

Theoretical Formulation of a Didactic Sequence Focused on Problem Based Learning  
Methodology to Promote Receptive Skills in a Public School

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Pereira

2021

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Trabajo de grado presentado como requisito parcial para obtener el título de: Licenciado  
en Bilingüismo con Énfasis en inglés.

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## **Justification**

Secondary education is an essential factor for students to develop the appropriate competencies that allow them to have a good performance in the income to the highest education or to the labor field as a response to the needs of the country and the globalized world. As learners need to acquire these competencies in a meaningful way, Morales and Landa (2004) argued that the necessities and the context of the learners in the modern world have to be changed radically and for this reason is important to provide them new approaches that help them to develop the abilities that they need. As a way to adapt to social and educational needs, the bilingual education in Colombia has been influenced by national programs such as *Colombia Bilingüe* or *Colombia Very Well* in order to enhance improvement in the students' linguistic competences in English. Nonetheless, with the creation of these bilingual programs, which seek to ensure that learners acquire an appropriate level that allow them to interact and perform well in different fields, students of the Colombian system education will be able to acquire better skills in English.

However, the Colombian efforts and bilingual programs are not achieving the expected outcomes as it was evidenced in a recent study conducted in 2019 by the international company Education First (EF) that measure the level of English of all the countries in the world sustains that Colombian people are not acquiring the linguistic competences required to establish conversations in English. Moreover, Education First (EF) stated that it is missing a strategy to train the teachers in the implementation of communicative methodologies with authentic contents.

In public schools, it is common to observe that English teachers have a traditional perspective of teaching writing since they are focused on teaching isolated

vocabulary. In this sense, some studies about teaching English, which are focused on the Colombian context, have been carried out. Maturana (2011) states in her study that teachers usually teach English in the way they think it should be learned. They consider that the students' development on the writing skill consists of learning vocabulary from the dictionary to create texts composed of separated words and mechanizing structures. Moreover, she pointed out that the language teaching must be a focus on the development of the multiple aspects that comprise the writing skill such as the syntax, the lexicon, the morphosyntax, and the phonology, which allow students to perform contextualized phrases and sentences, instead of teaching it in a fragmented and isolated way.

In accordance with the studies previously mentioned, it can be proved that students still having problems with the speaking and writing skills since they are afraid to be judge as pointed out by Zhengdong Gan (2012), ESL learners develop a fear to practice the second language in front of other people inasmuch as it involves a complex process in which they are willing to put in practice their oral production and must think and connect their ideas in a not perfectly known code system. Additionally, Nuur (2015) Argues that it is necessary to teach writing as it is part of the communicative competences of the language. Writing is important not only because it allows people to think about how and with what words to express the ideas, but also because it allows them to develop thoughts, organize sentences and paragraphs in a way that is understandable for the reader.

There are several methodologies that seek to overcome the difficulty that students present to develop receptive skills. One of them is the use of Problem Based Learning as a method of promoting listening and reading. PBL has been implemented in different projects related to second language teaching with positive results. Azmain and

Shin (2012) pointed out through their study in the University Kebangsaan Malaysia about the students 'perspectives regarding PBL in English in a second language classroom, the authors found that PBL had a positive impact in the students and the improvement of the language skills since the students expressed through interviews the significant knowledge that they acquired not only in relation with the language but also with their self-confidence. In this sense, the study affirms that PBL is a viable methodology since it can be applied in any study field and even contexts in which the participants have either a high proficiency level or not.

As stated before, education in Colombia has been changing through the pass of the time in order to foster English education in the country to form students who can face bilingual situations in the future but unfortunately, this effort had been unsuccessful and the students showed that they are not able to understand what people are saying and to perform well-structured reading to achieve organized ideas in English. In the Colombian context, Gonzales and Galindo (2011) looks for the implementation of PBL as an alternative method for the traditional teaching one. The results of this study were not as significant in terms of differences in these methods as expected. However, the students stated that with the activities in which they had to solve real-life problems, they felt more comfortable.

Taking into account the abilities to learn a language, listening and reading are also being promoted as well, since they are necessary for learners to interiorize the findings of the established problem through the abilities such as listening and reading in order to analyze the ideas that arise proposing a viable solution. For this reason, taking advantage of the good results of PBL by giving the students a certain type of problem-related to their context, their proficiency in the English language should be enhanced through motivation. Thus, it is necessary to implement a different way to teach English

in public schools. Because of the lack of English proficiency by students, PBL seems to provide a positive contribution considering the results of different studies in which it has been implemented. Therefore, the goal of this study is to implement PBL to benefit from the positive results that this methodology has given as previous authors have mentioned to promote listening and reading skills and give a different approach to teach English for teenagers instead of the traditional method.

This project has 3 important purposes, in the first place we would like to implement PBL to promote learners' receptive skills. In terms of speaking skills, we find an author like Goh (2007) who claims that speaking is one of the most relevant language skills since the importance of knowing how to function communicatively in real contexts related to daily social interaction. The above is justified by bringing up topics that appear in different speaking activities such as shyness, fear, shame; besides, the students are afraid of making grammar mistakes or incorrect pronunciation. Since oral productions are not a constant practice in second language students, this implies a more complex process when thinking and connecting their ideas in a little-explored and practiced linguistic code.

Secondly, to make the students aware of the importance of learning, increasing experience of different problems that will be suggested to students in areas that could be of their preference such as sports, environment, politics, religion, clearly, relating it with the second language. We, as educators, must develop an interest in sharing their personal experiences and difficulties in a safe class environment. Since students need to think by themselves, the teacher is not going to solve every problem that the students bring to the class but letting them think about how these situations can be solved. Implementing the writing skill this situation could be solved since according to a study implemented by Nisa (2017) PBL helped in the students' perceptions by generating

their own ideas in the writing process; This aspect could help to foster the autonomy in the individual activities but also by helping each other enhancing the teamwork at the same time in the classroom. Finally, the last purpose is to help students to overcome the stage fright; it is normal in students to be afraid of talking in public, actually, it is a common fear between younger students but since we are going to use the speaking skill as well could be a way to increase the confidence and self-esteem towards public speaking by giving different pieces of advice and strategies to our students making the class environment a secure context in which the students can speak freely in both languages.



## **OBJECTIVES**

### **General objective:**

- To formulate a didactic unit based on Problem-based Learning to promote receptive skills in a public school.

### **Specific objectives:**

- To present a complete theoretical description of Problem Based Learning methodology through different studies.
- To provide a theoretical overview about the articulation between Problem-based Learning and receptive skills.
- To suggest a guide with the necessary materials to conduct the process based on Problem-based Learning.
- To establish a sequential instructional design based on the theory about how to work with Problem Based Learning methodology and being aware of students' language needs.

## **CONCEPTUAL FRAMEWORK**

In order to generate a broader idea regarding our classroom project, a couple of definitions will be useful for our research: Receptive skills, Problem-based learning and the construction of a didactic unit. The definition of each concept will be provided by some experts in the field of teaching and learning foreign languages, each of these contributions will be beneficial for the development of this document. Afterward, there will mention the main authors who contributed to defining the concepts that are involved in this classroom project. In terms of Problem-based learning, Norman and Schmidt (1992), Major & Palmer (2001), and Muñoz (2017) remark that through problems with a high degree of complexity, they serve as an effective tool for the development of various skills that benefit in matters of motivation to promote learning. Previous authors agree that promoting new educational strategies related to receptive skills and the implementation of problems that generate interest in students help to increase their language proficiency.

### **Problem-Based Learning**

This study has an aim to promote receptive skills in high school teens. However, to achieve this objective it is necessary to implement a method through which the participants will be interacting with. In this sense, Problem-Based Learning (PBL) will be implemented in the development of this study since it offers advantages such as promoting motivation, teamwork, autonomous learning, problem-solving and communicative skills. Moreover, in order to provide a clear perception of what is PBL and how it works the following concepts will be explained deeply in the different fields

that involve this method such as the definition which consisted on analyzing a real social problem and using it as a bridge to promote learning. Why teach, which explains the reason for using this methodology having in mind that students are impacted positively. The role of the tutor, which is the guide in each step and has the challenge of motivating students in the process. How to teach, which explains the essential elements to carry out this method in a course in order to obtain successful outcomes. Finally, how to assess, which gives instructions about key elements at the moment to value students' processes and provide feedback on their work.

### **Defining Problem-Based Learning**

Problem-based learning (PBL) is a method that consists of analyzing a real-life problem and uses it as a bridge to promote not only critical thinking skills and problem-solving abilities but also linguistic competences. This approach can be applied in different learning situations where learners can feel motivated to understand the problem and look for a solution. In this way, Norman and Schmidt (1992) defined it as a teaching methodology focused on the selection of carefully constructed problems that are presented in class to be solved by small groups of students. The problems with PBL usually consist of descriptions of observable sets of phenomena or events that need explanation. Similar perspective of PBL and how it works is presented by Major and Palmer (2001) who proposed that PBL is fundamentally applied on an educational approach where through real-life problems which are established among the tutor and upper-grade students such as 10 since the project requires a high degree of complexity that serve as motivation to promote learning. Additionally, Major and Palmer (2001) argued that teamwork and projection of real-world problems are an essential part of classes with PBL. The students will be generating a series of skills that allow them to define and propose solutions to the problems that were posed through the collection,

evaluation, and synthesis of data. In this sense, it was found that in PBL implementations, the tutors play a passive role, where they monitor the process of facilitating learning for the students through different questions that allow progress to the solution of the problems.

On the other hand, Muñoz (2017) stated that classes with PBL intervention are an experimental learning strategy, which works as an effective tool for the development of various skills such as critical thinking, teamwork, and problem-solving that benefit diverse academic fields such as language, medicine, mathematics and programs around the world that implements PBL since in this way students are in contact with problematic situations that they can face in their daily life. These exercises make students learn at the same time they are preparing for their future experiences.

The previous information helps the development of this study since it highlights the importance of having a social interaction with the students that not only allows defining the social problem they will be working with in order to generate a contribution\_ but also motivates better understanding in the classroom between each other to work together.

To continue with this data collection, we will proceed to investigate why this methodology should be implemented. Thus, justifying the different reasons that various authors have provided for the implementation of PBL.

### **Why to teach Problem-Based Learning?**

PBL provides teachers and students advantages to learn through this methodology. Schmidt (1983) in Bridges (1992) proposed three steps for PBL: activation of prior knowledge, the similarity of context, and the opportunity to elaborate on that information. Based on this, Bridges (1992) explained the first step says that in

order to activate the students' prior knowledge it is necessary to expose the problem and start to look if there is a concordance between the established problem and the real-world. In this sense, the student can provide their opinion or experiences about that specific problem. Consequently, in the second step the students can make a connection among the problem, their social context, and how they can use their acquired knowledge in the future. The final step is explained as the process in which students contribute to the solution of the problem using their problem-solving competence. Consequently, they have significant learning since PBL allows them to work on their reality.

An important fact of PBL is that it helps to increase the students' curiosity as well as their research competence. Consequently, they are developing responsibility and autonomy since they are exploring for themselves to be aware of their own learning process but also to be acquainted with the different social troubles that may affect them directly or indirectly. Additionally, Nilson (2010) argued that when the teacher provides all the bases to their students, including all the procedures they must do, the different workgroups should work as independently as possible. Furthermore, students come up with their own organization and rules for arriving at problem-solving. These authors aim to inform how significant the strengthening of linguistic skills in the EFL or ESL classroom can be, in addition to recognizing the relevance of promoting autonomy in students, due in this way they become more aware of their learning process in the language.

After having more clarity regarding the different reasons why teaching PBL has many benefits such as autonomy, activation of the students' prior knowledge, and strengthen teamwork. It is important to define the role that performs the tutor in the classroom and the whole process in PBL projects.

### **The role of the tutor in Problem-Based Learning**

PBL is a student-center methodology where the tutors have a key role since they should motivate students enough to go through the specific goals to achieve the general ones which are present as a contribution to the solution of the problem. In this way, is the tutor's responsibility to provide appropriate spaces in which students speak more in the classroom, bring students with resources and opinions about their findings in order to support them and serve as a guide through the learning process in case they get confused and give students feedback to develop an awareness about what they are doing well and in what aspects they must to continue working. Different from this, there is a more organized strategy proposed by Bridges (1992) that consists of three specific steps (prior, during, and following) in which the role that the tutors must develop is explained in detail. The first step is known as "Prior" in which a general description of how PBL works is explained to students as well as it is given a specific role (leaders, facilitators, and recorders) -for each member of the group by the tutor with the purpose of developing different competencies such as responsibility, commitment, and leadership. Additionally, students can be motivated to research and make contributions since each of them are in charge of a different part and the success of the final product depends on the student's performance and their teamwork. In the second step called "During" there is a constant observation by the tutor to identify if students acquire not only the appropriate knowledge about the social context but also if they understand and how they develop their argumentative skills at the moment to provide their contributions to the discussion in class. The third step is "Following" which talks about the importance of asking students questions and giving them feedback in order to make them reflect and improve during the process. Additionally, the tutor can make suggestions and explanations on the student's work.

From the perspective of Grave, Moust and Hommes (2003) different steps are proposed in order to guide during the process. They state that the tutor performs a variety of roles in the process of a PBL project but one of the most important is asking questions since doing this type of exercise the tutor is contributing to the student's process in the project. The questions provided by the tutor should be related to the context and should have a specific objective focused on the student's needs in order to help them find the appropriate solution. Besides, they pointed out that asking students questions helps them to question critically themselves and reflect on the established social problem and also how they will create a positive impact or a solution during the process for that specific problem. In this way, students are not only to achieve the objectives but also to maintain one of the principal characteristics of PBL that is student-center.

This study makes reference to these authors because it wants to explain the importance to follow the previous steps and carry out them properly since it allows students to see the teacher as a support and not as the traditional teacher who comes to the classroom to provide information about a specific topic. Instead, the tutor is a guide that plays an essential role in the classroom in order to challenge and motivate students to continue the discussions giving their viewpoints in a critical way.

The following step consists of clarifying how to teach PBL and its different strategies, materials, and problems that are effective for the use and success of this methodology.

### **How to teach Problem-based Learning?**

At the moment to implement PBL it is important for the tutors to adopt specific roles and design a plan to conduct the process. According to Knowles (1975) in Walsh

(2005) *“The tutor in Problem Based learning: a novice guide”*, the role of the tutor should follow steps in order to facilitate the use PBL in the learning process of the students such as climate settings, planning, designing a learning plan, and engaging learning activities. In PBL implementation there are three general main focuses that are necessary for a successful learning outcome. Firstly, the tutor as an essential element for the students understanding and contextualization of the methodology and the respective implementation plan. Furthermore, the tutor has an important role in terms of motivating students by providing them the appropriate space to socialize their findings and opinions about the specific social problem through discussions, presentations, and challenging questions in order to provide feedback to guide students in the process and to obtain better results. Secondly, the designed curriculum for the course, which includes the objectives, the activities, and the tasks, has an essential function since it gives the tutor the sequence the process should follow. For this reason, it is necessary to carefully design a plan that contains the problems, activities, resources, clear instructions, and schedules for each exercise to avoid students getting confused during the process.

The last element is the student-performance during the course as much as PBL is a student-center methodology. This aspect could be affected if the two previous features are not carried out in the proper way considering that students can present a decrease in motivation. However, the success of PBL approach and its results also depend largely on students since they are the main agent, whose work is identifying the problem, being informed, looking for strategies, and exposing a solution using the given resources to achieve the goal (problem-solution). In relation to the previous description, Bridges (1992) states that the main component of student-center in PBL is that learners are allowed to develop abilities such as identify their needs and find the appropriate



resources to supply them considering that these abilities will be useful for their future experiences.

Assessment plays also a fundamental role in teaching PBL and now we are going to center on the first main focus of the tutor, which is the feedback, since it plays a paramount role and according to the following authors, it is necessary to have a meaningful teaching process.

### **How to assess Problem-based Learning**

The assessing process is a fundamental factor of learning since it allows students to understand a topic, when the students are aware of their strengths and weaknesses, they are able to see how they are doing in the course.

Firstly, Walsh (2005), talks about assessment as a regular opportunity for feedback for all the students, this means that feedback must be given at the end of each session in order to help students to solve all their doubts avoiding that the problems become too much to handle, only by asking each member to give a short reflection on the current process. Furthermore, Nilson (2010) also highlights the relevance of giving feedback in the learning process, since is more effective to assess students during the process than waiting for the results since learners can get frustrated because of the bad results and decrease the grades and motivation, this information can also improve your teaching effectiveness.

Both authors agree on the emphasis of feedback during the learning process in order to avoid bigger problems in the future and avert frustration that may cause a significant decrease on the academic performance of students, for this reason analyzing these experts is going to be beneficial for our project since it allows to be aware on the importance of the continuous assessment towards the students and be constantly

monitoring their activities in order to detect all the negative factors that can obstruct their learning process.

Considering that PBL is a central objective of our work, each of the fields explained before representing a fundamental part in this paper. The implementation of PBL in the classroom allows students to have an effective and constructive learning process since they use different tools to collect new information about a real-world problem in order to contribute to the solution instead of receiving it by the teacher. Therefore, this study expects that the monitoring of these concepts will improve student's performance in oral production taking into account the different definitions and contributions provided by the authors in the concepts clarify the meaning of PBL, importance, and benefits to using it, the steps the teacher must follow for a successful implementation and the way in which an assessment and feedback are provided to students. These steps will be carried out in the different activities such as socialization of real-life problems or group discussions. In this sense, a rubric will be shown to the students so they know what is expected for them and feedback will be also provided to socialize the aspects in which they must continue working.

To conclude this theoretical framework presents an overview regarding problem- based learning, which is defined by Schmidt (1992) as a teaching methodology focused on the selection of carefully constructed problems that are presented in class to be solved by small groups of students, which are the principal and most important concepts that will guide this work. This study also aims to explore the implications derived from the main constructs when implementing PBL to since all the contributions, opinions, and concepts provided by the authors included in those constructs bring the sense of this project since both are the axes that boost the objectives in the way that it gives us the way in which the teacher must guide the learning process

to give students the motivation they need that will allow them to improve the receptive skills while they are developing or improving life skills such as solving problems, self-reflection, and critical thinking.

As we already know, language skills are divided into receptive and productive skills, both fundamental for the learning of a second language; this fragment will be focused on highlighting the importance and remarking on the different aspects involved in the development of receptive skills. Firstly, we are going to acknowledge different authors such as Isehag and Davies who are in charge of defining these skills and telling how important they are these days. Next, we will see the definition of the specific receptive skills, on the one hand, listening given by Nadig who will define listening as a comprehension of various processes understanding the spoken language. On the other hand, Lin will explain reading as a skill in which the instructors are in charge of guiding the learners, enhancing more aspects than just the reading activity. After that, we will recall Al-Jawi who explains the way in which people can extract meaning from the discourse. Finally, Sluijmans and others will explain how peer assessment can contribute to the learners' attitudes through the different tasks and activities.

### **Defining receptive skills**

As we mentioned before, language skills are divided into two types, and this section will be focused on the definition of receptive skills, which includes listening and reading. Both skills have something in common, is that students receive information and as Isehag (2018) remarks it has a lot of importance in this age. This author claims that listening and reading are necessary for the communication between people due to the huge expansion of knowledge and the respective necessity to understand the spoken and written language and allow the students to communicate effectively.

Strictly speaking about these two skills, Davies (1976) separates them into different stages. On the one hand, we can define the reading as "the ability to understand texts of various degrees of complexity in the foreign language". On the other hand, Davies defines the aural skills as the ability to identify and recognize the spoken language, and he also highlights the different levels of complexity between the listening exercises. The receptive skills could also be perceived as a way to extract the meaning from the people's discourse, as mentioned by Fadwa (2010).

As we notice, the three authors emphasize the importance of using receptive skills to understand each other, recognizing the spoken and written language, and giving meaning to the people's discourse. So, these authors have demonstrated that receptive skills are fundamental for the learning process and we as teachers need to find different ways in which we can teach and assess this to students.

### **Defining listening skill**

Generally, listening is defined as the ability to accurately receive and interpret messages in the communication process. That means listening is key to all effective communication whether in social or academic purposes. Without the ability to listen effectively, messages can easily be misunderstood. In that sense, active students' listening is an important "receptive skill" that must be more present in a language classroom since it reinforces mental and social activities like problem-solving, leadership, and teamwork.

Bowen, Madsen and Hilferty (1985) defined listening as an attending to and interpreting oral language. The pupil should be able to hear oral speech in the foreign language (English), segment the stream of sounds, group them into lexical and syntactic

units (words, phrases, sentences), and understand the message they convey (p. 73). The above-mentioned makes us think that listening requires that you structure the sounds that you already hear and according to your individual process arrange them into words, phrases, sentences, or other linguistic units with a clear meaning.

On the other hand, Nadig (2013) defined listening comprehension as the various processes that are involved in the understanding and in the sense of spoken language. Which means knowing speech sounds, comprehending the meaning of each single word and understanding the syntax of sentences (as cited in Pourhosein Gilakjani & Sabouri, 2016). Besides that, we must know that as they exist active student listeners, also exist passive student listeners who are recognized by don't retain information because they are easily distracted. Active listening requires the listener to understand the main -point of the speaker, not just hearing the words he or she is saying since this would only be a simple act of listening without involving any cognitive process. Fortunately,- this it's an ability that can be acquired and developed — but it takes time and patience to master.

To conclude, from Rost (2002) and Hamouda (2013) perspectives, listening comprehension is an interactive process in which listeners are involved in constructing meaning. In other words, these authors defined listening as an interactive act in which the agent who is listening or receiving the information, performs a mental process in which he constructs a central idea of what he has just heard. In accordance with the previous information, the authors agree that listening comprehension involves a process where people transcend to assign a metalinguistic and reasonable meaning to whatever is being heard.

### **Defining reading skill**

Reading English is an important skill as it helps to develop other related skills like grammar, vocabulary, and writing. In this sense, the Longman Dictionary of Applied Linguistics, reading is “Perceiving a written text in order to understand its contents. This can be done silently (silent reading). The understanding that results is called reading comprehension”. Hence, reading is a process that involves concentration and needs the reader’s attention in order to obtain a clear idea about the information that the text provides.

In order to promote an appropriate reading, it is necessary to provide an authentic purpose that engages students. In this sense, Problem-Based learning is a methodology that challenges students with real-world problems, so the purpose becomes immediately clear to students as they need to look for information related to the social problem to fix it. As a result, students can improve their reading comprehension skills as PBL requires summarizing information and supporting ideas.

Being a teacher requires patience, preparedness, flexibility and a good attitude towards students and the activity itself. These are important aspects as they affect the students in many positive ways and can shape their learning experience. As reading can result in a tedious task for some learners, tutors need to evoke positive feelings in relation with this skill giving them autonomy and responsibility during the process. Lin (2017) argues that the instructors in reading processes play a fundamental role since they are in charge of guiding learners and promote not only the reading skill itself but also to foster the positive and active attitudes in reading. In this way, can help students to obtain efficient and successful outcomes enhancing English learning through good reading practices.

On the other hand, Savery (2006) in Lin (2017) Problem Based Learning intends to integrate different factors such as the theory, practice, and integration of the

knowledge to carry out the solutions that the group planned to the established problem. For this reason, reading in a PBL course should be seen as a necessary resource to build a well- structured plan for students to follow. In this sense, as PBL is a student-center methodology, students have an active role, so they are in charge to perform different roles as well as looking for their own resources including the articles that provides the information about the problematic situation, which implies students to improve their reading ability as they need to select the relevant information and also their comprehension to elaborate their contribution and possible solution.

Teamwork is an essential factor in Problem Based Learning. Thus, collaboration in reading can help students to understand better the texts they should read. Jin, Liu, and Lei (2020) propose 3 stages to collaborative reading as a way to facilitate the reading comprehension in learners which are: a) Individual reading. In this stage, students make predictions and a division for the reading labor. b) group discussion. They should share important points, make a summary and prepare the outline for a presentation. and c) Collaborative reflection. They need to present to the members of the group what they prepared in the previous stage explaining what they read and learnt. Finally collaborate to reflect on the presentation and revise their own outlines.

### **How to teach receptive skills.**

Being aware of how to teach receptive skills is an important aspect as it is necessary to help learners develop skills to comprehend and interpret spoken or written materials. According to Al-Jawi (2010) receptive skills are "the way in which people extract meaning from the discourse they see or hear". He sustains that these skills are in our daily life for different purposes. When we use receptive skills we make use of our previous knowledge to comprehend better the situations. To develop listening skills, he recommends using a different type of sources such as media broadcast and authentic

conversations. Besides, teachers need to develop this skill taking into account the levels starting from a basic level where they identify words or phrases to a higher level when they understand complex texts. Regarding reading, Al- Jawi (2010) states that it is a complex skill since it involves many processes where learners need to be autonomous in order to develop the skill in the appropriate way. For this reason, he recommends teachers encourage learners to read different text types not only in the classroom but also outside. As a result, they will acquire a large vocabulary and they will develop their writing ability.

When teaching receptive skills, teachers have to avoid focusing only on testing the learners' performance in getting the meaning or aim of a text. In this sense, PBL offers the opportunity to promote and develop the receptive skills through appropriate strategies, activities and environments that allow students to learn and to be in contact with information related to different topics including topics focused on giving them ideas and supports for their tasks.

In a study conducted in India, Zabihi and Hashemi (2012) found that there is a significant relationship between the students' proficiency in receptive skills in English and the level of critical thinking of students. They state that learners with a high level of critical thinking obtained good scores in tests. In this vein, they point out that ESL/EFL learners need guidance to improve their thinking skills since it is necessary to enhance their learning process. They make a comparison between the importance of critical thinking and the importance of lesson plans and materials to observe the importance of this aspect. Problem-based Learning is a methodology that helps students to learn how to be critical thinkers as they need to use their imagination, intelligence, perspectives, and ideas when they face to such problematic situations. It is with the purpose of generating or suggesting an authentic design or hypothesis to solve the problem with the



help of finding relevant information about the social problem to make decisions and reasoned judgments. Additionally, critical thinking allows learners to enhance the receptive skills as they are in constant interaction with texts in order to look for different points of view about the topic and students are also interacting between them by listening their ideas and perspectives about what they have read.

### **How to assess receptive skills through Problem-Based Learning**

One of the main focuses of Problem-Based Learning is teamwork. Thus, peer assessment plays an important role to evaluate the contribution of the members of the groups. Sluijmans, Muerkerke, Dochy, and Merriënboer (2001) claim that peer assessment contributes to learners' responsibility since they are in charge of a specific part of the task. In this way, at the end, they can evaluate the performance of their classmates, and the tutor can have an idea about the contribution of each learner. Peer assessment provides a structured learning process for students to critique and provide constructive feedback to each other on their work, which is an essential factor when there is a big group working together as it is required in Problem-Based Learning methodology. In this sense, peer assessment gives students the opportunity to develop lifelong skills in assessing and providing feedback to others as well as improve their own work. Besides, peer assessment could motivate learners to do their best in the development of the task and demonstrate good work.

To carry out an appropriate peer-assessment it is necessary to design rubrics with the clearly defined aspects students must assess and also it must contain a small space for writing comments as it allows to give constructive feedback to the classmate being assessed. Thus, the tutor's role is to help students by monitoring their peer assessment, socializing, and providing feedback on the student's assessment. In this way, students will feel that they are part of the process as their work or assessment

criteria are taken into account. Sluijmans, Muerkerke, Dochy, and Merriënboer (2001) expose criteria designed to a study that consists of four aspects at the time to assess the peer's performance which are 1. Contribution to the group, 2. quality of the contribution, 3. preparedness to be involved in the task, and 4. actual contribution to teamwork.

New technologies offer us the opportunity to interact with different resources that serve to test language skills. Learners and teachers can explore different sources and develop tests through technological devices. Regarding listening, Taylor and Geranpayeh (2011) proposed the use of technology as a useful and ecological resource to test the ability to listen. Douglas (2017) in Taylor and Geranpayeh (2011) indicates that incorporating activities such as podcasts in listening activities are becoming popular in the US. Taking into account that students are engaging with technology constantly outside of the classroom, teachers can implement it to come up with creative ways of assessing language skills which can increase the student's interest as they have the opportunity of learning and being assessed through more meaningful and fun. Additionally, these technological resources allow students to interact and collaborate among them which is an aspect that PBL promotes.

As we can observe, assessment is an essential aspect of educational environments since it measures the learners' performance and achievements based on the knowledge they acquire during the process. Alibakhshi and Shiranipour (2014) highlight the importance of self-assessment in learner-centered pedagogy since it allows learners to be part of the process and evaluate their own participation. Besides, they assure that self-assessment provides benefits to learners such as autonomy, self-reflection, life-long independence, and create awareness about their own learning process. In this sense, the teacher must incorporate this kind of assessment in all the

processes learners are involved in. Student self-assessment plays an essential role in PBL as it gives learners the opportunity to assess their own performance making students more aware and responsible for their own learning process which is necessary as this methodology requires students to be in charge of performing different roles.

To conclude, it is clear that, according to the information provided in the previous paragraphs, it is necessary that the good development and constant practice of receptive skills be more present in the current student body. Previous authors argue that listening and reading are necessary for communication between people due to the enormous expansion of knowledge and the respective need to understand spoken and written language. This is since fostering these skills allows students to communicate effectively. According to Fadwa (2010) he said that both listening and reading could also be perceived as a way of extracting the meaning of people's discourse, that is, the way in which we perceive and process information, assigning a specific meaning to the spoken and written message. So these authors have demonstrated and asserted that receptive skills are fundamental to the development of learning and we as teachers need to find different strategies and methodologies in which the assessment and teaching of these receptive skills in the students let them be more constant in the classes of a second language.

### **Article report on problem-based educational studies**

The first study we are going to talk about is *Framing collaborative behaviors: listening and speaking in problem-based learning*. (Remedios et al., 2008). This ethnographical study was conducted in an Australian University, specifically at a Physiotherapy school, usually confirmed by a heterogeneous group of approximately 100 hundred students. This school decided to follow a Hybrid PBL system using traditional lectures, practical classes, and PBL tutorials. Since PBL is based on problems, each one of these problems

takes around 5 hours of group work divided into two weeks. Additionally, the tutors take some two hours' sessions split into 2 classes to assess the students, and they take one hour between these sessions to come together and discuss their findings of the problem. Every group is formed by 10 diverse students who are guided by prepared physiotherapists that have already discussed both content and process issues.

The methodology consisted of dividing two groups into thirteen Asian and seventeen Australian students who participated in the project that focused on analyzing the experiences of Asian students, who represented the cultural diversity and comparing them to the data from the local students in terms of experiences and responses. Even though any student had already interacted with PBL, local students were familiar with small group work, and almost none of the Asian students had these types of group work.

During these two years collecting the students' data, the subjects were observed through PBL tutorials, training sessions, and tutor meetings. Also, different types of interviews and videotape data were delivered in the first year of study using a constructivist grounded theory approach. This theory was used to let the students explore the problems in their own way instead of imposing preconceived ideas of PBL. All the data was collected in the second year in order to let the students familiarize themselves and get used to the PBL process.

While processing all these data from students it was evident that collaborative work troubled the Asian students, for that reason, another framework to explain the Asian students' collaborative behaviors was sought. As a result of not finding any existing framework, they decided to create a new one to explain these collaborative behaviors, through video data from the specific tutorial session as well as video-stimulated recall interviews.

The results of this study showed that all the Asian students plus 8 local students were “silent participants”, which means that these subjects talked or participated minimally in the class discussions, and when they talked, they did it briefly. Nevertheless, they completed all the tasks and activities proposed by the tutors and their group members.

Another conclusion was that Asian students preferred listening since in this way they can learn to understand their Australian partners while being polite in their conversations. Also, dialogue was referred to as a fundamental aspect in PBL, and verbal contributions were viewed as privileged over listening, raising the importance of verbal participation in their interviews. Most of the Asian students were concerned about their limited participation, having difficulties to express correctly. This preference of speaking over listening encouraged the authors to reconsider the balance of listening and speaking.

With all the information collected, two main collaborative characteristics have been found. Firstly, “all actions are, in theory, directed to the group's development of knowledge and occur within the public domain”, and secondly “all input should contribute to the construction of a deeper and more complex pool of knowledge than previously held by the group.” These concepts combined formed the following concept:

Actions that support the public linking/construction of information to other group members' contributions for the purpose of achieving a shared goal and to develop a shared understanding of a more integrated and complex picture than previously available to the group. (Remedios, 2005)

Both listening and speaking frameworks have been equally important in the collaborative participation, and it is presented in four ways: foreground listening, background listening, foreground speaking and background speaking.

On the one hand, listening as a collaborative act is beneficial to build knowledge and perform the speaking act. Listening can occur by listening to the speaker who has the floor, the foreground speaker or to the background conversation, which can be used to allow the students to participate in the discussions and become a collaborative function.

On the other hand, dialogue and collaboration can be confusing. Even though the dialogue is necessary for the collaboration, dialogue can take place without collaboration. A dialogue can present several disruptive acts such as distracting comments, uncommon goal discussions and pointless discussions. The discussion that contributes to a common goal is essential for collaboration.

Based on the above, this research intends to make the participants work in two different ways; they must contribute to the group while learning from the others' contribution. As mentioned before, both groups of students perceive speaking over listening, and focused their attention on fostering this skill since it was more relevant to get a good score, while listening was not really appreciated during the process. This belief was reinforced by the fact that silence is perceived as an adverse symptom in collaborative work, since it does not contribute to learning; but this perception can be wrong since not always the speaker contributes to the learning, and probably the silent students are contributing to their own learning. This leads to a wrong belief where verbal participation is considered as collaboration, while in fact, even if it is a key factor, is not the only aspect involved, since both listening and speaking are important. Another aspect to consider is that background conversation cannot be prohibited; even

though they cannot replace foreground discussion, it can be useful to motivate silent students. For this reason, tutors must be careful considering silence as a non-collaborative or speaking as a collaborative practice, instead, they should try to raise the awareness of listening as a collaborative skill. Tutors should encourage the students to take more time to listen to the others and then use a specific time to contribute verbally. This will erase the student's perception of speaking as a competition, and balance both skills, listening and speaking.

The second article we will refer to is *Integrating the problem-based learning approach into a web-based English reading course*. (Lin, 2018). This ethnographic study was conducted for two groups, a problem-based learning group and a non-problem-based learning group. The PBL group was guided with the problem through the internet to find the solutions. In contrast, the non-PBL group was guided through a classic lecture mode, both groups completed a pretext and a posttest to qualify their reading comprehension (RC) ability before and after the final treatment. This treatment lasted over 10 weeks and ended with two groups of students filling a questionnaire and a self-report.

The people participating in the study were a total of 60 participants from three different universities, who were split into 22 women and 38 men. These participants have completed around 10 years of English instruction at school, achieving an intermediate level having Mandarin as their mother tongue. The main objective for these groups was to “develop the students’ meaning construction skills and eventually to improve the students’ English text comprehension ability.” Both groups had the same tutor “and had two 50-min periods of English instruction each week.”

All the students were randomly assigned into the PBL and non-PBL groups with 30 participants in each group. Both teams took an RC pretest to determine their level, and the results showed that the two groups had a similar level of English to start the process. For this study, a printed textbook and internet resources were used. This textbook named “Read and Think” included 12 units, and two were selected for this study, *The Lord of the Rings* and *The Olympic Games*. According to these units, for each topic two problems were created: 1) “As a fan of The Lord of the Rings, you plan to visit the place where the film was shot. How would you plan your trip to get connected with the film?” and 2) “As an archeologist, you have a visit to the Stadium in Olympia, Greece, to investigate the movement of Olympic Games. What are the similarities and differences between the modern and ancient Olympic Games?”

The students were provided with online quizzes and PowerPoint Presentations through a website course on the Moodle LMS. This platform provided both groups with the treatment for this study. In addition, The PBL group used Facebook to raise small group discussions and used the internet to look for extra information apart from the book to solve the suggested problems.

The results regarding the difference between PBL and non-PBL groups’ condition was presented through an ANCOVA method, which is a diagram that uses linear regression. This chart showed that the relationship presented between RC pretest and posttest was not impacted by the instructional treatment. Another result evidenced in the diagram revealed that the PBL group scored appreciably higher in the posttest than the non-PBL group, which demonstrated that PBL enhanced importantly participants RC performance. To sum up, further evidence showed that while PBL training made remarkable improvements in students, the teachers’ lectures did not achieve any considerable improvement for students.



The third study of our interest was *Problem-based learning in the English language classroom* (Othman & Ahamad, 2013) which aims to explore the impacts of Problem-Based Learning in students' acquisition of course content and students' language proficiency.

The first objective is to observe how the students acquire the course content while they read, communicate, write, and gather different information to solve the problems. Since PBL is an alternative approach, students will benefit from the interaction with the content instead of getting all the information from their teachers, thus students can retain the course content.

This study proposes two research questions in order to reach the main objective. These are:

- 1) Is there a difference in the extent of content learned by both the PBL and the non-PBL groups?
- 2) To what extent does the PBL approach enhance the students' language proficiency?

The study was aimed at 128 third year IIUM undergraduate students of a language class, whose sessions were programmed twice a week for 80 minutes. Different artifacts such as board, computer, and projector were used to perform discussions, presentations, and class activities.

The students were divided into four groups, two groups applying the PBL approach whereas the other two groups followed a traditional lecture model. The PBL group of students was divided into teams of four students, with the same tutor, textbook, syllabus, and course outlines. In addition, an assistant was always observing the students' behaviors and interactions. These students were assigned a problem on the

first day of each new task and requested to present the findings the following week. They also needed to submit a presentation and a written report.

Conversely, the non-PBL group attended a lecture per topic on the course and was asked to present a single group assignment at the end of the semester. The group work was developed after the students have received the lecture and discussion along the semester, and were given sample literary pieces, as well as the textbook. Both groups had the same presentation and assignment, however, the PBL group was asked to write comments at the end of the semester about the classes, the method used, and what they have learned.

The findings of the study were focused only on the pre-test and the posttest, which were implemented to analyze the differences in terms of content and language performance between the two groups. The test made at the beginning of the semester through a cloze test showed that both PBL and non PBL groups scored 9.36 and 9.25 respectively, which demonstrates the close relationship between the two groups at the beginning of the study.

This test evidenced that both groups had an improvement, nevertheless, the posttest revealed that PBL had a bigger impact on students, since this group scored 13.35, higher than the 10.70 scored by the non-PBL group. This deviation from both grades can be ascribed to the extensive reading practice along the semester to solve the problems, an exercise that the non-PBL groups did not perform.

In the writing test, both groups had a pretest and a posttest where they should write an essay about the same topic in the second and last week respectively in the semester. This activity was evaluated by two teachers in terms of language, organization, and content. The results showed that both groups evidenced an improvement between the pretest and the posttest. In terms of content knowledge and

writing skills, the PBL group demonstrated a greater development than the non-PBL group, probably because of the readings students were committed to doing as well as the critical discussion and presentation of their results.

To conclude, both tests cloze and written have proved that the PBL group have been able to learn effectively without the constant instruction of the teacher and have scored as well as the other group. On the one hand, the PBL group was able to present more critical arguments in the posttest essay, giving enough material to support their ideas. On the other hand, the non-PBL group who had the continuous guidance of instructors did not show any remarkable difference in their language skills. This experiment left one final thought, that the best result was performed by the group that was left on their own.

Another study we considered for the purpose of our paper was *Impacts of the problem-based learning pedagogy on English learners' reading comprehension, strategy use, and active learning attitudes*. Lin (2017) whose purpose is to adapt the English reading curriculum using Problem-Based Learning to raise the students' reading practice outside the classroom.

This study was designed through a pretest and posttest approach, where two classes were randomly selected. To determine the students' reading comprehension (RC) abilities and strategies, one class received PBL instructions (Experimental group), while the other group did not (Control group). The students carried out a treatment that consisted of reading two sets of video-based materials; each video material lasted a 5-week cycle, in total, the participants covered 10 weeks of treatment.

The participants chosen for this study were two groups of students who were taking an English reading course as a foreign language requirement were taken for the study.

These students have been learning English as a foreign language for around 10-12 years since Mandarin was their mother tongue. This group of undergraduate students was certified by the university with an intermediate English level.

Both classes were assigned randomly into the experimental and the control group, and the two groups took the pretest before the treatment to quantify any significant difference in terms of RC between the two groups. This test showed that there was not any significant difference in the participants of both groups.

The materials used to perform this study were selected to focus the study, dolphins, and interesting people in the world. Those materials help the students to center their attention and look for any research such as “*Cupid the Dolphin*” (Waring 2009), or “*The Dolphin*” (Lee, 2005). The material was selected from the library with an intermediate level using non-fiction books.

The PBL group sequence started facing the problem in small groups through different discussions inside and outside the classroom. These groups were distributed according to the proficiency level presented in the pretest to establish heterogeneity between the students. Every group had a leader who was in charge of showing the members the content of the article and how to face it, organizing the meetings, and distributing the work.

During each treatment, the students started by watching the video material for 30 minutes and then asked about any ideas or meaning they could catch, to make sure that students were understanding the topic. In the weeks remaining the students were assigned to discuss and look for additional information about the problem. In the last week, the students were asked to present their solutions while the teacher presented the feedback for every group.

By comparison, the non-PBL group performed the tasks individually without any PBL training. The students navigated through a series of instructional sections divided into different activities. The evaluations were conducted through grammar and vocabulary exercises. This model was teacher-centered, where the teacher answered any doubt to the students and offered feedback to the students' exercises.

The results of this study showed that PBL students made better performance in reading comprehension and every other aspect than the other group. Also, results showed that group work was a fundamental factor to find the solutions and complete all the tasks.

To raise the students' reading skills and positive learning attitudes, some measures were taken, such as Dividing the students into small groups, encouraging them to interact with others inside and outside the classroom, scaffolding the groups so each student can be assigned a task while developing their task working together. This small group interaction created a connection between learners and settled the lack of an English-speaking environment.

Another measure taken was the self-direction of students, in this way students could take responsibility for their learning process. This self-direction included reviews of the assigned materials, reading detailed information, figuring out the answers to the problems, synthesizing the data, and further presenting the solutions. Apart from that, the leader of each group played an important role, working as the role model, fostering learning, and engaging the rest of the participants.

Finally, since the PBL curriculum exposed the participants to a broad range of reading material, the PBL group made a better improvement in RC than the non-PBL group which was conducted with the teacher-centered curriculum.

The following study *Problem-based learning strategy: its impact on students 'critical and creative thinking skills* (Kardoyo et al., 2019) is an ethnographic study performed as a classroom action research.

Now, speaking of the method for this study we need to say that this classroom action research (CAR) aims to improve students' rationale and learning practices. This type of research intends to foster the students 'ability to solve learning problems at school through the following cycles: planning, acting, observing, and reflecting. This classroom action research was conducted in a faculty of economics, in the Universitas Negeri Semarang. This research was carried out in April-May 2019 in two stages consisting of plans, actions, observations, and reflections, using a group of 33 students around 20-21 years old.

The first stage consisted of planning, where the researchers estimated the scope of the materials to develop lectures such as information security and Management Information System (MIS) implementation in the business and education world. In the second stage regarding action, the researchers implemented the activities proposed at the planning stage. In the observation stage, the researchers monitored the events that occurred during the lectures. In the last stage of reflection, the researchers reflected upon what happened in each cycle and made the corresponding adjustments to consider in the next cycle.

In the first cycle, the students were expected to be able to explain the need for security and control, able to explain the three main objectives of information security, and able to explain the threats, risks, and controls to know the process of implementing information security policies. The expected outcome in the second stage is that students

were able to explain the implementation of MIS in the business and education field. The data was analyzed through observations and interviews applying descriptive quantitative and qualitative methods.

Hereafter, we will describe the findings of this study. In the planning stage after the researcher had determined the lecture material, students were joined in small groups (3 students) to discuss the information and explore cases related to the security system. Then they analyzed how this occurred and how it could be solved. In the action stage students met face to face twice; In the first meeting, they explored different cases in the world about information security. In the second meeting, they discussed these situations and remarked how important is the information security policy in such cases.

In the first cycle where the students were assigned an information security case, they worked in groups exploring these problems and presented them in front of the class. Then they were asked to propose causes and solutions within their respective groups. The observation stage was divided into small group discussion and large group discussion. In the group discussions, researchers centered their attention on the students' critical thinking ability and creativity. The students showed a good level in these skills finding cases of information security not only in Indonesia but also all over the world. They also demonstrated a willingness to find uncommon problems and present them in front of the class while answering other groups' questions and opinions.

At the end of the first cycle in the reflection stage, students developed the instructions effectively, and they were able to find and formulate problems while discussing the possible solutions. Students also learned successfully many terminologies related to information security.

In the second cycle, PBL was focused on the field of business and education, a topic more difficult than the one used in the first cycle; They also followed the same model of face-to-face meetings and group discussions. In the planning stage, the students followed the same model and were asked to analyze scientific journal articles related to business and education. Then, the students discussed this information whereas looking for real situations and presenting them in front of the class.

In the action stage, students discussed the problems they found in scientific journal articles and identify real problems that occurred in the same field. They were guided through some questions such as: “the benefits of MIS in the field of education and business, three forms of MIS implementation in the fields of business and education, and the real problems faced and the possible solutions.” Students were able to present their findings and solutions in front of the class correctly, that covered mostly “manually manage school funds, paper-based membership registration forms for student and student organizations, the existence of used books that have not been utilized properly by students who have graduated” and so on. These presentations revealed that students were able to think creatively and critically, despite that not all the groups took seriously the assignment, showing a non-satisfying performance.

In the observation stage, the researchers focused on the students' critical thinking skills and creativity in the group discussions' result exposure, and the quality of the solutions provided by the students. Even though several groups found benefits and forms of MIS implementation in education and business, not all the groups presented satisfactory problems and solutions.

The final reflection showed an increase in the students' ability to find problems since they were able to express better their results. Although not all the groups were serious in presenting their problems and solutions, most of the groups were able to comprehend



the process. The group formation was a key factor in this PBL implementation, being able to confirm the group proportionally creating a good cooperation spirit among students.

The coming study to our concern is *the use of problem-based learning method in teaching reading comprehension* (Arjuna & Jufri, 2016). From the four main learning languages skills this study was focused on the reading skill since it is crucial for learners to get knowledge and information from all types of resources focused on this skill. Reading allows us to know about the world and improve our knowledge by finding all kinds of information, but is not as easy as people may think, especially in another language because it involves understanding and comprehending what we read. This difficulty has caused students to show low performance in this skill because firstly, there is not enough interaction between teacher and students, which causes the lack of participation by the students in this type of activity. Secondly, just reading a text does not help the students to comprehend the meaning of the sentences and reading becomes no more than just a simple exercise to memorize difficult words.

To address this issue, teachers need to find a method to maintain the students' interest, so they can understand and comprehend reading materials. For this reason, Problem-Based Learning was chosen, since it is completely different from the traditional method, and it is student-centered so we can focus on the students' learning. With this method, the teacher will work as a facilitator supplying the students with all the material and equipment necessary to solve the problems, while they develop their problem solving and literacy skills.

Speaking of the teaching procedure in this study, PBL is a combination of several skills such as critical thinking, real-life problems, use of learning resources, and teamwork.

This method is conceived as the most innovative in the history of education, since it was

created to deal with traditional methods that failed in preparing the students for solving problems in the learning process. According to Arends (2008:57) there are five major phase that can typically be found in PBL, such as:

How to lead learners to the problem is an issue to consider here. Teachers must prepare the students with basic concepts, instructions, references, or links and skills to make them clear the direction and purpose of learning. Teachers can start by giving the students some pieces of text with different problematic questions; then, divide the students in groups and every group must pick one question from the paper and assign a leader for each group.

Let us discuss the organization of learners. In those groups students will discuss who will be assigned a specific task, for instance, who will look on the internet, in books, in the main source, and so on. Also, how are they going to define the deadline and activities will be developed in that period. Then, the solution can be delivered in softcopy or written form depending on the teachers' instruction.

Now, about the guidance of the research of individuals and groups, students will be guided by the teachers and encouraged to find information in books, internet, printed materials, asking the experts or in the library.

In this research, students gathered all the information, and discussed the most appropriate solution for the problem supported by arguments and presented in written form or softcopy as required by the teacher.

To analyze and evaluate the problem-solving process and guided by their teachers, students will write a reflection upon the process of investigation obtaining the most suitable solution for the corresponding problem. The teacher will end the activity giving their students feedback about the process by, for example, giving them some reward, to

whomever has presented the work, such as a dictionary or any motivating prize, and finally, summarizing and reviewing all the lessons among the students.

We can conclude that teachers, as models, should choose the appropriate methods that allow them to be more creative, interesting, and motivate students. PBL offers an alternative way to present learning with problems instead of lectures, assignments, or exercises. Teachers are constantly providing the students with materials, feedback, and support during the solving process, to help the students to develop problem-solving skills and language literacy, while working and communicating with others. The writer suggests the teacher select an appropriate method that attracts the students' interest and motivates them to be more participative. This will give the students the confidence to afford any new learning project.

For the coming study, *the effects of problem-based language learning on the listening comprehension skills of Malaysian undergraduate students* (Teoh et al., 2019), on the one hand, Gilakjani and Sabouri (2016) remark that listening is important to take part in lectures, use audio files, and communicate with English speakers. On the other hand, Kurita (2012) considers listening more vital since listening comprehension can distinguish either a successful language learner or an unsuccessful one.

Different studies have identified several concerns regarding listening comprehension in a second language. Lack of vocabulary, lack or insufficient practice, unfamiliarity with the pronunciation, ineffective listening practices, and lack of motivation are just a few challenges encountered in these types of exercises. Talking about issues specifically in the University of Malay where this study was conducted, there are students from multiple countries and different degrees of listening abilities. This situation makes it

difficult for the lectures to design appropriate listening practices which target students at specific proficiency levels. For this reason, Problem-Based Language Learning was proposed since students can take part in the content selection while getting benefits from the cooperation with others. This study aims to improve students' listening comprehension among Malaysian first-year undergraduate students to attend and approve an obligatory listening course. PBL was suggested as an alternative approach conducted through the following research questions:

Q1: Does PBL have any effects on the listening comprehension of Malaysian undergraduate students?

Q2: What are the views of the Malaysian undergraduate students about the implementation of PBL in the listening course?

The discussion for this study is as follows: numerous studies supporting this study reveal that PBL can enhance students' knowledge of vocabulary, acquiring it incidentally by practice. Fard and Vakili (2018) implemented tasks like the activities proposed in the study, beginning with PBL tutorship with the presentation of a structured problem. Another positive aspect of PBL is that learners can not only get engaged in language learning, but they also can adjust the tasks to their cognitive abilities. In addition, since they confront day-to-day life exercises, PBL assures that all the knowledge they acquire is going to be practical and applied to this study, they can show an increase in practical listening ability.

Previous PBL studies have shown that not only productive skills can be fostered, but receptive skills can be enhanced, such as listening comprehension, which is a communicative language skill and can affect communication.

To conclude, this study was created to foster listening comprehension for first-year undergraduate students using PBL, but some restrictions were found. Firstly, researchers could not focus only on listening since it was a course composed of listening and speaking, so only half of the semester was used to make the experiment. Secondly, the search for audio materials online was time-consuming and tedious, but letting the learners choose their own audio resources at their own pace improved their autonomy. Despite these limitations, PBL demonstrated to be more effective than traditional listening courses by using authentic and meaningful activities. These activities allowed the students to gain knowledge and vocabulary while getting involved with the content and practicing listening and speaking abilities. Finally, this study revealed that PBL gave the students the opportunity to find their own material and enhance their listening ability.

For the next Classroom Action Research, *using magic trick problem-based activities to improve engagement in a listening class* (Ikhsanudin et al., 2019), engagement is one of the main problems in classroom interaction, but at the same time, it is a way to optimize the students' learning and capacity to interact with the institution, improving the students' experience and performance. This classroom action research (CAR) was conducted in a listening mandatory class in the first semester consisting of 24 students. Each class was delivered in a language laboratory twice a week for one hundred minutes each session. This lab has some constraints such as messy cables and non-functioning booths with new students that had not known one another. These students were excited about studying in a prestigious university and using a language lab; however, they were disappointed after they saw the lab conditions and the engagement was decreasing over the classes, and participation was reduced too.

After this decrease in engagement, the teacher tested a “magic trick” game that had a good response from the students. The idea was to implement magic tricks as problem-based activities in a higher education setting. This classroom action research had a purpose to explore the use of magic tricks as problem-based activities to engage the students. Rather than improving the students' listening skills in general communication, this study intended to engage the students in the teaching and learning process while fostering the listening skills.

Three dimensions of engagement were used to measure the students: behavioral engagement that consisted of the student's attendance and involvement in the class, the emotional engagement that indicated affective reactions of interest, enjoyment, and sense of belonging, and cognitive engagement referred to the students' learning and efforts to go beyond the requirements.

Theoretically speaking, different educators and researchers such as Govender (2012) maintain that engagement is crucial for students of higher education to perform well academically, however, this is a difficult to achieve problem due to the rise of mass and universal forms of higher education (Kahn, 2011). For this reason, this CAR aims to provide educators with solutions to overcome this issue regarding engagement. Trowler (2010) points out that engagement is more than just the students' involvement or participation, it has to do with Behavioral engagement, Emotional Engagement, and Cognitive Engagement.

To Axelson and Flick (2011), engagement is the students' involvement and interest with the classes, institution, and friends. It can be determined by Trowler (2010) and Axelson & Flick (2011), that engagement involves students' attention and interest in the activities and the educational environment. Therefore, this study proposes to use magic tricks as problem-based activities to engage students, since this type of amusement can

attract the students' attention (Spencer, 2012). Other educators who had used this method like Ogren (2014) consider that "magic is an effective strategy to motivate and inspire students to read, advance their physiotherapy, build confidence, and think creatively." This kind of activity can also engage the teachers, and as Bryson and Hand (2007) point out, "students barely engage with the classroom activities unless their teachers engage with them and the activities."

Several studies have focused their attention on engaging strategies such as Krause (2005) who suggests providing targeted self-management strategies. Moreover, Taylor and Parsons (2011) state that university communities should adapt to the student's needs, or Davis (2013) conducted a study in which he concluded that developed games can increase student engagement as well as cover the content of the lesson. Different studies have been conducted to determine if magic tricks are useful to engage learners like Krause (2005), who states that "one of the working principles for enhancing student engagement is to provide proper strategies." All these studies have concluded that "engagement could be achieved by applying an appropriate and fun strategy" in a way that educational content can be adapted to fill students' needs.

The findings in this study are focused on the levels of students' engagement and are divided firstly in the baseline, then in the first and second cycle. The baseline, which is located before the CAR had taken place, researchers noted the enthusiasm of students before entering the lab. After the students observed the adverse conditions of the lab, they lost engagement. The first activities proposed by the teacher consisted of listening practices and word-sentence recognition drills using audio files from YouTube. In addition to the lack of engagement, students' linguistic prior knowledge was below the requirements.

In the second meeting, the lecturer tried to teach some vocabulary to the students with the same materials as the previous meeting, but even though many students correctly solved the exercises, just a few were able to participate in the meeting. The engagement did not improve from the previous session and students demonstrated fear and lack of confidence, and fear to interact with others, a negative attitude for a language course. The first cycle began in the fourth meeting, and discussion was planned with Problem-Based activities about campus life, where the learners must bring to class files about the topic that met their interests and level of proficiency. The students were given two days to write a summary within 60-80 words about the contents of each audio-video file. Also, the lecturer prepared a magic trick set, and two classmates oversaw their partners' engagement.

The results from this observation evidenced that every student got their summary ready and was presented with a magic trick at the beginning that enthused them. Then, the teacher asked if anyone knew the truth behind the trick, and even if any students knew, everybody showed curiosity. So, the teacher played audio explaining the trick and all the students were listening carefully, and only one student could reveal the trick, but everyone was engaged. The next activity consisted of the audio that was prepared by the students. The teacher prepared the students with some Problem-Based questions before the audio to make sure everyone can understand the meaning of the questions and guide the learners. The audio was played twice, and most students raised their hands, but specifically for the first questions, so the lecturer played the audio twice again and the students answered questions 2 to 5.

In the reflection process, the researcher discovered that students' behavioral engagement could be evidenced by their full attendance. Nevertheless, since students only answered the first question, their responses needed to be improved. Since this issue



could be owed to the status of new students, they needed to be grouped and stimulated to work together within the group to maximize their behavioral engagement. Although they seemed engaged with the magic trick, they were not as engaged in the comprehension questions as in the magic trick. Even if they showed an excellent cognitive engagement in the first cycle, their schemata were not quite adequate for their level as seen in the comprehension questions.

In the second cycle that took place three days after the reflection. The topic selected was “Being New University Students” which started with a magic trick. This time the students’ participation would be more relevant since they will be in charge of performing the magic trick, playing the audio tutorial, and playing the non-magic trick audio-video file. The researcher applied two evaluations, the student's engagement, and the student's ability to answer comprehension questions. The teaching strategy was the same procedure used in the first cycle, but in this instance, the students should prepare a magic trick and perform it in front of the class by a random selection.

The data obtained from the observations resulted in the following outcome: after all the students had delivered their summaries the class started with a warming up, where the teacher made questions about the prepared magic trick to trigger the students’ curiosity. Then, a pair of students performed a magic trick while the rest watched very enthusiastic, while the lecturer asked if anyone knew the secret behind the trick; all this time the students were engaged trying to find the secret and raising their hands, willing to listen to the audio tutorial carefully without getting bored by listening even three times. After listening, some students raised their hands confidently while their partners watched, since the audio was not very easy for most students. Next, the lecturer asked the students to discuss the answers in small groups; the students were noisy and dynamic, and at the end, they seemed happy and satisfied with the activity.

After the magic trick, the procedure was the same as in cycle one, where students listened to the audio file in a Problem-Based comprehension activity. This time students raised their hands but mostly only could answer the first questions. The lecturer played the audio more times to answer the questions together.

The reflection process was similar in this second cycle because students' behavioral engagement was evident through their full attendance and participation. On this occasion, students were able to answer more questions and not only the first ones, and they could improve their group interaction and discussion. Besides, the students were more engaged emotionally and curious, and optimistic. The magic tricks were easy to reveal so the students seemed curious and confident and emotionally engaged. This time in the comprehension activity they seemed as engaged as in the magic trick, probably because of the interest in the topic or the simplicity of the questions whereas they worked in groups.

The students' engagement was exciting, they were challenged to solve the magic tricks before the comprehension questions. They were trying to figure out answers with downgraded questions and group working that allowed them to answer more questions than the first cycle. The creative implementation of magic tricks improved students' engagement and not only their behavioral aspect but also emotional aspects and intellectual aspects of engagement.

This CAR successfully improved students' engagement using effective means of authentic communication divided into three important aspects, such as *information gap*, where only the performer knew the secrets behind the tricks, *choices* since students were constantly figuring out as many potential answers as possible, and *feedback* from part of the audience and the teacher while answering questions.

Learning can be enjoyable if it is adapted to the four learning styles: visual learning where the learner feels more comfortable watching a video or reading, a kinesthetic person who likes to move constantly and be dynamic, an auditory learner who likes to listen to the information, and an intellectual learner who likes problem-solving activities. The magic tricks used in both cycles helped the students to develop these different learning styles.

### **Didactic Sequence**

Didactic sequences play an important role in education as it is a tool that contains a set of procedures, methods, activities, and assessment techniques that are necessary for an efficient teaching and learning process. In this sense, didactic sequence make the teacher aware of the work they need to perform with the students since it shows the process that must be followed to achieve the established objectives. The website building linguistics provides a brief explanation about the definition of didactic nit. It states that “a didactic unit is a kind of lesson plan. Teacher details and describes each lesson of the course.” The designers of the didactic sequence should take into account different aspects such as the skills which are related to the knowledge that

students will learn, the competences that will be assessed, the number of sessions and the activities, and the instructions. Besides, the teachers should be aware about the students' difficulties and needs and anticipate the way to overcome each of them.

### **Defining a Didactic sequence**

First, this section will be focused on generating a broader definition of What is a didactic sequence, taking into account the perspective of different authors. A didactic sequence is a kind of lesson plan where the teacher describes the structure of the course and guides the class step by step. Its "Didactics sequences", pretends to integrate adequate resources to achieve the methodological objective, these sequence attempt to do an exhaustive search for good information and techniques in the learning, in order to recreate a coherent, entertaining and balanced guide between teaching and learning. According to what Medina (1971) mentions, a didactic sequence is “a method of organization which provides in a better way the contents and activities in order to teach a subject or a specific topic”. That is, it is an organized sequence of contents that aims to design a series of activities in a better way to teach a specific topic.

An important fact of a didactic sequence is that it allows students to get involved in ways that not only memorize content, but also actually learn it through different tasks and activities with which they will be more involved in this teaching process. Diez Rodríguez (2009) defines the teaching unit as the basic programming unit. A didactic unit can be identified as any unit of work with a variable stipulated time, which organizes a series of teaching and learning activities; which aims to formulate a series of elements to guide the teacher in charge of the unit in questions of how, what and when to teach or evaluate.

As Escamilla (1993) mentions, the didactic unit is a way of planning the teaching learning process around an element of content that becomes an integration of meaningful process. To summarize, this allows the sequence of specific contents to be treated during the course, following a logic, even more taking into account the age, the educational level of the students, and their context. To undertake a formulation of a didactic unit, decisions that help to guide or offer an adequate attention to the diversity of students must be premeditated, since it is a process that can specify objectives, contents, activities, type of assessment, material resources and implementation time.

### **Components of a Didactic unit**

The idea of this document is to write and design a didactic unit that will be directly focused on the implementation of the PBL methodology with objectives to promote both productive and receptive skills. It is relevant to understand the different characteristics or components of a didactic unit. Each unit is different due to the implementation depending on the methods, perspectives and objectives of the teachers. The first author brings a brief but concrete list of the principal elements included in a didactic unit, Diez (2007) lists the following elements: 1. Unit description: where it is established previous knowledge of a specific area. 2. Objectives where teachers expect their students to acquire during and after the unit development. 3. Learning contents: the topics will be developed in the unit 4. Activities sequence: the activities must be interrelated among them 5. Materials: which tools students use during their activities 6. Timing and space: where the activities will be developed.

On the other hand, Hans presents four essential components; firstly, language samples or materials to show the students contextualized examples to analyze and formulate the hypothesis. Secondly, we need conceptualization activities to describe the formal system and activities to discover the rules. Thirdly he presents "Materiales de

ejercitación formal" that consists of activities to develop the statements focused on the explanation of the different roles, intentions, and linguistic forms. Finally, the author shows the significant tasks, these are class activities that transmit meaning and discursive characteristics for the students to use.

### **How to design a didactic unit**

A Didactic Unit is a useful tool that a teacher can have in the classroom since it integrates all the elements such as methodology, resources, activities, and assessment that intervene in the teaching and learning process. According to Carvajal, Poveda, and Rojas (2012) there are three characteristics that are essential in the designing of a didactic unit which is coherence, flexibility, and interdisciplinary. Coherence permits that all the parts of the didactic unit should be linked. Flexibility allows making changes or adaptations during the implementation of the didactic unit. Finally, interdisciplinary allows to cover different areas of a topic that are related among them. Besides, they highlight the theoretical bases they use in the creation of a didactic unit such as the standards for foreign languages proposed by Ministerio de Educación Nacional (MEN), Bloom taxonomy, and strategies used to promote critical thinking. Thus, the theoretical bases are key to set the main purpose of the didactic unit.

In this sense, a didactic sequence must be adjusted to a specific academic subject or project so that it can meet the characteristics mentioned above. In this case, it is intended to design a didactic unit based on the PBL methodology to promote the productive skills in the second foreign language of ten graders students from schools, which is adjusted to the age and level of the student. In addition, to the available

resources of the school so that teachers can find a way to adapt the guide to their environment. Finally, the didactic unit will be designed taking into account the educational strategies established by the Ministry of Education through the suggested curriculum, which proposes the PBL as a methodology to teach ten and eleven graders in order to develop their educational practice and life skills.

Carvajal, Poveda, and Rojas (2012) also state that when a teacher contextualizes the didactic material and the activities in the classroom they raise the students' motivation and participation since the learning environment is related to their real contexts. In this way, students develop their capacity to understand, analyze, exemplify, categorize, and compare the information. The implementation of activities in two languages using the students' background knowledge allow them to learn easier since they can make connections/relations between the new information they learn and their previous knowledge. As one of the skills that promotes PBL is the critical thinking, the didactic unit must provides activities in which students have the opportunity to look for their own resources, summarize the relevant information and discuss about it among them. Additionally, it must provide the appropriate environments for students using both languages but with a purpose. In this way, they will be using their native and second language in an enriching way.

In order for a didactic unit to be an articulate and complete work that clearly establishes its methodology, objectives, contents, activities, resources and evaluation processes, it

must follow a structure or organization during its design. Regarding the objectives, Zapata (2016) states that a didactic unit should have two kinds which are the general and the specific ones. These objectives should be focused on achieving the expected outcomes and they should cover from the global goal to aspects related with the context and the students' cognitive development. On the other hand, there are other elements that should be carefully designed such as the time for the implementation of the project, the justification, the content, the strategies, the materials, and the assessment. Additionally, the web page Educación 2.0 provides 8 steps proposed by the blog oposiciones a profesor Which are essential aspects that allow to design didactics units in a systematic and orderly way which are a title that call the attention, the sessions and the place where it will be implemented, the objectives, the contents, procedures, and aptitudes. Also, the activities, the methodology, the materials and the assessment process. The web page remarks the importance of take into account the institution, the students' background knowledge and the learners' level

### **Importance of the didactic unit**

As we have discussed previously a didactic unit is a kind of lesson plan where the teacher describes the structure of the course and guides the class with respecting skills. This type of input is important since it helps both teachers and students in the learning process. Some authors mention the benefits of a didactic unit; on the one hand, for teachers, as Moreira (1993) states, it allows them to organize his educative practice customized to their respective groups; besides, it allows the coherence and balance between the teaching and learning, taking into account the students' diversity. On the other hand, Pinto and Zambrano (2009) remarks that the unit can facilitate the



organization of content and activities to teach a specific subject. On the other hand, according to these authors, it facilitates the students to learn the language for academic purposes, arouse their curiosity and interest, and let the student reflect in familiar situations enhancing their critical thinking.

Finally, since didactic units can be developed in many different ways, in Astullidos' monograph (2015), she reviews how to foster communicative competence and critical thinking through storytelling. This research has shown that the didactic units facilitate the supervision of the work to follow up on what was planned, confronting, and creating proposals for improvement based on the execution experiences and responsible reflection.

The general idea about didactic units and their importance make emphasis on the well-organized structure between teaching and learning, and how it is carefully implemented to facilitate teachers' work and content management. Also, it helps students to foster their language acquisition through multiple tasks that engage them and can foster critical thinking while using the second language.

### **How to implement a didactic unit**

Knowing how to implement a teaching unit is as important as the necessary elements for its design since it provides teachers the information about the most appropriate process to implement it. Soler, Villacañas, and Ponce (2013) point out that a didactic sequence should be implemented in a short period of time with a maximum of 10 days to strengthen the competences it is intended to achieve. The content of the activities need to be designed in order to provide new knowledge but also reinforce and

consolidate the previous knowledge. For this reason, learners should be exposed to activities that follow a sequence starting from the basic concepts they need to meet for the rest of the process to activities that require all the competences students acquired.

In this sense, the didactic unit based on PBL methodology complies with the previous recommendations as it will be performed in twelve sessions giving answers to curricular issues, in a certain area, and in a limited time. In addition, the didactic unit will offer different types of activities that allow students to acquire knowledge through their own searches and it will provide them with the space to socialize and reinforce the knowledge they obtain with their peers and the tutor. In this sense, activities and spaces to ask questions, clarify terms, brainstorm, classify information, investigate, and generate a contribution, where the results proposed by all the members of the group are presented, will be designed. In addition to this, for a good implementation, It is necessary to contextualize the students about the didactic unit or its justification and the times to be used in each of its parts so that the students have clarity of the project and can have better results as well as learn in the most appropriate way.

Zapata (2016) proposes three stages before the implementation of a didactic unit to be aware of different aspects that are important to know previously such as the permissions and the first contact with the environment and the social context of the learners. The second stage consists of making interviews with the teachers, observations, surveys to the students to obtain information about them and to create a route, and a journal.

Finally, the third phase is about designing and implementation. In this phase, a diagnostic test is implemented using questions in order to recognize the level of students in the competencies the didactic unit requires. In education, a diagnosis test plays a fundamental role as it helps the teacher to identify student's learning problems, level, what they know, and do not know. This information can be analyzed by the teacher in

order to look for a strategy that meets the student's needs. Additionally, it provides advantages to students as they can realize what aspects they need to continue working on. In this sense, before the implementation of the didactic unit based in PBL methodology, it is recommended to perform a diagnostic test as its results can be a valuable resource that can guide the teacher in adapting the activities, materials, and assessment process proposed by the didactic unit in a way that meets the student's needs and the main goal.

Munoa (2017) uses Problem Based as a methodology for the construction of the unit. The author remarks on some aspects that are essential in the implementation of a didactic unit. One of them is the methodology. She states that teamwork is key during all the process since students have to work in groups. The second aspect is the time which should be enough to carry out the sessions in a smooth way. Thus, the author recommends 50 minutes sessions. The last one is the aids which must be previously prepared to complement the learners' learning process. Some resources can be worksheets, internet, projectors, cards, apps, blackboards, porters, and audios.

Thus, to carry out an appropriate implementation of the didactic unit based on PBL, it is necessary for teachers to be aware of the teaching and learning method they will be working with. Problem Based Learning methodology requires teachers to adopt a teaching role different from the traditional one. In this sense, teaching through PBL requires teachers to play different roles such as planning, observing, accompanying, stimulating, and assessing students' learning situations. Time is another important aspect when implementing the didactic unit since depending on its use and distribution students will be able to have a significant learning process through PLB. In this way, it is important to follow the total of the classes and the time which is stipulated in the activities or adapt it to the context and student's needs in the best way since a good

organization of the time it's necessary so that students can seek information, internalize concepts, socialize, and elaborate ideas. Teaching resources also play an important role in the implementation of the didactic unit as they serve as pedagogical reinforcement for the teaching and learning process. For this reason, before the implementation, it is important to visualize the context as it allows teachers to know what resources the institution or students have so that the teacher can adapt or adjust the activities in advance to the resources that are available.

For this project, the didactic unit is the central factor since it is the means to promote productive skills through Problem Based Learning methodology. For this reason, it is necessary to be aware of the definition, the designing, the components, the importance, and how to implement it in order to obtain an overview of the concept. Hence, these aspects allow having an appropriate design of the didactic unit that is flexible to students' needs and the available resources of the environment in which it will be developed. Additionally, the didactic unit will provide teachers with the appropriate tools such as lesson plans with activities, tasks, rubrics to assess, and resources that can be used to implement it effectively and reinforce the students' learning process.

### **Foundations of Problem- Based Learning and its impact towards second language processes**

After being applied in different fields, Problem Based Learning has become a relevant methodology to teach a second language in many countries. In this sense, being aware of the state of the art of Problem-Based Learning methodology is an essential

aspect as it intends to deliver an overview of how PBL works and its effectiveness. Hence, this chapter will provide historical information about the foundations of Problem-Based Learning and its development through time and how it began to be implemented in second language learning.

The medicine program at McMaster University located in Hamilton, Canada was the pioneer implementing PBL. In the late 1960s, Barrows and Neufeld, the “founding father” of this program, started designing an approach as a response to the traditional teaching method in the medical field. Barrows and Neufeld (1974) pointed out that the curriculum of the program was incomplete and redundant. Besides, the students were stressed and bored because of the amount of useless information they have to be aware of. Thus, the “founding fathers” proposed a syllabus, which was known as “The McMaster Philosophy”, that allows students to develop abilities related to problem-solving and all the processes that are involved in this new approach. They conceptualized an entire and complete curriculum, which graduated its first class in 1972 and was admitted in 1973, which consists of different steps to achieve a solution to an established problem. In this sense, the role of the learners in Problem- Based Learning is to recognize a problem and look for information in order to analyze it critically. After that, the learners elaborate a contribution to the problem using the previous information they know and search for further information about the topic. Finally, the learners solve and develop a solution to the problem using the data collected. This process promotes an interactive environment that allows students to develop multiple abilities. Besides, Barrows and Neufeld (1974) stated that “the overall emphasis is on the learner and the facilitation of learning rather than on teaching. There

is a climate of enthusiasm and commitment and a willingness to risk and to learn from mistakes.” (Page 3).

The McMaster model, which had positive results in its implementation as students were enthusiastic to work with patients while they practiced their problem-solving abilities. Thus, the model began to be implemented in other universities in subjects different from medicine. In this sense, Kolmos and de Graaff (2007) stated that universities such as the medical schools of Maastricht in the Netherlands and Newcastle in Australia adopted the PBL model in the early 1970s as part of their curriculum. The outcomes in the medicine program in Maastricht showed that students have a better understanding of the topic in comparison to the traditional form since it provides students the opportunity to work in teams that allow them to learn collaboratively and increase their knowledge. Additionally, working with the PBL curriculum provides the advantage of interacting and performing in a real context using the problem as a channel to enhance their learning process. Kolmos and de Graaff (2007) claims that the problem plays an essential role as it is a motivation for students to continue with the learning process.

Barrows (1996) argued that in the early 1980s, a program in health sciences in New Mexico was the first institute in designing a parallel curriculum based on PBL as an alternative to the traditional teaching method. Later on, medical schools such as the Universities of Hawaii, Harvard, and Sherbrooke in Canada took the risk to explore and develop a complete curriculum with Problem-Based.

Adding PBL in a traditional curriculum involves a sequential process that should be carefully designed in order to avoid abrupt changes in the educational process.

Schmidt (1993) in Kolmos and de Graaff (2007) sustains that the university of Maastricht implemented the “seven jumps” to adapt Problem-Based Learning gradually

in the new curriculum. Due to this process, PBL becomes familiar around the world and it starts to be recognized as a useful teaching method. Hence, it was conducted in other areas such as law, psychology, education, second language teaching, economics, and architecture.

One of the main aims of teaching a second language is to motivate students to understand and use the foreign language effectively, and in order to communicate assertively, a good command of the language for the purposes of reading, writing, listening and speaking are of paramount importance.

To give a sense to the above mentioned, a series of studies and authors focused on the methodology of Problem-based Learning have been compiled historically. Being studies that have been implemented in different parts of the world, they give us a broader idea of the positive or negative impact that students have had, in very different contexts, but always involved with this methodology. Since that time in which PBL was only involved in the area of medicine in the 1960s, problem-based learning has moved into mainstream education in most content areas, for example language learning. The first study we found specifically focused on English language learners around the year 2008, which provides an overview about how PBL emerged and how it started to have an overuse in English teaching environments. It also establishes a set of instructional strategies for the implementation of Problem based learning with English language learners.

In the study published by Hearn, B. J. & Hopper, P. F. (2008) problem-based learning provides a firm platform for authentic English as a second language of instruction, and as a result, it can encourage the use of the English language while promoting skills such as critical thinking, due to PBL provides an active strategy for language acquisition as well as cognitive engagement in the content area being taught.

On the other hand, aspects such as interactive communication and self-reflection are motivating. Also, this article maintains how students of English, in particular, can benefit from PBL instruction as it helps English. Another important result was language students develop cultural constructions along with linguistic arts skills such as reading, writing, listening and speaking.

This article has also stated some of the roles and structures for the implementation of Problem-based Learning with English language learners. The teacher needs to become a successful tutor or facilitator adjusting the content to allow the students to be self-directed. Regarding the structure, homogeneous groups have demonstrated having zero effect on the academic achievement. For that reason, the groups need to be heterogeneous, diverse, and interact through group discussions in order to use all the different ideas proposed by the students giving their opinions. On the other hand, this paper also mentions how PBL is a method that represents an authentic learning approach, which complements positively with the experience of learning a second language, due to it requires the student to employ processes which compel the use of all the language arts, critical reading, higher-order thinking, analysis, and information skills necessary in order to resolve the problem raised by the teacher.

Subsequently, in the article “Problem-based learning in English for a Second Language Classroom: Students’ Perspective”, Azman and Shin (2012), in Malaysia, the approach for methodologies focused on English has been shifting towards a more impactful methodology such as PBL. The implementation of PBL in Malaysia roughly began around 2009 to 2010. For this process, 57 students from 2 of the 13 different classes of English at the University Kebangsaan Malaysia were involved.

The main focus of the usage of PBL in ESL classrooms was mainly to help learners to acquire not only grammatical/language skills, but also, problem solving



skills, communication skills as well as leadership skills, based on real world experience. This method soon encountered a problem, it being the perception of teachers in the Malaysian culture. In fact, Ming and Alias (2007) cautioned that undergraduates in Malaysia tend to prefer a teacher-centered approach to learning.

During the period of the study, learners were encouraged to become stakeholders while teachers were to become facilitators. As not to break apart from the learners, but to be there when needed. Letting learners adapt and thrive in this new environment in order to acquire and improve their skills. The results shown at the end of the study, regarding the opinion of the students involved in it were positive in most if not all aspects. The only satisfaction was the time allocated for solving certain problems during the duration of the study. The overall satisfaction was 84% of the sample. In addition, 44% of the students enjoyed the process, while others felt motivated to continue developing not only their English skill, but also, their problem-solving skills, as the method presented in PBL has a direct relation with the real world, and it makes itself more relatable.

I think PBL is the best way for this course. But I still have to improve [in English]. PBL is the good way to improve English skills among students. PBL also increases my motivation and I learn more about new information that is related to real life. Problem based learning gave me a way to fit the pieces together like a puzzle. It is a new way...requires us to do research, it is better because it makes us work. Even some friends who were not fond of learning English seemed to work in this class. (Norzaini Azman & Ling Kor Shin, 2012, p. 119)

In conclusion, the study had shown that the implementation of PBL generates a positive impact on the view of skills acquisition and the overall usage of English in the classrooms regardless of levels or proficiencies. This being the case due

to the opportunities to practice and use the language this methodology presents to the students. Also, it greatly helps in the development of other non-language specific skills.

Watson (2001) explains that in PBL, “students work with classmates to solve complex and authentic problems that help develop content knowledge as well as problem-solving, reasoning, communication, and self-assessment skills’ (P. 3).

Following this, PBL shows students how to acquire and develop the skills mentioned above and the usage of them outside the classroom across different disciplines in the long term.

The aim of the study was to find the language proficiency and the acquisition of course content. The sample used for this was of 128 students composed of a mixed group, both males and females. As the PBL system does not focus on teaching directly, students were encouraged to take a self-learning approach instead of the classical spoon-feeding approach used by the teachers.

One of the subtle differences present in this study is the presence of a non-PBL group that functions as a comparison and helps to highlight the results found between PBL and non-PBL classrooms.

The results shown in the study indicates that PBL groups indicate a significant improvement compared to non-PBL groups, yet both groups of students regard the PBL and the traditional method positively. Mavis and Wagner, (2006) compared *PBL* to traditional lectures by documenting medical students’ opinions of the two methods of instruction. Students wrote positively for both methods. The method was seen as encouraging interpersonal skills, while lectures were seen as efficient in learning. So there is a beneficial factor to the PBL method. Overall, students in Mavis and Wagner’s

(2006) study preferred PBL as it was enjoyable and successful in achieving other organization goals/skills and life-long learning skills.

In conclusion, Problem-based Learning brings new perspectives in terms of changing the traditional methods, as it was said by Copland (2001 p. 3), who teaches PBL courses in the Prospective Principals Program in the School of Education at Stanford, “the key thing in making [PBL] successful is the amount of time and energy that goes into the creation of the project. Finding a problem that really means something to the participants is absolutely critical”.

### **Problem-based learning impact**

After we have reviewed all the historical aspects of problem-based learning, we need to focus on what impacts have had this methodology in different areas. Is not a secret that PLB started as a methodology focused on the medical field according to all the studies reviewed in this paper. The first impact we want to review is a study made by Yew and Goh (2016) that shows how problem-based learning has been used in an educational setting while reviewing which skills can be improved. Even though these results showed that PBL results were similar or less learning gains in short-term knowledge, in terms of long-term knowledge retention the learning acquisition is significantly in PBL's favor since it fosters the students' reflective, critical and collaborative skills.

The second study was conducted by Mandeville and Stoner in 2015 on an undergraduate biomechanics group of students, assessing the effect of problem-based learning compared to the traditional lecture. The results of this study showed that the students enrolled in the PBL version did an equal or better performance than their partners, enhancing such skills as problem-solving, critical thinking, effective oral

communication, and a little bit of evidence-based practice. Although at the beginning the students had problems adapting to autonomy, in a period of two or three weeks the students finally learned to take responsibility for the criteria for the class, which increased their confidence.

Problem-based learning has impacted not only in the medical field since in 1990 Kurtz, Wylie, and Gold released an article focusing on the PBL as an alternative approach to legal education. The law field has also benefited from this approach, and these authors explain how PBL can be adapted to the legal field and which skills can be developed. This article suggests that one of the striking characteristics of PBL is how it can be applied across learning objectives and styles, subject areas, and individual students' preferences. According to the article, since this approach is student-centered it could be defiant for instructors and participants "to learn and learn to learn". This process is designed to teach knowledge, reasoning skills, and communication skills, and can be applied virtually at any law school course, or even for an entire law school curriculum. Finally, since didactic units can be developed in many different ways, in Astullidos' monograph (2015), she reviews how to foster communicative competence and critical thinking through storytelling. This research has shown that the didactic units facilitate the supervision of the work to follow up on what was planned, confronting, and creating proposals for improvement based on the execution experiences and responsible reflection.

The general idea about didactic units and their importance make emphasis on the well-organized structure between teaching and learning, and how it is carefully implemented to facilitate teachers' work and content management. Also, it helps students to foster their language acquisition through multiple tasks that engage them and can foster critical thinking while using the second language.

## Didactic sequence

As we have observed, Problem based learning has evolved over the years and has been adapted to numerous disciplines, but primarily, medicine has built the foundations for the development of this methodology. In this chapter we will intend to cover all the different aspects to PBL regarding its implementation and implications while it is pretended to foster some skills in the students according to Morales and Landa study. In their paper, Morales and Landa define PBL in accordance with Barrows (1986) as a learning method based on the use of problems for the acquisition of new content; researching beyond the foundations, we can find the fundamental characteristics that will help us to guide our teaching process.

***Learning is focused on the student.*** The students must take the lead in the learning process, they should be aware of the needs for a better understanding of the problem they have chosen, while the teacher is an assessor or advisor. In this way the students can have a personalized learning focusing on their knowledge areas.

***Learning occurs in small groups from students.*** Since the foundations of PBL, the group works were formed by 5, 8 or 9 students, allowing them to work with a large range of partners.

***Teachers are facilitators or guides.*** This role is also called tutor, raising questions among students in order to help them to find the best understanding route by themselves and eventually, the students will assume that role.

***Problems are the focus for organization and engagement.*** The problem usually represents a challenge for the students to face in the practice and it provides the

importance and motivation for the learning. In that way students can identify what they are going to learn, and serve as a focus to integrate all the information that they collect; all that gathered knowledge will be useful for future projects.

***Problems are the vehicle for the development of problem-solving skills.*** We need to present a real-world problem close enough to the actual situation, related to applications of the professional context in which the student will perform in the future.

***New information is acquired through self-directed learning.*** We expect that students learn from the knowledge of the real world and the experience acquired from their investigation. During this self-directed learning, learners can discuss, compare, work together and debate what they have learned.

These authors have designed a chart explaining the steps that will help us to develop the different steps to implement the problem-based learning sequence:

[Table 1. Steps and products in PBL.](#)

| Steps   | Products   |
|---|--|
| <p><b>Step 1: Identify and analyze the context and problem scenario</b></p> | <p>Students' brainstorm to identify the different social problems in their environment.</p> <p>Discussion to analyze the established problems.</p> |

|  |   |
|--|---|
| <p><b>Step 2: Students' ideas and hypothesis about the problem to check approval.</b></p>                  | <p>Problem selection: A short argumentative text per group explaining the reasons to select a specific problem.</p> <p>Distributions of roles.</p>  |
| <p><b>Step 3: Information students know about the topic</b></p>  | <p>List about the current knowledge, causes, and effects students have about the problem.</p> <p>In a round table, share with the class the knowledge and experiences they collected in the list.</p>                                       |
| <p><b>Step 4: information that students ignore and need deeper information</b></p>                         | <p>Formulate 8 questions related with the missing information about the problem.</p> <p>Infer and socialize the possible answers before starting the research step.</p>   |
| <p><b>Step 5: Plan an investigation strategy</b></p>   | <p>Create a mind map structuring the ideas and organizing the information found about the question students formulated.</p> <p>Oral report explaining the mind map and the sources they will use to start looking for viable solutions.</p> |
| <p><b>Step 6: define clearly what they want to find and demonstrate in the solution of the problem</b></p> | <p>Discuss the possible goals that they expect to achieve using 4 questions given by the tutor</p> <p>Establish the goals they need to achieve to produce a solution.</p>   |

|   |   |
|---|---|
| <p><b>Step 7: investigation process</b></p>   | <p>In and out of the class research.</p> <p>In round tables, present oral and written reports to share the findings about the contribution of the problem.</p>  |
| <p><b>Step 8: Presenting the results.</b></p> | <p>Present the portfolio, which must contain the writing exercises, and the glossary, which contains the words students needed and learnt, in order to reflect about the progress during the process.</p> <p>The groups must present the results with all the useful information in relation to the selected problem and its solution through a brochure.</p> <p>Pre-presentation to be prepared for effective spoken communication.</p> <p>Final presentation.</p> |

**Development and implementation of the sequence**

This didactic sequence seeks to create an impact not only in the students but also in the institution. As a matter of fact, it pretends to share tasks, tools and resources to work with PBL in the school in order to prove the effectiveness of the methodology, the strategies, and activities designed for this implementation.

The sessions are to be worked through 8 steps proposed by the previous authors Morales and Landa (2004) which will help someone as a tutor and students to complete the objectives of the project. Most of the authors focused on PBL recommend following a set of basic steps, which are not immovable but establish a guide. The steps can be edited depending on the number of students, the duration of the sessions, the objectives,



and the resources. The first step consists of identifying and analyzing the context and problem scenario through a discussion with the students. The second step considers the student's ideas and hypotheses about the cause of the problem, it is important to create a brainstorm in order to write them in a list to check approval. The third step is about to write in a list all the information students know about the topic. The fourth step is writing about the information that students ignore and need deeper information. In the fifth step, students need to plan an investigation strategy with the purpose of finding and designing a solution to the problem. In the sixth step, students should define clearly what they want to find and demonstrate in the solution of the problem. The seventh step is based on collecting all the information about the topic selected using resources that facilitate the investigation process. Finally, in the eight-step, the group of students should present the results with all the useful information in relation to the selected problem.

Following the basic steps explained before, the sessions intend to be structured incorporating different kinds of activities such as audiovisual tools, listening resources, readings sessions, library tours; can even add activities related to discussions, roundtables, presentations, and written reports, as in itself the methodology allows and facilitates. However, it is necessary to clarify that the first and last lesson plan will be based on creating a pleasant environment, which is not related to academic aspects for the students, in which they feel that they are considered by the practitioners. In this sense, the first class will be carried out with a set of activities that help to get to know the students, including not only their names but also information about what they like to do and what they don't like. In addition, creating an environment in which students can express what they want to expect from classes and practitioners. The last lesson plan will be designed to provide students with a space to give thanks as well as a farewell in

which they will be able to offer their opinion about the process not only in how much they learned but also in how they felt with the different activities throughout the process which will be taken as feedback by practitioners.

Moreover, because of the student's experience with PBL and its respective implementation process, they will develop or strengthen their confidence at the moment to retain the information and capture the presented ideas. Therefore, they will be willing to interiorize the knowledge obtained about the social problem, maybe share the information found with their classmates, and discuss possible solutions. As a result, the work of the students in the process with PBL will be motivated to improve their listening and reading abilities.

For the planning process, Jurkovic paper (2005) will be considered also to guide the group's formation in terms of size, roles and instructions. Regarding the group's size, Jurkovic recommends a minimum 3 students and a maximum of 7 students. The author bases her opinion on the fact that "small groups (3 members or less) tend to work individually rather than in teams." On the contrary, large teams of 6 students or more "are difficult to manage by a chairperson and secretary. Calling meetings becomes difficult and the progress is difficult to chase."

Talking about the roles, the author suggests that the roles in a team must consist of a chairperson, secretary, timekeeper, reporter, designer, and editor. Is not necessary that a group contains all the roles mentioned before, since they can define the different roles after they have started to work on the project. The group can assign at least the three basic roles at the beginning, (chairperson, secretary, and reporter) but the main objective is to have all the members of the groups working with a certain task.

| <b>List of roles</b>               |  |
|------------------------------------|--|
| <b>Chairperson</b>                 | This person clarifies the aims of the meeting, the agenda, summarises discussions and decisions, organizes, and distributes the tasks.   |
| <b>Secretary</b>                   | This member takes minutes of the meetings, keeps record of who is doing what, keeps project documentation in order.  |
| <b>Time-keeper/Progress-chaser</b> | The progress-chaser keeps time of the meetings, takes care that the group does not digress from the topics, sees that everyone is doing what he or she is supposed to do and that all the jobs are done on time.                     |
| <b>Reporter</b>                    | The reporter acts as the group's spokesman, is responsible for contacts with the teacher, other groups, informants, reports about progress in the project to the rest of the group at the start of each meeting.                     |
| <b>Reporter or investigator</b>    | This person assigns action plans, finds the relevant sources, brings information to the team, sees that important data are shared by all the members of the group.   |
| <b>Editor</b>                      | The editor shapes written reports, transparencies and other documents.   |
| <b>Evaluator</b>                   | Finally, the evaluator makes judgments about the group's problem-solving and decision-making activities, organisational problems, interpersonal relationships, group's outputs; checks the mistakes, anticipates possible criticism. |

| <b>Step #1</b>   |     |                           |   |
|--|-----|---------------------------|---|
| <b>Institution:</b>  |     | <b>Number of students</b> | <b>Session No. 1</b>                      |
| <b>Grade:</b>  | 10° | <b>Time</b>               | <b>Lesson duration: 2H</b><br>(suggested) |
| <b>Learning objective</b>  |     |                           |   |
| The aim for this session is that the teacher and students get to know each other, while getting comfortable with the problem based learning methodology. |     |                           |   |
| <b>Specific objective for the activity</b>   |     |                           |   |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• To know your partners likes and dislikes, while getting comfortable participating in group discussions.</li> <li>• Interact with the PBL methodology identifying its different aspects and dimensions.</li> </ul> |  |
| <b>Learning strategies:</b>  | <ul style="list-style-type: none"> <li>• Collaborative learning</li> <li>• Problem based learning</li> </ul> |
| <b>Resources</b>   | Flashcards, worksheets worked out throughout the sequence.   |

|   |
|---|
| <p><b>1. Getting to know your teacher</b></p> <p>The first activity, the teacher is going to deliver the students some statements about him. Those statements can be true or false, the students' task is to try to figure out which of those statements are true and which ones are false; then voluntarily the students will share their answer, and the teacher in charge of revealing if they are right or wrong.</p> <p><b>2. Introductory activity</b></p> <p>The teacher will bring some flashcards to the class, these flashcards will be divided into animals, and their characteristics. Then the teacher will divide the group in half, so half of the students will receive the animal's flashcards, and the other half will get their descriptions. In this mingle activity the students with the descriptions will search for the partners who have the corresponding animals, by saying them in English the descriptions, and the students with the animal flashcards will decide if the descriptions match with the assigned animal.</p> <p><b>3. Synthesis and implementation activity:</b></p> <p>Then, the activity has a purpose to illustrate in a simple and fun way how it is to work with the PBL methodology. In order to provide an understanding about how PBL works, the teacher will ask students to form small groups of 3-4 students to undertake the search for a series of sheets of paper that will be distributed in different parts of the place, these sheets are numbered from 1 to 8 in which the different steps containing the methodology will be written. In this sense, teacher should give students the appropriate space, so they can even search more information about it on internet to start shearing and express in Spanish their ideas.</p> <p>Suggested definition that teacher can use: Problem-based Learning (PBL) is a teaching method in which complex-real word problems are used as the vehicle to promote student learning. Problem-based Learning has 7 steps that we are going to develop through the sessions.</p> <ul style="list-style-type: none"> <li>• Step 1: Identify and analyze the context and problem scenario</li> <li>• Step 2: Students' ideas and hypothesis about the problem to check approval.</li> </ul> |
|---|

- Step 3: Information students know about the topic
- Step 4: information that students ignore and need deeper information
- Step 5: Plan an investigation strategy
- Step 6: define clearly what they want to find and demonstrate in the solution of the problem
- Step 7: investigation process
- Step 8: Presenting the results.

The teacher will present some images and even videos that may seem silly to students and can even then laugh, but that can easily represent problems for people:

The situations might be:

- A person who drools on the pillow when sleeping.
- A person who cannot see through the glasses because they were tarnished by their face mask.
- A person who is brushing but does not close the tap.

### **Reinforcement activity**

The students will be assigned to bring some information about some problematic situation that they recognize in their environment for next class.

| <b>Step #1</b>   |     |                           |   |
|--|-----|---------------------------|---|
| <b>Institution:</b>  |     | <b>Number of students</b> | <b>Session No. 2</b>                      |
| <b>Grade:</b>  | 10° | <b>Time</b>               | <b>Lesson duration: 2H</b><br>(suggested) |
| <b>Learning objective</b>  |     |                           |   |
| The aim for this session is to identify and analyze the context and problem scenario.  |     |                           |   |
| <b>Specific objective for the activity</b>   |     |                           |   |
| <ul style="list-style-type: none"> <li>• The students will interact with different types of problems to get comfortable.</li> <li>• Interact with the PBL methodology identifying its different aspects and dimensions.</li> </ul> |     |                           |   |

|   |  |
|---|--|
| <b>Learning strategies:</b>   | <ul style="list-style-type: none"> <li>• Collaborative learning</li> <li>• Problem based learning</li> </ul> |
| <b>Resources:</b>   | <ul style="list-style-type: none"> <li>• Flashcards, worksheets, audiovisual resources.</li> </ul>           |
| <p><b>1. Introductory activity.</b><br/>The teacher will ask the students the different problematic situations that they brought to the class; then he/she will write them on the board and voluntarily ask the students what solutions they propose for their partners' problems. In this activity, the teacher will focus on the way that students propose the solutions, paying attention to the students' attitudes recognizing which students have more leadership and creativity answering the questions.</p> <p><b>2. Problem solving.</b><br/>The students will be asked to make groups of 3 or 4 students, then each group will receive a piece of paper that contains a problem. The group needs to find a solution for the given problem with all the experience they have had and come to an agreement as a group for a single solution, and one student is going to be in charge of telling the class the group's answer.</p> <p>In the following activity the students will have to listen to an audio of an American girl in which she exposes a country's problem. Students should listen carefully and identify the problem and offer a new solution to the situation.</p> <p><b>3. Discussion to analyze the established problems.</b><br/>After having practiced with problem-solution all the class, and the introductory discussion about the problems found by the students, it's time to select the problem that will be acknowledged during the process. Students can select the problem they have brought to the class, choose another problem they found or reorganize the initial issue, and present the problem request to the teacher.</p> |  |

| <b>Step #2</b>            |     |                           |   |
|---------------------------|-----|---------------------------|---|
| <b>Institution:</b>       |     | <b>Number of students</b> | <b>Session No. 3</b>                      |
| <b>Grade:</b>             | 10° | <b>Time</b>               | <b>Lesson duration: 2H</b><br>(suggested) |
| <b>Learning objective</b> |     |                           |   |

The aim for this session is to check the students' ideas and hypotheses about the problem to check approval.

**Specific objective for the activity**

- To know your partners likes and dislikes, while getting comfortable participating in group discussions.
- Interact with the PBL methodology identifying its different aspects and dimensions.

**Learning strategies:**

- Collaborative learning
- Problem based learning

**Resources:**

- Audiovisual resources.

**1. Introductory activity.**

The teacher will start the class by explaining the students through a PowerPoint presentation how to assemble the groups. The groups can be formed from 4 to 7 members. Every student will be assigned a role as stated in the table presented in chapter number three. Next, the teacher will explain to the students what the responsibility of every team member is so the students can start thinking which role is more suitable for them. The student must read every component of the presentation to know every single aspect of each role.

**2. Teamwork**

After having formed the groups, the students will be given some time to assign the different roles to every group member, and every student needs to be sure about their obligation and position in the group. In this step, the teacher must provide a space for the students to ask and clarify any doubt they have about their role in the teams.

**3. Problem selection**

After having formed the groups, the students must define what problem they are going to choose for the project. Then, they must write a short argumentative text per group explaining the reasons to select a specific problem.

**Step #3**

**Institution:**

**Number of students**

**Session No. 4**

|  |  |             |  |
|--|--|-------------|--|
| <b>Grade:</b>  | 10°  | <b>Time</b> | <b>Lesson duration:</b> 2H (suggested) |
| <b>Learning objective</b>  |  |             |  |
| The aim for this session is to collect all the information students already know about the topic   |  |             |  |
| <b>Specific objective for the activity</b>   |  |             |  |
| <ul style="list-style-type: none"> <li>• To Identify current knowledge and learning needs.</li> <li>• Interact with the PBL methodology identifying its different aspects and dimensions.</li> </ul> |  |             |  |
| <b>Learning strategies:</b>  | <ul style="list-style-type: none"> <li>• Collaborative learning</li> <li>• Problem based learning</li> </ul> |             |  |
| <b>Resources</b>   | Flashcards, worksheets.  |             |  |

### 1. Formulating questions and queries.

The first activity consists in the creation of a brainstorm, the students will conform the teamworks again, and then produce a total of ten questions related to the problem posed.

Examples of questions:

- Is it a problem that affects us directly or indirectly?
- What have people tried to do to solve it?
- What are the causes of the problem?
- How would people handle the situation, so this doesn't happen?

### 2. Identifying current knowledge and learning needs.

Each group must figure out how much their individual members already know the questions from the previous step. That is why, the questions that arose about the selected problem, should be written on different pieces of paper, put them in a bag, for later each participant should take out a paper and answer the question, this with the purpose of knowing if each student is sufficiently informed about the topic to be addressed.

### 3. Structuring ideas.

Then, students should make a mind map, they decide which ideas belong together and group them around the questions posed. The group decides what needs to be learned and what needs more research. In order to formulate the learning aims and



distributing assignments among group members, each student is assigned the task of searching for more information about a particular aspect of the problem.

**Reinforcement activity**

Each student is assigned the task of searching for more information about a particular aspect of the problem. The research information can be any webpage, books, or people.

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