Ciencia Latina Revista Científica Multidisciplinar, Ciudad de México, México.
ISSN 2707-2207 / ISSN 2707-2215 (en línea), julio-agosto 2025,
Volumen 9, Número 4.

https://doi.org/10.37811/cl_rcm.v9i2

APPLYING AUTHENTIC ORAL PRODUCTION TO IMPROVE SPEAKING FLUENCY THROUGH PROJECT-BASED LEARNING APPROACH ON EFL STUDENTS

APLICACIÓN DE LA PRODUCCIÓN ORAL AUTÉNTICA PARA MEJORAR LA FLUIDEZ VERBAL MEDIANTE UN ENFOQUE DE APRENDIZAJE BASADO EN PROYECTOS EN ESTUDIANTES DE INGLÉS COMO LENGUA EXTRANJERA (EFL)

Stanislaus Oshimeje
Universidad de Especialidades Espíritu Santo (UEES)

Ivanova Daniela Flores Barahona
Universidad de Especialidades Espíritu Santo (UEES)

DOI: https://doi.org/10.37811/cl_rcm.v9i4.18849

Applying Authentic Oral Production to Improve Speaking Fluency Through Project-Based Learning Approach on EFL Students

Stanislaus Oshimeje [1]
soshimeje@uees.edu.ec
https://orcid.org/0000-0001-6092-7180
Universidad de Especialidades Espíritu Santo (UEES)
Ecuador.

Ivanova Daniela Flores Barahona
Ifloresb@uees.edu.ec
https://orcid.org/0009-0005-0361-6235
Universidad de Especialidades Espíritu Santo (UEES)
Ecuador

ABSTRACT

This paper explores the influence of authentic oral production on speaking fluency through the implementation of project-based learning (PBL) in an EFL classroom. Conducted in a private secondary school in Machala, Ecuador, this action research involved 20 students aged 13–14 who had attained A2-level English proficiency. Pre- and post-intervention tests were used to assess speech fluency using a rubric that measured pronunciation, grammar, accuracy, speech rate, and repairs. Additionally, student perceptions were evaluated through surveys. Results showed a marked improvement in speaking fluency following the intervention. The students also reported increased confidence and engagement, highlighting the effectiveness of combining authentic oral tasks with the PBL approach. The findings suggest that this methodology not only enhances fluency but also fosters critical thinking, creativity, and collaboration among learners.

***Keywords*:** speaking fluency, authentic oral production, project-based learning, EFL, student-centered learning

[1] Autor principal
Correspondencia: soshimeje@uees.edu.ec

Aplicación de la producción oral auténtica para mejorar la fluidez verbal mediante un enfoque de aprendizaje basado en proyectos en estudiantes de inglés como lengua extranjera (EFL)

RESUMEN

Este artículo explora la influencia de la producción oral auténtica en la fluidez del habla mediante la implementación del aprendizaje basado en proyectos (ABP) en un aula de inglés como lengua extranjera (EFL). La investigación-acción se llevó a cabo en una escuela secundaria privada en Machala, Ecuador, con la participación de 20 estudiantes de entre 13 y 14 años que poseían un nivel de inglés A2 según la certificación de Cambridge. Se aplicaron pruebas pre y postintervención mediante grabaciones orales, evaluadas con una rúbrica que consideraba variables como la pronunciación, la gramática, la precisión, la velocidad del habla y las autocorrecciones. Además, se aplicaron encuestas para conocer las percepciones de los estudiantes. Los resultados revelaron una mejora significativa en la fluidez oral tras la intervención. Asimismo, los estudiantes manifestaron mayor confianza y compromiso, lo que resalta la eficacia de combinar tareas orales auténticas con el enfoque ABP. Los hallazgos sugieren que esta metodología no solo potencia la fluidez, sino que también promueve el pensamiento crítico, la creatividad y la colaboración en el aula.

Palabra Clave: fluidez, aprendizaje basado en proyectos, producción oral auténtica, enfoque centrado en el estudiante

Artículo recibido 05 julio 2025

Aceptado para publicación: 25 agosto 2025

INTRODUCTION

Speaking fluency is a central concern in the field of English as a Foreign Language (EFL) instruction. It refers to the ability to communicate ideas in a given language with ease, fluidity, and minimal hesitation (Skehan, 1996). Despite its importance, fluency remains one of the most challenging language skills for learners to acquire. In many classrooms, both teachers and students struggle with developing this skill effectively. Teachers often lack updated methodologies to facilitate authentic speaking opportunities, while students face heightened affective filters such as anxiety and frustration that impede oral performance.

This issue is particularly acute in Ecuador. According to the 2021 English Proficiency Index, Ecuador ranks among the lowest in Latin America in terms of English-speaking proficiency, just above Mexico, with a score of 440 out of 1000. While teachers are aware of the need for students to develop fluency and purpose in their speech, they are often constrained by traditional, teacher-centered instructional models that limit student agency and engagement.

The theoretical framework underpinning this study is grounded in constructivist learning theories, particularly those proposed by Vygotsky (1978), Dewey (1938), and Kilpatrick (1921). These theorists emphasize the social and cognitive benefits of student-centered, activity-based learning. Within this framework, Project-Based Learning (PBL) emerges as a robust methodology that encourages learners to construct knowledge through meaningful, real-world tasks. When paired with authentic oral production, PBL promotes autonomy, critical thinking, and increased linguistic confidence.

Several prior studies (e.g., Jin, 2006; Kellem, 2009; Christopher, 2020) have demonstrated the benefits of practice and self-reflection in building fluency. However, much of the existing research on PBL and oral production comes from Europe and Asia. There is a notable gap in the literature regarding its application in Latin America, particularly in Ecuador, where educational contexts and technological resources vary significantly.

This study seeks to address that gap by exploring the influence of authentic oral production through PBL on speaking fluency among Ecuadorian secondary school students. Conducted in a private institution in the city of Machala, the research involved 20 students with Cambridge-certified A2-level English

proficiency. The local context, characterized by increased access to technology and a growing demand for communicative English, makes this investigation particularly timely and relevant.

Guided by a participatory action research design and a mixed-methods approach, the study investigates three core questions:

1. To what extent does authentic oral production influence speaking fluency?
2. How does Project-Based Learning improve speaking fluency?
3. How is PBL applied within the EFL curriculum?

By addressing these questions, the study aims to contribute to curriculum development and the adoption of innovative pedagogical strategies that empower both teachers and students. Ultimately, it advocates for a shift from rigid, product-focused instruction toward more dynamic, process-oriented language learning environments in Ecuador and similar contexts.

Literature review

To establish a solid theoretical foundation for this study, the relationship between speaking fluency and project-based learning (PBL) will be thoroughly examined. While recent literature has explored these variables from various perspectives, this review focuses on the most relevant findings to inform the research design and the interpretation of results.

Speaking: Definition and Nature

Speaking constitutes a fundamental productive skill in second language acquisition. It involves the active construction and negotiation of meaning through real-time interaction, necessitating the simultaneous engagement of cognitive and social faculties (Florez, 1999; Thornbury, 2005). As a socially embedded process, speaking demands both linguistic competence and pragmatic awareness, making it a complex skill to develop, particularly in EFL contexts.

Fluency: Definitions and Dimensions

Fluency represents a multidimensional construct in oral communication, generally defined as the ability to produce language effortlessly and naturally. Fillmore (1979) emphasized the ability to speak continuously with minimal pauses, while Segalowitz (2010) proposed a tripartite model comprising cognitive fluency, utterance fluency, and perceived fluency. These aspects encompass both the speaker's internal processes and the listener's subjective evaluation. Lennon (1990) further distinguished between

broad and narrow fluency, with the latter focusing on measurable aspects such as speech rate, pausing, and repair patterns.

Strategies to Improve Fluency

Several pedagogical frameworks have been introduced to foster fluency in EFL learners. Notably, constructivist approaches such as Project-Based Learning (PBL), Communicative Language Teaching (CLT), Content-Based Instruction (CBI), and Task-Based Instruction (TBL) promote authentic and learner-centered experiences. Scholars (Jin, 2006; Kellem, 2009; Christopher, 2020) have emphasized the critical role of repetitive practice, linguistic immersion, and affective safety in developing oral fluency.

Measuring Fluency

The assessment of fluency typically focuses on utterance-level indicators, including speech rate, breakdown (pauses and hesitations), and repair (self-corrections). Tavakoli and Skehan (2005) defined speech rate as the number of syllables produced per minute, while Cucchiarini et al. (2002) and Kormos & Dénes (2004) have validated its significance as a predictor of fluency. Repair mechanisms, as described by Schegloff et al. (1977), reflect the speaker's effort to maintain coherence and intelligibility under communicative pressure.

Project-Based Learning (PBL)

PBL emerges from constructivist learning theories and places students at the center of inquiry-based learning. Early proponents such as Kilpatrick (1921) and Dewey (1959) advocated for learning through meaningful activity, while Vygotsky (1978) emphasized the role of social interaction in cognitive development. In the EFL context, PBL fosters linguistic engagement through authentic problem-solving, collaboration, and reflection (Krajcik & Blumenfeld, 2006).

Critical and Creative Thinking

PBL also facilitates the cultivation of higher-order cognitive skills. According to Facione (1990), critical thinking entails reasoned judgment and reflective decision-making, while creative thinking, characterized by originality and flexibility, enables learners to approach problems from multiple perspectives (de Bono, 1993). These skills are essential for autonomous learning and are nurtured through the iterative and student-driven structure of PBL.

Technology in PBL

The integration of digital technologies in PBL environments enhances access to resources, collaborative learning, and multimodal communication. Solomon (2003) identified the pedagogical benefits of tools such as word processors, databases, and online platforms, which enable learners to collaborate beyond the confines of the classroom. These affordances have been corroborated by Sandholtz et al. (1997), who highlight the role of technology in promoting learner autonomy and inquiry-based learning.

PBL and Speaking Fluency

Empirical findings support the efficacy of PBL in improving speaking fluency. Di Yang and Puakpong (2016) demonstrated that project-based tasks, which promote autonomy and rehearsal, enhance learners' oral proficiency. Similarly, Thornbury (2012) argued that repeated exposure to real-time interaction leads to the development of automaticity, whereby learners produce language with minimal conscious effort.

METHODOLOGY

The primary objective of this research is to evaluate the extent to which authentic oral production, implemented through Project-Based Learning (PBL), contributes to the improvement of speaking fluency in English as a Foreign Language (EFL) learners. Based on this premise, the following research questions were formulated:

1. To what extent does authentic oral production influence speaking fluency?
2. How does project-based learning enhance speaking fluency?
3. How is project-based learning applied within the EFL curriculum?

This study is situated within the domains of Curriculum Development and Educational and Technological Innovation, as it seeks to make meaningful contributions by proposing pedagogical strategies and technological integrations that enhance oral communication and learner confidence. It specifically aims to support teachers and students in fostering effective oral production through innovative methodologies.

The research adopted an action participatory research design, a type of applied research that focuses on addressing real-world educational challenges. According to Kothari (2004), applied research seeks to provide immediate solutions to existing problems, particularly those arising from the lived experiences

of a target population (Walker, 1993). This study identified a problem, posed relevant research questions, and defined specific objectives to work toward a solution systematically. Data was collected, analyzed, and used to design and implement an intervention, which was subsequently evaluated.

A mixed-methods approach was employed, incorporating both qualitative and quantitative data collection techniques. Instruments such as surveys and evaluation rubrics were utilized to assess the impact of PBL on speaking fluency. The sample consisted of 20 secondary school students, aged between 13 and 14 years, from a public institution in Machala, El Oro Province, Ecuador. These ninth-grade learners received approximately 10 hours of English instruction per week, exceeding the national average. Most participants had previously attained A2-level certification, as assessed by Cambridge English.

To evaluate the influence of authentic oral production, the first research variable, an assessment rubric, was used to measure students' speaking fluency throughout the PBL intervention. To examine the impact of project-based learning, the second variable, an additional rubric and a structured survey, were employed to evaluate student performance and collect observational data during the execution of the projects.

The intervention spanned six weeks, during which students participated in weekly project-based tasks that were integrated with their language curriculum. Each task encouraged collaboration, planning, rehearsal, and culminated in students using an online multimedia tool called Vocaroo to record their dialogues, fostering authentic oral communication. Throughout the process, the teacher acted as a facilitator, supporting learners in project design, task completion, feedback sessions, and performance reflection.

Pre- and post-intervention evaluations were conducted to measure changes in speaking fluency. The rubric focused on key indicators, including speech rate, coherence, grammatical accuracy, and interactional competence. Quantitative data from the rubrics were analyzed descriptively to assess improvement. In contrast, qualitative data from surveys and observations were thematically coded to uncover learner perceptions, behavioral changes, and levels of engagement throughout the PBL process.

RESULTS AND DISCUSSION

This study was conducted in three stages, utilizing a Classroom Action Participatory Research framework: planning, execution, and observation. During the planning stage, a lesson plan was designed, and both a pretest and posttest were administered, along with a questionnaire to assess students' prior knowledge of Project-Based Learning (PBL) and their perceptions of English speaking proficiency. In the subsequent execution stage, the lesson plan was implemented, and observations were conducted using standardized rubrics aligned with each research question.

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

To assess the impact of authentic oral production on speaking fluency, an observation rubric was applied to 20 students. Pre- and posttest audio recordings of students' spoken English were evaluated based on seven fluency components: pronunciation, grammar, accuracy, speech rate, speech breakdown, self-repairs (repetitions), and corrections.

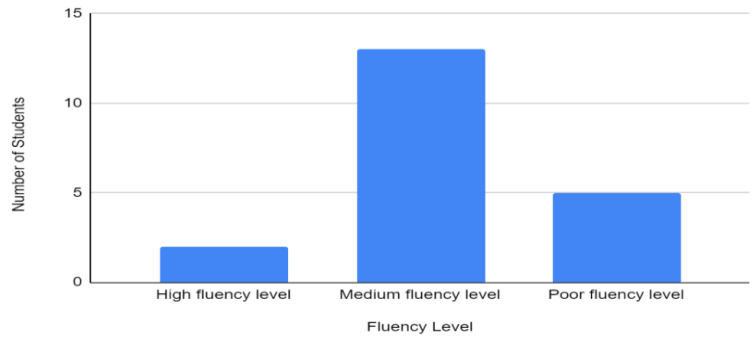
Table 1

Speaking fluency level scale

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

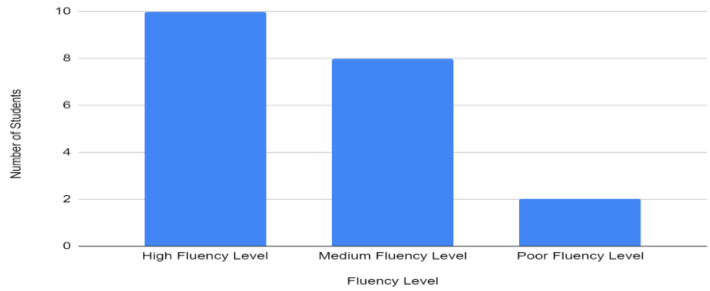
In the pretest, 5 students scored in the poor fluency range, 13 in the medium range, and only 2 in the high fluency range. Following the PBL intervention, the distribution shifted: 2 students remained in the low category, 8 in the medium category, and 10 students advanced to the high fluency category.

Figure 1. Speaking Fluency Levels – Pretest



Note: Fluency distribution before the PBL intervention.

Figure 2. Speaking Fluency Levels – Posttest



Note: Fluency distribution following the PBL intervention.

Research Question 2: How Does Project-Based Learning Improve Speaking Fluency?

To examine how PBL contributed to improved fluency, a survey was carried out before and after the intervention using a qualitative approach. The 14-question poll explored students' knowledge of PBL, perceptions of their speaking skills, confidence levels, and attitudes toward using technology for oral practice.

To begin with, the survey results demonstrated a notable shift in students' understanding and attitudes following the PBL intervention. Not only did knowledge of PBL increase substantially, but this more profound familiarity was also accompanied by measurable improvements in self-assessed speaking confidence and skill. These findings provide a foundation for examining the specific ways in which project-based learning led to enhanced fluency and more positive student perceptions, as detailed below.

Knowledge of PBL showed a marked transformation: while 20% of students initially reported little or no familiarity with the approach, post-intervention results indicated that 100% of participants had developed a clear understanding (see Figures 3 & 4).

Furthermore, self-assessment of oral production revealed a significant boost in confidence. After the intervention, only 10% of students remained indifferent, whereas 90% either agreed or strongly agreed that their oral skills had improved (see Figures 5 & 6).

In addition, the perceived importance of fluency was already robust prior to the intervention, and this strong consensus was sustained in subsequent measurements (Figures 7 & 8).

Moreover, concerning pauses in speech, students reported a modest decrease in the frequency of perceived pausing (see Figures 9 & 10).

Interestingly, error awareness exhibited a slight upward trend, with an increasing number of students acknowledging frequent errors. This outcome may suggest heightened self-awareness rather than a regression in proficiency (Figures 11 & 12).

Additionally, the value of recording for self-assessment gained universal endorsement by the end of the intervention. While 20% of students had initially doubted the utility of recording their voices, post-intervention, all students agreed that it contributed to improved fluency (Figures 13 & 14).

Similarly, both awareness and approval of the Vocaroo application as a speech recording tool increased markedly following participation in the project (Figures 15 & 16).

From a technological perspective, appreciation for the use of ICT tools in language learning grew among students, although their overall enjoyment of the process remained essentially unchanged (Figures 17 & 29).

Finally, agreement regarding the positive influence of PBL on fluency rose from 75% to 90% after the intervention, further underscoring the efficacy of the approach (Figures 30 & 31).

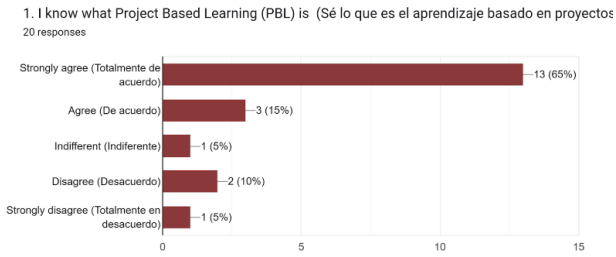
Research Question 3: How is Project-Based Learning applied in the EFL curriculum?

During the execution phase, student performance in applying PBL methodology was evaluated using observation rubric. Key indicators included critical thinking, collaboration, creativity, and coherence—all competencies essential to 21st-century learning.

Out of the 20 participants, 12 students (60%) performed at the Excellent level, 6 students achieved Very Good scores, and only 2 students performed Poorly. These results indicate that the majority of students successfully engaged with the PBL methodology and demonstrated meaningful progress in collaborative and communicative competence.

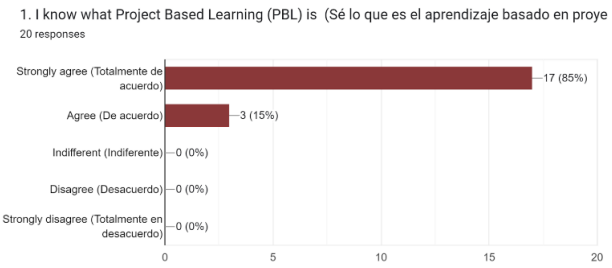
Pre and Posttest Survey: *Knowledge of PBL.*

Figure 3



Note: This figure illustrates the participants' prior knowledge of PBL. **Pre survey**

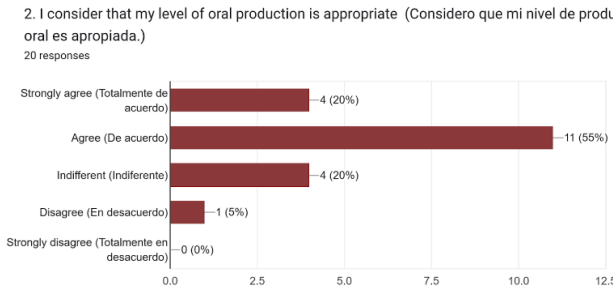
Figure 4



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

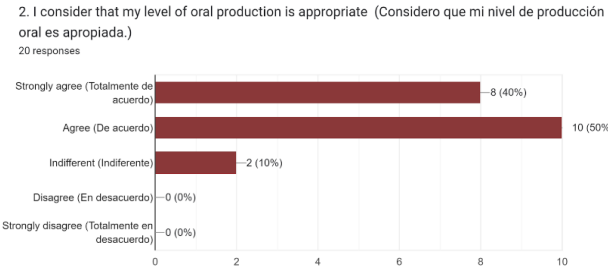
Pre and Posttest Survey : *Participants´ consideration about their oral production.*

Figure 5



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

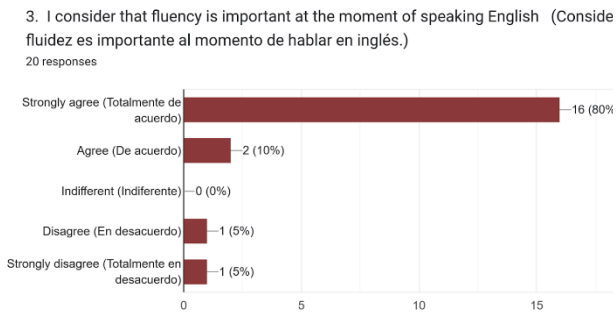
Figure 6



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

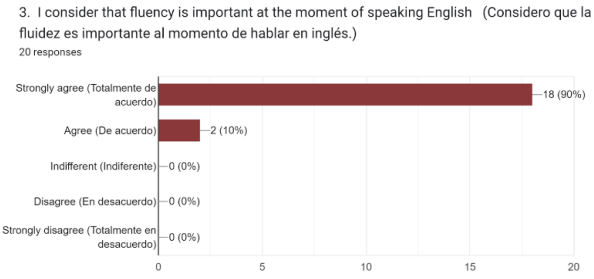
Pre and Posttest Survey : *Opinion of participants as to the importance of fluency at the moment of speaking English.*

Figure 7



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**

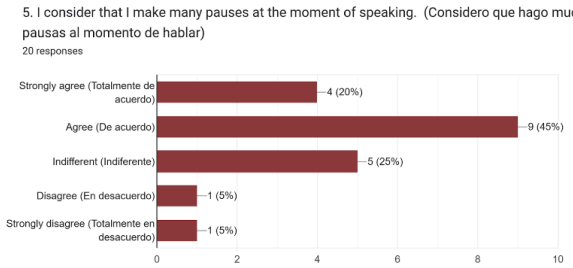
Figure 8



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**

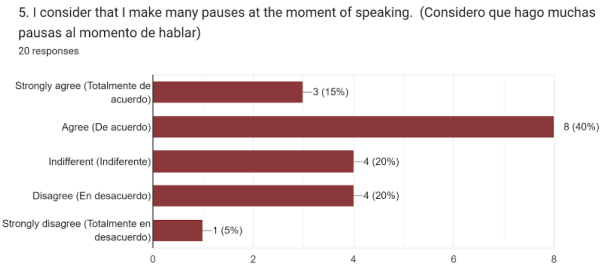
Pre and Posttest Survey : *Opinion of participants on how they feel about the pauses they make while speaking.*

Figure 9



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

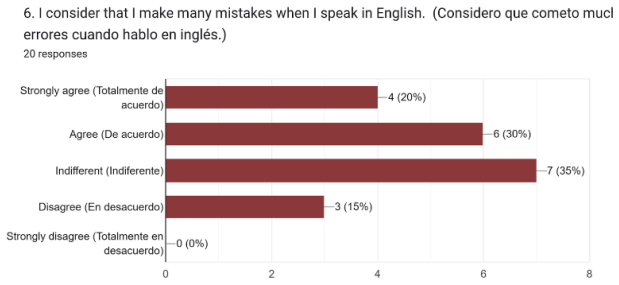
Figure 10



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

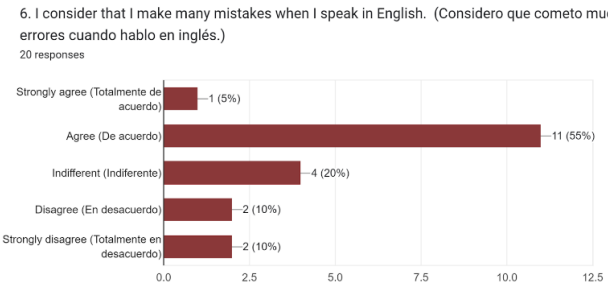
Pre and Posttest Survey: *Consideration of Participants that they make many mistakes while speaking or not.*

Figure 11



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

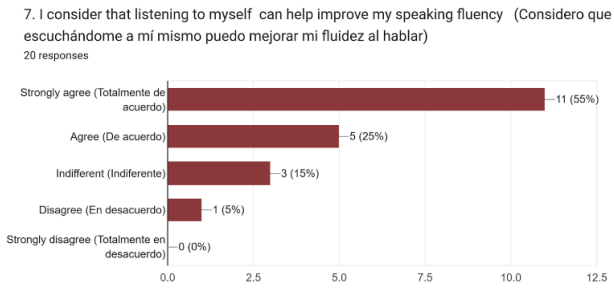
Figure 12



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

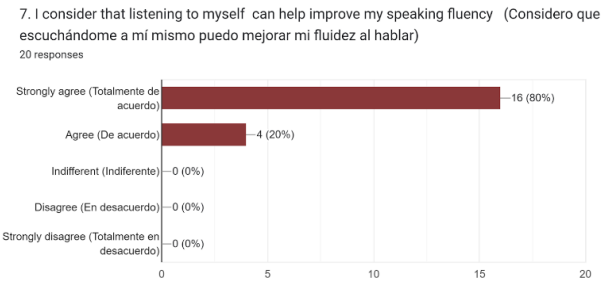
Pre and Posttest Survey : *Consideration of Participants that listening to themselves can help improve speaking fluency*

Figure 13



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

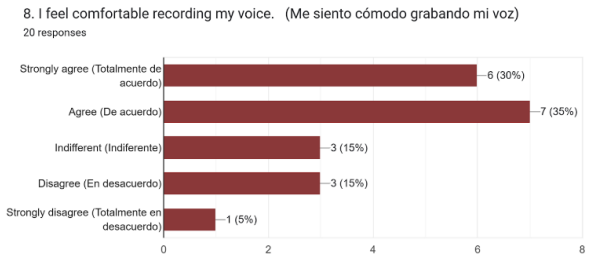
Figure 14



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

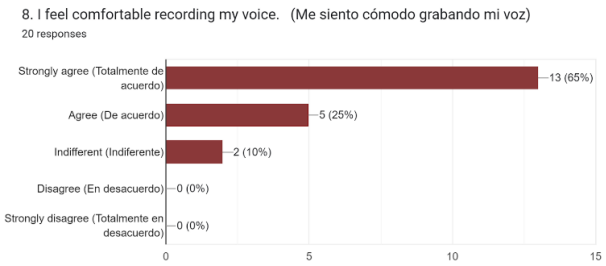
Pre and Posttest Survey : *How the participants feel regarding recording their voices*.

Figure 15



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

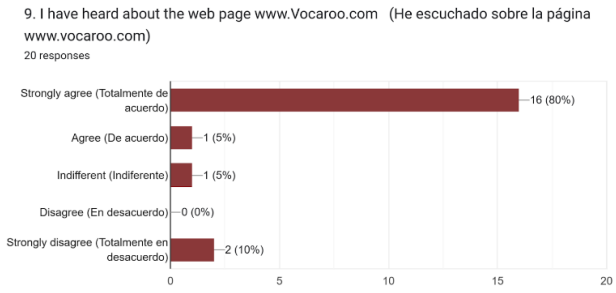
Figure 16



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

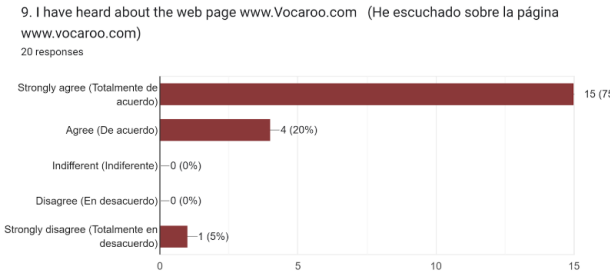
Pre and Posttest Survey : *The participants have heard about the app Vocaroo.*

Figure 17



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 18



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**

CONCLUSION

This study aimed to evaluate the impact of Project-Based Learning (PBL) on speaking fluency in English as a Foreign Language (EFL) learners, proposing PBL as a student-centered pedagogical innovation to address persistent challenges in oral communication. The findings indicate that implementing authentic oral production tasks through PBL significantly enhanced students' speaking fluency. Participants demonstrated notable improvements in pronunciation, grammar usage, accuracy, and speech rate, along with a reduction in pauses and repetitions. These outcomes strongly suggest that PBL provides a meaningful pathway toward achieving communicative competence in EFL settings.

Moreover, the data revealed that students' ability to manage their learning processes was key to their fluency development. By planning, rehearsing, and producing language in a project-driven format, learners gained autonomy and confidence, an outcome consistent with the broader aims of communicative language teaching and supported by prior studies (Gonzalez et al., 2017; Patton, 2012). The integration of technological tools, such as Vocaroo, played a crucial role in this improvement. Participants used these tools to record, review, and revise their spoken language, which promoted metacognitive awareness and iterative self-correction. This practice helped reduce affective filters such as fear and anxiety, thereby fostering a more comfortable learning environment. These findings are supported by previous research (Lopez et al., 2021; Santos et al., 2022), which highlights the value of student-produced audio and video recordings in enhancing oral fluency.

Lastly, the adoption of Maria Conca's (2018) PBL framework within the lesson plan was central to the success of the intervention. Students responded positively to their structured yet flexible steps, which aligned well with their interests and learning preferences. This approach enabled learners to contextualize their knowledge and engage meaningfully with the language, particularly when given the opportunity to discuss topics of personal relevance.

Strengths and limitations

Strengths

- The participants' strong motivation to learn English due to aspirations of studying or traveling abroad contributed significantly to the success of the intervention.
- The school's provision of technological tools facilitated audio recording and revision, which

were central to the methodology.

- The project-based format aligned well with learners' interests and offered authentic opportunities for communication.

Limitations

- The small sample size (N=20) limited the generalizability of findings and made it difficult to establish a control group.
- Scheduling conflicts due to extracurricular commitments (e.g., sports tournaments) disrupted parts of the implementation.
- Learner diversity in commitment, learning styles, and levels of intrinsic motivation posed challenges for consistent engagement throughout the project.

Future research directions

Future studies could explore the effectiveness of PBL and authentic oral production in improving fluency among students with special educational needs, focusing on variables such as willingness to speak, personality traits, institutional context (e.g., public vs. private schools), and learners' beliefs about second language acquisition. Additionally, replicating the study with a more diverse and representative sample, including multiple proficiency levels and larger class sizes, would enhance generalizability and provide insights into how PBL functions across varied educational contexts.

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)

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.

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 English fluency, and talk like an American*..

Conca, M. (2018). *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/

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/

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. How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process; Health and Company: Boston, DC, USA, 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/

EFFECTS OF PROJECT-BASED LEARNING ON SPEAKING ABILITIES OF NON-ENGLISH MAJOR CHINESE STUDENTS Di Yang (didi089322@gmail.com) Suranaree University of Technology, Thailand Nattaya Puakpong (nattaya@sut.ac.th) Suranaree University of Technology, Thai

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

Ennis, R.H. A taxonomy of critical thinking abilities and dispositions. In Teaching Thinking Skills: Theory and Practice; Baron, J.B., Sternberg, R.J., Eds.;W. H. Freeman: New York, NY, USA, 1987; pp. 9–26.

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

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

https://ihworld.com/ih-journal/ih-journal-blog/all-about-pbl-how-to-learn-a-language-through-projects/

https://scottthornbury.wordpress.com/2012/02/26/a-is-for-automaticity/

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.

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

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

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

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.

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.

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

Saiz Sanchez, C.; Fernández Rivas, S. Pensamiento Crítico y Aprendizaje Basado En Problemas Cotidianos Critical Thinking and Everyday Problem Based Learning. Rev. Docencia Univ. 2012, 10, 325–346.

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.

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

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.