Master in Teaching English as a Foreign Language
Applied research Paper

APPLYING AUTHENTIC ORAL PRODUCTION TO IMPROVE SPEAKING FLUENCY THROUGH (PBL) PROJECT BASED LEARNING APPROACH ON EFL STUDENTS.

Ivanova Daniela FLORES BARAHONA[a] Stanislaus OSHIMEJE[b] and Alexis Mariana CONTRERAS FALCONES[c]

a. Bachelor in Eco-Tourism. E-mail: ifloresb@uees.edu.ec
b. Agro-Food Engineer. E-mail: soshimeje@uees.edu.ec
c. Master higher education: alexiscontreras@uees.edu.ec

Key Words

Speaking
Fluency
Project based learning
Authentic Oral Production

Abstract: This paper describes the influence of authentic oral production on speaking fluency through project based learning of EFL students from an action research conducted in a private secondary school in Machala, Ecuador. A pre and a posttest rubric was applied to assess the audio recordings of 20 students where the quantifiable variables of spoken language (speech rate, pauses, repetitions, and corrections) were measured, a pre and post survey was also applied to gain an understanding of students perception of PBL, in the same manner a rubric was used to evaluate students performance during the project execution taking into account the following; critical thinking, creativity thinking and collaborative skills. The findings of the pre and post-test recordings demonstrate that there was a significant improvement in speaking fluency after the posttest. Similarly, the result of the survey showed that the use of authentic oral production and PBL play a significant role in fostering speaking fluency and oral communication, since the participants perception of PBL notably changed before and after the project execution, where 90% of the students felt that PBL can help them improve their fluency.

Palabras clave

Hablar
Fluidez
Aprendizaje Basado en proyectos
Producciòn Oral Auténtica

Resumen: Este artículo describe la influencia de la producción oral auténtica en la fluidez del habla a través del aprendizaje basado en proyectos en estudiantes de inglés como lengua extranjera, a partir de una investigación-acción realizada en una escuela secundaria privada en Machala-Ecuador. Se aplicó una pre y post rúbrica para evaluar las grabaciones de audio de 20 estudiantes donde se midieron las variables cuantificables del lenguaje hablado (velocidad del habla, pausas, repeticiones y correcciones), se aplicó una pre y post encuesta para conocer la percepción de los estudiantes de PBL y se aplicó una rúbrica para evaluar el desempeño de los estudiantes durante la ejecución del proyecto en términos de pensamiento crítico, pensamiento creativo y habilidades colaborativas. El resultado de las grabaciones previas y posteriores a la prueba muestran que hubo una mejora significativa en la fluidez del habla después de la prueba posterior. De manera similar, el resultado de la encuesta mostró que el uso de la producción oral auténtica y el PBL juegan un papel importante en el fomento de la fluidez del habla y la comunicación oral. La percepción de los participantes sobre el ABP cambió notablemente antes y después de la ejecución del proyecto, donde el 90 % de los estudiantes sintieron que el ABP les puede ayudar a mejorar su fluidez.

Introduction

Fluency is the ability to communicate ideas in a given language without much hesitation or pauses. (Skehan, 1996). It is one of the most difficult language skills for foreign language learners to acquire. Many teachers struggle to find suitable strategies and approaches to help their students to hone this important skill without real success most of the time. This translates into a major setback in the language learning setting for both teachers and students. On one hand, it leads to teacher burnout because of pressure from authorities and parents who want to see the students speaking, and on the other hand, it increases the affective filters like anxiety and frustration on students.

According to the EF English proficiency Index report (2022), Ecuador remains one of the two countries in Latin America with the lowest level of proficiency in the English language speaking fluency , only above Mexico, with the score of 440 out of 1000. It is important to note that teachers want students to be able to use the language as fluently as possible and with a sense of purpose, however many teachers lack the knowledge of the adequate methodologies and techniques to help students to be self-learners, minimize anxiety and ultimately achieve fluency.

Oral production is a fundamental skill for any meaningful language acquisition process as it is pertinent for social communication, many language learners do so for the sole reason of being able to speak and communicate their ideas fluently, however this skill remains the toughest to acquire by many learners leading to frustration, lack of motivation and in extreme cases abandonment of the EFL program. This problem is due to many factors, for instance it was identified in this research that the methodologies applied in improving speaking fluency in many cases do not put the students at the center stage of learning because many teachers still uphold the traditional methods of language teaching.

Furthermore, there is a general unwritten consensus amongst language learners and teachers that the ultimate goal of learning a language is to be fluent in it and communicate effectively (Rahman & Deviyanti, 2018, cited by Lopez et al 2021), However, achieving this requires a lot of practice and personal input. In this regard, project-based learning is connected to achieving fluency since it encourages learners to practice what they have learned independently and most importantly it helps students to identify the usefulness of what they are learning in a real-life context.

PBL is a relatively new methodology which tends to put students participation at the forefront of the learning process, it is constructivist in nature and makes the teacher a facilitator rather than a knowledge transmitter, it is believed that the application of this methodology in improving speaking fluency by the use of authentic oral production play a vital role in helping students to improve their confidence and consequently their fluency, this is true, because the project is carried out autonomously enabling learners to evaluate their own speaking production at their own pace thereby reducing anxiety and fear of being judged by their classmates.

This research intended to make valid contributions in the area of curriculum development and technological innovations to help EFL teachers and administrators to incorporate new methodologies for the improvement of speaking fluency. The main objective was to assess the influence of authentic oral production on speaking fluency through PBL, to achieve this, the following research questions were formulated: To what extent does authentic oral production influence speaking fluency ? How does PBL improve speaking fluency ? How is PBL applied to the EFL curriculum ?. These questions enabled the researchers to design the methodology and the data collection instruments.

Even though a lot of research has been conducted in the quest to determine the best methodologies, and approaches to improve second language acquisition and instructions from different perspectives, some gaps were identified during the literature review that few research has been conducted to determine the role of PBL in speaking fluency and most of the available research are from Europe and Asia. Therefore, this research topic is relevant and will make valuable contributions to the development of L2 fluency research and increase awareness of the need to shift away from the traditional methods of teacher-centered EFL instructions to student-centered methodologies in Ecuador.

This research adopted an action participatory research design with a mixed methodology since instruments such as surveys and rubrics were employed to collect both qualitative and quantitative data from a sample of 20 participants who were active students of a secondary school in Machala Ecuador. The mean age of the participants was 13 and they possessed the A2 English level certification from cambridge assessment. Pre and post-test was applied to determine the influence of PBL on speaking fluency as well as a rubric which was used to evaluate the performance of the students throughout the period of the research.

This academic paper is divided into different sections. The first section contains an abstract that presents the principal findings of this study. The second section comprises the introduction and the literature review highlighting the gap this research intended to address. The subsequent sections consist of the methodology and the data collection instruments. The latter section exposes the findings according to each research question and discussion of the results. Finally , the last section contains the conclusion with the references.

Literature Review

The following variables; speaking fluency and project-based learning (PBL) connected to the research topic will be explored to establish the theoretical background for this present study. In recent times many pieces of literature have featured these variables from different perspectives, however, for the purpose of this research pertinent facts have been extracted to support the procedure and results.

Speaking:

To understand speaking fluency, it is necessary to address what is speaking, and what speakers do. In order to achieve fluency in speaking, first learners must develop speaking competence and hone it over time to full or near-native fluency. According to Florez (1999) Speaking is a productive skill that engages the speakers and listeners in an interactive process of constructing meaning through producing, receiving, and processing information which depends on the purpose, context, participants, surroundings, and experiences.

A number of authors have defined speaking in different ways but one thing they all seem to agree on is that speaking is a social process that involves collaboration between two or more participants to achieve communication. For instance, Finocchiaro and Brumfit (1983) described speaking as the means of giving oral expression to thoughts, opinions, and feelings in terms of talk or conversation. On the other hand, Thornbury (2005) considered speaking or oral communication as an activity that includes two or more people in which hearers and speakers have to react to what they hear and make their contributions.

Additionally, this skill is a spontaneous activity that requires individuals to communicate in real-time because ideas, thoughts, and feelings have to be processed and organized in the brain at a high speed before utterances are made, consequently developing speaking skills turns out to

be difficult for language learners (Sanchez, 2019). To further emphasize the complexity of this skill, Krashen and Terrell (1983) proposed 5 stages of second language acquisition clearly stating that it takes about 1 to 3 years from the time of first contact with the language to begin to speak it and about 5 to 7 years to perfect this skill.

Therefore, language instructors must consider the challenging nature of developing the speaking skill in a second language in order to constantly innovate and adopt new methodologies, approaches, and techniques that would encourage students to acquire this skill without raising their affective filters. These methods must be student-centered and provide enough opportunity for learners to construct and own this skill. So this research tends to make valuable contributions in that regard.

Speaking fluency

Fluency is a fundamental aspect of any spoken language and the objective of learners is to be fluent in the target language, however, it has remained one of the most challenging skills to acquire by many language learners. This term has been defined by many authors differently but one aspect most of them agree on is the fact that fluency is the ability to communicate ideas in the target language naturally without much hesitation. For instance, Brumfit (1983) defined fluency as "natural language use" which means speakers being able to speak as native speakers focusing on communication and meaning rather than form (Brumfit 1984, p 56). On the other hand, in an earlier work by Fillmore (1979), he defined fluency as the ability to talk at length with few pauses.

Along the same line, Segalowitz,2010 (cited in Lopez, J. 2019) characterized different aspects of fluency as follows a) Cognitive fluency which addresses the mental processes that take

place when a speaker communicates. b) Utterance fluency which focuses on the observable features of fluency; such as speed, breakdown, and repair. The speed refers to the average number of syllables pronounced in a given speech, the breakdown is the number of silent pauses, filled pauses, and the average length of silent pauses, and the repair is the number of repetitions and corrections the speaker makes. c) Perceived fluency on the other hand takes into account the reaction of the listener to the linguistic and nonlinguistic aspects of the speech.

Additionally, Lennon (1990) categorizes fluency into broad-sense and narrow-sense fluency. The former considers all-round oral proficiency whereas the latter refers to a more general oral proficiency like speech rate, pausing, and repair features. The narrow sense fluency is related to Segalowitz's utterance fluency which is generally accepted as the basis for measuring oral production and fluency (Lennon 1990). For the sake of this study, the definition that we consider most suitable is the ability to speak the target language at an appropriate and natural speed without a lot of pauses (Bygate, 2009) and the capability to produce coherent sentences with few errors (Richards, J., & Rodgers, T. 2014).

Strategies to improve Fluency

It is pertinent to apply different methodologies to help improve speaking fluency, in this regard, many researchers have explored different methodologies and techniques with the aim of discovering the best practices to help foment this important skill in an EFL learning environment. Some of the approaches that have surfaced in recent times are Project Based Learning (PBL; William H. Kilpatrick, 1918) Communicative Language Teaching (CLT; Littlewood, 1984), Content-Based Instruction (CBI; Tedick & Wesely, 2015), Task-Based

Instruction (Ellis, 2017). These approaches are constructivist in nature and have been applied in EFL classrooms in different ways to create a more meaningful learning experience.

According to Christopher. H (2020), fluency is the ability to hold a conversation confidently and with ease, establishing the three golden rules for improving English speaking fluency. First, learners must think about the English language as if they were babies without fear of being judged, immerse themselves in the language and its culture, and never be afraid to make mistakes. The aforementioned rules must be enacted as the norm in language classrooms, alongside the culture of repetition and practice, to enable learners to become fluent in the target language.

Schloff and Yudkin (cited in Yang, Y.,2013) proposed the Sixty-second strategy. This strategy advises learners to choose a context of about 180 words to read it loudly and practice many times until they are able to recite the content in one minute without losing the original meaning. The downside to this strategy is that it focuses only on speed without taking into account other aspects of natural speech production such as speed rate, speech breakdown, and speech repair. However, it coincides with Jin (2019), Kellem (2009), and Christopher. H (2020) that repetitive use of the target language is an excellent way to increase verbal fluency.

Furthermore, Lintunen, P., Mutta, M., & Peltonen, P. (Eds.). (2019) reported in their research paper fluency in learning and use that the best way to improve one's fluency is to use the target language as much as possible and spend time in an environment where this is spoken regularly. These findings agree with a couple of other authors that spending time in a place a language is spoken like studying abroad facilitates fluency. (freed 1995; Lennon 1990 Mora and Valls-Ferre 2012).

Measuring fluency:

Fluency, in addition to complexity and accuracy, is one of the core constructs of L2 proficiency (Housen et al., 2012), Some researchers also refer to fluency as a component of the pronunciation and global communication domain, which needs to be measured taking into account some technical aspects (Saito & Plonsky, 2019). To measure the fluency of a speaker, utterance fluency which deals with the observable features of speaking fluency is taken into account. These features include Speed rate, Speech Breakdown, and Speech repair.

According to Tavakoli & Skehan (2005), the speed rate is the first sub-dimension of speech fluency, Tavakoli and Skeham state that the speech rate is the number of syllables spoken per minute. On the other hand, the speed of speech is considered that the greater the number of syllables, the greater the fluency (Cucchiarini et al., 2002; Ginther et al., 2010; Kormos & Denes, 2004). The breakdown of speech according to Tavakoli and Skehan (2005) is the second sub dimension of verbal fluency, which takes into account the pauses, interruptions, or hesitations that an individual presents during a speech. And the third sub dimension is Speech Repair (Tavakoli & Skehan, 2005) which is considered the repetition of the same speech to make corrections because the speaker said something that is judged inappropriate, wrong, or irrelevant to the discussion (Schegloff, E. A., Jefferson, G., & Sacks, H. 1977).

Project-Based Learning (PBL):

PBL is a teaching method that provides meaningful learning to students, one of the main proponents of PBL as a center of learning is the educator and philosopher Dewey, J (1959), in his study, it is argued that there is better academic development and better learning if what is taught is projected into a real situation. (Krajcik, J. S., & Blumenfeld, 2006. p. 318). Prior

to Dewey's work, Kilpatrick (1921) introduced the social constructivist orientation to project learning, noting that a project should represent a wholehearted purposeful activity as life itself and not preparation for later living. Later on, Vygotsky (1978), stated that students make meaning through an active process and meaningful social interactions facilitate students' all-around growth.

Over time several researchers and educators have been developing and studying this approach, and effectively provides us with a better conceptualization of PBL. For instance, Kokotsaki D, Menzies V, Wiggins A (2016). defined Project-based learning (PBL) as an active student-centered form of instruction characterized by students' autonomy, constructive investigations, goal-setting, collaboration, communication, and reflection within real-world practices. From a macro viewpoint, learning theories, PBL is a constructivist instructional method that supports students' learning process through group work and social interaction in order to solve problems. " (Vaca T. & Gómez R., L. F. 2017 p. 59)

From the pedagogical point of view, the PBL approach is inductive in nature since knowledge is constructed through exploration by students themselves. It usually starts by presenting a driving question or topic through specific observations, examples, or problems, and then students are guided to build knowledge themselves (Prince, M. J., & Felder, R.M. 2006).

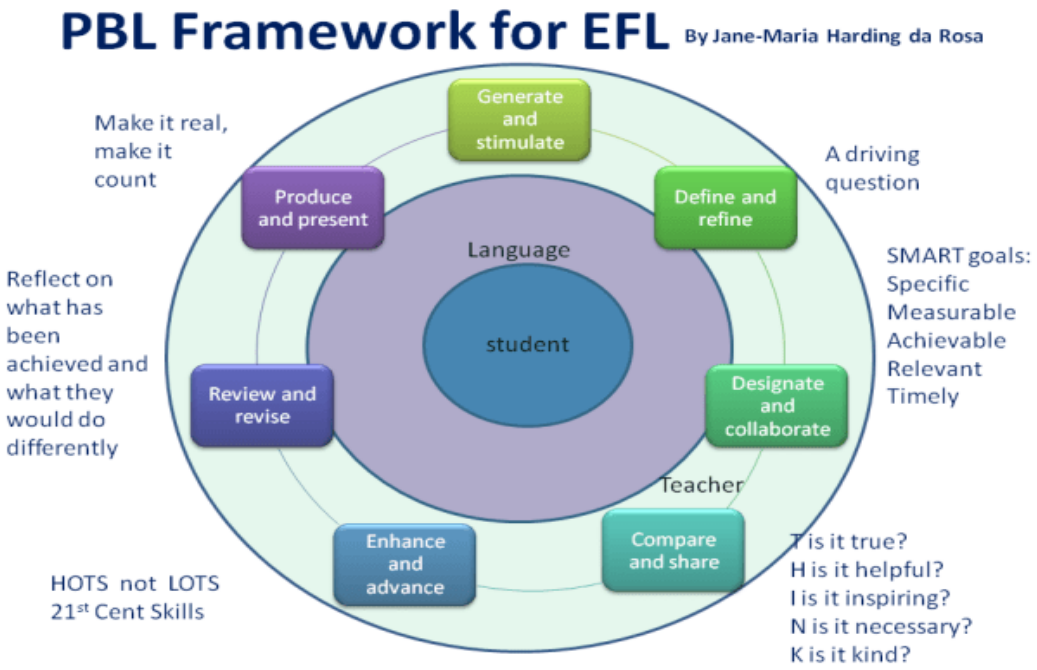
Furthermore, Conca, M. (2019) proposed a great pedagogical framework that facilitates the application of PBL in EFL. The stages from the framework are as follows

1. Define and refine, the teacher asks the driving question
2. Designate and collaborate the activities are organized according to SMART goals: specific measurable, achievable, relevant, timely

3. Compare and share using the THINK strategy: Is it **T**rue? Is it **H**elpful? Is it **I**nspiring? Is it **N**ecessary? Is it **k**ind?
4. Enhance and advance in this stage, HOTs not LOTs 21st century skills are developed (citizenship, intercultural competence, digital literacy)
5. Review and revise, Students' reflections on what has been achieved and what they would do differently.
6. Produce and present; the product has to be real and meaningful

Figure 1

PBL Framework for EFL



Note: PBL framework for EFL by Jane-Maria Harding da Rosa IH Newcastle (2018).

Critical Thinking

Critical thinking is a key component of project-based learning (PBL), Dewey (1933), stated that critical thinking arises when individuals are faced with perplexity and confusion about a problem, it is classified as one of the 21st-century and higher order thinking skills alongside creative thinking, problem-solving, and decision making (Facione 1998). These complex cognitive skills can be taught systematically (Jianzeng et al., 1997) and PBL is an excellent pedagogical approach to achieve this.

Educators around the world are constantly working to help students to achieve a higher level in their cognitive skills such as critical thinking, to prepare them for the real world. (Spendlove, 2008). Many authors have emphasized the importance of taking learning beyond the four walls of the classroom. Carlos S. and Fernández R. (2012) propose that learning should go beyond knowledge and focus on practice and execution. Consequently, bridging the gap between what is learned and reality.

Carlos S. and Fernández Rivas (2012) pointed out that critical thinking is reasonable and reflective thinking that focuses on deciding what to believe or do. It is an analytical process of arriving at judgments that is directed by a specific end purpose to arrive at a logical, rational, and reasonable problem solution (Bailin et al., 1999; Facione, 2008). Therefore, activities in the classroom must focus on critical thinking as a theory of action and turning it into a means, not an end.

One of the main prerequisites for developing students' critical thinking ability is knowledge acquisition (Hmelo-Silver, 2004; Masek. 2019). According to Masek,. (2019), knowledge and working memory play major roles in the acquisition of complex cognitive skills. This is particularly true because knowledge is operational and working within a social and

attitudinal environment. In this regard, improving fluency requires learners to be cautious and reflective of their own progress thereby fermenting their critical thinking skills.

Creative Thinking

Alongside critical thinking, creative thinking is another skill that is considered the high-order skill of the 21 st century, Awang and Ramly (2008) pointed out that the term "creative" means to bring into existence something that was not there before. According to Awang and Ramly (2008), The word “creativity” covers a wide range of different skills, creative skills needed to change concepts and perceptions. This study went further to suggest that in most problem-solving descriptions, there is usually a step called search for alternatives which implies that creativity is essential in this step. (Awang, H., & Ramly, I. 2008).

Being creative is a difficult skill to learn, evidence suggests that when students take charge of their own learning challenges and focus on constantly searching for alternatives to reach their learning goals, they become more creative (Edward de Bono, 1993). Creative thinking is not by itself whole but a combination of information processing mechanisms (De Bono, E. 1993) where students move “sideways” to try different insights, different concepts, and different entry points which allow them to use various methods including provocations to solve problems (Awang, H., & Ramly, I. 2008),

Along the same line, creative thinking has a lot to do with perception to present different points of view. The different points of view do not derive from each other but occur independently. In this sense, creative thinking is about exploration just as perception is about exploration. (Awang, H., & Ramly, I. 2008). As previously described, speaking involves different processes that can be connected to creativity, for instance, to be a good speaker one

must be creative enough to produce authentic intelligible speech to communicate with others. Barrows H (2003) coined the three creativity indicators to be originality, fluency, and flexibility highlighting originality as the ability to produce unusual or unique things. (Barrows, H. 2003)

Role of technology in PBL

Nowadays, there are numerous technological tools available for educators to incorporate into learning environments. Solomon, G. (2003) expatiates the role of technology in the PBL approach stating that it allows students to use technological tools such as word processors, spreadsheets, and databases to perform tasks such as outlining, writing essays, analyzing numerical data, for and keeping track of the information collected. Solomon, G (2003) further pointed out that IT platforms like email, email lists, forums, and other online applications facilitate communication and collaboration with the world outside and inside the classroom. (Solomon, G. 2003).

Similarly, some studies have shown the eminent importance of the uses of technology in learning in general and specifically to support the project-based learning approaches Sandholtz, Rignstaff, & Dwyer, (1997) revealed that computers can help reform teaching by promoting "student autonomy, more collaborative work both face to face and online, more global connections, richer learning resources than traditional textbooks, and more inquiry, interdisciplinary, and project-based learning" (Kleiman, 2001, p. 3–4)

Speaking Fluency vs Project-based Learning

Yang, D. and Nattaya Puakpong (2016) in their research work titled the effect of project-based learning on speaking abilities of Chinese English learners revealed that PBL has positive

effects on students speaking ability, PBL is a student-centered approach which means that students participate actively from the beginning to the end of the projects and one important thing that was highlighted is the significance of self-practicing as the result proved from learners opinion that practicing their speaking before their socialization helped them improve their speaking ability (Yang, D and Nattaya Puakpong 2016).

According to the aforementioned, Speaking is a productive skill that engages the speakers and listeners in an interactive process of constructing meaning through producing, receiving, and processing information (Florez 1999), and achieving this important skill requires learners to practice a lot. So repetition and constant practice are fundamental to achieving speaking fluency Jin 2019, Kellem 2009, and Christopher. H 2020). PBL gives learners the opportunity to practice autonomously and it is believed that this helps to improve fluency and tilt learned towards achieving automaticity which means being able to draw on a set of memorized procedures in order to take part in real-time interaction instead of assembling word-by-word from scratch (Thornbury 2012)'.

Methodology

The purpose of this research is to evaluate how authentic oral production through project based learning helps in improving speaking fluency, based on this premise, the following three research questions were formulated : To what extent does authentic oral production influence speaking fluency? How does project based learning improve speaking fluency? and How is project based learning applied to the EFL curriculum?. The uncertainties raised by the research questions prompted the determination of the research area and subsequently aided the selection of the research design and data collection instruments.

This research is inclined towards "Curriculum Development", "Educational and Technology Innovation" research areas since it intends to make valuable contributions to curriculum development and improvement by suggesting teaching methodologies and techniques that would help both teachers and students to foster the level of oral production and confidence in students in the same manner it incorporates the use of technology for pedagogical purpose.

The design adopted for this study is an action participatory research which is a type of applied research. Kothari (2004) stated that applied research aims at proffering solutions to an immediate problem and the problem or issue must emerge from a group of people of research interest (Walker, M. L. 1993). This research establishes a problem then followed by some research questions and objectives to help navigate to the solution of the problem. To achieve this , data was collected , analyzed and action was planned, implemented and the result was evaluated.

A mixed research approach was carried out where instruments such as surveys and rubrics were applied to collect qualitative and quantitative data to be able to achieve the objective of evaluating the improvement on speaking fluency through PBL. A sample of 20 young learners within the ages of 13 and 14 from a secondary school in Machala, el Oro province were selected. The participants were 9th grade students that receive a total of 10 hours of English language classes a week which is above average weekly time spent in most language classrooms. They had taken the Cambridge assessment exam the previous year where about 80% of them attained the A2 level certification.

An evaluation rubric was applied to determine the influence of authentic oral production through project-based learning on speaking fluency which is the first variable in the research. In the same way, to address the second variable, an evaluation rubric and a survey were applied to

evaluate the performance of the participants during the project execution process through observations.

Fluency is the ability to communicate ideas in a given language without much hesitation or pauses. It is one of the most difficult skills to acquire by foreign language learners . According to Riswandi, D. (2018), Project Based Learning can be a great tool to improve fluency in a foreign language, since students design, plan, and carry out an extended project that produces a publicly-exhibited output such as a product, publication, or presentation.

The ultimate goal of learning a language is to be fluent in it and communicate effectively, however achieving this requires a lot of practice and personal input. In this regard, project-based learning is connected to achieving fluency since it encourages learners to prepare , practice and produce what they have learned independently and most importantly it helps students to identify the usefulness of what they are learning in a real-life context.

Results

This study was conducted in three stages where PBL was implemented through a Classroom Action Participatory Research. The stages included planning, execution, and observation. In the first stage, strategies were created by setting up a lesson plan and applying a pretest and a posttest in the form of a questionnaire to gauge the participants fundamental knowledge of PBL and their English speaking proficiency perceptions. Subsequently, the lesson plan was executed and a series of observations were made with the aid of rubrics that enabled the collection and collation of the data that is exposed in this section according to each research question.

Research Question N 1: **To what extent does authentic oral production influence speaking fluency?**

To determine to what extent authentic oral production influences speaking fluency, an observation rubric was applied to 20 participants using a quantitative approach.

In order to determine the influence of PBL on speaking fluency , a pre and posttest authentic audios recorded by the participants were assessed using the fluency rubrics where seven components of a spoken language such as pronunciation, use of grammar, accuracy, speech rate, speech breakdown, repair (repetitions) and repair (corrections) were taken into account. A notable difference was observed in some participants before and after the project execution. The fluency was graded according to the following scales in the table below.

Table 1

Speaking fluency level scale

Poor Fluency Level	1-7 points
Medium Fluency Level	8-14 points
High Fluency Level	15-21 points

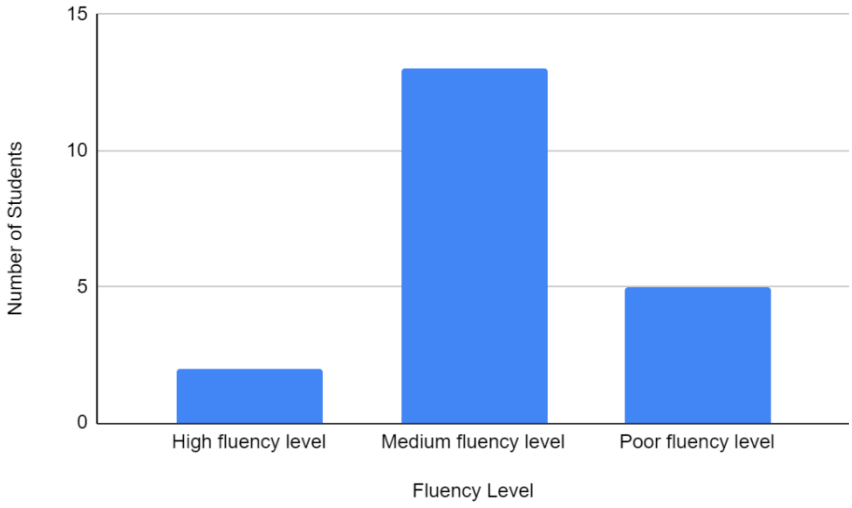
Note: This table shows the level scale of measurement applied in the Speaking fluency Rubric

According to the scale, In the Pre-test 5 Students recorded poor fluency level, 13 students had a medium fluency level and only 2 students obtained a high fluency level. Whereas after the implementation of the project there was a significant increase in terms of fluency level amongst the participants. Whereby only 2 students recorded poor fluency level, 8 students obtained

medium fluency and 10 students ascended to high fluency level. The details of the outcome can be observed in figures 2 and 3.

Figure 2

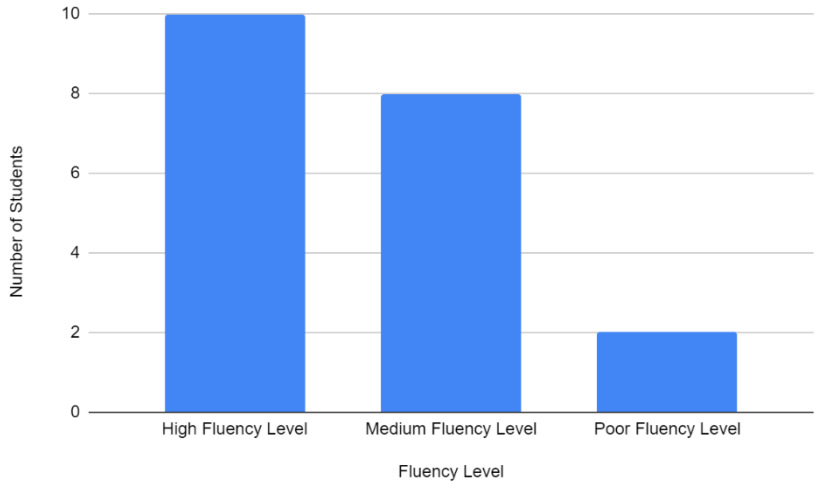
Speaking Fluency Level Pre-test



Note: This figure shows the fluency level of students in the pre-test.

Figure 3

Speaking Fluency Level Post-test



Note: This figure shows the fluency level of students in the post-test.

Research Question N 2 : **How does project based learning improve speaking fluency?**

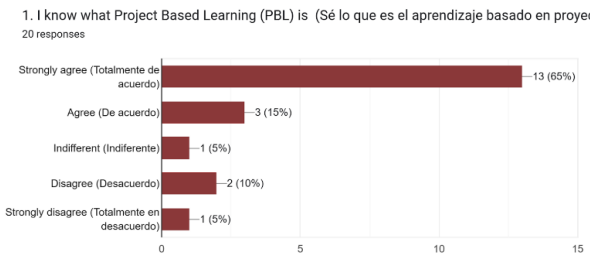
To analyze to what extent project based learning improves speaking fluency, a survey with a qualitative approach was used.

PBL Survey Results

The pre and posttest survey questionnaires which were applied to the sample of 20 EFL students, contained 14 questions to obtain valuable outcomes thereby narrowing down to answering the research questions raised at the planning stages of this study. The obtained results can be observed in the figures 4 to 31.

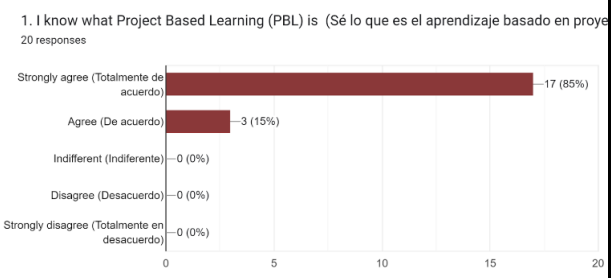
Pre and Posttest Survey : *Knowledge of PBL.*

Figure 4



Note: This figure shows the knowledge of participants about PBL before the project. **Pre survey**

Figure 5



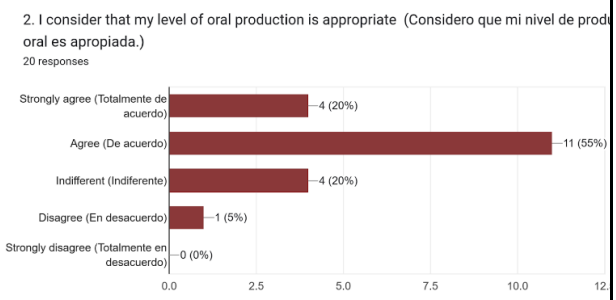
Note: This figure shows the knowledge of participants about PBL after the project. **Post survey**

Figure 4 and 5 show the results of students' knowledge of PBL before and after the implementation of the project. At the onset of the study 20 % of the students responded between indifferent and strongly disagreeing with the statement “I know what project Based Learning is” whereas the response of the other 80 percent of the students showed that they had some

knowledge of PBL. However, it can be evidenced in figure 2 that in the posttest, 100 % of the participants affirmed to have the knowledge of PBL.

Pre and Posttest Survey : *Participant´s consideration about their oral production.*

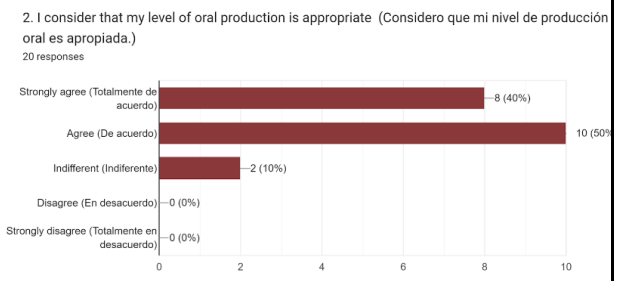
Figure 6



Note: This figure shows the representation of the participant´s consideration about their oral production.

Pre Survey.

Figure 7



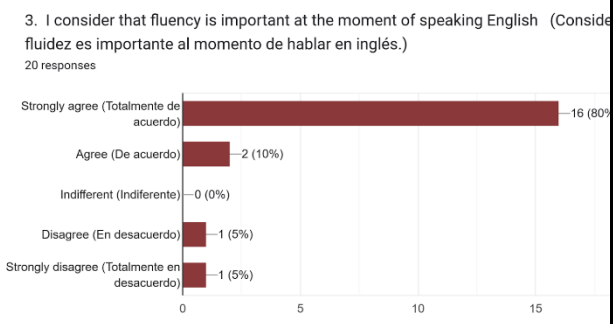
Note: This figure shows the representation of the participant´s consideration about their oral production.

Post Survey.

In figure 6 and 7 , the participants' perceptions of their oral production was explored through the statement *"I consider that my level of oral production is appropriate"*. In the pretest fig 6, 20 % strongly agreed to the statement , 55 % agreed while 20 % responded to be indifferent and 5 % regarded their oral production to be inadequate. In figure 7 Only 10 % were indifferent about their oral production and the remaining 90 % had changed their perception to agree and strongly agree respectively.

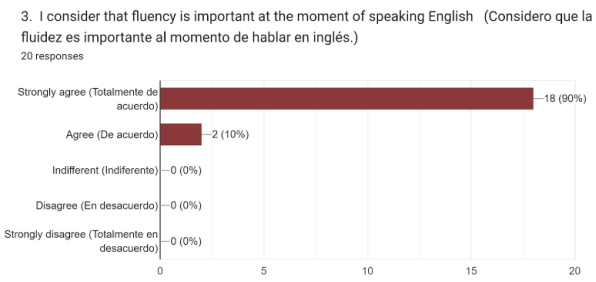
Pre and Posttest Survey : *Opinion of participants as to the importance of fluency at the moment of speaking English.*

Figure 8



Note: This figure shows the results of the opinion of participants as to the importance of fluency at the moment of speaking English. **Pre Survey**

Figure 9

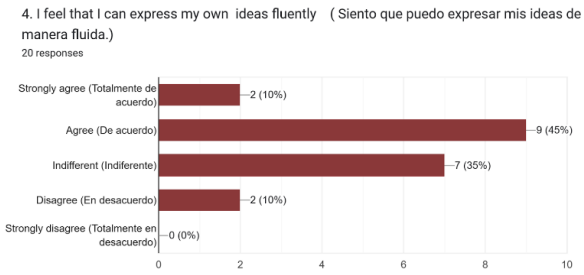


Note: This figure shows the results of the opinion of participants as to the importance of fluency at the moment of speaking English. **Post Survey**

In figure 8 and 9 it was found that the majority of the participants considered speaking fluency to be important at the time of speaking and communicating their ideas in the English language , as a result of this, the pre and post survey results did not show any significant variation in the outcomes.

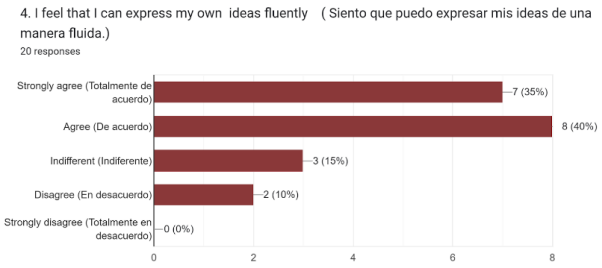
Pre and Posttest Survey: *Opinion of participants on how they feel about their fluency.*

Figure 10



Note: This figure shows the results of the opinion of participants on how they feel about their fluency . **Pre Survey**

Figure 11

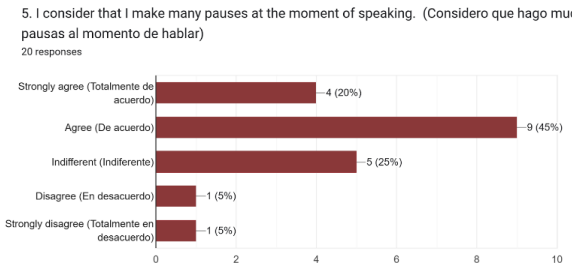


Note: This figure shows the results of the opinion of participants on how they feel about their fluency . **Post Survey**

In figure 10 and 11, students' opinion about their own speaking fluency.Findings show that 55 % of the participants considered that they could express their ideas in English fluently, 35 % responded to be indifferent and 10 % claimed that they disagree with the statement in other words they feel less confidence while speaking.

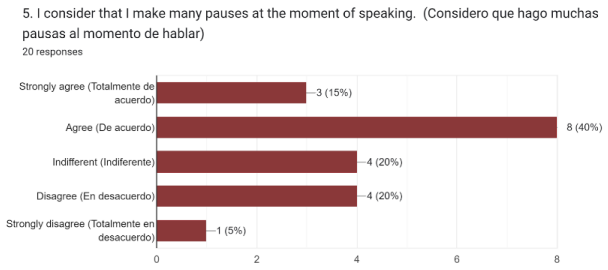
Pre and Posttest Survey : *Opinion of participants on how they feel about the pauses they make while speaking.*

Figure 12



Note: This figure shows the results of the opinion of participants on how they feel about the pauses they make while speaking . **Pre Survey**

Figure 13

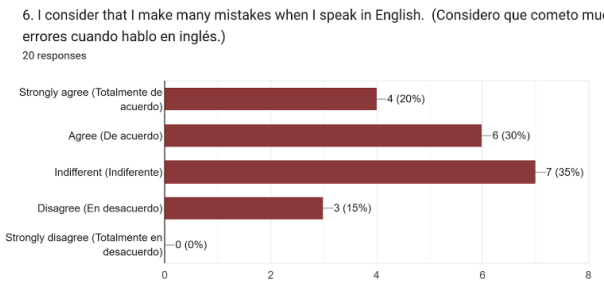


Note: This figure shows the results of the opinion of participants on how they feel about the pauses they make while speaking . **Post Survey**

Furthermore, the response obtained from the participants as to whether they consider that they pause a lot when speaking or not, revealed in the pre-test that 20% strongly agree that they pause, 45% agree, 25% indifferent, 5% disagree and 5% strongly disagree. However,the post survey showed a slightly different result where 15% of the participants affirmed to strongly agree, 40% agree, 20% indifferent, 20% disagree and 5% strongly disagree.

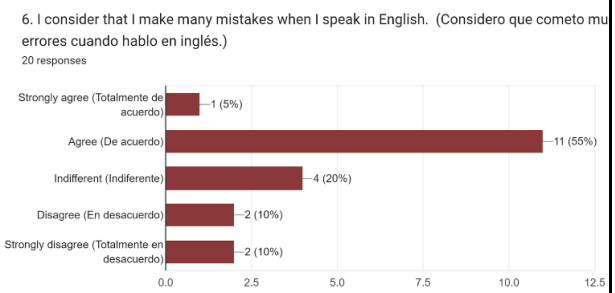
Pre and Posttest Survey: *Consideration of Participants that they make many mistakes while speaking or not.*

Figure 14



Note: This figure shows the results whether the participants consider that they make many mistakes while speaking or not . **Pre Survey**

Figure 15

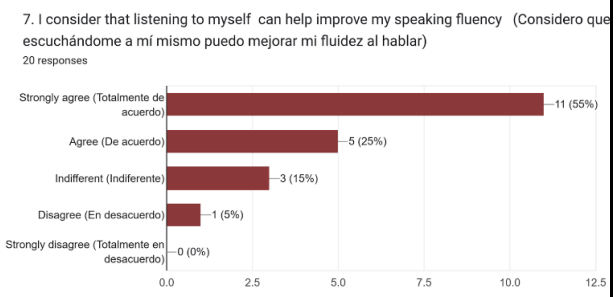


Note: This figure shows the results whether the participants consider that they make many mistakes while speaking or not . **Post Survey**

In figure 14 and 15 a notable variation was observed between the pre survey and post survey in terms of what they think about mistakes they make when speaking english, The result show that during the pre survey about 50% considered that they make many mistakes , 35% indifferent and 15% disagree, While in the post survey about 60 % shifted to agree Increasing the number of learners that believe that they make mistakes by 5% ,fewer participants were indifferent about 20 %, and 20% disagreed to that statement.

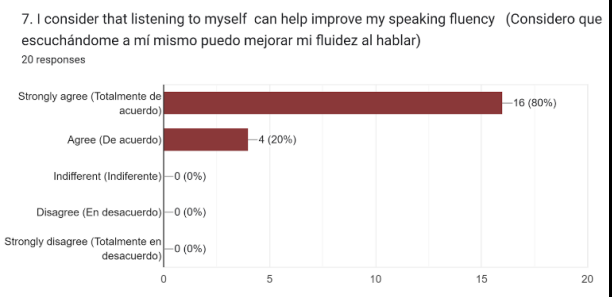
Pre and Posttest Survey : *Consideration of Participants that listening to themselves can help improve speaking fluency*

Figure 16



Note: This figure shows the results whether the participants consider that listening to themselves can help improve speaking fluency . **Pre Survey**

Figure 17



Note: This figure shows the results whether the participants consider that listening to themselves can help improve speaking fluency . **Post Survey**

Figure 16, Before the implementation of the project 20 % of the participants did not consider that listening to their own speech recording can help them improve speaking fluency and 80 % considered that definitely listening to themselves could be a great way to help them improve. However, after the implementation of the project the results changed significantly in the sense that 100% of the participants now considered that listening to themselves can help them improve their fluency.

Pre and Posttest Survey : *How the participants feel regarding recording their voices***.**

Figure 18

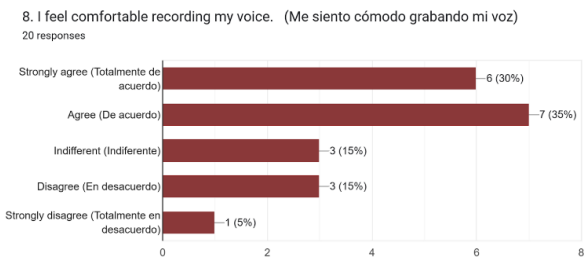
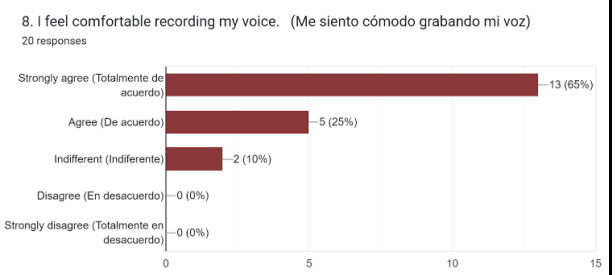


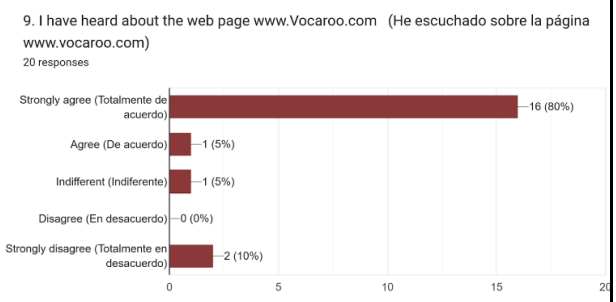
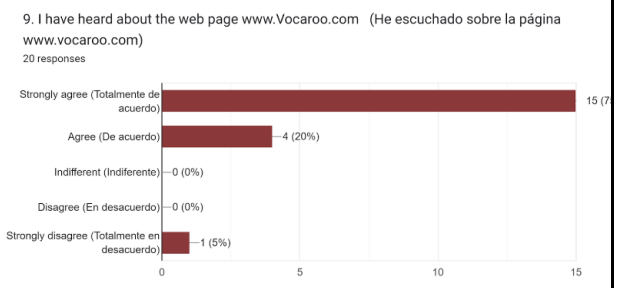
Figure 19



Note: This figure shows the results of whether the participants feel comfortable recording their voices . **Pre Survey**	**Note**: This figure shows the results of whether the participants feel comfortable recording their voices. **Post Survey**

In figure 18 and 19, the researchers intended to gain an insight into how the participants feel regarding recording their voices. The poll showed that only 30% of the participants strongly agree, 35% agree, 15% indifferent, 15% disagree and only 5% strongly disagree. While in the post test the results shifted a bit towards Strongly agreeing , agreeing and disagreeing with 65%,25% and 10 % respectively

Pre and Posttest Survey : *The participants have heard about the app Vocaroo.*

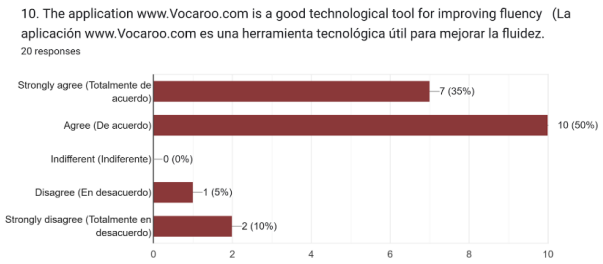
Figure 20  **Note:** This figure shows the results on whether the participants have heard about the app that was used to carry out the project. **Pre survey**	**Figure 21**  **Note:** This figure shows the results on whether the participants have heard about the app that was used to carry out the project. **Post survey**

The figures 20 and 21, demonstrate the participants knowledge of the voice recording web page vocaroo, In the pre survey 85% of participants answered positively, 5% were indifferent and 2% never heard about the webpage, On the other hand the results of the post

survey shows that 95% of participants have gained knowledge of the new webpage vocaroo and only 5% responded otherwise.

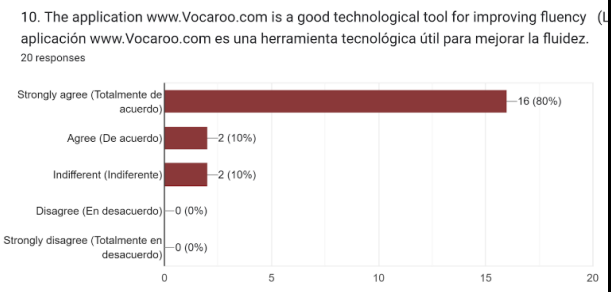
Pre and Posttest Survey : *What the participants think about the application vocaroo*

Figure 22



Note: This figure shows what the participants think about the application vocaroo. **Pre survey**

Figure 23

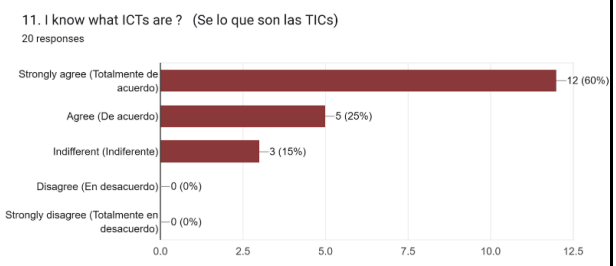


Note: This figure shows what the participants think about the application vocaroo. **Post survey**

In figure 22 and 23, to ascertain whether or not the participants think that vocaroo is a good technological tool for improving fluency. Participants were invited to agree or disagree with the statement “The application is a good technological tool for improving fluency” There was a significant difference in the results of the pre and post test, having in the first one, only 35% strongly agree, 50% agree, 5% disagree and 10% strongly disagree. While in the post test 80% of students strongly agreed, 10% agreed and the rest 10 % were indifferent.

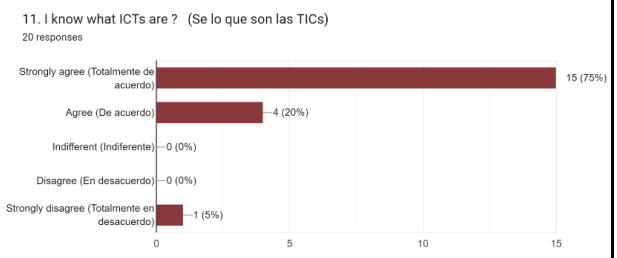
Pre and Posttest Survey : *Knowledge of participants about TICs.*

Figure 24



Nota: This figure shows the knowledge of participants about TICs. **Pre survey**

Figure 25

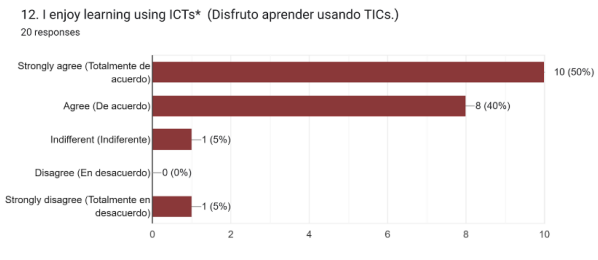


Nota: This figure shows the knowledge of participants about TICs. **Post survey**

Figure 24 and 25, clearly show that in both pre survey and post survey majority of the participants gave a positive affirmation as to whether they know about ICT tools or not, obtaining the following results 60 % strongly agreed to be conversant with ICT tools, 25 % simply agreed and 15 % were indifferent. On the other hand, the post Survey findings show that almost 95 % moved to agree after the project was implemented

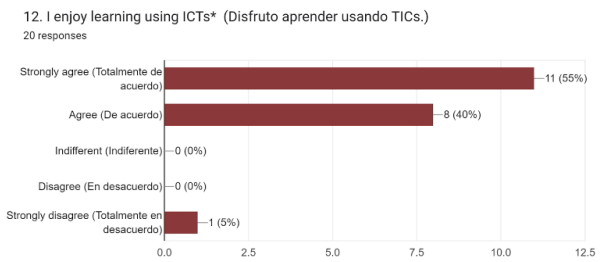
Pre and Posttest Survey : *The enjoyment of students using TICs.*

Figure 26



Note: This figure shows the enjoyment of students using TICs. **Pre Survey**

Figure 27

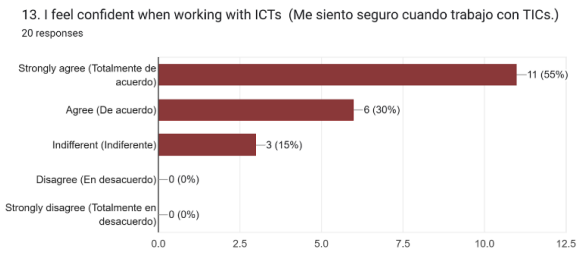


Note: This figure shows the enjoyment of students using TICs. **Post Survey**

Figure 26 and 27 show whether or not students enjoy using TICs in the classroom ,in the pre survey 50% of the participants strongly agree, 40% agree, 5% indifferent and 5% Strongly agree. It is worth noting that the results of the post test did not show any major variations, 55% of participants strongly agree, 40% agree and 5% strongly disagree.

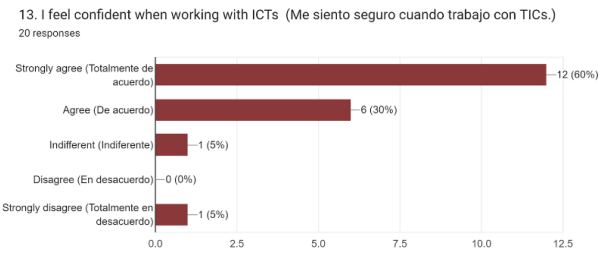
Pre and Posttest Survey : *How the participants feel using TICs.*

Figure 28



Note: This figure shows how the participants feel using TICs. **Pre Survey**

Figure 29

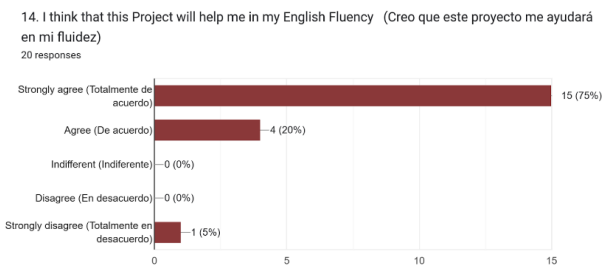


Note: This figure shows how the participants feel using TICs. **Post Survey**

In Figure 28 and 29 a very relevant aspect of this research is in terms of learning about students' perception of the use of technology and ICT tools in learning . The results in the pre-survey show that 55% of the students strongly agree, 30% agree and 15% are indifferent and in the post survey, the results went up in favor of agree to 60% with strongly agree, while agree remained the same at 30%, 5% indifferent, and the other 5% strongly disagree.

Pre and Posttest Survey : *Students' perception about the influence of PBL on speaking fluency.*

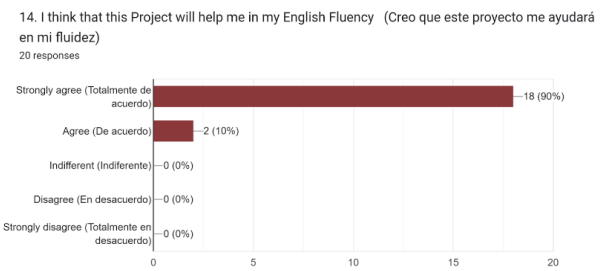
Figure 30



Note: This figure shows the results on whether the participants believe that project based learning can help improve their speaking fluency in speaking English.

Pre Survey

Figure 31



Note: This figure shows the results on whether the participants believe that project based learning can help improve their speaking fluency in speaking English.

Post Survey

Figure 30 and 31 show the results on whether the participants believe that project based learning can help improve their speaking fluency. In the pre-survey the results showed that 75% of the students strongly agreed, 20% agreed and 5% strongly disagree. However, in the post survey the result demonstrates that 90% of the participants Strongly agree and 10% agreed.

Research Question N 3: **How is project based learning applied on EFL curriculum?**

Throughout the execution stage of this research, the participants were constantly observed to assess their perfomance using the PBL rubric, considering key indicators such as critical thinking , collaborative skills, creative thinking and coherence to measure the independent variable PBL. These aspects were measured quantitatively as shown in the table below.

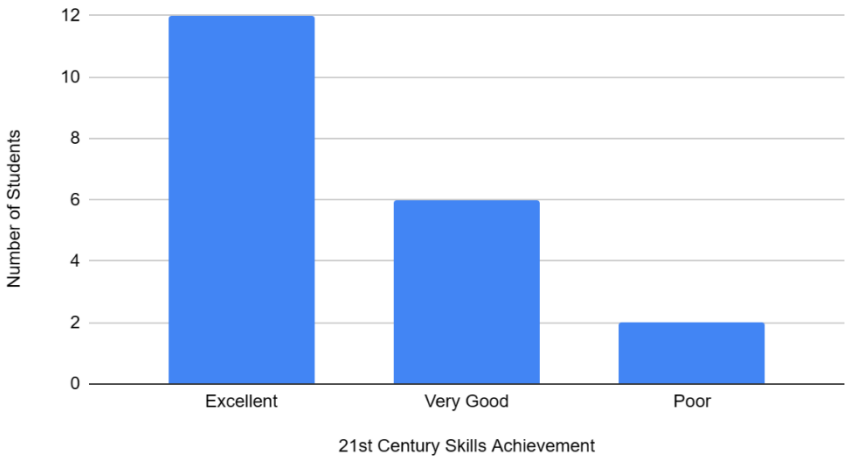
Table 2

PBL performance scale

Poor	1-4 points
Very Good	4-8 points
Excellent	8-12 points

Note: This table shows the level scale of measurement applied in the PBL Rubric

Figure 32: *PBL Observation Rubric*



Note: This figure shows the level of students performance in PBL

Figure 32, demonstrates the level of the performance of the students during the project execution in aspects such as critical thinking , collaborative skills, creative thinking and coherence, which are regarded as 21st century skills. The results show that 12 Students performed excellently representing 60% of the total number of the sample similarly, 6 of the participants recorded acceptable performances and only 2 students performed below expectations.

Discussion

The most suitable approach to teaching the speaking skill in EFL remains a subject of wide debate among practitioners in this field. This research intended to make valuable contributions towards how the application of authentic oral production through project based learning can help learners improve their speaking fluency. The result clearly took a favorable turn demonstrating that the majority of the participants improved on their pronunciation, use of grammar, accuracy and speech rate as well as a decrease in the number of repetitions and pauses, thus satisfying the expectations from the first research question.

This result is consistent with what Gonzalez K et al (2017) reported in their research findings that there was an observable improvement in speaking proficiency in learners after the implementation of project based learning where students had to produce an authentic audio. It is important to note that throughout the stages of PBL learners have the opportunity to prepare , practice and produce authentic audios before socializing with the teacher and other classmates. It explains why a significant difference was observed in the pre and post test authentic audios in terms of speed , decrease in repetitions and silent pauses.

On the other hand, regarding the second research question, the results demonstrate that the implementation of PBL has a positive impact on speaking fluency, as it gives students the opportunity to take control of their own learning under the guidance of the tutor, who asks the driving question at the beginning and the students design, collaborate and work individually until the end of the project. This fosters student's creativity, critical thinking and their ability to work collaboratively. These findings are in accordance with that of Abubakar, M. S. (2015) who

concluded in his paper that PBL does not only help in improving students' speaking ability but also plays a role in the acquisition of soft skills.

However, the application of PBL was a bit challenging, since its main purpose is to encourage learners to be more autonomous and be able to take charge of their own learning process, this means a greater responsibility on learners which can lead to higher levels of stress on less intrinsically motivated learners, additionally some learners are very traditional and prefer a teacher to be in charge also some students focus only on grades and not on achieving a meaningful learning (Aldabbous, S. 2018). So teachers must be aware of these possible problems to make sure that instructions are clear and straightforward.

Furthermore, in this study, the majority of the students participated collaboratively, however in a larger sample, individual differences might affect the outcome, and this clearly explains why the results from this study contradicts Aldabbous, S. (2018) who affirms that some students had a passive participation in Project Based Learning implementation exhibiting low collaborative skills, because the more extrovert learners dominated the whole process. So strategies that respond to individual differences must be considered.

As regards the strategy implemented in this study whereby participants used a technological tool to record their own speech for a determined length of time and were encouraged to listen and record multiple times until they felt comfortable to upload it to the platform. The findings demonstrate that this strategy has a positive impact on speaking as it permits learners to notice their mistakes and consciously correct them in the subsequent recordings. This finding is in line with what authors like Lopez et al (2021) and Santos et al

(2022) disclosed in their studies that recording authentic audio or videos multiple times help learners to be more aware of their pronunciation mistakes and correct them accordingly.

Finally, to address the third research question, The PBL pedagogical framework which was proposed by Conca, M. (2019) was adopted in the lesson plan of this action research, considering the following steps: Define and refine, designate and collaborate, compare and share using the THINK strategy, enhance and advance, review and revise, and lastly, produce and present. The findings show that this schematic model of PBL application works as most students responded positively to this method; in fact about 90% of the participants changed their perception in the post-survey.

It is important to highlight that most of the participants perceived learning English as important for their future, and this important factor might have had a great influence on the results from this study. This is in accordance with Chamba, M. et al (2018) who concluded in their research that for a student to have meaningful learning, it is necessary that the student has the desire and predisposition to learn a foreign language, otherwise it will take much longer to see the desired results.

Conclusion

The main purpose of this research was to evaluate the influence of project based learning (PBL) on speaking fluency, to make valuable contributions to EFL instruction. It is considered this pedagogical innovation to be relevant due to the difficulties students face in achieving fluency thereby requiring new approaches. Hence, this study demonstrated that a Project based learning approach is an effective method for improving speaking fluency, based on the fact

that it is student centered and encourages learners to take charge of their own learning which is vital for the language acquisition process.

Evaluating the influence of PBL on speaking fluency was quite challenging, because the 20 participants in this study exhibited different types of intelligence, learning choices and levels of commitments which meant that the researchers had to adapt to this individual differences in order to keep them motivated, however one aspect that was in favor is that all of the students considered English language to be important for their future so the researchers leveraged on this to make the project successful. Therefore, it is important for teachers to have an understanding of the group and find a common ground to keep learners interested to consequently achieve tangible results in the application of PBL for fluency improvement.

The findings also show that the use of authentic oral production through project based learning improved the participants´ speaking fluency to a significant extent, prompting the researchers to reach the conclusion that giving students the opportunity to use the language to talk about personal experiences trigger less anxiety and make them feel more comfortable to be willing to speak, Therefore, it is important for teachers to consider this important aspect at the moment of making lesson plans considering that students will perform better when given the chance to speak about something they identify with or feel it is important for them.

The results from this research confirms that the use of technological tools for pedagogical purposes in this day and age is definitely not negotiable especially in the area of authentic oral production and speaking fluency improvement. Most of the participants expressed satisfaction with the use of technology as it enabled them to record themselves , listen to their own speech , identify their own mistakes and make an effort to correct the mistakes in the

subsequent recordings. This repeated process helps learners to achieve automaticity which is the ultimate goal of speaking fluently, having to speak without thinking about the words. It equally reduces affective filters like fear of being judged by other classmates.

Furthermore , it is pertinent to mention that a great success for the implementation of project based learning starts from the lesson plan. A great lesson plan that considers all these points that are often ignored by most language teachers like; students' background, students' learning styles and students beliefs about second language would go a long way in helping both teachers and students to achieve better results, However, the most important aspect of implementing innovative methodologies is the willingness of the institutions to adopt this new innovations and support teachers with resources needed especially in the case of Ecuador where most schools are still traditionally driven and often time focus the completion of coursebooks.

Strengths and limitations

The social background of the participants was one of the key strengths that lead to the success of this research because most of the students perceived English language to be important for their future as most of them often travel abroad or aspire to study in an English speaking country. Another important factor worth mentioning is the availability of technological tools in the institution which facilitated the process. However, two important limitations were encountered during the execution of this research, the first one is related to the interference that led to the modification of dates and time of some planned activities, because some students were unavailable due to their participation in sport tournaments, and the second one is the limited number of participants (N=20) which made it impossible to have a control group. Despites the

limitations this research was concluded with valuable contributions that could serve as basis for further research in this area.

Future research areas

Further researchers can be carried out on determining the effectiveness of authentic oral production through Project Based Learning in improving speaking fluency of students with special educational needs taking into account some variables like willingness to speak , personality types, social backgrounds (public - private schools) and students' language beliefs to foment inclusion. It is equally important to consider a more representative number of participants with different levels of language proficiency in future studies in order to reach the more generalizable conclusions.

References

Abubakar, M. S. (2015). IMPROVING THE SECOND YEAR STUDENTS SPEAKING ABILITY THROUGH PROJECT-BASED LEARNING (PBL) AT MTSN MODEL MAKASSAR. *ETERNAL (English, Teaching, Learning, and Research Journal)*, *1*(2), 216-228.

Aldabbous, S. (2018). Project-based learning: Implementation & challenges. *International Journal of Education, Learning and Development*, *6*(3), 71-79.

Awang, H., & Ramly, I. (2008). Creative thinking skill approach through problem-based learning: Pedagogy and practice in the engineering classroom. *International Journal of Educational and Pedagogical Sciences*, *2*(4), 334-339. Creative Thinking Skill Approach

Through Problem-Based Learning: Pedagogy and Practice in the Engineering Classroom (albany.edu)

Bailin, S., Case, R., Coombs, J. R., & Daniels, L. B. (1999). Conceptualizing critical thinking. Journal of curriculum studies, 31(3), 285-302.

Barnes, D. (2008). The value of exploratory talk. In N. Mercer & S. Hodgkinson (Eds.), Exploring talk in school (pp. 1-15). Los Angeles, CA: Sage.

Barnes, D., & Todd, F. (1977). Communicating and learning in small groups. London, UK: Routledge, Kegan Paul.

Barrows, H. (2003). Response To "The Problem with Problem Based Medical Education: Promises Not Kept" by R.H Gkew. Biochemistry and Molecular Biology Education. Vol. 31, no.4, pp. 255-256.

Brumfit, C (1984) Communicative methodology in language teaching: The roles of fluency and accuracy, Cambridge: Cambridge University Press.

Bygate, M. (2009). Teaching and testing speaking. The handbook of language teaching, 412-440.

Carlos, S. S., & Fernández Rivas, S. (2012). Pensamiento crítico y aprendizaje basado en problemas cotidianos. *REDU: revista de docencia universitaria*.

Chamba, M., & Gavilanes, C. (2018). Authentic audio-visual material in the development of oral fluency in university intermediate English students. *Literatura y lingüística*, *39*, 199-223.

Christopher. H (2020).How To Speak English Fluently: Steps and Tips To Improve Your MEnglish Fluency, and Talk Like an American.

Conca, M. (2019). *All about PBL: How to Learn a Language through Projects*. International House World Organisation. Retrieved March 25, 2023, from https://ihworld.com/ih-journal/ih-journal-blog/all-about-pbl-how-to-learn-a-language-through-projects/

Cucchiarini, C., Strik, H., & Boves, L. (2002). Quantitative assessment of second language learners' fluency: comparisons between read and spontaneous speech. The Journal of the Acoustical Society of America, 111(6), 2862–2873. https://doi.org/10.1121/1.1471894

De Bono, E. (1993). Serious Creativity: Using the Power of Interal Thinking To Create New Ideas. New York: Harper Collins.

Dewey, J. (1938). Experience and education. New York, NY: Kappa Delta Pi. (Republished by Collier, 1963).

Dewey, J. (1933). How We Think. A Restatement of the Relation of Reflective Thinking to the Educative Process, Boston etc.(DC Heath and Company) 1933.

EF EPI 2022 – EF English Proficiency Index – Ecuador. (2022). EF Education First. Retrieved March 25, 2023, from https://www.ef.com.ec/epi/regions/latin-america/ecuador/

Ellis, R. (2017). Task-based language teaching. The Routledge handbook of instructed second language acquisition, 108, 125.

Ennis, R. H. (1987). A taxonomy of critical thinking dispositions and abilities.

Facione, P. (1998). Critical thinking. L Lea d er Sh Ip, 104.

Facione, N. C., & Facione, P. A. (2008). Critical thinking and clinical judgment. Critical thinking and clinical reasoning in the health sciences: A teaching anthology, 2008, 1-13.

Fillmore, C. J. (1979). On fluency. In D. Kempler & W. S. Y. Wang (Eds.), Individual differences in language ability and language behavior (pp. 85-102). New York: Academic Press.

Finocchiaro, M., & Brumfit, C. (1983). *The functional-notional approach: From theory to practice*. Oxford University Press, 200 Madison Ave., New York, NY 10016.

from http://www.sfu.ca/educ260/documents/myths.pdf

Florez, M. C. (1999). Improving adult English language learners' speaking skills**.**

Ginther, A., Dimova, S., & Yang, R. (2010). Conceptual and empirical relationships between temporal measures of fluency and oral English proficiency with implications for automated scoring. Language Testing, 27(***3***), 379-399.

Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn?. Educational psychology review, 16, 235-266.

Housen, A., Kuiken, F., & Vedder, I. (2012). Complexity, accuracy and fluency: Definitions, measurement and research. In A. Housen, F. Kuiken, & I. Vedder (Eds.), Dimensions of L2 performance and proficiency: Complexity, accuracy and fluency in SLA (pp. 1– 20). John Benjamins Publishing Company

Jin, M.,. (2019). Effects of peer feedback types and feedback acceptance levels on academic achievement in middle school project-based learning. Educational Technology International, 20(1), 57-81.

Jiménez-Aleixandre, M.P.; Puig, B. Argumentation, Evidence, Evaluation and Critical Thinking; Fraser, B.,Tobin, K.G., Mc Robbie, Eds.; Second International Handbook of Science Education; Springer: Dordrecht, The Netherlands, 2012; Volume 2, pp. 1001–1017.

Jiazeng, L., Yanbao, L., Yi, C., & Wenxian, W. (1997, November). Evaluating of creative thinking of students and creativity development at Southeast University, China. In Proceedings Frontiers in Education 1997 27th Annual Conference. Teaching and Learning in an Era of Change (Vol. 1, pp. 576-579). IEEE.

Katherine Gonzalez, D., Jhonatan Correa Molina, O., & Rojas Cardona, B. S. (2017). Project-Based Learning to develop oral production in English as a foreign language. *International journal of education and information technologies*, *11*, 87-96.

Kelly, G. A. (1955). The psychology of personal constructs. New York, NY: Norton

Kellem, H. (2009). The Formeaning Response Approach: Poetry in the EFL Classroom. In English Teaching Forum (Vol. 47, No. 4, pp. 12-17). US Department of State. Bureau of Educational and Cultural Affairs, Office of English Language Programs, SA-5, 2200 C Street NW 4th Floor, Washington, DC 20037.

Kilpatrick, W. H. (1918). The project method. Teachers college record, 19(4), 1-5.

Kleiman, G. M. (2001). Myths and realities about technology in K–12 schools. LNT Perspectives, 14, 1–8. Retrieved

Kormos, J., & Dénes, M. (2004). Exploring measures and perceptions of fluency in the speech of second language learners. System, 32(2), 145-164.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. Improving schools, 19(3), 267-277.

Krajcik, J. S., & Blumenfeld, P. C. (2006). Project-based learning (pp. 317-34). na.

Kuhn, D. The Skills of Argument; Cambridge University Press: Cambridge, UK, 1991.

Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach. *Language learning*, *40*(3), 387-417.

Lintunen, P., Mutta, M., & Peltonen, P. (Eds.). (2019). *Fluency in L2 learning and use*. Multilingual Matters.

Littlewood, W., 1984. Foreign and second language learning: Language acquisition research and its implications for the classroom. Cambridge: Cambridge University Press.

Lopez, J. I., Becerra, A. P., & Ramírez-Ávila, M. R. (2021). EFL speaking fluency through authentic oral production. *Journal of Foreign Language Teaching and Learning*, *6*(1), 37-55.

López Loyola, J. I. (2019). Improving EFL Learners' Speaking Fluency through Authentic Oral

Masek, A. (2012). The effects of problem based learning on knowledge acquisition, critical thinking, and intrinsic motivation of electrical engineering students (Doctoral dissertation, Universiti Tun Hussein Onn Malaysia).

Mora, J. C., & Valls-Ferrer, M. (2012). Oral fluency, accuracy, and complexity in formal instruction and study abroad learning contexts. Tesol Quarterly, 46(4), 610-641.

Production (Bachelor's thesis, Universidad Casa Grande. Departamento de Posgrado).

Mosquera Bargiela, I.; Puig Mauriz, B.; Crujeiras Pérez, B.; Blanco Anaya, P. Pensamiento crítico en educación superior: Análisis de un grupo de discusión. Enseñanza de las ciencias 2017, extra, 2799–2804.

Piaget, J. (1951). The psychology of intelligence. London, UK: Routledge and Kegan Paul

Polanyi, M. (1958). Personal knowledge: Towards a post-critical philosophy. Chicago, IL: The University of Chicago Press.

Richards, J. C., & Rodgers, T. S. (2014). Approaches and methods in language teaching. Cambridge university press.

Riswandi, D. (2018). The implementation of project-based learning to improve students' speaking skill. International Journal of Language Teaching and Education, 2(1), 32-40.

Sánchez Vaca, S. V. (2019). Improving speaking fluency and self confidence through timed monologue recordings in beginner EFL students (Master's thesis, Universidad Casa Grande. Departamento de Posgrado).

Saito, K., & Plonsky, L. (2019). Effects of second language pronunciation teaching revisited: A proposed measurement framework and meta-analysis. Language Learning, 69(3), 652–708. https://doi-org/10.1111/lang.12345

Sandholtz, J., Rignstaff, C., & Dwyer, D. (1997). Teaching with technology: Creating student-centered classrooms. New York: Teachers College Press.

Santos, J., & Ramírez-Ávila, M. (2022). Improving speaking fluency through 4/3/2 technique and self-assessment. *Assessment*, *26*(2).

Skehan, P. (1996). Second language acquisition research and task-based instruction. In J. Willis, & D. Willis (Eds.), Challenge and Change in Language Teaching (pp. 17-30). Oxford: Heinemann.

Segalowitz, N. (2010). Cognitive Bases of Second Language Fluency. New York: Routledge.

Schegloff, E. A., Jefferson, G., & Sacks, H. (1977). The preference for self-correction in the organization of repair in conversation. *Language*, *53*(2), 361-382.

Siegel, H. Educating Reason: Rationality, Critical Thinking and Education; Routledge: New York, NY, USA, 1988.

Solomon, G. (2003). Project-based learning: A primer. *Technology and learning-dayton-*, *23*(6), 20-20.

Tavakoli, P., & Skehan, P. (2005). Strategic planning, task structure, and performance testing. In R. Ellis (Ed.), Planning and task performance in a second language (pp. 239–276). John Benjamins Publishing Company.

Tedick, D & Wesely, P. (2015) A review of research on content-based foreign/second language education in US K-12 contexts, Language, Culture and Curriculum, 28:1, 25-40. https://doi.org/10.1080/07908318.2014.1000923

Thornbury, S. (2005). *How to Teach Speaking*. Pearson Education Limited Longman.

Thornbury, S. (2012, February 26). *A is for Automaticity | An A-Z of ELT*. Scott Thornbury's blog. Retrieved March 27, 2023, from https://scottthornbury.wordpress.com/2012/02/26/a-is-for-automaticity/

Vygotsky, L. S. (1962). Thought and language. Cambridge, MA: MIT Press. Boundary.

Vygotsky, L. S. (1978). Mind in society. Cambridge, MA: Harvard University Press.

Walker, M. L. (1993). Participatory action research. *Rehabilitation Counseling Bulletin, 37*, 2-2.

Yang, D., & Puakpong, N. (2016). Effects of project-based learning on speaking abilities of Non-English major Chinese students. Proceedings of CLaSIC, 410-427.

ANNEXES