are the ones who explain and teach them how to do things in class as it is said by the following students:

"*Because he tells us how to do things*". (Needs analysis, Student 20)

"*He leads us*". (Needs analysis, Student 3)

"*He explains us how to do things and he tells us how to learn to do them*". (Needs analysis, Student 4)

The applied questionnaire, on the other hand, revealed that the main actor in the class is the teacher according to students' and teachers' responses. Figure 2 and 3 shows that the classes are teacher-centered mainly.
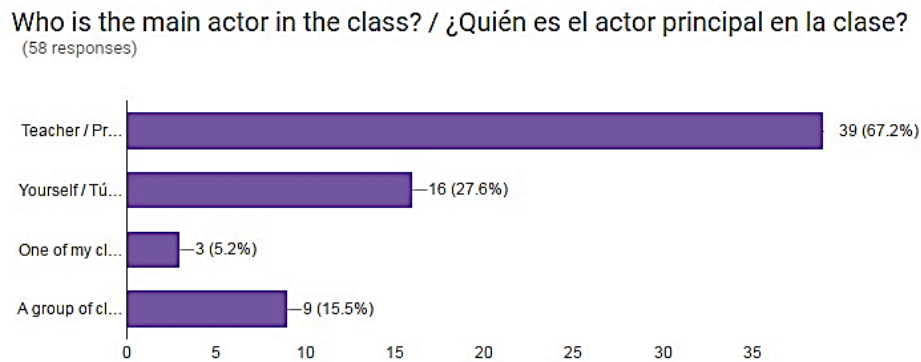
Figure 2. Bar Graph Representing the Main Actor in the English Classes.

Furthermore, students seem to consider activities such as real scenario situations, pair or group work, and activities focused on important grammar for their learning process as figure 3 shows.
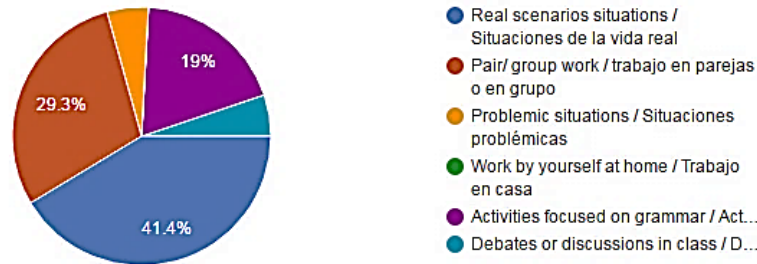
Figure 3. Pie Chart Displaying the Activities that are Important for Students when Learning English.

On the other hand, regarding teachers' results, they find themselves as instructors, role models or leaders, which means their classes are mostly teacher-centered and their students always have a passive role because most of them do not progress as expected and as a consequence, do not engage in the different activities proposed by the teacher. See figure 4.
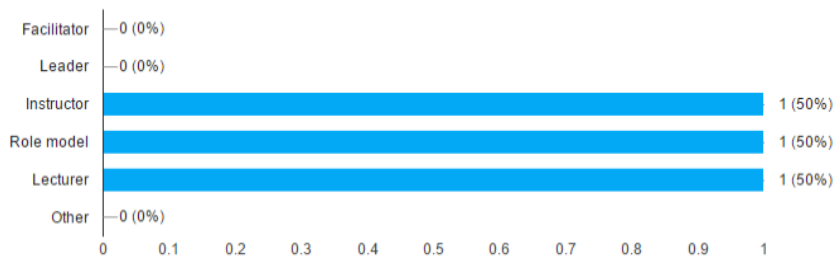
Figure 4. Bar Graphic About Teachers' Own Opinion About Their Role During The   Lessons.

However, there is a contradiction between the role of the teacher, according to the questionnaire, and what teachers think they have in the classroom and the teaching strategies (See figure 5) as the type of activities and the ones they use to help their students to learn more

effectively. This contradiction results in an inadequate application of a teaching strategy, which

led the researchers to look for a more effective one that allows the teacher to improve his role by

collaborative problem-solving activities in a partially flipped classroom.

In your classes you use teaching strategies such as... (2 responses)
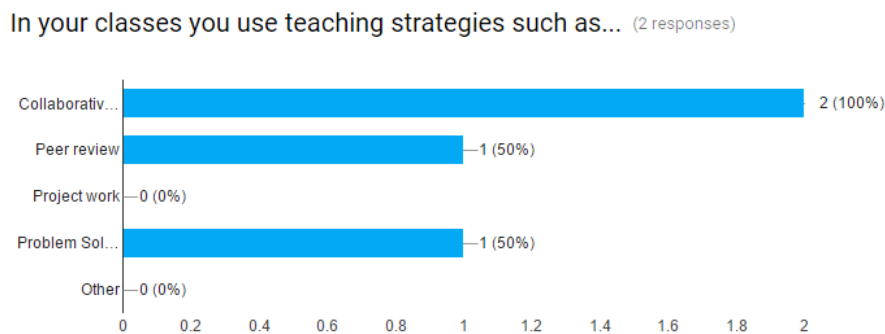
Figure 5. Bar Graphic About Teaching Strategies Teachers Use the Most.

To sum up, the results of the needs analysis help researchers to understand the context and

how to proceed with the investigation, since it is necessary to guide the teacher towards the

facilitator role and the empowerment of students' learning process.

1.3.1 Justification of problem significance

This paper is intended to provide concrete findings of the role of the teachers in the

classroom when applying collaborative problem-solving activities in a partially flipped

classroom as a meaningful tool in students learning processes. This strategy was chosen because

it could be an impact in the English teaching since the teachers are being evaluated when they

are trying to solve a problem of facilitation that can be applied inside any classroom of a foreign

language.

To get to define this previous aspect, class observations, needs analysis and informal interviews were applied to the students and the teachers, in order to consider their "voice", know their opinions about topics like methodology; type of material; the role of the teacher; among others.   All of this to consider not only the teachers' perceptions, but also students' viewpoints. In this way, through their comments, it was evident that learners' performance was not the best and the teachers were not using the appropriate strategies; consequently, they mentioned the type of activities they would like to develop in class and suggested some things the teachers could change regarding the methodology.

Precisely, this led researchers to direct this study to the teachers' side and to consider their role in the classroom and the importance of "letting aside the old models of education that emphasize the transmission of knowledge from teachers to passive recipients" (Dwyer, 2006, p. 3). Instead, researchers' proposal is to replace this mentioned model by a collaborative problem-solving one to contribute to the teachers' endeavor that goes in hand with facilitating learning to make it meaningful for the students.

1.3.2 Strategy selected to address problem

To address the research problem, the researchers decided to train the teacher in the use of the collaborative problem-solving strategy in a partially flipped classroom as a facilitator and a thinking coach (Kallet, 2014). Thus, facilitate learning by taking the responsibility of getting "others to think and answer questions so that they can achieve clarity and generate ideas" (Kallet,

2014). This approach correlates to the institutional approach and philosophy of language learning.

In collaborative learning "activities students can produce the individual parts of a larger assignment individually and then ´assemble´ the final work together, as a team" (Diaz, Brown, & Salmons, 2010), having into the group different roles that help them to accomplish the goal. Training the teacher on this strategy may help him to be aware of their role as a facilitator of learning rather than an instructor. If raising awareness enhances the teacher's ability of facilitating learning, this training may be pertinent for the institution because it may guide him to reach meaningful learning, which is the main core of the vision of language at the school.

1.4 Research question(s) and objective(s)

This study addresses the following question:

How does collaborative problem-solving activities in a partially flipped classroom affect the role of the teacher?

The objectives to achieve in this research are:

- To interpret the role of the teacher as a facilitator when applying collaborative problem-solving activities in partially flipped classes.
- To identify the strengths and weaknesses of the teacher in class by self-reflection.
- To evaluate the collaborative problem-solving activities in a partially flipped classroom strategy applied as a facilitation tool.

- To demonstrate students' autonomy progress through independent work in a platform created for this project.

1.5 Conclusion

Researchers and readers of this investigation would find the collaborative problem-solving strategy applicable to the instructional strategy that links students' self-direction and collaborative learning to enhance learners' meaningful training; it also links collaborative problem-solving activities to the teachers' role as facilitators. This process will grant an improvement on the teaching practice as the teacher is the main actor in this paper and it allows them to reflect on their own practice and use a new strategy that supports it in a foreign language classroom.

2. Theoretical Framework & State of the Art

2.1 Introduction

The second chapter reports a theoretical review to the main constructs of this paper. It considers theories to explain concepts such us collaborative learning, collaborative problem solving in the classroom, role of the teacher, and partially flipped learning. These constructs support the theory for this research report, which has as its main problem the lack of strategies for teachers when teaching meaningfully.

2.2 Theoretical framework

2.2.1 Collaborative learning

Collaboration has been a central form of human activity and it is found everywhere; in this case we are focused on schools and classroom settings. Collaboration is defined by Roschelle (1992) as "a coordinated, synchronous activity that is the result of a continued attempt to construct and maintain a shared conceptualization of a problem" (p. 70). In other words, collaboration implies the creation of new ideas where students share their thoughts, listen to others' ideas and generate understanding through their collaborative efforts. Collaboration is different from cooperation since the latter is defined as to share ideas. In Stapples' words,

"students can cooperate to accomplish a task, by sharing answers or creating a poster or other product together, but may not engage in collaboration with respect to the joint production of ideas" (2007, p. 164).

Collaborative learning has become more popular in recent years and it is based on the view that knowledge is a social construct. It has its roots in the sociocultural theory (Vygotsky, 1978). This model describes the development of higher mental practices, which is related to the social interaction as the core of communication and learning processes. This perspective claims that "knowledge is social in nature and is formed as a result of collaboration, interaction and communication among learners in social community" (Guoxing, 2002). Mitchell & Myles (2004) state that sociocultural theory views learners as active constructs of their own learning environment. That is, learners can be responsible for their own learning.

Activities based on collaboration, according to Chandra (2015), are often based on four principles:

first, the learner or the student is the primary focus of instruction; second, interaction and doing are of primary importance; third, working in groups is an important mode of learning, and finally, structured approaches to developing solutions to real-world problems should be incorporated into learning (p. 4).

That is to say, it is a student-centered approach in which pupils can learn by doing and it can occur peer-to-peer or in large groups. This kind of learning is similar to the idea that two or

three heads are better than one, since "many instructors have found that through peer instruction, students teach each other by addressing misunderstandings and clarifying misconceptions" (Chandra, 2015, p. 4).

When thinking of what is a good collaboration, Rummel & Spada (2005) state that there is a "macro" and a "micro" level of collaboration. At a "macro" level the coordination of group work has a significant importance when managing time, dividing labor, pooling knowledge, balancing individual and joint work phases and individual contributions. At a "micro" level, aspects such as mutual understanding, feedback, turn-taking are crucial to have a good collaboration in relation to communication. Such processes allow teachers and students to have a good collaboration where they coordinate their teamwork both temporarily and regarding content, defining objectives and formulating questions to create a solution to a task.

According to Chandra (2015), there is some research that shows when educational experiences are active, social, contextual, engaging, and student-owned, they allow meaningful learning. This meaningful learning can be seen in the advantages that collaborative learning has in the learners such as development of higher-level thinking, oral communication, self-management, interaction; increasing self-esteem, and responsibility; respect for others' perspectives and preparation for real life.

2.2.2 Collaborative Problem Solving in the Classroom

Following this topic, it is worth mentioning case-based learning as a problem oriented method, which according to the research made by Kopp, Hasenbein, & Mandl (2014), is an approach that allows learners to work on a real and complex problem and aims to base the application and transfer of knowledge to real-life situations. In our study, problem oriented learning is characterized by two main aspects: solving complex problems and acquiring knowledge through collaboration. At the moment in which students are solving problems, they are confronted with real situations that they can find in the real world, such a context is motivating for their learning and getting meaningful learning.

All of this can be considered as an innovation in the classroom in order to stimulate thinking and encourage the pursuit of new knowledge and skills. To retain and make learning effective to become life-long learners, teachers need to be trained on how to activate students' prior knowledge and how to relate it to their personal experiences. Jonassen, Howland, Moore, & Marra, 2003, cited in Ferguson (2011) found that meaningful learning is

active and constructive, taking place when people develop knowledge in response to their environment, reflecting on activity and articulating what they have learned. It is authentic and intentional, situated in a meaningful context in which learners are motivated by working towards a goal. It is also cooperative, relying on socially negotiated understanding and the shared construction of knowledge (p. 170).

On the other hand, when teachers have to decide which teaching strategy is the most appropriate for a group of learners, there are some factors that influence this decision such as the type of learners, language level and needs, considering that there is no a single method that works well for everyone. As each teaching situation is unique, Bruner (1971) states that this is about the "knowing how to" aspect of learning. He further suggests that we need to be de-emphasizing the amount of information that students must commit to memory and focus on a "… constant exercise in problem- formulating and problem-solving (Bruner, 1971, p. 66). In fact, he believes that "Good problems"… are the chief vehicle for good curricula…

In teaching problem-solving, teachers must structure situations where students have to face a new question, define it in specific terms, and evaluate solutions to the problem. This approach makes emphasis on the process rather than on substance. Based on this, Henton, Marotz-Baden, & Kieren (1979) proposed a seven-stage problem solving model that could be useful in the classroom. These seven stages are explained as follow: first, *recognition of a problem* which is about defining a situation as problematic. Second, *involvement* that is related to how motivated learners are to do something about the situation they have defined as problematic previously. Third, *generation of alternatives* where learners have to come up with several alternatives or solutions to solve the problem. Fourth, *assessment of alternatives* making learners select and discard the best alternatives to solve the problem.   Fifth, *selection of the best alternative* where the remaining alternatives are examined according to how well they solve the problem. Sixth, an *action* plan is designed by taking into account factors like time requirement, the urgency of the situation and importance of the goals. And finally, *evaluation,* considering if the goal is attained,

it is necessary to evaluate the effectiveness of the solution and if it necessary to try another

alternative.

Nowadays, this model has been improved as it can be noticed in figure 6 from the "Problem

Solving and Motivation" (2014) there are seven steps that can be followed to solve a problem:
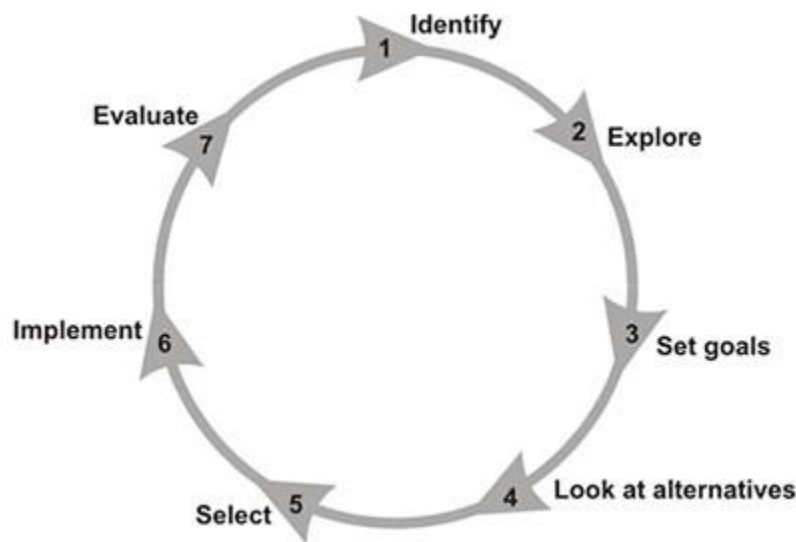
Figure 6: Seven Steps to Solving Any Problem.
Reprinted from "Problem Solving and Motivation, In University of South Australia, n.d.,
Retrieved October 18, 2016, from
http://w3.unisa.edu.au/wellbeing/SkillsforGoodHealthDoWell/ProblemSolvingandMotivation.ht
ml

This new model differs from the previous one in that learners have to set goals in order to

identify what they want to achieve and how they are going to do it. As a consequence, allowing

them to plan where they want to get is a good way to let them become autonomous in their

learning process.

By implementing this methodology, it is intended through this work that the role of the teacher and the students in the classroom have a different participation during the usual lessons which are teacher-centered. The teacher becomes a facilitator and his is intervention in the activities is reduced since he entirely has to assist learners in their process, and allow them to find the substantive material using the model. Learners, for their part, must have a very active role since they are exposed to critically analyze and interpret material using a cognitive framework-problem solving through activities such as class assignments, class sessions and examinations based on this framework. The main objective with this model is to evaluate learners' ability to identify issues and how capable they are to implement strategies and resources to solve problems which is an important part of this project.

Consequently, in our paper it is noticeable that there is a clear strategy to use: collaborative problem-solving. The PISA 2003 Assessment Framework: Mathematics, reading, science and problem solving knowledge and skills (OECD, 2003, cited in OECD, 2015) defines it as

"…an individual's capacity to use cognitive processes to confront and resolve real, cross disciplinary situations where the solution path is not immediately obvious and where the content areas or curricular areas that might be applicable are not within a single subject area of mathematics, science or reading" (p.6).

In other words, collaborative problem solving involves an individual's cognitive processing that engages both cognitive and social skills, creating an environment of interaction and communication with the others' perspectives in an environment of collaboration.

"Collaborative problem solving is inherently an interactive, conjoint, dual strand process that considers how the student reasons about the problem as well as how the student interacts with others to regulate the social processes and exchange information" (OECD, 2015, p.9). And this process can be measured by the mutual goal establishment, progress of the outcomes, negotiation, sharing perspectives, social states, and evaluating the quality of the solutions generated, as well as the final outcome that are the probes of the entire process made by students.

2.2.3 Role of the teacher

When a teacher acts as a facilitator, he provides with activities to students that permit them to become the center of the class. The afforded strategy relates to an important topic that concerns our study, *facilitation of learning* that according to Smith, Blake, (Australia), Australia. Deptarment of Education, & Training, (2005) has as its main characteristics:

- Placing a strong emphasis on the workplace to provide a meaningful context for learning where problems are framed by the context of the workplace.
- Encouraging 'hands on' and interactive approaches for learning activities to allow learners to apply and interact equally with the thinking and performing aspects of learning.
- Establishing learning outcomes that are clear in their intent to achieve 'work-readiness' for learners.
- Giving learners the opportunity to collaborate and negotiate in determining their learning and assessment processes.
- Understanding learners as 'co-producers' of new knowledge and skills.

- Recognizing that the prior learning and life experiences of learners are valuable

    foundations for constructing new knowledge and skill sets (although they can also

    impose limitations).

- Using flexible teaching approaches that address the different learning styles of students.

- Valuing the social interactions involved with learning in groups.

First of all, to understand what facilitation is, it is necessary to highlight Vygotsky's theory of the zone of proximal development defined as the distance between a child's 'actual developmental level as determined by independent problem solving' and the higher level of 'potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (Vygotsky, 1978, p. 86). In other words, cognitive development occurs on two levels: actual and potential. The actual level is formed by cognitive operations that have been constructed following the completion of various developmental phases. The potential level, on the other hand, is composed of cognitive operations that are still evolving and it can be modified by intentional mediation (Tzuriel & Shamir, 2007).

Second, "cognitive modifiability is defined as the individual's propensity to learn from new experiences and learning opportunities and to change one's own cognitive structures" (Tzuriel, 2014, p. 60). Thus, depending on the chances that teachers give students to have new experiences or learning opportunities, learners will develop two distinct levels of learning the 'single and double loop'. On one hand, *single loop* is described by Argyris, 1999 as the most common place, everyday understanding of learning. It suggests that the learner identifies, understands and fixes a problem or issue, then moves on to the next problem without expending

effort or time in reflecting on the process that has been used in this particular situation (Lawler & Sillitoe, 2013). This kind of learning is said to be 'transactional' in nature rather than 'transformational' (Mezirow, 2001). On the other hand, Hargrove (1999) provides a helpful insight into *double-loop* learning by suggesting that it encourages the re-framing or re-shaping of the underlying patterns of thinking with the object of enabling an informed change in behavior. Specifically, with this learning, students can apply their analytic and problem-solving skills straightforward in the way that they develop their critical thinking.

Moreover, *mediation* is carried out by different strategies such as arranging, organizing and sorting out of stimuli, giving them meaning and expansion so they can be absorbed and assimilated by the child (Tzuriel & Shamir, 2007). This ability may be considered as ability 'to learn how to learn'. When mediation comes to the field of the classroom, learners can adapt their thoughts and opinions to the others, so they can mediate through a meaningful and facilitated learning. This is called *inter-subjectivity* (Tzuriel & Shamir, 2007) that refers to the process whereby two participants who begin a task with different understandings arrive at a shared understanding. All these theories are the key to consider along this paper, since they provide understanding of how students learn and how teachers can facilitate that process.

Consequently, the previous concept is related to facilitation since we are interested in studying what the role of the teacher is in a partially flipped classroom when applying collaborative problem-solving activities.

Besides, in English as a foreign language education, a notion of the teacher as 'facilitator' is considered to be more compatible with students' felt needs and autonomy" (Dwyer, 2006, p. 1).

Considering this, the teachers' role is a key element to the class and the students since the form teachers can present the knowledge in a meaningful way. Facilitated learning according to (Smith et al., 2005) involves learning in a meaningful context in which problems are linked to it, 'hands on' activities where students can analyze, interact, apply and perform their thinking; and opportunities to collaborate and negotiate when solving an activity. This is why, it is intended to involve the mentioned strategy into the research, since we want to analyze how the teachers' role can facilitate learning in order to grant meaningful learning during the lessons.

2.2.4 Partially Flipped Classroom

Flipped learning is a methodology that facilitates and enhances the learning process, as Bergmann & Sams (2012) show when they first flipped their classrooms. They discovered that their students wanted teachers to answer questions and help them when they did not understand the content, then they decided to shift the class from in class delivery to a class that involves more discussion and analysis; a student-centered class. This flipped learning approach is under the blended learning umbrella. Blended learning, according to Singh (2003), "is rooted in the idea that learning is not just a one-time event—learning is a continuous process" (p. 53). "Blending provides various benefits over using any single learning delivery medium alone" (Singh, 2003, p. 53). Hence, flipped learning (Flipped Learning Network, 2014) "is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (p. 1). The group space is understood as the time that

students spend in face-to-face lessons with their instructor, and individual space as the time

students work by themselves at home (Bergmann, 2016). This approach is related to our paper,

since the aim is to facilitate learning in order to make students engage in the problem-solving

activities. Therefore, flipped learning provides us with important tools such as preparing

beforehand, time-saving, and more practice, that can make this aim feasible; due to the fact that

students can relate the learning topic with the daily life.

In one common model, students might view multiple lectures of five to seven minutes each.

Online quizzes or activities can be interspersed to test what students have learned. Immediate

quiz feedback and the ability to rerun lecture segments may help clarify points of confusion.

Instructors might lead in-class discussions or turn the classroom into a studio where students

create, collaborate, and put into practice what they learned from the lectures they view outside

class (Educause, 2012).

"Two rural secondary teachers of chemistry, Jonathan Bergmann and Aaron Sams are

considered as the ones who popularized the flipped classroom" (Hamdan, McKnight, McKnight,

& Arfstrom, 2013).

"Apparently, they noticed that students were missing class to attend competitions, games, or

other student activities, and there were other students who had trouble with certain concepts

which hindered completing homework until they got help in class the next day. This led to

using videos to record lectures, demonstrations, and presentations that they decided to post

on YouTube for students to view" (Hamdan et al., 2013; Siegel, 2014, cited in Logan, 2015,

p. 3).

In the present study, the lesson becomes a partially flipped classroom where the teacher reduces the amount of lecturing time for each session by using web-based lectures (Vidic & Clark, 2016) and allowing the students to ask questions related to the topic during the lesson time in order to grant a better understanding of the topic.

In the flipped classroom, students learn additional content that can connect to their past knowledge causing a change of perspectives about their world. Social constructivism is at the root of the flipped classroom (Jarvis, Halvorson, Sadeque, & Johnston, 2014) and the flipped classroom is often linked to problem solving, inquiry learning, and active learning plus interpersonal communications (Jarvis et al., 2014). "The flipped concept is driven by the constructive learning theory and provides the active learning environment with added benefit where teachers are able to use modern technology to engage students in the learning process" (Gerstein, 2012 cited in Srivastava, 2014, p. 3).

2.3 State of the Art

Centeno, Montenegro, Montes, & Rodriguez (2013) show the process of the "implementation of the Collaborative Learning Teams (CLT) strategy as an appealing and motivating strategy that would help English teachers trigger a self-direction sense as well as increase motivation in A1 English language students" (p. 1). The target population of this report was a 35-student group from two state schools in a range from 11 to 19 years old. The results show "evidence of students' change of attitudes when they were engaged in teamwork"

(Centeno, Montenegro et al., 2013, p. iv). Learners and teacher-researchers concluded that collaborative work is an opportunity to build up a safe learning environment in which students can collaborate, interact and communicate effectively. This involves that the lessons change from teacher-centered to student-centered model helping the teacher become a facilitator; a role that can be evident in a challenging environment.

In turn, Cavanagh (2008) in his study shows that it is part of a larger study in which the teacher's use of problem-solving teaching was examined. The researcher observed thirteen lessons during 18 months in which the teacher used 7 different problem-tasks. The results show that the tasks became more open-ended and the teacher improved the quality of whole class discussion. The most relevant part here, for our paper, is that through these type of activities, students are not closely tied to the topic, but it could be helpful for teachers to promote self-directness and meaningful learning.

What is more, King-Dow Su (2008) in his research explains the participation of two classes of undergraduates, to investigate their problem-solving abilities through multimedia in chemistry teaching. The groups were divided in two: the control group and the experimental group. The former was taught with multimedia supplementary materials; while the latter was taught, by using a textbook. For the analysis, the ANCOVA statistical procedure was used and it showed the following results: the experimental groups exceeded the other group regarding the problem-solving ability, due to higher conceptual understanding scores they received on the posttest than the others did. In short, there was a great advantage at incorporating multimedia into chemistry,

since this was a more effective and effortless way for the students to comprehend the concepts, and for teachers to foster autonomy in the classroom by using self-access materials.

Moreover, Staples (2007) reports an article in which she studies the pedagogical strategies used by one teacher, Teacher X, to organize and support collaborative inquiry mathematics practices in a ninth-grade classroom of lower-attaining students. She focuses on how the studied group develops their collaborative problem-solving skills and what the role of the teacher is during solving those kinds of activities. Teacher X is a high skill math teacher whose work is based on the development of critical skills in her students. The results of this article, showed that Teacher X's class is a case of successful enactment of reform practices with a group of students who had not found prior success with school mathematics. Those results reinforce the importance of the teacher's work in reform-oriented mathematics classrooms.

The article mentioned has a significant impact on our research since it provides a vision of what the role of the teacher is when mediating problem-solving activities and the way the teacher can engage students into meaningful learning while making possible our two main points: applying collaborative problem-solving activities in classroom and the teacher as a facilitator of knowledge. It is interesting to see how we can apply it into our language classrooms and get a successful result that offers tools to illuminate the teacher's role, as well as detailed analysis of deliberate pedagogical actions that support collaborative work.

Besides, Straw, Quinlan, Harland, & Walker (2015) show, in their small-scale study, both benefits and challenges of implementing a flipped learning approach to mathematics teaching.

The flipped classroom involves digital technology to provide direct instruction on new concepts outside the classroom. Students come to lessons already having a preliminary understanding of the topic, freeing up class time for the teacher to focus on other beneficial learning activities. Nine case-study schools across England and Scotland piloted a flipped learning approach for around 4-6 weeks during 2014-2015. Each case study visits involved lesson observations, teacher interviews, student focus groups and teacher and student questionnaires with both a class using flipped learning and a comparison class.

Additionally, Dawes & Fox (2013) in their paper have their students watch a 15-20-minute video at home that would introduce them to the topic they would be studying in class the next day. Using the video lesson, learners would complete introductory notes and work through one or two related problems. Dawes & Fox (2013) state that they "would have a short lesson to complete the topic and then give the students considerable time to finish homework and ask questions; at this time, we could also provide the one-to-one support that our students needed". That is, they decided to partially flip the class to maintain some in-class instruction. In our study, we are going to use this technique as a support for us to avoid spending too much time on instruction. Our aim is to partially flip the class to provide our students time to solve the collaborative problem activities, run into difficulties and then work through those difficulties with our support and grant a meaningful learning.

Çakıroğlu & Öztürk (2017), in their research, intended to explore how students could self-regulate in a flipped classroom setting having into account problem based learning activities to promote self-regulation. Self-regulation skills were discussed through students' and the

instructor's experiences including their opinions and behaviors. The results showed that the goal setting and planning, task strategies and help seeking skills in students were high in a face-to-face learning with problem-based activities through the use of the flipped classroom model. In our paper, this is important since it is intended to help students to self-regulate and provide the teachers with a strategy that helps to facilitate learning in a safe and challenging environment.

Finally, Sun & Wu (2016), in their study, aimed to analyze the effects of two different methods of learning and teaching interaction. They analyzed two distinct groups, a controlled group in a conventional classroom and an experimental group with the flipped classroom model. The results showed that the experimental group scored higher for learning achievement. It was also found the flipped model provided students with more opportunities to clarify questions in an interactive learning environment than did the self-study in the conventional classroom; in other words, the flipped classroom had positive effects on students learning achievement. In our study, it is attempted to guarantee the same, with the plus that learners can clarify doubts into the traditional classroom whether asking the teacher or asking their own partners. Students will have the opportunity to solve problems based on the grammatical instruction they prepared beforehand at home, using the platform used for the research.

2.4 Conclusion

To sum up, this study has as its bases collaborative problem-solving activities, the role of the teacher and how these strategies take students to have a meaningful learning. When using collaborative learning activities, students can develop cognitive and social skills where they can interact and communicate their ideas in a collaborative environment. Through the latter, students develop critical thinking by finding out what the problem is, how to solve it, and how they negotiate during the interaction, share ideas, and evaluate solutions.

The purpose of this study is to analyze the role of the teacher when applying collaborative problem-solving activities in a partially flipped classroom since the problem that it attempts to face is the lack of strategies that teachers have to make students learn meaningfully in an environment that guarantees the interaction among students and teacher, and teacher's support by acting as a facilitator of learning and thinking coach (Kallet, 2014).

Taking this into account, teachers need to understand what their role should be during the lessons in order to guide, support and facilitate learners' process when solving the problems. By mediating collaborative problem-solving activities, the teacher can engage learners into a meaningful learning resulting as a facilitator of knowledge.

3. Research Design

3.1 Introduction

This chapter describes all the aspects aimed for the design of this research study: the type of study used, the context, the participants, the role of the researchers, descriptions of the instruments, and the data collection procedures. The following table has the main elements that constitute our research design.

Table 1.

This table summarizes some characteristics of this research study

Type of Study	Action Research Study (Nunan & Bailey, 2009)
	Qualitative Research (Schutz, 1976)
Context and Participants	26 students from sixth grade and their teacher of English from a private school in San Gil, Santander.
Researchers' role	Researchers
Data Collection Instruments	Pre-Assessment & Post-Assessment
	Teacher's Journal
	Informal Interviews with students
	Professional Learning Community (PLC)
Data Collection Procedures	First Stage: Application of the pre-assessment.
	Second Stage: Workshop with the teacher.
	Third Stage: Application of the three cycles.
	Fourth Stage: Application of the post-assessment.

3.2 Type of study

This is an action research aiming to analyze the fact of teachers implementing problem-solving activities by means of collaborative work and partially flipped learning classroom in sixth grade at a private school. As researchers, we seek to improve the teacher's role by engaging students in collaborative tasks that allow them to take charge of their own learning process.

Action research has become increasingly common in research methodology in the educational field, and it "is simply a form of self-reflective inquiry undertaken by participants in order to improve the rationality and justice of their own practices, their understanding of those practices and the situations in which the practices are carried out" (Kemmis, Nixon, & McTaggart, 1986, p. 162). Action research is not only about describing and interpreting, but also leading change and improvement in the teachers' practices and classrooms (Nunan & Bailey, 2009).

The components of action research according to Borgia & Schuler (1996) are the "Five C's" which are: first, *commitment* that is related to the carefully considered time by participants of action research since it takes them time to get acquaintance with other participants, think about change, try a new approach, collect data, interpret results, etc. Second, *collaboration* where participants give ideas and suggestions that lead to the success of change. Third, *concern* in which researchers will build up a group of "critical friends" (Professional Learning Community, PLC) who trust each other and the value of the project. Fourth, *consideration* refers to the

reflective practice in a mindful review of a professional research like action research. It demands concentration and careful consideration as one seeks patterns and relationships that will create meaning within the investigation. Finally, *change* which means transforming teaching practice.

In that order of ideas, researchers have considered the mentioned characteristics to build a well-planned study that shows the commitment and engagement that researchers have. Besides, the main purpose of this research is to analyze the teacher's role when implementing collaborative problem-solving activities to answer the question: How do collaborative problem-solving activities in a partially flipped classroom affect the role of the teacher? Hence, pre-assessment, post- assessment, journals and class videotapes will be used to collect the data to accomplish our goal.

3.3 Context

This research project was applied in a private school in San Gil, Santander. It has a pre-school, elementary and high school within a single shift. There are 300 students counting the ones in pre-school. The target population is sixth grade. There are 26 students in this course. They are between 11 and 12 years old. Additionally, they are not very "active", they do not go beyond what is taught in the lessons, just a very few of them read, watch series or listen to music in English. This is a common situation in all these groups that may be due to the fact that they are not used to working by themselves. In other words, they are not autonomous since all teachers at the school are giving teacher-centered lessons and therefore, students depend on the

teacher all the time to carry out every single activity as it was shown during the needs analysis stage.

3.3.1 Participants

The population is a group of twenty six students who belong to a private school. They have an A2 level of English according to the Common European Framework (Council of Europe, 2001). These students are from sixth grade and they are between 11 and 12 years old. They are in an intensified program of English where they have eight hours per week and they have developed their communicative skills; nevertheless, not all of them have their skills at the same level and they need to focus on developing much better all the skills since they have a strong dependence on their teacher. Their parents know how important it is to learn the language and they provide a lot of support to children and the school.

Although they have been studying English for six years, they lack autonomy when they have to solve activities on their own. Their collaborative work is poor, since they have the idea that group work is to spend the time talking while one member of the group is solving the exercise, and they have not understood the importance of learning English for their lives.

3.3.2 Researcher's role

Due to the type of the current study, most of the time the researchers are in a role in which they are teacher-researchers, but this is not the case; we played the role of researchers and we

asked another teacher to perform the teaching endeavors. We trained the teacher by presenting

him the collaborative problem-solving strategy, and the researchers acting as thinking coaches,

who is the person who "gets others to think and answer questions so that they can achieve clarity

and generate ideas" (Kallet, 2014, p. 74). The teacher was provided with the appropriate

resources in order to assure the strategy would take place as designated at the beginning of this

study. We were in charge of designing the resources of each cycle, such as lesson plans,

handouts, and checklists; selecting and uploading the activities on the platform and providing

feedback to the teacher according to the analysis of the information gathered after each cycle.

Besides, after carrying out this process, it was necessary to readjust and improve the activities

before going to the next step, due to some observations regarding time, classroom management,

and the appropriate implementation of the strategy.

3.3.3 Ethical considerations

The ethical considerations for this study involved both institutional and personal aspects.

Regarding the former, permission to pilot and implement the study in the school was given by

the principal there (Appendix B). About the latter, the teacher and students' parents signed a

consent letter in which they accepted to participate in the study in an anonymous way (Appendix

C). Therefore, students' identities are kept confidential and they are assigned a number to

recognize each participant's process. The teacher's identity is assigned as "the teacher". This is

because it was important to agree "between the researchers and participants about what can and

cannot be done with information collected over the course of the project" ("Ethical issues in

research a ' how to ...' guide Ethical issues in research a ' how to ...' guide," n.d.) thus to build trust between them.

3.4 Data collection instruments

The chosen instruments to conduct the present study were pre-assessment, post- assessment, teachers' field notes (journals), class videotapes to discuss them in a PLC group, and informal interviews. The researchers considered important to count on an external group that supported the analysis process in order to have more objective and reliable results. A professional learning community (PLC) model, which is part of our context,

"flows from the assumption that the core mission of formal education is not simply to ensure that students are taught but to ensure that they learn. This simple shift—from a focus on teaching to a focus on learning—has profound implications for schools" (DuFour, 2004, p. 123).

PLC has a prevalent and ongoing impact on the structure and culture of the study (Solution Tree, 2016). It meets in recurring cycles of collective inquiry and action research in order to get better results for the process that is carried out. Furthermore, "PLCs operate under the assumption that the key to improved learning for students is continuous job-embedded learning for educators" (Solution Tree, 2016).

The PLC group in this investigation, is formed by the teacher-researchers, the School Principal, a student, a technology teacher and an administrative worker, working all together in a collaborative process. They were chosen in order to help researchers to analyze the data and improve the methodology to obtain the expected results.

The selection of these instruments relies on accomplishing the objectives set for this project, which lead eventually to answer the question. In the section below the reader will be informed of the instruments that will be used during the research.

3.4.1 Descriptions and justifications

3.4.1.1 Class Videotapes

Researches decided to use this instrument because videotapes according to Nunan & Bailey (2009) are a way of documenting classroom life, through them; researchers can be participants or nonparticipants observers. They permit to have a complete report of the classes without interrupting and allow the teacher to act in a more natural way and focusing on the outcome for each lesson.

Videotapes allow analyzing the dynamic in class, checking accuracy of the teaching, and identifying the strategies that work and those that need "revamping" (Davis, 1993). Watching a class video is a valuable experience that leads researchers to improve cycle after cycle, provide feedback to the teacher and address important aspects of the lessons, such as classroom

management, teacher talk, and teacher's instruction. The pre-assessment, each cycle and the post-assessment were documented. To achieve our research goals, researches use the PLC group to analyze those tapes. First, it was delivered after each cycle a set of criteria to focus experts' attention; these criteria were in a form constituted by five questions (see appendix G). Second, the PLC group met at the end of each cycle, those people watched the videos and according to the criteria, they analyzed each one. Finally, they were asked to provide suggestions about the improvement of the lesson.

To videotape the lessons, researchers needed a consent letter signed by students' parents and the teacher subject of this study (See appendix C). Researchers let them "know in advance that the classes would be videotaped" (Davis, 1993, p. 355), in other words, they were explained that the taping is a useful tool to evaluate everybody's performance focusing on the teacher's one to improve his practice. The teacher was asked to focus on his practice and not on the camera.

3.4.1.2 Teacher's Journals

This instrument was selected because it is helpful to collect notes periodically to capture different thoughts that are the product of reflections and events. The journals are notes of reflection about events and observations taken during the application phase of the teaching strategy. They have "observations which are free, spontaneous and authentic, providing an interesting and direct perspective on classroom practices" (Finch, n.d. p. 10). In other words, these journals have observations, feelings, reactions, interpretations, explanations and reflections about the pedagogical intervention from the point of view of the researchers and the teachers

who are the participants of the investigation. This instrument was chosen because "the

advantage of this is that it is quick and easy to organize and read" (Johnson, 2012) the

researchers can gain and understand not only the videotapes but also teachers' and researchers'

perspectives at the moment of each lesson.

This instrument was implemented by the end of each cycle during the three cycles, in other

words, after each two sessions of 60 minutes, in the third, fourth and fifth week. The teacher

received a detailed lesson plan with all the activities he had to apply and at the end of that lesson

plan there was an empty space called *My reflections on the lesson* (See appendix E).

3.4.1.3 Informal Interviews

Researchers chose this instrument in order to talk to students informally so they can be more

comfortable talking to us. Based on qualitative research guidelines project (n.d) when carrying

out informal interviews, both the interviewer and the respondents just sit and talk with each other

bearing in mind the focus and objective of the interview. These two aspects are the guidance of

the discussion. There is not a structured interview guide, instead the interviewer provides a

confident environment to the respondent in order to allow them to express themselves in their

own way. It was not necessary to schedule dates with them since these interviews would be held

after the implementation of the cycles and during the breaks to provide them an informal context

and help them to see it as conversations we were having regarding the lessons. With informal

interviews researchers can "foster 'low pressure' interactions and allow respondents to speak

more freely and openly" (Cohen & Crabtree 2006).

The informal interviews were carried out at the end of each cycle during the three cycles, in other words after two sessions of sixty minutes. When students were at the break, researchers looked for them and started asking their feelings and thoughts of the lessons; they talked in Spanish to make them feel comfortable.

3.4.1.4 Pre- and Post- Assessment

A pre- assessment and post-assessment can be used to "evaluate teaching strategies by giving them immediately before and after the teaching strategy is utilized" (Henning, Stone, & Kelly, 2009, p. 135). For the purpose of this study, a collaborative problem-solving activity (See appendix D) was used to measure the critical thinking and decision-making improvements. It was implemented at the beginning of the course in order to diagnose the collaborative work each student did and how well the teachers facilitated the activity and at the end of the semester to gather information about teachers' improvement and to find out how much learners acquire the collaborative work. This facilitated the analysis of the role of the teacher and development of critical thinking and making decisions.

The pre-assessment test was applied at the beginning of the implementation of the research, during the first week. Researchers decided to analyze this initial information before starting the application of the strategy. The post-assessment was executed at the end of the third cycle, during the sixth week of the application stage.

3.4.2 Validation and piloting

Researchers collected a variety of data that described a situation that is the object of study in natural settings using qualitative studies. This data was of interpretative nature and depended on the researchers' skills to ensure that the data collection instruments and analysis were accurate and adequate. Therefore, the triangulation of the information gathered and the discussions with the PLC group were useful in order to guarantee the validity and reliability of the present study.

In qualitative research, triangulation is used to enhance the accuracy of a research study. That is, according to Creswell (2008), triangulation is the process of verifying evidence from different individuals, types of data and method of data collection. Therefore, the data collected through the pre- and post- assessment, journals and discussions into the PLC group are triangulated in order to validate the study by generating supported conclusions.

3.5 Conclusion

This research aims to analyze the role of the teacher when applying collaborative problem-solving activities in a partially flipped classroom. Therefore, the instruments focus on procedures that show to what extent learners can work collaboratively to find a solution to a problem and gather information about the role of the teacher in facilitating students' work applying the collaborative problem-solving activities in a partially flipped classroom strategy.

4. Pedagogical Intervention and Implementation

4.1 Introduction

In order to accomplish our main goal, it is required to use the social justice pedagogy since it focuses on equity for all students, that is teachers "teach all students more fairly and equitably" ("Beliefs about Social Justice in English Education," 2009). Social justice is to grant learners the same opportunities for academic achievement in our classrooms as Oakes, Lipton, Anderson, & Stillman (1972) found in their research that it should provide

> "rigorous, authentic learning experiences as those involving curriculum teaching and assessment that allow [students] to construct and use knowledge in ways that transform their thinking, promote their intellectual development, and over time, prepare them as knowledgeable citizens, capable workforce participants, contributing members of families and communities, and empower agents of change in their lives and the lives of others" (p. XV).

This chapter describes the institutional vision of language, learning, and curriculum that influence this research design. It also describes the processes the researchers followed in the implementation phase, as well as the activity design, lesson planning, and intervention cycles and materials.

4.2 Visions of language, learning, and curriculum

4.2.1 Vision of language

The private school to be intervened takes into consideration that the vision of language is directly related to the communicative approach that is based on the idea that learning a language through the communication of real meaning helps learners to get involved in real communication, and therefore their natural strategies for language acquisition will be activated in order to allow them to use the language.

Likewise, this vision of language influences both the teaching practices and research proposals at the school. Teachers are supposed to enhance the development of the four communicative skills and to expose learners to different contexts that are contemporary to the English-language world. The school accepts research proposals as long as they contribute in the learners' learning process to be successful in their learning process and to lifelong learning.

4.2.2 Vision of learning

The vision of learning at the school is related to the meaningful learning model that according to Ausubel (1968) consists of activating previous knowledge and restructure that knowledge using the new information. For him, "the most important single factor influencing learning is what the learner already knows" (Ausubel, 1968, p. vi). This definition fits the

institutional objective of having students learning for their lives and not for the moment. As

Head, Van Hoeck & Garson (2015) remark lifelong learning is a purposeful learning process that

aims to improve learners' skills at acquiring knowledge to become competent when using the

language.

The current research study considered this principle to propose a strategy in which students

learn by solving problems in collaborative groups. It is focused on the role of the teacher as a

facilitator by means of improving his role and guide the students' learning process for a lifelong.

4.2.3 Vision of curriculum

In the institution, there is no stated vision of curriculum; nevertheless, the school has as a

guide the standards of English that the Minister of Education has established for all the

institutions, official and private, in Colombia whose main objective consists of providing the

necessary contents level by level that allows them to communicate in the foreign language, use

the acquired knowledge in an appropriate way in real communicative situations ("Guía No. 22

Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés," 2016). As most of the

students are placed in an A2 level, the school has an intensification of English where the

objective is to have students in a C1 level according to the Common European Framework

(CEFR) (Council of Europe, 2001); the standards are a tool to accomplish it, but not the only

ones since the curriculum is based on the requirements that the CEF has as references, teachers

every single year check the achievements and make the required adjustments.

Both Colombia and the school are aiming at having bilingual citizens, the Minister of Education has three specific components to reach this: training teachers, quality and articulation to the production sector in order to guarantee to accomplish this goal ("Guía No. 22 Estándares Básicos de Competencias en Lenguas Extranjeras: Inglés," 2016). In the same way, the school is working on this, and it has implemented projects like Content Language Integrated Learning (CLIL) which in McDougald's words (2015) through this approach students can be benefited in their language acquisition process by helping them develop their language skills and subject knowledge at the same time which is a mean of fostering bilingualism at the school and a way to continue in the process of improving the teachers' practices at teaching the foreign language to students. Thus, the vision of curriculum in the school favors the project because it helps to guarantee the development of different skills such as critical thinking, collaborative work, creativity, and communication.

4.3 Instructional design

Considering the above-mentioned vision of language, learning, and curriculum, the researchers set an instructional design that respected and supported these visions to implement the research study into regular classes supporting them on their development. It was based on the needs analysis and literature review discussed in chapter one and two respectively, and it was designed for three cycles that allowed the researchers to analyze the information in order to readjust the plan at the end of each one of them. A cycle corresponded to a lesson divided in two sessions of sixty minutes. The cycles were applied during the third, fourth and fifth week. During the implementation stage, two sessions of sixty minutes were dedicated to the application

of a pre-assessment, one session of sixty minutes was dedicated to the training of the teacher on

the strategy, two sessions of sixty minutes per week for three weeks were assigned for the

application of collaborative problem-solving activities in a partially flipped classroom, paying

particular attention to the role of the teacher. Finally, two sessions of sixty minutes were used

for the application of a post-assessment. All of this, to analyze and improve the role of the

teacher in the classroom. For the researchers it was necessary to design and implement a

chronogram that is presented in the following table (2):

Table 2.

Action plan from this research.

Activity/Date	Feb. 7	May 16	May 23-24	May 25-27	May 30-June 14	June 20-21	June 22-August 10	August 16
Step 1: Recruit the possible teachers who are going to take part of the research.	X							
Step 2: Send consent letters to the principal's school, the teacher and parents in order to gain approval to apply the research.	X							
Step 3: Explain the participants what the project is about.		X						
Step 4: Apply the pre-assessment to students in order to know how they work collaboratively, how they make decisions when solving a problem.			X					

Activity/Date	Feb. 7	May 16	May 23-24	May 25-27	May 30-June 14	June 20-21	June 22-August 10	August 16
Step 5: Analyze the results of the pre-test.				X				
Step 6: Apply the strategy "collaborative problem solving activities" where the teacher's role will be analyzed.					X			
Step 7: Apply a post-assessment in which it will be analyzed how they work collaboratively, how they make decisions, and how they solve a problem.						X		
Step 8: Analyze the gathered information.							X	
Step 10: Sharing Findings.								X

4.3.1 Lesson planning

The lesson planning for the implementation considered the principles for developing a class established by the institution. Its requirements for improving the students' learning process were considered, as mentioned in the previous section. "Promoting Active Learning" (2001) indicates that including problem-solving activities in a course allows students to interact by working with their classmates to find a solution. Accordingly, they can put into practice their previous

knowledge and connect it with the new one together, clarify doubts among themselves, share

their ideas and self-evaluate them to decide which is the most appropriate depending on the

situation. For this reason, the planning of activities for the implementation aimed at helping the

teacher to become a facilitator, foster learners' problem solving skills by working collaboratively

and help them to be more autonomous in their learning process (Wilkerson & Gijselaers, 1996).

During the sessions of each implementation, the teacher was guided to let students become

the center of the class through collaborative team work and act more as a facilitator by

implementing the questioning strategy to clarify their doubts. The students worked on

developing their problem-solving skills and their autonomy too.

To address the research question and objectives, the lesson plans designed for the

implementation stage had objectives for both the researchers and the lessons. Additionally, each

lesson plan described in detail the activities and each step that should be followed to apply the

strategy in a suitable way to attain both objectives. Also, each one included a self-reflection

space that allowed the teacher to make notes about the development of the lesson. A sample of

the implementation lesson plans is available in Appendix E.

4.3.2 Implementation

Lesson planning for the implementation considered the vision of learning that is to make

students learn for life. To accomplish it, the school has been training teachers on this theory and

on utilizing it in the classroom. Despite this training, teachers tend to rely on their experience

and do not apply this concept. As a result, students learn just for the moment or to be evaluated. After that, they do not know about the topics that are taught.

This section explains the way in which the data collection instruments were applied during a 6-week period of implementation, which consisted of a pre-assessment, a workshop for training the teacher, three cycles that involved three lessons, and a post-assessment. Every stage was applied during one week in two sessions, each of sixty minutes.

During the first week, a pre-assessment was applied in order to analyze the role of the teacher, how he managed collaborative problem-solving activities. During this first stage, the teacher applied a collaborative problem-solving activity during the whole lessons. He carried out activities such as a reading, a matching activity, and a problematic situation in which students had to identify the problem and provide workable solutions.

The pre-assessment consisted of a handout related to the oral hygiene and a situational problem of a family. The teacher received as instruction that he had to apply the handout and solve all the activities including a final product that was a poster. He started by teaching new vocabulary and then he handed out the worksheet. After that, he joined the groups of students and tried to guide them to do the final product. The two sessions were recorded for a post-analysis by the researchers. Based on that analysis, researchers could identify repetitive patterns that helped them to define the criteria that the PLC used to analyze the three-cycle videotapes.

During the second week, a workshop was carried out to train the teacher on the strategy of collaborative problem-solving activities acting as a thinking coach and facilitator of learning. This workshop was developed because the results of the needs analysis showed that he thought that he was acting as a facilitator and the results of the pre-assessment showed the contrary. Researchers prepared some slides about what collaborative problem activities imply, what the teacher's role involves, how to form groups, and how to assign roles to the members of the group. The workshop started with a video that the teacher had to analyze focusing his attention on the role of the teacher and the group work. Around the video the discussion started, the strategy was presented and the teacher was reflecting all the time.

Dewey (1933) states that "We do not learn from experience … we learn from reflecting on experience" (p. 78), taking into account this advice, researchers prepared and executed a workshop where "the teacher" had the opportunity to reflect over his way of carrying out his lessons through activities planned for this. The result was the teacher's understanding of the importance of being a facilitator, working in a group, and assigning roles in a collaborative group work.

During the third, fourth and fifth week, the three research cycles were executed. In each cycle, the teacher received a lesson plan, handouts, and materials such as videos, speakers, and video beam, needed for each session. Students had to do a final product after each session: in cycle 1 the outcome was a notice, in cycle 2 a board game and in cycle 3 a flyer. As part of this research consists of a partially flipped classroom strategy, online class preparation was hosted at

a platform and researchers assigned a user name and password to each student, to give them access to it.

Consequently, we used the http://sqooltools.com/moodle/ platform, which is a virtual learning environment that supports teachers to provide quality online opportunities for learning. The platform has four different units dedicated to the three different cycles in which students worked asynchronously. For cycle 1 the units were "Being a good citizen" and "A good citizen can…"; for cycle 2, the unit was "A good global citizen: Do's and Dont's"; finally, for cycle 3, the unit title was "When a natural disaster strikes, what can a good citizen do?". Each unit provided the context to use in the application of the lesson into the classroom. Using this platform helped the researchers to partially flip the classroom by allowing students to prepare at home beforehand and ask the teacher their doubts during the face to face lesson. It is worthy to explain that students asked for clarification of the topics during the lessons. When they were working in groups and they had to write something using the language focus, they called the teacher and asked about structure and other doubts that came up as soon as they had to apply the topic learned at the platform.

During the three cycles, researchers videotaped all the sessions. After each lesson, the PLC group met to observe and analyze the material based on the criteria provided. Then, researchers examined the PLC notes, wrote feedback for the teacher, and readjusted the next cycle in order to facilitate the teacher progress when applying the strategy. Besides, the teacher had to reflect on the lesson at the end, so that reflection was considered for the improvement of the next session.

At the end of week 6, the post-assessment was applied. It was carried out something as the pre-assessment, a collaborative problem-solving activity, under the same conditions, without a lesson plan. As a consequence, the teacher decided to plan his own class based on the previous lesson plans used on the cycles, it was allowed because we told him to apply the post-assessment in the way he preferred.

Based on the mentioned implementation and the obtained results, the school can be benefitted from this theory if teachers start understanding what is meant by lifelong learning and start designing their classes thinking of this principle. According to Ausubel (1963), it can be said that meaningful learning occurs when new knowledge is linked to the previous knowledge clearly and consistently.

The apparent gap of learning and how the teacher helps it at the school inspired the researchers to devote time to the training of the teacher on the strategy of collaborative problem solving as the first stage of the application. That is why the presented strategy is dedicated to making the teacher reflect on how students can work collaboratively and on how his own role can turn into a facilitator and thinking coach. After that, the researchers joined the PLC to analyze every single lesson in order to provide feedback and readjust the lessons in order to help the teacher comprehend better what he needed to improve in his role.

According to the needs analysis (Chapter 1), the main actor of the class is the teacher and the result is that learners are used to work with the information the teacher provides since it does not allow them to develop their critical thinking skills much less to learn for life. To address this

matter, the researchers base the instruction on the vision of language and learning of the institution to develop a strategy in which the teacher gets used to act as a facilitator and help students to work by themselves in order to develop autonomy using the partially flipped classroom which in Bergmann & Sams' words (2014), it is a model that enables instructors to reduce lecturing during the classes by developing more practical activities and fosters autonomy and confidence in learners at learning a language at their own pace.

4.4 Conclusion

The institution views of language learning and curriculum are strongly related to this research study since it contributed to the second language learning process goals stated by the institution. Favorably, both visions could complement one another.

5. Results and Data Analysis

5.1 Introduction

In this chapter, the results of the research project implementation are presented by describing the process that was carried out considering the principles of qualitative research. It accounts for the data management procedures of analysis based on the grounded theory approach that allows the researcher to analyze data in order to understand a phenomenon under investigation. To make it possible, researchers need to look for prominent categories or themes and organize them to obtain patterns (Ellis & Barkhuizen, 2005).

Hence, it describes and explains the categories that emerged from data to answer the research question and how they are connected to the purpose of this study. Their relationships indicate that varying the role of the teacher through problem-solving activities developed in collaborative group work in a partially flipped classroom allows the teacher to become a facilitator as students take a more active role in their learning process.

5.2 Data management procedures

This section explains the way in which the data was collected and analyzed during a 6-week period of implementation. It consisted of four stages: *pre-assessment*, *workshop for training the*

teacher, *three cycles that involved three lessons*, and *post-assessment*. Every stage was applied

during one week in two sessions, each of sixty minutes.

During the first week, the first instrument was applied, the pre-assessment test. The data

collected there was analyzed by the researchers and then, they could identify some information

that was repetitive, it was helpful to state some criteria for the PLC group to analyze the

information in the third stage. It facilitated to identify the teacher's weaknesses regarding the

collaborative problem-solving activity strategy, which lead us to the implementation of the

second stage. The teacher showed a better understanding of the strategy and he was prepared for

the next stage.

The third stage consisted of the implementation of three cycles which included three lesson

plans that were designed to be applied by the teacher. The classes were videotaped to be

observed and analyzed by the PLC group and the researchers. At the fourth stage, a post-

assessment was applied under the same conditions of the pre-assessment test. The results at

these two stages were contrasted in order to confirm the efficacy of the strategy.

5.2.1 Validation

In order to validate the data collected with the instruments mentioned above, researchers

adopted the constant comparison method which according to Strauss (1987) consists of

comparing new indicators with previous ones in order to find similarities and variations. That is,

researchers from the very beginning, having the information of the pre-assessment, decided how

to proceed based on the initial collection of data and understanding the phenomenon. According to the emergence of theory and its analysis (Glaser & Strauss, 1967), the data collection should be planned after the end of each cycle. At this point, triangulation, which consists of incorporating multiple points of views by checking one perspective against another, was considered when more than one type of data prevails on the same conclusion, then researchers are confident on those conclusions (van Lier, 1988).

This process was carried out with the information of the pre-assessment, cycle 1, 2 and 3, and the post-assessment. Therefore, three comparisons were made in order to triangulate and give meaning to the data. First, the teacher's journals were compared with the students' opinions. Second, the teacher's journals were compared with the PLC analysis notes of each cycle. And finally, the PLC analysis was compared with the students' opinions. All of this with the purpose of obtaining information related to the role of the teacher, supporting that the teacher provides, and getting information about how students felt during the lessons.

To analyze the information obtained from the pre-assessment and the post-assessment, and at the same time to focus attention of the PLC analysis, researchers established a set of criteria taking into account first, teachers' instruction; second, group organization; third, role of the teacher while students work in groups; fourth, teacher's support to students when solving a problem; and fifth, interaction among students and teacher. The mentioned criteria were used to analyze the videotapes of the lessons in order to "focus observations and interpretations on a limited number of specific performances that provide more relevant than general information"

(Gay & Airasian, 2003). In other words, the criteria helped the researcher and the PLC group to

focus attention and provide the appropriate feedback to each cycle.

5.2.2 Data analysis methodology

To analyze data, the researchers based this process on the qualitative research principles and

the grounded theory approach which is a way to gather the data and start its analysis to generate

categories finding an explanation to a phenomenon of interest (Opie, 2004). Considering this,

the research process was conducted following the systematic design that Creswell (2012)

explains as a type of grounded theory design that is generally applied in educational research.

This study consists of three stages of coding; open, axial and selective coding for analyzing the

collected data.

5.2.2.1 Open Coding

Creswell (2012) states that in the first stage of coding, open coding, a grounded theorist

must construct initial categories of the collected data by segmenting it. Therefore, the

researchers examined the pre-assessment, the post-assessment, each one of the three instruments

applied during the three cycles in order to form the emergent concepts or codes by means of the

color coding technique using different colors to highlight the repetitive patterns into the raw data.

The researchers analyzed the first instrument, which was a pre-assessment applied in the

first week of the intervention. It was about a handout the teacher received with the activities to

carry out during the lesson without a lesson plan in order to analyze the teachers' role, what type of interaction took place in the classroom and how much the students depended on "the teacher". After reading and observing the results, the researchers compared them and found repetitive patterns, which showed that the teacher was the center of the class. Due to this, a great dependence from students on the teacher was identified as well as the poor interaction in the classroom that occurred in the way teacher-student only.

During the following three weeks, three different cycles were applied as part of the implementation stage. Before starting a cycle, the teacher received a lesson plan and a handout with the step-by-step activity to be carried out there. In this opportunity, the class was videotaped and then it was analyzed by the researchers and the PLC through a form which included the mentioned criteria that allowed us to get more concrete information regarding the role of the teacher and students' work.

Throughout the implementation stage, the third and fourth instruments were used to collect more data. After each cycle, the researcher met some students to carry out the informal interviews (third instrument) and the teacher filled a journal where he expressed his feeling, what he did right, what he needed to improve and some suggestions for the coming lesson plans in order to reflect on his own practice.

Finally, a post-assessment was applied under the same circumstances as the pre-assessment. It was noticeable that the teacher was better prepared on the collaborative problem-solving activities in a partially flipped classroom strategy. As in the pre-assessment, this was videotaped

and analyzed by the researchers and the PLC. All the data collected through the mentioned

instruments were read and reread to highlight repetitive patterns, then, the researchers formed a

group of themes by using the color-coding strategy as it is shown in appendix F.

5.2.2.2 Axial Coding

This second stage was carried following Creswell's (2012) protocol, in which the researchers

chose an open category and related it to other categories as a way to establish relationships

among them and define the major categories and their corresponding subcategories. To carry out

this process, we used the coloring technique, which allowed us to obtain emergent patterns from

the raw data and then categorize the information as it is shown in Table 3.

Table 3.

Cycle 3. Categories and Subcategories

Category 1: Interaction Among Students and the Teacher.	
Subcategory	**Code**
Teacher Talk	Teacher's personal feeling expressed: 75%
	Accepting Students feelings: 80%
	Positive feedback: 85%
	Teacher accepts-develops student ideas: 85%
	Ask questions: 75%
	Teacher gives information: 75%
	Teacher explains at request of students: 80%
	Teacher gives directions to class: 40%
	Teacher gives directions to leaders: 0%
	Use of English: 90%
Student Talk	Students respond as expected: 80%
	Unison response: 70%
	Students ask questions about what the teacher expects: 70%

	Students initiate questions: 70%
	Use of English: 60%
Category 2: Instruction Provided by the Teacher	
	Multitasking: 50%
	Movement (pace of a lesson):
Management	Introduction (Video): 5'
	Pre-task: 10'
	During-task: 55'
	Post-task: 10'
	Students on discussion: 75%
Group Focus	Participation of students: 70%
	Asking questions: 75%
Group Organization	Numbering: 0
	Close partners: 1
Category 3: Role of the Teacher During the Lesson	
	Thinking coach: 80%
Facilitator	Encouragement: 80%
	Teacher's support: 80%
4. Fostering Autonomy in Students	
Partially flipped classroom	Work in the platform: 70%
	Grammar questions during the lesson: 30%

This chart shows the axial coding used to analyze all the data collected from the four instruments, this chart was made for the pre-assessment, cycle 1, 2 and 3, and the post assessment in order to differentiate the categories that are connected to the causal conditions, identify the central phenomenon, and recognize factors that influence the strategy adoption and outcomes (Babchuk, 1997). The percentages that are shown in table 3 are related to the frequency in which those data were repeated in each category during the cycles.

5.2.2.3 Selective Coding

In this final stage of the analysis process, we examined carefully the four categories and subcategories that emerged from the axial coding stage in order to identify a core category that may help answer our research question through a new grounded theory. The core category that came out is: *applying collaborative problem solving-activities in a partially flipped classroom.*

5.3 Categories

In this section, it is explained how our research question can be answered straight out from the core category in relation to the main categories and subcategories that are the outcome of the axial coding stage.

5.3.1 Overall category mapping

The graph 1 shows the categories obtained as a result of the axial coding stage, namely: *interaction among students and the teacher, instruction provided by the teacher, role of the teacher during the lesson, and fostering autonomy in students*.

Graph 1: Category mapping

Figure 7. Triad showing the categories that emerged from the axial coding stage.

The figure showed a triad in which the four central aspects are identified in order to achieve our main outcome: *improvement of the teacher's role in his practice.*

5.3.2 Discussion of categories

In this section, the four identified categories: *interaction among the students and the teacher, instruction provided by the teacher, role of the teacher during the lesson, and fostering autonomy in students* are discussed individually.
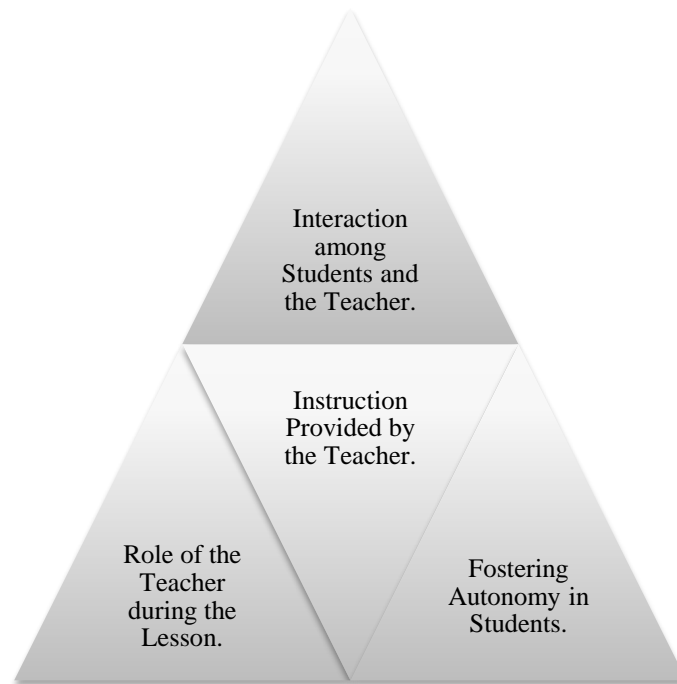
5.3.2.1 Interaction among the students and the teacher

Despite the fact that the vision of language in the institution is related to the development of communicative skills, which in turn involves interaction, the needs analysis had evidenced that the only interaction that took place in the classroom was teacher-students in which the level of use of the language was about 50% by both parties. They seemed to see that the only interaction possible in the classroom was the one in a teacher-centered classroom, where teacher initiates a question, student responds and teacher evaluates the response (Rogers & Freigberg, 1994). Interaction, on the other hand, involves an educator with a more humanistic orientation who maintains a classroom climate where an active synergy occurs, there are close personal relationships with students, mutual respect, positive attitudes and flexibility of rules, as well as student self-discipline, self-determination, and independence are fostered (Willower, Eidell, & Hoy, 1967).

After the implementation, the students seemed to have a better level of interaction (70% after analyzing the post-assessment results), not only with the teacher but also with other students and it can be evidenced in two aspects: the majority of students (70%) were familiarized with the context because they got into the platform, and they wanted to express their ideas. This is also evidenced in the analysis of the informal interviews of students and the teacher's journal during the open coding stage. Data in these instruments revealed what Roschelle (1992) affirms that interaction is a means of reaching convergence through the construction, monitoring, and repairing of shared knowledge. Learners seemed to be involved in their learning process after each session. For instance, now they seem to be eager for expressing their ideas, which is evident in the following examples.

"I feel that the activities are in order to get integrated as a group that we are and that is why that we feel more confident when we express our ideas without any fear of mocking, besides the help that we have in the platform to be in class with information facilitates the lessons". (Informal interview, Student 5).

"Before the teacher started with the group activities, I was always afraid of making mistakes. Now it is different because I get in the platform and prepare for the class in the school, I am willing to participate more" [SIC]. (Informal interview, Student 15)

"Now my attitude is more positive towards the class because I can participate more without making so many mistakes, and I think it is because I solve the activities in the platform". (Informal interview, Student 26)

This comment reveals that students feel comfortable talking with their partners because they were prepared to give ideas thanks to the platform, and they can share their thoughts with others using the spoken language. Additionally, they seem to acknowledge that interaction is important for their learning, as registered by the teacher in his teacher's journal.

"Students tried to speak in English by preparing what they would say in front of their partners, they also asked the teacher how to express some ideas in English when they didn't know how to express it by themselves". (Journal Entry Session 3)

This comment reveals that students were willing to interact with their partners using the target language.

5.3.2.2 Instruction provided by the teacher

One of the problems most teachers have when giving instructions to students is that these ones are not clear and are a cause of confusion and misunderstandings about what they have to do. After revising the PLC observations, it could be noticed that the teacher had some trouble in his way of giving instructions and during the lesson. Therefore, researchers explained him the concept of scaffolding that "is one way to provide comprehensible input. When teachers scaffold instruction, they engage in the gradual release of responsibility from themselves to the students" (Deussen, Autio, Miller, Turnbaugh & Stewart, 2008, p. 8).

Into this category, we decided to take into account the PLC comments during the open coding stage and the teacher's journal entries (see appendix G). Besides, there were some sub categories that were involved since they were repetitive and all were related to the instruction that the teacher gives to students. These subcategories are *management, group focus, and group organization*. Into the sub category management, multitasking and pace of the lesson were taken into account. In the sub category group focus, it was considered student´s discussion, student´s participation, and asking questions. Finally, in the group organization, numbering and close partners were examined. The relationship that the researchers saw in these sub categories is connected to the fact that the teacher in each stage had to provide a scaffolded instruction in order to make students do what was required according to the strategy presented to him.

According to the results of the post-assessment, the teacher seemed to be more conscious of the way he provided instructions. He was able to take less time explaining what students had to

do as he simplified his language and modeled what students were expected to do. He passed from 20 minutes giving instructions to 5 minutes of instruction. On the other hand, he was able to take questions and students' ideas to complement his own instruction.

5.3.2.3 Role of the teacher during the lesson

Johnson & Johnson (2008) established that the teacher's role in cooperative learning is having a focused discussion and interspersing pair discussion throughout the lesson. In other words, teachers should be promoting discussion among students. In our case, we wanted the teacher to become a facilitator who "instead of being the sage on the stage, functioned as a guide to the side, facilitating learning" (King, 1993, p.30) in a meaningful way. The purpose of this research project was to improve the role of the teacher helping him to become a facilitator who gets learners "to think and answer questions so that they can achieve clarity and generate ideas" (Kallet, 2014).

After the application and analysis of the pre-assessment (see appendix H), it was revealed that the teacher had a 30% of encouragement and support to students during the lesson. Nevertheless, his level of facilitation was 20% according to the number of times he used the question strategy with his students. At this stage, the teacher was trained by a workshop on how to become a facilitator and the importance his role has in applying collaborative work. After that workshop, the teacher concluded that "it is a must to cultivate the art of asking questions, provide students with a role in each group, and do not provide the answers" (informal interview). Having

in mind the former, the application cycles started and progressively, it could be noticed that the teacher became a facilitator of knowledge.

Learners became aware of asking questions and understanding the role of the teacher, as it can be visible in the informal interviews with them.

Students prefer that the teacher helps them and gives them hints. For them it is better than providing them with the full answer. That is why the activities become more interesting. (Informal interview, Student 7, 9 and 12)

By this comment, it seems that students prefer to think the answer and the teacher helps them in the way he guides them and does not provide all the answers. Likewise, it can be assumed that students are learning meaningfully and the teacher likes the most his new role by the teacher's journal entry.

"Students are becoming so independent that won't need someone who is telling them what to do. I can help students to develop their critical thinking by asking them meaningful questions so they can realize by themselves the answers". (Journal Entry Session 3).

This entry may reveal that the teacher understands more how to become a thinking coach, what to be a facilitator involves, and why it is important for students' learning. In other words, he is putting into practice the suggested technique although it can be difficult to manage at the beginning. He is facing a new challenge on managing the questioning strategy appropriately in

order to foster his students' critical thinking skills. After the axial coding analysis, it could be affirmed that the teacher passed from a 20% as a facilitator to an 80% acting as a guide. This result can be seen in table 3 and in the following excerpt from one of the entries in the teacher's journal:

> *"I feel that I've been improving my role during the lessons since I can use the questioning technique in the way that students are able to come up with their own ideas, so I think they see me as a facilitator".* (Journal Entry Session 2)

5.3.2.4 Fostering autonomy in students

Sinclair (2000) states that autonomy involves some willingness from the learner to be in charge of their own learning process. This is one of the greatest challenges education faces nowadays since students use to depend on the teacher all the time and to transform this is a hazardous task. Therefore, another area of our interest has to do with autonomy and how the teacher fostered it in class with his students.

The pre-assessment revealed that the students rely on the teacher all the time. That is, they need the teacher to take them step-by-step from the beginning of the class until the end. They are always asking questions and even asking for the corresponding answers to the teacher and he does not have any problem with solving everything for his students. During the implementation stage, students had to get to the platform using this link http://sqooltools.com/moodle/, the researchers created an account providing students with a username and a password. At the first cycle, just a 10% of students got into the platform. Researchers and the teacher worked together to motivate students, this was an arduous task, but it could be seen by the students' frequency access to the platform that they could understand the importance of getting ready before the class with the material uploaded there. (See table 4)

Table 4.

Example of the frequency of the access to the platform.

	FREQUENCY ACCESS TO THE PLATFORM	
STUDENTS	**NUMBER OF TIMES ACCESSING**	**TIME SPENT ON THE PLATFORM (minutes)**
Student 1	2	60
Student 2	3	140
Student 3	3	180
Student 4	4	180
Student 5	6	120
Student 6	5	240
Student 7	5	300
Student 8	7	200
Student 9	5	250
Student 10	4	200
Student 11	3	100
Student 12	2	100
Student 13	3	90
Student 14	4	200
Student 15	5	200
Student 16	4	80
Student 17	2	120
Student 18	6	180
Student 20	8	320
Student 21	4	160
Student 22	5	120
Student 23	8	400
Student 24	9	130
Student 25	9	400
Student 26	9	350

This table demonstrates the frequency in which students got into the platform and the

time spent on it, preparing beforehand the topics and solving the proposed activities to be ready

for the face-to-face sessions. In it, researchers could understand that learners need to be empowered of their own learning process, and although the frequency was not as expected, students showed progress at becoming more autonomous.

The post-assessment showed that students could gain autonomy during the process and they could solve the activities without the teacher's help. Within the process in cycles 1, 2 and 3, students demonstrated that they could work on the platform by themselves at home when they arrived at class; they already knew the context and the grammar focus they would need for the lesson and conscious of asking the doubts they had during the preparation at home. This is shown in the teacher's following comment in the cycle 2 journal:

"It is so wonderful to have most of the students participating actively and asking me to clarify their doubts. Honestly, this allows me to be more relaxed since I do not have to talk all the time giving a grammar focused class". (Teacher's Journal entry 2)

Work on the platform refers to the amount of work that students did by themselves at home, using the platform they prepared for the lesson and were willing to work better since they knew what the lesson would be about. Table 3 shows the access that students had during the implementation. As it was a partially flipped classroom, which means that students can ask questions related to the explanation on the platform during the synchronous sessions, the teacher answered them by providing some instruction to the whole group. Students were allowed to ask questions related to the grammar topics in class like Present Simple, Auxiliary Can, Imperatives, and Present Continuous as long as they had got into the platform. As the intervention progress,

they asked fewer questions each time, passing from an 80% to a 30% of questioning related to the grammar patterns.

Below, Table 5 provides general information about the coding established during the axial coding stage. This chart is the result of the analysis of each stage in this action research: pre-assessment, cycle 1, 2, and 3, and post-assessment. It is explained by using percentages that are easier to understand and check the progress. These percentages are related to the frequency of repetitive data during the analysis of information.

The instruction provided by the teacher has percentages that increase, indicating that he improved his intervention when providing instruction taking less time for it and scaffolding the process in the way students understood what was meant to do. In the role of the teacher during the lesson, he improved his performance as a facilitator and thinking coach and the percentages start from a very low percentage of his play to a higher level of facilitation.

Table 5.

An example of the categorize information.

Chart Coding Comparison					
Applying collaborative problem-solving activities in a partially flipped classroom					
Categories	**Pre-Assessment**	**Cycle 1**	**Cycle 2**	**Cycle 3**	**Post-Assessment**
Interaction among students and the teacher	10%	20%	40%	60%	60%
Instruction provided by the teacher	40%	50%	60%	75%	80%
Role of the teacher during the lesson	20%	40%	60%	80%	80%

Fostering autonomy in students	20%	10%	40%	70%	80%

Note: The percentages represent the improvement of the teacher in each stage. They are organized from a poor to a higher level of performance.

We should note that the *instruction provided by the teacher* had an improvement since in the process the teacher went from a 40% (that represents a high use of time) to an 80% of explanation by scaffolding the step by step and using students' ideas to better explain the activities, this is proved by reading some testimonies:

"The teacher has changed his way of explaining to us because now he is doing it in English all the time. Before, he used Spanish a lot for clarifying our doubts". (Informal interview, Student 4)

"I can notice that the teacher uses more English than before, now he is explaining using the language and we can understand better". (Informal interview, Student 10)

"Although the teacher is explaining in English, now I understand better because he is providing us with specific steps to follow". (Informal interview, Student 15)

A closer look at the categorization reveals that the *interaction among students and the teacher* category improved since students were feeling comfortable when expressing their ideas. This was because they felt confidence preparing the grammar focus at home asynchronously and working in their groups during the face-to-face sessions that is related to the *fostering autonomy in students* category and it is demonstrated in the following excerpts:

"Besides he is letting us work in a group (before he did not). I think that the activities are

fantastic since we are not working alone as we used to do, but we have some assigned roles

in our groups that have allowed us to share opinions, speak in English among us and

become a team". (Informal interview, Student 4)

"Working in groups is something new for us and it has raised my interest for participating

more in the class, I feel better talking to a small group first and then talking to the rest".

(Informal interview, Student 9)

Finally, the contributions of the learning for a lifelong that students had, come into play with

the feeling of belonging to a group, reflective analysis, personal organization, and other factors

that they needed as motivation during the process. It is validated that the *role of the teacher*

during the lesson offered support, encouragement and reflective questions; student 4 continues

"s*o, we care for each member of the group work and we are more aware that every action can*

affect the whole group", that allowed the teacher act as a facilitator and thinking coach.

5.3.3 Core category

To answer the research question and through the parallel of the four categories presented above and the literature that supports them, a core category appeared: *applying collaborative problem-solving activities in a partially flipped classroom.* The researchers decided to use the term *triadic process* because the enrichment of the teacher's role as a facilitator did not occur immediately or quickly. Further, it took going step by step towards being a facilitator and this process is not complete yet. Being a facilitator may require a long time of strategy use, reflection, and implementation into the classroom. Additionally, the analyzed categories illustrate the four areas that the teacher could consider since they are related to each other and equally important to the implementation of the current study.

In fact, after implementing the strategy and activities designed for this study, it was evident that the teacher can become a facilitator of learning to help students learn in a meaningful way by a triadic process that involves: first, a process that fosters training the teacher on group formation in the classroom and assigning roles to the students to work in group. Second, a process that promotes that the teacher supports the students' problem-solving skills by implementing the questioning technique appropriately. Finally, a process that inspires the teacher to support the students' problem-solving skills by playing the role of a thinking coach.

5.4 Conclusion

The role of the teacher when applying collaborative problem-solving activities in a partially flipped classroom implies the development of critical thinking to generate valuable questions to, in turn, help students to facilitate learning. The data collected suggests that the teacher's reflection on his practice, the positive feedback he received and his willingness to improve during the implementation stage, had an impact on his performance.

6. Conclusions and Pedagogical Implications

6.1 Introduction

The conclusions presented in this chapter are the result of a systematic analysis of the problem-solving skills through collaborative learning work of sixth graders in a private Colombian school. The conclusions of this study are significant since they can help teachers and students to deal with the current problem of having teachers lecture all the time and assign roles when working collaboratively in a partially flipped classroom. Besides, through the conclusions drawn below, other teachers may reflect on the importance of fostering problem-solving skills and autonomy by complementing the lessons with work on a platform. In view of the above, this section contains the following information: First, a comparison between the results of the current study and those of the research studies mentioned in the state of the art; second, the positive educational impact of the findings; third, the difficulties faced during the research study that were not anticipated and needed to be taken into consideration for further research studies; fourth, possible topics and strategies that can be explored in further research in order to continue analyzing the phenomena under investigation; and finally, a conclusion that remarks the most valuable information related to the answers of the research study question.

6.2 Comparison of results with previous studies' results

This study demonstrated that the implementation of problem-solving activities through collaborative work in a partially flipped classroom in one hand, reduced both students' dependence on the teacher and the teacher talk in class, turning the lessons into more student-centered ones where the teacher could act more as a facilitator by implementing the questioning technique in order to support the students' learning process. On the other hand, students developed their problem-solving skills and learned how to work collaboratively in an effective way by appropriating themselves of their role and its functions in the group. Finally, students were able to foster their autonomy by working by themselves on the platform and taking advantage of the time of the class to clarify doubts with the teacher and their partners in the groups.

According to these findings, this study relates to other research studies carried out in Colombia and overseas. Regarding collaborative learning teams, Centeno et al. (2013) showed that by implementing this strategy, the students' motivation increased since they changed their attitude and were engaged during teamwork activities and on the teachers' side, it helped them to foster the students' self-direction sense and an opportunity for students to learn in a safe environment by collaborating, interacting and communicating effectively. Despite the present study did not focus on students' motivation increasements, there were some students' comments that showed a change in their attitude towards the lessons and the new activities the teacher carried out in them. The most relevant finding has to do with the collaborative strategy in which the students were able to work in groups by having specific functions. The teacher assigned

various roles, which allowed them to turn not always to the teacher in order to solve problems but to their partners first.

Regarding problem – solving, Cavanagh (2008) examined the use of problem-solving activities in teaching and found that the tasks became more open-ended and through them students are not so tied to the topic, so they can develop their self-directness skills and learn meaningfully. Based on this, in our study, students had the opportunity to learn how to work in an autonomous way, for this; they had to organize their time and work regularly on the platform. Also, they learned and practiced the target grammar at their own pace since they could repeat the videos and explanations as many times they needed. The previous is reinforced by King-Dow Su (2008) who noticed in his study that to include self-access materials in the classes, makes understanding of the concepts easier to students, apart from fostering their autonomy and facilitating their learning process.

Concerning the teacher's role, Staples (2007) stated that the implementation of collaborative inquiry as a pedagogical strategy, results in developing the students' problem-solving skills and making the teacher to become a facilitator during the activities. The latter could be observed in the present study since the teacher cycle over cycle showed a considerable progress at becoming a facilitator by using the questioning technique with his students and how they understood in an easier way by the support or guidance not only from the teacher but their partners too.

With respect to flipped classroom, Dawes and Fox (2013) found that flipping the classroom partially was a very useful way to save time due to the lessons could be shortened and in class,

students could have significant time to ask questions, clarify doubts and complete the homework or tasks with the support of the teacher. Precisely, this strategy was implemented in our research study, the fact of flipping the classroom partially helped the teacher to devote time during the lessons to the students in understanding better some unclear topics pertaining to the language focus, and not giving a whole explanation about grammar in class.

As Sun & Wu (2016) showed in their study, to have a flipped classroom provides the students with more opportunities to have a better understanding and achieve the planned goals for each lesson which is an important aspect that could be noticed in our study. According to our results and informal interviews with students 8, 13, and 25, for them it was simpler to learn the target grammar with the help of the platform and they took more advantage of the class sharing ideas and constructing their knowledge under the guidance of the teacher.

Finally, concerning self-regulation, in this study, it was quite complicated to make students conscious about planning their schedule and work by themselves in the platform at the beginning. However, after the first cycle, students understood the importance of working beforehand at home in the platform to be prepared for the work in to be carried out in class this could be seen in the entries record of the platform for each student, how they could self-regulate their work at home. As Çakıroğlu & Öztürk (2017) presented in their study that self-regulation is an important strategy since through it learning is facilitated and turn the classes into challenging and safe learning environments.

6.3 Significance of the results

The results of this research study revealed that the collaborative problem-solving activities in a partially flipped classroom strategy was successful to help the teacher to improve his role becoming a facilitator of learning who benefits students to develop their critical thinking skills by acting as a thinking coach.

Regarding the interpretation of the teacher's role, it was important the formulation of questions on the teacher's side since it was more successful in the lessons when considering that questioning as focal elements, facilitates the development of critical meaningful learning (Moreira, 2010). Thus, questioning and problem-solving activities may help to turn the classroom from teacher-centered to student-centered, since students get engaged to provide a suitable solution to the proposed problem, work collaboratively and prepare on the grammatical focus of the lessons before-hand at home. Therefore, the teacher could reflect on his practice improving himself after each cycle. This allows the researchers to conclude that teachers can be facilitators as long as they are trained in collaborative problem-solving activities and promote that students prepare the topics in advance at home to gain more time for hands on activities.

Our second objective was to identify the strengths and weaknesses of the teacher in class by self-reflection. In this way, the teacher could reflect on his practice improving himself after each cycle. Researchers assume that adopting a daily self-reflection practice helps teachers to enhance their work during the lessons. With respect to the evaluation of the collaborative problem-solving activities in a partially flipped classroom strategy, researchers draw the conclusion that it was successful due to the fact that students were motivated when working in

groups with the assigned roles, felt comfortable participating and interacting in class because they prepare the topic at home, and enjoyed coming up with solutions to the settled problems as it is evident in students' testimonies.

The last objective, demonstrate students' autonomy progress through independent work in a platform was satisfying. Researchers evince that students, at the very beginning were not willing to access the platform, so they were not prepared for the first session, the few ones who got in, were participating actively and could understand better the topic. As a consequence, the others were aware of the importance of preparing beforehand and started working regularly in the platform as it is evident in table 4. This allows the researchers to conclude that students' autonomy increased as they understood the importance of studying previously at home.

On the other hand, it could be said that this research project is pertinent for the institution where it was carried out because it may suggest a methodology to tackle meaningful learning in a way that is coherent with the school's vision of language and learning. Regarding language, the methodology used to this study developed the communicative skills on students. This is according to the vision of language that is focused on the development of the communicative skills. About learning, the current methodology implied meaningful learning as a core to develop the facilitator skills on the teacher to allow learners to take responsibility for their own learning process. Implementing such methodology, teachers can have a better idea of what works with students helping them learn in a meaningful way while the teacher provides a suitable strategy to see the role as facilitators and not instructors.

These results can be transferable to other contexts where teachers are interested to improve their own practice, want to change their reality and to empower students in their own learning process. Additionally, the Colombian context, taking into account the Ministry of Education, is demanding communicative lessons where students develop the four skills that a language requires. That is why, this research seems to be suitable to the government demands about having communicative English lessons due to the fact that one of the findings was that working collaboratively allows students to interact and develop their communicative skills, it can be pertinent to train teachers in applying collaborative problem-solving activities in a partially flipped classroom to guarantee interaction among all the members into the classroom.

In regard to the global context of English education, the results of this current study may provide useful insights related to the role of the teacher and how teachers can consider some wide perspective as professionals (Krowits, 1985). Then, for teachers around the world, especially in Colombia "the question is how discussions about globalization taking place in sociological circles relate to their overall approach to language teaching, and to their day-to-day practice" (UŞAKLI, 2011) and this study may be useful to answer the question since it provides useful insights in how the teachers can help students to think globally by providing different contexts, develop their communication skills and reflect on their own practice.

6.4 Limitations of the present study

During the development of this research project, researchers faced a number of limitations that produce significant changes in the research design and implementation. First, this study was

supposed to be applied in two institutions, a public and a private one. Nevertheless, there was a

strike that took longer in the public school, so it was not possible to have other results in this

context. The researchers waited until the last moment to be able to implement, but due to time

constraints, they could not wait anymore.

Once the implementation started, and after having noticed a great deal of criticism of the

PLC groups, the researchers had to focus their attention on the aspects that were the core of this

investigation. Due to the fact that the PLC group was mainly concerned about classroom

management and gave less importance to student-centeredness, it was necessary to train them on

the collaborative problem-solving activities in a partially flipped classroom strategy. The aim

was to make them prepare how to advise teachers to seek a more student-center classroom and as

a result, the PLC group could provide a better feedback to the teacher.

Regarding the platform, researchers dealt with the fact that students lack motivation and

interest to get into the platform. Some students felt that it was mandatory so they spent a very

short time and did not solve the activities completely. The teacher and researchers helped to

motivate students to know the platform and understand that its frequent use would benefit their

performance in their classroom.

6.5 Further research

This research can be the starting point for future research about the role of the teacher

into student-centered classes using elements such as collaboration and partially flipped

classrooms but using alternative strategies to problem-solving as the researchers chose for this study. This may be applied not only in private schools but also in public institutions where groups tend to be bigger. Besides, this research provides language teachers with insights in relation to the facilitation of centered learning, and second, the benefit of the questioning technique as a way to foster self-directed learning.

Therefore, the researchers of this study consider that is worthy to explore other strategies that may also help improve a teacher's role that allows him to empower the learners to start being the owners of their learning process.

6.6 Conclusion

After having carried out this action research study and analyzed the data and the results, the researchers came up with the following conclusions:

- Through the training of teachers on the collaborative problem-solving activities strategy, the teacher could improve his role during the lessons, turning them into more student-centered ones, and becoming a facilitator of learning who promotes meaningful learning on the students.

- The role of the teacher can be improved to enhance students' lifelong learning skills. If teachers are willing to empower themselves on their lessons, reflect on their practice by choosing the most appropriate strategies and think outside the box as a mean to innovate, be creative into their classrooms, and provide a good support to the students' learning process.

- A partially flipped classroom helps the teacher with the preparation of the grammar focus providing more time to do hands on activities that allow the students to internalize the grammar focus and develop their communicative skills.

- The student's autonomy increment depends on the awareness students have about the importance of their own learning process.

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Appendix

Appendix A. Needs Analysis

Questionnaire for Teachers

Dear colleague,

We are interested in knowing about your work in language lessons, your teacher's role, teaching strategies and students' participation. We would really appreciate that you share that experience with us.

The survey is governed by Universidad de la Sabana regulations which ensure the privacy of individuals' responses. All survey results will be reported only in statistical summaries so individuals will not be identified.

Time needed to answer the questionnaire: 20 minutes

Thanks for taking your time answering this questionnaire.

* Required

Background Information

1. Age: *

Mark only one oval.

30 - 35 years old

36 - 41 years old

42 - 46 years old

More than 47 years old

2. Gender: *

Mark only one oval.

Female

Male

3. Teaching Experience: *

Mark only one oval.

Less than 5 years.

5 to 9 years.

10 to 15 years.

16 to 20 years

More than 20 years

4. Educational level: *

Check all that apply.

Undergraduate degree

Postgraduate degree

Pedagogical training

Regular attendance to conferences, symposiums, webinars

Short-term development professional courses

Other: _____

5. Type of institution: *

Mark only one oval.

Private

Public

6. Grade (s) you teach: *

Check all that apply.

6

7

8

9

10

11

7. Level (s) you have taught: *

Check all that apply.

A1

A2

B1

B2

C1

C2

8. How long is the English class you teach? *

Mark only one oval.

120 minutes

90 minutes

60 minutes

45 minutes

Other: _____

Teaching performance

9. How do you define yourself as a teacher? *

Check all that apply.

Facilitator

Leader

Instructor

Role model

Lecturer

Other: _____

10. Explain _____

11. In your classes you use teaching strategies such as... *

Check all that apply.

Collaborative learning

Peer review

Project work

Problem Solving

Other: _____

12. Feel free to explain any other strategy you use!

_____

13. Your lessons are focused on your students... *

Mark only one oval.

With 80% student ownership of lessons.

With 50% opportunities for students to own some of the lessons.

With 30% occasional opportunities for ownership.

With 10% rare opportunities for ownership.

14. In your lessons, which of the following activities do you do the most? *

Check all that apply.

Help students think critically.

Use group, peer and self-assessment strategies.

Motivate students who show low interest in school work.

Provide an alternative explanation (e.g., when students are confused)

Other: _____

15. Please choose each and every activity that you conduct in your English lessons to help your students learn more effectively. Please describe in the space provided if you use any other activities (feel free to choose more than one). *

Check all that apply.

Pair/group work

Real-life problems

Preparation at home.

Discussion activities.

Debates

Jigsaw activities

Other: _____

Self-reflection Section

16. How much feedback do you provide (oral and written) to your students on a daily

basis?*

Mark only one oval.

80%

50%

30%

10%

0%

17. How often do you take into account your students' feedback about your lessons? *

Mark only one oval.

Very frequently

Frequently

Occasionally

Rarely

Very rarely

Never.

18. How often do you ensure that your students understand what you explain?

Check all that apply.

Never

Seldom

Sometimes

Usually

Always

19. Which of the following elements of your existing teaching role, you find challenging? *

Check all that apply.

Monitoring students' work

Providing feedback

Facilitating Group work

Teaching your lessons meaningfully

Solving problems as a teaching strategy

Other: _____

20. Do you think students in your language lessons can be more active learners? How? *

_____

Students' questionnaire

Dear student,

We are interested in knowing about your English lessons and your participation in them. We would really appreciate that you share your opinion with us.

The survey is governed by Universidad de la Sabana regulations which ensure the privacy of individuals' responses. All survey results will be reported only in statistical summaries so individuals will not be identified.

Time needed to answer the questionnaire: 20 minutes

Thanks for taking your time to answer this questionnaire.

* Required

ABOUT YOU / ACERCA DE TÍ

1. Age/ Edad *

Mark only one oval.

10- 12 years / 10 - 12 años

13 - 15 years / 13 - 15 años

16 - 18 years / 16 - 18 años

2. Gender/Género *

Mark only one oval.

Male/ Masculino

Female / Femenino

3. How many hours of English class do you have per week? / ¿Cuántas horas de Inglés

tienes a la semana? *

_____

ABOUT YOUR ENGLISH TEACHER /ACERCA DE TU PROFESOR DE INGLÉS

Answer the following questions in Spanish. / Responde las siguientes preguntas en Español.

4. Think about your English lessons, what makes those lessons good for you? / Piensa en tus

clases de Inglés, ¿Qué es lo que las hace buenas para tí? *

Mark only one oval.

- You listen to your teacher speaking all the time. / Escuchas a tu profesor hablando todo el

tiempo.

- You fill out worksheets all the time. / Completas talleres todo el tiempo.

- You can interact with your partners. / Puedes interactuar con tus compañeros.

- You can work in group. / Puedes trabajar en grupo.

- You can prepare the new topic by yourself beforehand at home. / Puedes preparar un

nuevo tema con anticipación en casa.

- You can develop activites based on problem solving. / Puedes desarrollar actividades basadas en resolución de problemas.

5. In your opinion, what is the role of your teacher in the lessons? / En tu opinión, ¿Cuál es el papel de tu profesor en la clase? *

Check all that apply.

- The owner of the class / El dueño de la clase

- A guide / Un guía

- A co-learner / Un co-aprendiz

- An instructor /Un instructor

- A lecturer / Un conferencista

- Other / Otro. Which?/ ¿Cuál? _____

6. Explain / Explica

_____

7. My teacher makes sure that we understand what he/she is teaching us. / Mi profesor se asegura de que entendimos lo que él/ella está explicando. *

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Occasionally / Ocasionalmente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

8. My teacher lets me decide how to complete activities. / Mi profesor me permite decider cómo completar las actividades. *

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Occasionally / Ocasionalmente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

9. My teacher helps us set goals for our learning and keep track of our progress./ Mi profesor nos ayuda a establecer metas para nuestro aprendizaje y a realizar seguimiento de nuestro progreso *

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Occasionally / Ocasionalmente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

ABOUT YOU AS AN ENGLISH LEARNER / ACERCA DE TÍ COMO APRENDIZ DE

INGLÉS

10. Which activities are more helpful to your English learning? / ¿Qué actividades son más

útiles en tu aprendizaje del idioma extranjero Inglés? *

Mark only one oval.

Real scenarios situations /Situaciones de la vida real

Pair/ group work / trabajo en parejas o en grupo

Problemic situations / Situaciones problémicas

Work by yourself at home / Trabajo en casa

Activities focused on grammar / Actividades enfocadas en gramática

Debates or discussions in class / Debates o discusiones en clase

11. I learn to correct my mistakes. / Aprendo a corregir mis errores

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Occasionally / Ocasionalmente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

12. The comments that I get on my work help me understand how to do it better. / Los comentarios que obtengo sobre mi trabajo me ayuda a entender cómo hacerlo mejor. *

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Frequently / Frecuentemente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

13. My teacher fosters interaction among my partners and me. / Mi profesor promueve la interacción entre mis compañeros y yo

Mark only one oval.

Very Frequently / Muy frecuentemente

Frequently / Frecuentemente

Occasionally / Ocasionalmente

Rarely / Rara vez

Very Rarely / Muy rara vez

Never / Nunca

14. Who is the main actor in the class? / ¿Quién es el actor principal en la clase? *

Check all that apply.

Teacher / Profesor

Yourself / Tú mismo

One of my classmates / Uno de mis compañeros

A group of classmates / Un grupo de compañeros

15. Why? / ¿Por qué? _____

Appendix B Letter to the Principal

San Gil, Febrero 6, 2017

Señora
GRACIELA PEREIRA DE GÓMEZ
Rectora
COLEGIO SANTA CRUZ DE LA NUEVA BAEZA
Ciudad

Apreciada señora Rectora:

En mi calidad de docente del Área de Inglés en esta Institución y más específicamente del grado quinto, quiero compartirle que he iniciado el Programa de Maestría en Didáctica del Inglés para el Aprendizaje Auto-Dirigido, impartido por el Departamento de Lenguas y Culturas Extranjeras de la Universidad de La Sabana y Anaheim University, Estados Unidos.

Junto con otra docente, estamos adelantando una investigación sobre el Rol del docente como facilitador, llamada "The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially Flipped Classroom", teniendo en cuenta que los docentes en muchas ocasiones carecen de las estrategias para involucrar al estudiante en clase y hacer de su aprendizaje algo significativo y para la vida; en mi caso particular he pensado trabajar con el maestro Gerson David Zambrano (Licenciado en Inglés) y el grado 6°, pues considero que él tiene un buen manejo de la clase, buen dominio de la lengua, es comprometido y en su grupo se observa las circunstancias favorable para desarrollar este proyecto.

Agradezco su colaboración para que como docente de la Institución, pueda participar activamente en este estudio y cumplir uno de los requisitos que me permitan la culminación exitosa del programa. La Universidad se siente muy orgullosa de contar conmigo en este Programa de Maestría Virtual a través del cual se fortalece el desarrollo profesional de los docentes de inglés en el país, y se mejoran los procesos de aprendizaje-enseñanza del inglés que redundarán en el desarrollo de la competencia lingüística de nuestros estudiantes a nivel nacional.

Cordialmente,

Andrea Santos Caballero

Appendix C: Consent letters from the teacher and parents

San Gil, Febrero 6, 2017

Señor:

GERSON DAVID ZAMBRANO

COLEGIO SANTA CRUZ DE LA NUEVA BAEZA

Docente de Inglés

Apreciada Señor:

Actualmente estoy realizando una investigación titulada "The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially Flipped Classroom", dirigida a docentes del Programa de inglés de la Institución Santa Cruz de la Nueva Baeza, la cual intenta contribuir y enriquecer los procesos de aprendizaje de la lengua extranjera y al mismo tiempo reorientar las prácticas docentes al interior del aula.

El objetivo de este estudio es analizar el rol del profesor en el salón de clases al aplicar actividades colaborativas que involucran la solución de problemas, a través de un partially flipped classroom en el aula. Cabe anotar que dicha investigación hace parte de mi trabajo de grado de la Maestría en Didáctica del Inglés para del Aprendizaje Auto-Dirigido de la Universidad de La Sabana.

Por lo anterior, comedidamente solicito su consentimiento y colaboración para realizar mi investigación, que se llevará a cabo durante el segundo semestre académico del presente año. Esto implica recolectar datos y analizar los resultados, por lo cual debo tener acceso a las clases de su grupo 6° y grabar algunas clases con el fin de conocer y analizar el rol que tiene cuando aplica actividades de solución de problemas de manera colaborativa.

Igualmente, a los participantes se les garantizará el uso de nombres ficticios para mantener su identidad en el anonimato, así como estricta confidencialidad con la información que se recolecte. El proyecto no tendrá incidencia alguna en las evaluaciones y notas parciales y/o finales del curso.

Agradezco de antemano su valioso aporte para llevar a buen término mi investigación.

Atentamente,

Andrea Santos Caballero
Profesora de Inglés

San Gil, Febrero 6 de 2017

Familia ▬▬▬▬▬▬▬▬

CARTA DE AUTORIZACIÓN PARA USO DE VIDEOS

Estimados padres de familia,

Actualmente me encuentro realizando la Maestría en Didáctica del Inglés con énfasis en el aprendizaje auto-dirigido en la Universidad de la Sabana.

Este programa requiere llevar a cabo un proyecto de investigación-acción, razón por la cual estoy interesada en realizar, con los alumnos de grado sexto un estudio titulado "El rol del profesor al aplicar estrategias de aprendizaje colaborativo y realizar actividades de resolución de problemas en un aula parcialmente invertida", que pretende analizar el rol del docente enseñando y aplicando estrategias colaborativas e implementando el uso de recursos electrónicos a la vanguardia de la educación moderna para lograr un aprendizaje significativo en los estudiantes.

Por lo anterior, comedidamente solicito su consentimiento y colaboración para realiza mi propuesta de investigación, que se llevará a cabo durante el primer semestre del presente año escolar. Para hacer el seguimiento del desarrollo de este estudio, se realizarán algunos cuestionarios, audio-grabaciones y entrevistas, los cuales servirán como colección de datos y soporte para analizar la incidencia de las nuevas tecnologías y estrategias de aprendizaje autónomo en el aprendizaje de los estudiantes. Los resultados no sólo beneficiarán el proceso de aprendizaje de su hij@ para el futuro sino también permitirá adoptar en la práctica docente nuevas estrategias de aprendizaje de vocabulario vanguardistas para que las generaciones futuras.

Por otra parte, a su hij@ se le garantizará estricta confidencialidad con la información que se obtenga. El proyecto no tendrá incidencia alguna en las notas parciales y /o finales del curso.

Atentamente,

Andrea Santos Caballero

Docente Investigadora

––

Autorizamos a nuestro hijo ▬▬▬▬▬▬▬▬ a participar en la investigación "The role of the teacher applying collaborative problema-solving activities in a flipped classroom" que se llevará a cabo durante el primer semestre del año 2017.

Firma de padres

Appendix D: Handout Sample

UNIVERSIDAD DE LA SABANA
"The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially
Flipped Classroom"
RESEARCH PROJECT
HANDOUT # 1 CYCLE 1

Look at the pictures and the quotes. Discuss with your group.

1. What do you know about these people?

2. Do you think they were good citizens?

3. What do you think the quotes mean?

'You must be the change you wish to see in the world'.

'If you can't feed a hundred people then feed just one'.

'For to be free is to live in a way that respects and enhances the freedom of others'.

¹ Taken from; English Please 3, p. 48, 51, 49.

UNIVERSIDAD DE LA SABANA **"The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially Flipped Classroom"** **RESEARCH PROJECT** HANDOUT # 3 CYCLE 1		

Read the following situation and make a notice to solve the problem.

Andy is 10 years old. He is at fifth grade. He has many trouble at school and at his neighborhood because of his behaviour. At school, he takes his partners's personal objects without permission; he eats in class and does not obey his teachers. Besides, he likes to make graffities everywhere the school. On the other hand, at his neighborhood, he throws garbage out of the litter bin, he throws rocks at the neighbours' windows, mocks disabled people and insults any person when they just look at him.

Do you consider Andy is a good citizen? Why?

Appendix E: Lesson Plan Sample

LA SABANA UNIVERSITY
"The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially Flipped Classroom"

Lesson Plan
CYCLE 2

1. Lesson Plan Information	
Subject/Course: English	**Name:** Judy Maritza Peña & Andrea Santos
Grade Level: 6°/ A2	**Date:** June 6th & 7th **Time: 2:30-3:30 / 8:00-9:00**
Topic: A Good Global Citizen: Do's and Dont's.	**Length of Lesson:** 120 minns

2. Objective(s)

Objective(s)*:*

- By the end of the lesson, students will be able to propose possible solutions to the water pollution problem from the perspective of being a good global citizen.

- Teacher will be able to support the students' problem-solving skills by implementing the questioning technique appropriately.

 Learning Skills *(Where applicable):*

Critical Thinking

Interpretative, Argumentative and Propositive competences.

3. Content

Topic (s):
 	
 Saving water
 	
   • Language Focus: Imperatives
 	
Today learners will:
 	
   • Discuss about possible solutions to save water.
 	
   • Create a board game about saving water.

4. Assessment (collect data) / Evaluation (interpret data)
(Recording Devices (where applicable): anecdotal record, checklist, rating scale, rubric)
Based on the application, how will I know students have learned what I intended? It will be used a checklist where students will check their collaborative work and their learning.

5. *Learning Context*
A. The Learners *(i) What prior experiences, knowledge and skills do the learners bring with them to this learning experience?*   *As the main topic is to be a good global citizen that cares about the environment, students have been working on that in other areas since it is a transversal topic, besides they know because of TV, newspapers and internet.*   *(ii) How will I differentiate the instruction (content, process and/or product) to ensure the inclusion of all learners? (Must include where applicable accommodations and/or modifications for learners identified as exceptional.)*   *Collaborative problem-solving activity where each student will have a role and will be engaged to the task.*
B. Learning Environment

The selected group of students belong to a public school. They have an A2 level of English according to the Common European Framework. They are in the process of learning the foreign language, but their skills are not so well developed; especially reading and speaking. Besides, most of their parents do not consider to learn English an important aspect of their learning process since they work in informal jobs and they want their children have the same one in the future.

The selected group belong to a private school. They have an A2 level of English according to the Common European Framework. They are in an intensified program of learning English and they have developed different skills, nevertheless they need to focus on developing much better all the skills. Their parents know how important is to learn the language and they provide a lot of support to children and the school.

C. Resources/Materials

Video, pictures, text about "Saving Water", strips of paper, cardboard.

6. Teaching/Learning Strategies

INTRODUCTION

How will I engage the learners? (e.g., motivational strategy, hook, activation of learners' prior knowledge, activities, procedures, compelling problem)

Teacher will show the video "4 Minute Video That Will Change Your Life Forever! Save The Environment!" and Teacher will make a reflection based on it.

https://www.youtube.com/watch?v=yV2EK2bMgwk

MIDDLE:

Teaching: How does the lesson develop?

How we teach new concepts, processes (e.g., gradual release of responsibility - modeled, shared, and guided instruction).

1. *Students will read a text about saving water and will find out in the text how many ideas are mentioned in it. After that, they will develop a True and False exercise about the text.*

Consolidation and/or Recapitulation Process: How will I bring all the important ideas from the learning experiences together for/with the students? How will I check for understanding?

1. *The teacher organizes groups of five people assigning three different roles: the scriber who takes notes, the motivator who encourages everyone to participate actively, and the moderator who is in charge of making sure that everybody talks and controls the time.*

2. *Students will complete a flow map where they will identify the cause and effect of water pollution, then they will list possible solutions.*

3. *Students, individually, will solve a short quiz to check their participation on the platform.*

Application: What will learners do to demonstrate their learning? (Moving from guided, scaffolded practice, and gradual release of responsibility.)

1. *The students will discuss ideas about saving water and will design a board game with questions about saving water.*

2. *The students will exchange their board game with the other groups.*

CONCLUSION: How will I conclude the lesson?

Each group will write one idea about saving water in a stripe of cardboard to be pasted on a poster from the whole group.

---

7. My Reflections on the Lesson

What do I need to do to become more effective as a teacher in supporting student learning in a collaborative problem-solving process?

Appendix F: Color Coding Data

Patterns	Informal Interviews to students	Teacher's Journal	Pre-Assessment	Post-Assessment	PLC
Interaction Instruction Role of the Teacher Autonomy	"We participate, ask and answer in class freely and that is something that helps us to improve our skills". "Work in couples or groups facilitates communication among us and the teacher helps us reinforcing or explaining the topics". "I've been improving my English participating, repeating and solving the activities with my partners". "When we talk and give our	Students tried to speak in English into their groups confidently. They asked me or to their partners when they didn't understand. They repeated after me no matter the mistakes.	Students just interacted with the teacher.	Students interacted with the teacher and mainly with their partners when they were working in groups.	"The teacher motivated students to participate and debate during the lesson". "Students were trying to speak in English with their partners, and they help each other with the different activities they needed to do". "It is noticeable that students started to interact with the teacher and their partners in the target language". "The teacher was always reinforcing the

Patterns	Informal Interviews to students	Teacher's Journal	Pre-Assessment	Post-Assessment	PLC
	opinion, no matter if we make mistakes, our partners don't judge us and that's something motivating".				use of the language when students were interacting with him and their partners".
	"We understand the teacher more than before when he explains the activities, although he is speaking in English because he does it simpler". When he explains what we have to do, he is able to explain us in a way in which we understand everything". Sometimes, it was confusing how the teacher was explaining the activities, but I can notice he is doing better now".	"Explaining the roles for me was difficult because of the vocabulary that my students don't know nevertheless, I could find the way to scaffold the instruction in order to explain and give instruction". "I didn't have to take too much time explaining the activities since they did it by themselves in a natural way". I could take students' questions and	The teacher took a lot of time explaining the activities and even though students were confused.	The teacher provided clear and concise instructions using students' questions to clarify when in doubt.	"The teacher is improving the way he provides instructions, he is taking into account students' ideas and questions to be accurate". The teacher can scaffold the instruction in the way students can understand what he is explaining". The instructions provided by the teacher was clear, students could understand what they had to do, and

Patterns	Informal Interviews to students	Teacher's Journal	Pre-Assessment	Post-Assessment	PLC
	I can understand very well when the teacher explains the activities".	ideas to improve my instruction".			reinforcing the instruction to the leaders of every team was a good idea".
	"I like that the teacher helps us but he does not give us the answer immediately, he allows us to find the answer by ourselves". "I think that the teacher is always supporting us, when we ask him something about the topic, he does not tell us the answers, but he makes us to think of it to help us understand".	"I let students to do things for themselves, I think I didn't tell them the answers but I made them realize by themselves". I could understand that using the questioning technique I could help students to develop their critical thinking". "I tried to be as clear as possible when giving instructions to allow them to make their own decisions".	It is a teacher-centered class where the teacher is providing the information all the time".	The lessons changed completely, the teacher became a facilitator who helps students to find meaningful answers by helping them to develop their critical thinking skills".	"It's noticeable the teacher has tried to be a facilitator for the learners, he motivates the class and help students to understand the topics, he's not sharing the answer at first". "The teacher guides students in order to make them work in their groups and as teams can solve the problem stated, he was monitoring each group". By using questions, the teacher was able to motivate

Patterns	Informal Interviews to students	Teacher's Journal	Pre-Assessment	Post-Assessment	PLC
					students to think on the possible answers to their own questions, he was facilitating the learning process his pupils".
	"With the review that we make on the platform, it is easier to solve the activities in class and we feel more secure when we participate". "I practice what I've understood using the platform and I like that I've being improving to reinforce what the teacher teaches us".	"Something I perceived as well, was that the students used their previous knowledge (work on the platform) to accomplish the task". "Students made an effort to do the tasks without asking the teacher to answer or helping them; they used what they had learned previously".	Students need the teacher all the time, they can ask whether simple or complex questions without being aware of this dependence.	The class turned to a student-centered class where they support their ideas with the work they do on the platform.	"Students are more confident of what they know since they showed a previous preparation of the grammar patterns. It is noticeable that the questions related to grammar are fewer".

Appendix G: PLC notes and Teacher's Journal

UNIVERSIDAD DE LA SABANA "The Role of the Teacher Applying Collaborative Problem Solving Activities in a Partially Flipped Classroom" **RESEARCH PROJECT** PLC MEETING CYCLE 1	

Thank you for taking part of this Professional Learning Community (PLC), please look at the video and answer the following questions.

1. Do you find any different way when forming the groups for teamwork?

    Using numbers to create the groups was interesting because the students did not know who were going to be their partners, also assigning roles in the groups was good because that way all of the students have something to do.

2. What role do you think the teacher has during the lesson? Explain your answer.

    The teacher is a motivator and mediador, He gave the instructions and helped the students but the students must solve the problem by themselves.

3. What is your opinion about the teacher's support to students when solving the problem?

    It is appropriate, the teacher helped all of the groups, he was monitoring and giving clues and making questions that helped children to solve the problem

4. How did you see the interaction during the lesson?

    It was good, the teacher spoke in English during the lesson and students answered and solved the activity, when explaining the activity the teacher had are active role, then students work together but they do not use the English language when speaking.

5. Aspects to improve the lesson.

    Before making the groups the teacher must explain the activity that way students will pay more attention, and know what they are going to do. Making students use the second language. Give an example of the product.

7. My Reflections on the Lesson

What do I need to do to become more effective as a teacher in supporting student learning in a collaborative problem-solving process?

I believe that in order to become a more effective teacher I ought to develop critical thinking among them. so they become independent students that won't need someone who is telling them what to do. What I did better in this class was letting students do things for themselves. I think I didn't tell them the answers but I made the realize by themselves. Some thing I have to improve is time management because it is key to keep students on task but sometime time is not enough to finish everything or the task is finished in a rush. One of the things that helped me was the lesson plan. It may be difficult to convey meaning to what another teacher does but this is not the case, the whole lesson was well designed, the opening activity was meaningful and helped me introduce the topic in a good way.

Appendix H: Pre-assessment

UNIVERSIDAD DE LA SABANA

RESEARCH PROJECT

RESEARCHERS: Judy Maritza Peña Navarro & Andrea Santos Caballero

SCHOOL: SANTA CRUZ DE LA NUEVA BAEZA (SAN GIL, SANTANDER)

GRADES: 6th

PRE-ASSESSMENT

TOPIC: DENTAL HEALTH

LANGUAGE FOCUS: Simple Present

OBJECTIVE: The students will be able to propose solutions to real life problem situations working collaboratively in the classroom.

I.   Tick the things you need to put in practice to keep your teeth healthy and cross out those that damage your teeth. Then, match them to the drawings by writing the letter.

    a.   Floss your teeth

    b.   Eat bubble gum

    c.   Brush your teeth before going to bed

    d.   Eat too many candies

e.   Brush your teeth after each meal

f.   Visit the dentist every six months

II.   Read about Ana' s problem.

Ana Mendez has two children, Kristina, who is five years old, and Daniel, who is three. Ana took Kristina to the dentist a week ago. The dentist found a cavity. Now Ana is worried about Kristina's and Daniel's teeth. Kristina drinks soda a few times a week and has dessert most evenings. Daniel likes to drink a bottle of milk in his crib. It's hard to brush their teeth because Daniel doesn't like to brush and fights hard. Kristina says she will brush her teeth if she can have a special toothbrush.

III.   Get in groups of 4 people. Discuss the following questions and then write two solutions to Ana's problem.

- What is Ana´s problem?

- How can Ana find solutions for her problem?

- What does she have to stop doing?

- Two solutions:

_____

_____

_____

_____

IV.   Make a simple poster with your partners and present it to the class. Include:

✓ na's problem

✓ Causes of the problem

✓ Solutions to her problem

Adapted from: http://www.futureenglishforresults.com/wp-

content/uploads/SB3_U8_Sample.pdf