Facilitating Self-Regulation with Mobile Devices to Improve Oral Interaction

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Abstract

This study aimed to demonstrate the self-regulation effect in students' oral interaction using mobile devices. This innovation had a place in a ninth basic grade classroom with twenty-eight students at a public high school in Guayaquil, Ecuador for six weeks. The low level in students' speaking skills and the lack of oral interaction were reasons that made it feasible to apply this innovation. This mixed-method action research gathered Quantitative data from the comparison between pre-test and post-test rubric scores. Qualitative data were obtained from semi-structured interviews applied at the end of the innovation and learning logs. Cohen's criterion (d=1.54) determined that it had a large effect on students' oral interaction. The results reflected that self-regulation helped students improve not only in oral interaction but in other speaking subskills such as grammar/vocabulary and pronunciation. Students became independent and respectful of their learning process. This current innovation is not only feasible for English language purposes but other academic fields teachers.

Keywords: Self-regulation, self-assessment, oral interaction, mobile-assisted language learning.

Resumen

Este estudio tuvo como objetivo demostrar el efecto de la autorregulación en la interacción oral de los estudiantes mediante dispositivos móviles. Esta innovación tuvo lugar en un aula de noveno grado básico con veintiocho alumnos de una escuela secundaria pública en Guayaquil, Ecuador durante seis semanas. El bajo nivel de habla de los estudiantes y la falta de interacción oral fueron razones que hicieron factible la aplicación de esta innovación. Esta investigación de acción de método mixto recopiló datos cuantitativos de la comparación entre las puntuaciones de la rúbrica antes y después de la prueba. Los datos cualitativos se obtuvieron a partir de entrevistas semiestructuradas aplicadas al final de los registros de innovación y aprendizaje. El criterio de Cohen (d = 1,54) determinó que tuvo un gran efecto en la interacción oral de los estudiantes. Los resultados reflejaron que la autorregulación ayudó a los estudiantes a mejorar no solo en la interacción oral, sino también en otras subhabilidades del habla, como gramática / vocabulario y pronunciación. Los estudiantes se volvieron independientes y respetuosos de su proceso de aprendizaje. Esta innovación actual no solo es factible para los propósitos del idioma inglés, sino también para los profesores de otros campos académicos.

Palabras clave: autorregulación, autoevaluación, interacción oral, aprendizaje de idiomas asistidos por dispositivos móviles.

Facilitating Self-Regulation with Mobile Devices to Improve Oral Interaction

How can it be feasible to promote real communicative classrooms in Ecuador? How can Self-regulation help to improve EFL learners' Oral Interaction? To analyze these questions, this Action Research was applied in a Public High School, with students of the Ninth Grade of General Basic Education, section "F", in the morning shift. Their level is A1, according to the National English Curriculum Guidelines (Ministerio de Educación, 2014b), which focuses on the Common European Framework Reference (Council of Europe, 2018). These students, to pass to the upper immediate of proficiency, need to provide that they are reached A2 level. The students need to get a B1level in English when they finish their high school studies.

In everyday activities at public high schools, educators are witnessing how their students make mistakes to communicate in the English Language. The low level of vocabulary can provoke inhibition in students to develop language skills, especially to develop oral interaction. Leong and Ahmadi (2017) stated that learners feel repressed when they want to generate ideas or expressions in the classroom due to their lack of lexicon. This causes them not to want to participate in risk-taking tasks of their fear of making mistakes when they speak. Additionally, Teachers with traditional and archaic methodology only generate a lack of motivation and bad behavior in learners. It is required that educators reflect on what strategies, techniques, and methodologies can propose in their EFL classes throughout teaching training, to promote the pursuit of the best teaching quality. (Vijaya Kumari & Naik, 2017).

Speaking and Oral Interaction are aspects that should improve in Public High Schools. Sometimes, students do not want to participate in class due to being afraid of making mistakes in front of a lot of peers. Students cannot learn or understand properly a topic or content due to a lack of time for lessons, overcrowded classrooms, inadequate

teaching materials, teachers limited English proficiency, and a curriculum focused on testing (Richards, 2015). Public educational institutions only establish a few hours for English per week, more as a requirement to pass the academic year than learning a new language. Unfortunately, in overcrowded classrooms, students cannot get adequate attention and feedback from the teacher. Despite these problems, teachers can gain students' goodwill by giving commands and monitoring the class sharing feedback about their weaknesses, and highlighting their fortresses. The instructor asks learners they can form pairs or small groups supporting among themselves and gaining confidence. (Lessard-Clouston, 2018). Furthermore, he argues that Oral Interaction offers meaningful learning when students ask for clarification, rephrasing, and confirming the meaning of what they are talking about, avoiding rote learning.

Additionally, in Ecuador, some research in different kinds of contexts and situations developed by Saltos (2019), and Ushca (2021), presented improvement in speech production diagnosed in parameters of grammar, vocabulary, and pronunciation and interaction applying self-regulation strategy as a way of self-improvement for learners. Rodríguez (2021) stated that the innovation final results will benefit English as a Foreign Language Teachers who need their students to increase their Oral interaction level, to become autonomous and independent learners.

A way out for these circumstances is the use of a Self-regulation strategy assisted with mobile devices. Self-regulation is a key aspect to improving learners' language performance. Greene (2018) explained that self-regulation in Education is the proceeding throughout learners personally activate and retain knowledge, feelings, and behaviors that lead to the achievement of personal goals. Self-regulated students possess the ability, good willingness, and perseverance for learning despite all barriers that the educational process has (Brown & Harris, 2014) They are motivated due to positive feelings given by their peers and teachers. Self-regulation promotes active students who

manage themselves in their learning processes increasing their efforts to create a sense of solving problems from the real world. About its self-regulation effectiveness, Duckworth and Carlson (2013) deduced that the ability to self-regulate attentional, behavioral, and emotional impulses, especially in kids, is key to reach improvement and successful results. They also established that self-regulation strategy is feasible to apply despite when background conditions are not those we expect.

Nowadays, working Self-regulation strategy with mobile devices and other technologies is feasible due to classrooms and spaces outside this becoming virtual learning environments. These support learners to reach their goals allowing them to develop their self-regulation process according to their rhythm and real expectations (Action Plan). (Schunk & Greene, 2018). Both teachers and learners need to be trained and updated with every aspect involving the self-regulation strategy and the new age technological advances. Teachers need to look beyond self-assessment with their learners in classrooms. Using the Self-regulation strategy with technology lets teachers promote in students an autonomous way of learning, measuring their progress, and reflecting on their best and weak points playfully. Furthermore, Education First (2019) revealed that when people can access technology and the internet, they have more opportunities to reach a higher English level. Also, students can practice Mobile Assisted Language Learning (MALL) with Collaborative Learning as a cognitive process where peers support themselves through motivation (Lem, 2018). Thus, teachers ought to take advantage of the benefits that technological devices offer and incorporate them into their lessons to make students learning more enthralling.

Doing a worldwide comparison, the English language level in Ecuador is low. About this fact, the English Proficiency Index (2019) ranked Ecuador 81st among 100 countries, with a score of 46.57/100, besides considered the lowest English proficiency in Latin America with the 19th place among 19 countries. The Ecuadorian Ministry of

Education through the agreement 052-14 since 2016 tried to solve this problem by establishing as mandatory the teaching and learning of the English language in all educational levels and types of institutions. (Ministerio de Educación, 2014a). Unfortunately, in this process, there were no progressive results.

The background that the sample presented was a problem due to its current level belonging to A1, according to the National English Curriculum Guidelines (Ministerio de Educación, 2014b), in theory. The reality is different. In the placement test that students took at the beginning, only 3 learners from 40 (At the end, we only had 28 learners as a sample) got the A1 level. The others got pre-A1 level. To perform this proposal, it was necessary to research how learners could enhance their performance in oral interaction activities and how to motivate them to value and to reflect on their progress through self-regulation, both in English language use and their life. The three proposed research questions were: 1.- To what extent did students' oral interaction improve? 2.- To what extent did students' self-assessment improve? 3.- What was the students' perspective of the innovation?

Literature Review

To support its importance, and relevance, this research topic involved some definitions and theories such as Oral Interaction as a key aspect for an active communication process where learners can practice listening and speaking skills, promoting a more realistic performance in everyday situations, exchanging ideas and thoughts; Self-regulation as a strategy and attitude that let students increase their autonomy; Self-assessment as a fundamental part of Self-regulation strategy; Students learning explains about proper tasks or activities according to their ages, abilities, fortresses and learning styles; the Strategy Inventory for Language Learning (SILL) (Bun-seon, Mi-jeong & Hwang, 1998), a key resource to help students be aware of and use learning strategies; Understanding by design framework (UbD) as a process for

curriculum planning, Communicative Language Teaching approach as a transversal ax to develop in learners an active role in classroom activities throughout cooperative working or work in pairs in order to they can interact in real situations; Mobile-Assisted Language Learning MALL to reinforce learning playfully and technologically.

Oral Communication and Oral Interaction

Oral communication is the most useful and practical kind of communication that people use every day, being key aspects: a proper Listening skill, and Speaking Fluency and Accuracy on it. When people share information, thoughts, and feelings with others, they use these linguistic elements. (Levis, 2018).

Besides, Ellis (2005) argued that promoting interaction in a second language is crucial to developing its competence due to learners can find their own words to improve their speech quality according to their necessities. Furthermore, Loewen (as cited in Lessard-Clouston, 2018) asserted that despite communicative interaction being beneficial for second language acquisition, it is not relevant for all contexts or situations. The interaction process is not only an exchange of words without sense, but there should also have consciousness of what is the meaning or idea that individuals want to communicate or to understand. If a learner does not know a word, it is important to negotiate meaning with peers to not interrupt the interaction process. This promotes meaningful learning and students gain more confidence in their social interaction. Not less important, teachers should promote to students how essential is to work with peer interaction and should explain how to establish certain moments as learning chances during the class, so teachers can offer help to their students if necessary.

One of the curricular objectives of the English as a Foreign Language Area for superior sublevel of General Basic Education is that students (Ministerio de Educación, 2016) should perform a face-to-face interaction using good pronunciation, stress, and

intonation. Thus, learners should be able to communicate properly, being exposed to a variety of situations and contexts focusing on vocabulary and the use of the language. The National Curriculum Guidelines establishes that learners should have a basic repertoire of words and phrases, should have limited control of a few simple grammatical structures and patterns related to their social background (Ministerio de Educación, 2014b)

Self-assessment and Self-regulation

There is a close relation between Self-assessment and Self-regulation. According to Brown and Harris (2014), inquiring about the self-regulation theory, self-assessment offers to increase metacognitive skills producing better understanding and expectations about learning and transfer of knowledge to practice. Self-assessment refers to a personal evaluation working better for formative activities than summative activities due to its focuses on learners' performance assessment raising their competencies because the students are focused on quality improvement and understanding of the criteria for evaluating their work. Conversely, with summative activities, students do not know in a proper way how to self-assess, or they could not be trained in reliably using the performance indicators, thus the reliability of student evaluations can be questioned, and whether results are shared, it can generate personal prejudices. Furthermore, Rolheiser and Ross (2013) specified that a proper self-evaluation training assessment by using examples and models can motivate students to take responsibilities and get independence producing a better quality of learning, increasing self-confidence, and the students' arrangement of accomplishment of better goals. Therefore, Joo (2016) stated that the fact is not only considering the evaluation results but the whole process of participating actively in self-assessment practices and working in pairs can improve speaking performance and oral interaction. Brown and Harris also argue that it is

essential for students and teachers to have a good feedback process where teachers can share both weak points and fortresses with students.

Self-regulation is a process where learners use personally their knowledge, thoughts, feelings, and attitudes guided to the achievement of personal goals. (Schunk & Ertmer, 2000). It is an ability that can help students to become autonomous learners, and it is focused on students creating a perception of self-strength and a good willingness for learning with better understanding. (Greene, 2018). If they figure out how much they can develop academically in the future, they can motivate themselves to enhance, despite the problems they can find in the self-regulation process that they must overcome. (Schunk & Greene, 2018).

Thus, Zimmerman (2001) sustained that self-regulation involves promoted and self-generated metacognitive, motivation, and attitude processes throughout learners look for the best strategies to learn with higher quality, considering their learning results according to a variety of situations. However, Sisquiarco, Sánchez, and Abad (2018) showed that feedback based on strategies and supported by their previous instruction can help them both increase the use of these strategies and improve their oral performance. Effective learners´ control and regulate their learning. For this reason, through self-assessment, students get a critical sense of their learning process. Furthermore, Larasati (2020), argued that self-regulation is a good option to improve Speaking Fluency and Oral interaction due to learners feeling more comfortable participating and exchanging ideas with peers, according to their real expectations and planned goals.

Moreover, it is important to promote students the sense of being independent learners and to promote teachers to train students to use self-assessment and peer-assessment, as parts constituting a proper Self-regulation process during classes, according

to The Ecuadorian Standards for In-service English Teachers (Ministerio de Educación, 2012).

Students learning

It is essential to consider how students learn. Adapting classroom activities with proper activities according to learners' age, their developmental abilities, and learning styles is a good start for teachers. As every student is different, and they may not have the skill to form complex ideas, they are competent and active individuals of their growth and evolution. Students can set their goals through planning and reflecting on any obstacle or fortress that appeared on the road to their accomplishments. (Brandsford, Brown, & Cocking, 2000).

McLeod (2019) pointed out that working in pairs or small groups is a good option for students because they can help themselves to deal with doubts or problems that can arise during the study of a topic in any academic field. In the learning process, Social interaction can promote meaningful learning. Students can practice applying content reviewed in class in science fairs, role plays, dissertations, and other tasks where they can exchange knowledge using the English language as a transversal ax. (Vygotsky, 1978).

Strategy Inventory for Language Learning

In the teaching-learning process, it is important to consider the knowledge content that they did not learn completely in the last years. Those will be obstacles to developing a better linguistic competence. For this reason, students were asked to complete the Strategy Inventory for Language Learning (SILL), a survey to know their English background and communicative strategies used before. This survey was developed by Rebecca Oxford in the1980s and published several versions between 1985 and 1990.

According to Oxford (2003), the SILL is a resource both for students and teachers since they can use to analyze the variety of language learning strategies that

each student employs or has employed during the learning process of a foreign language.

Understanding by Design

It is an alternative method for curricular planning involving concepts and the transfer of these into solving-problems contexts to promote meaningful learning, avoiding the classical rote learning along the process. (Wiggins & McTighe, 2011).

Furthermore, Yurtseven and Altun (2015) stated that Understanding by Design (UbD) is dominated by "backward design," an approach that supports students to recognize the authentic and original use of English and increases the students' willingness in the topic. It involves some aspects such as Knowledge (Content), Transfer goal, essential questions (To reach transfer goal and final reflections), and activities divided into Acquisition, Meaning Making, and Transfer activities.

Communicative Language Teaching

To guide students to real environments in a variety of contexts, it is feasible and pertinent to work with Communicative Language Teaching (CLT). According to Richards (2006), It is an approach for teaching languages focused on interaction, as a channel and the final goal of study. The purpose of CLT is the ability to communicate in the target language (L2). CLT approach uses a language for a range of different purposes and functions and varies language based on students' English level to produce different types of content in the four skills of languages as integrated skills, to keep communication despite learners' limitations in knowledge. Moreover, Richards explained that language learning involves interaction between pairs or in small groups who supports together in meaning creation, negotiate meaning to reach a better understanding, also considering the teacher's feedback.

Another important aspect of the CLT approach is the learner's self-direction or self-control. Roles both in teachers and students change. Teachers are not a controller

and students are not merely acquirers of knowledge. Teachers are facilitators of knowledge, a source when a learner has doubts, and students are builders of knowledge. When learners use their second language outside the classroom, they feel more confident, a doer of their meaningful communicative development. Rote learning techniques such as memorization and repetition are not involved in the CLT approach, but techniques such as negotiation of meaning, role-playing recreating real situations, or strategies such as pair or collaborative work. (Kuhn, 2010). In other words, the Communicative Language Teaching approach promotes language learning by being good speakers and listeners through feedback in a proper communicative interaction.

Mobile-Assisted Language Learning (MALL)

Nowadays, when both teachers and students are witnesses of the daily technological advances, it is necessary to join Interaction with Information and Communication Technologies (ICTs). People around the world can communicate and learn meaningfully using cell phones and tablets as mobile devices with educational sites, platforms, and apps support.

The speaking practice has developed more than other language skills with technological advances in online and blended learning environments. Nonetheless, it is important to consider appropriate materials according to tasks or activities to promote and guide students to interaction. To motivate students to apply new language forms, participate in the negotiation of meaning, and language use, it is necessary to design challenging tasks for students and force them to use the language for real and meaningful contexts. (Pellerin, 2012).

Furthermore, Miangah and Nezarat (2012) stated that Collaborative Learning is one of the advantages of mobile learning. Through Communicative Interaction, students can share information, ideas, thoughts, and feelings. An advantage of Mobile Learning

is that it supports what students reviewed in class. Mobile learning tasks can be done inside or outside the classroom. They also concluded that Mobile Assisted Language Learning (MALL) optimizes time and space and gave more confidence and flexibility to learners. Related to Speaking skills, MALL works better specifically in Fluency development involving Vocabulary and Pronunciation. (Lem, 2018).

Innovation

Throughout six weeks, with classes of five hours per week for a total of thirty hours, the innovation was applied in a forty learners' class of Ninth Grade of General Basic Education, in a public high school in Guayaquil, province of Guayas. Its learning aim was that students improve their oral interaction performance through the use of mobile devices.

This innovation was developed in two stages: introduction and implementation. The introduction phase occurred in the first week. To begin with, learners' background was analyzed and established by applying the New Headway textbook placement test (Appendix A) to determine the students´ level in English as a Foreign Language, and the SILL survey (Appendix B) to know students' contexts involving their learning styles.

The gathered data established that learners had an A1 level in the English language according to the Common European Framework of Reference for languages (CEFR), to improve their speaking skills via self-regulation and self-assessment assisted by mobile devices recording videos and uploading these to the Padlet platform. Using all your mental processes, compensating for missing knowledge, and organizing and evaluating your learning were the strategies that students used the most. Furthermore, the data evidenced about the students’ competence in technology, due to data showed that most of the students were able to use apps both on the internet and on cell phones.

About the use of technology, the teacher asked students to create a Gmail account to link this account with the Padlet app or website, giving the appropriate guidance throughout the process to create this account, how to set up their YouTube account, Padlet account, and how to upload their videos weekly.

The other aspect involved the introduction stage is to train students about Self-regulation, as the combination of Self-assessment and the Action plan, to reflect what weaknesses students had and how to change this into fortresses. To achieve this goal, the learners watched a video of A1 speakers' performance, and the teacher guided learners about how to assess the video with part A of the rubric adapted from Cambridge A1 level for Speaking skill (Appendix C). Accordingly, students worked with an initial pilot video in pairs using their cellphones to record their video, and finally made the self-assessment including the Action plan as part B of the rubric with two questions in the rubric worksheet: "What do I want to improve?", and "What will I do to improve?".

The second stage was the implementation. It developed in five weeks following the academic content principles of backward design and designing from goals UbD (Appendix D), in which students engaged in deliberate practice, monitored their learning, assumed responsibility for their progress, and were taught for transfer. Each week, the teacher and students worked with a specific topic, and progressively they developed activities for acquisition of knowledge, meaning-making, and transfer of knowledge to practice in real-life tasks.

The teacher explained all the content of each lesson of the unit such as vocabulary, useful phrases, and grammar; to use these in activities integrating the four language skills: Speaking, Listening, Writing, and Reading. With these pre-requirements, the students, wrote and designed their dialogues and practiced these a lot

to finally record their videos with their cellphones, and upload them to the Padlet platform. The students did their self-assessment and their action plan to develop their self-regulation, identifying negative aspects to change these into positive, considering themselves what they need to change, how they change these, and when, establishing the personal arrangement and due dates.

It is worth noting that some students have difficulties recording their videos because they did not have a cell phone with a camera at home. In those cases, students who had a cell phone lent their peers who did not have it, or the teacher lend for a moment to students without a cell phone and saved these videos. The other learners who recorded by themselves the videos upload their videos to the Padlet website or app or send them to the teacher by WhatsApp whether there was a problem with the uploading.

After students' self-regulation from the first video until the self-regulation of the fifth video, the teacher gave them two feedbacks: one about how they self-assessed and the other about how the teacher assessed them. Furthermore, students wrote two reflections on their progress in the third and final video and recognized their weaknesses as a road to transforming them into strengths.

Methodology

This study developed an Action Research. Efron and Ravid (2019) pointed out that it is as an analysis focused on teaching and learning processes conducted by teachers and counselors, in their context, to gather data about schools' function, teaching process development, and how students process their understandings. Then, there are the Analysis and Interpretation of data, and an Action Plan development to improve the quality of the educational process. Furthermore, this study carried out a Mixed Methods Research because it gives answers to the research questions, proposes recommendations to deal with obstacles or weaknesses found, collecting and analyzing

deeply both quantitative and qualitative data, as well as interpreting them. (Izgar & Akturk, 2018).

The Independent and Dependent variables were another key aspect to identify. Self-regulation, a proceeding that increases the learners' academic performance supporting them to use their ability to take control by themselves of their results or final product, is the independent variable. The dependent variable was Oral Interaction, the learners' weaknesses they need to improve.

This current research answered the following questions:

1. To what extent did students' oral interaction improve?
2. To what extent did students' self-assessment improve?
3. What was the student´s perspective of this innovation?

To answer the first and second questions, quantitative data was compiled by the pre-test and post-test, and these were graded using an adaptation of a Cambridge speaking rubric measuring students' progress in oral interaction. (Appendix C).

For the first question about oral interaction, the data was gathered from the teacher's grades of pre-tests and post-tests, and for the analysis of self-assessment improvement, the teacher's means of pre-test and post-tests were contrasted to the learners' means. To conclude with the students' perspectives of the innovation, qualitative data were compiled through three instruments: students' reflections, the action plans inside the rubrics, and the interviews.

Participants

About participants in this study, it was a class, specifically of Ninth Basic Education Grade, in a Public High School in Guayaquil city, province of Guayas, Ecuador. This class originally had 40 students. Unfortunately, 12 students were involved in cases of bad behavior, being suspended, and the real participants' sample

number was reduced to 28 students, divided between 2 men, describing the 6% of the sample, and 26 girls describing the 94% of the sample, with ages among 12-13 years old.

About students' English language proficiency, after they were assessed with the placement test (Appendix A), according to the results gathered, most of them were in A1 level.

Relating to learners' English level, it is important to consider their profiles' context and those learning strategies used by second language learners they had in previous academic years. Due to this, the Strategy for Inventory Language Learning (SILL) created by Rebecca Oxford in the 1980s (Oxford, 2003) was applied to students.

Table 1

SILL Results before the Innovation

Part	Which strategies are covered	Population average of each part
A	Remembering more effectively.	2.9
B	Using all your mental processes.	3.6
C	Compensating for missing knowledge.	3.2
D	Organizing and evaluating your learning.	3.2
E	Managing your emotions.	2.7
F	Learning with others.	2.9

Data in Table 1 demonstrate that the groups of learning strategies that foreground the most with their respective percentage of use frequency are parts B, C, and D. These sections imply the strategies: Using all your mental processes, compensating for missing knowledge, and organizing and evaluating your learning.

Instruments

The methodological instruments compiled information about the study. This research covered quantitative and qualitative data obtained from the ensuing instruments:

Speaking Self-regulation rubric

For research questions number one and two, there was an adapted rubric (Appendix C) from the Cambridge A1 level for the Speaking skill test, for a deep study about students' oral interaction improvement. The rubric is valid because it is an internationally used rubric that has been through meticulous testing. Even this rubric was previously proved with some colleagues of education in pursuit of evidencing whether it is valid and reliable. Cohen, Manion, and Morrison (2017) noted that validity and reliability are ways to assess of quality of an investigation instrument, to give warranties for the success of the research process.

Each week, the Self-Regulation rubric was employed, with a total of five weeks by both teachers and learners. In the rubric, part A contemplated three main features of oral interaction: Grammar/Vocabulary, which referred to the variety of words and lexicon from the unit that each student was able to manage, and their competence to answer in complete sentences using grammar patterns reviewed each week. Pronunciation involved stress, individual sounds, and the students' development being understood, taking care of mistakes do not interfere with comprehension. The interaction was targeted at learners' understanding and their way of answering with the appropriate use of new words and ideas in dialogues in a simple way. Section A gave three points for each category, nine in total, and this section gave the quantitative data.

Part B was the section placed at the end of the speaking rubric, marking one additional point for the quantitative data, related with the action plan that led the learners to select the most convenient strategies to set their goals to improve their development in oral interaction and to be successful with the self-regulation skill. with exception of the additional point, provided qualitative data to the researcher.

For research question number one about **Oral Interaction improvement**, the gathered results by the teacher from pre-test and post-test were contrasted and analyzed, being the grades of the first video the pre-test data and being the final video the post-test data, including the effect size to establish the impact of the innovation. For research question number two about **Students' Self-assessment improvement**, the means of the teacher and students' results obtained were contrasted and analyzed to establish if students' grades were near with teacher grades, contrast the gathered results in pre-test and post-test.

In the case of quantitative data analysis, Microsoft Excel software was used to tabulate pre-test and post-test grades in spreadsheets, and SPPS statistics software was used to calculate and to gather descriptive statistics to develop the interpretation of results properly. It is worth mentioning that Cohen's criterion was considered to calculate the effect size and then being interpreted.

Part B of the rubric served to gather qualitative data about what strategies the students used to improve their performance weekly. Moreover, learning logs and interviews (Appendix J) were additional instruments to obtain qualitative data to respond the research question number three about the **Students' perspectives of the innovation.**

Learning Logs

This qualitative instrument allowed students to reflect on three questions: What did I do?, How did I work?, and What did I learn? Each student wrote about what they felt with the use of technology in their classroom and their viewpoints about the quality of self-assessment and the feedback, after the first, third, and fifth week. Thus, learning logs allowed responding to the third research question about the student´s perspective of this innovation.

Semi-structured Interview

A representative sample of eight students from the ninth grade classroom of 28 participants was selected based on the variety of performance in their oral interaction improvement. Learners talked about their self-assessment development, how they felt during the whole innovation process and what they can change about the innovation in the future. Due to the students' English level, the interview was conducted in Spanish to avoid misunderstandings among them. The interviews were recorded with their consent, and they were informed about these interviews as a research instrument.

The interview inferred these questions:

1. What did you learn during the innovation?
2. What did you do to learn?
3. What did you like from Padlet?
4. What was the most difficult thing you had to do during the innovation?

Data Analysis

In this study, three research questions were established. The quantitative data was gathered from the Speaking subskills rubric and the Self-regulation sections to answer the first and second research questions. Gathered data was registered and scrutinized in Microsoft Excel software. Therefore, the IBM SPSS software was used to analyze to know about the descriptive statistics: minimum, media, maximum, and standard deviation. Then the researcher used the quantitative results to describe the effect of the innovation on oral interaction. Ensuing, the researcher used the quantitative data to illustrate the effect of the innovation on students' oral interaction. Thus, Cohen´s (d) was calculated to know the effect size of the innovation.

About qualitative data, it was gathered from the interview. These contents were recorded, typed, classified, and analyzed to establish what is the trend of the students'

responses about innovation, and the ways that support the success to improve students' self-regulation skills. These data were supported with the obtained responses and comments in the students' learning logs after their self-assessment of the first, third, and final videos.

Ethical considerations

According to Golder et al. (2017), ethics for research plays a key role. It implies moral principles, requirements, and the protection of participants due to their names should not be revealed, including the name of the institution where the study took place to avoid any attempt or danger throughout the research process.

With the pursuit of carrying out this study in a public high school in Guayaquil, to begin with, it was indispensable to post a letter to the educational institution authorities asking for permission. This letter involved a brief description of the innovation to be executed, highlighting the target group, its general purpose, resources to use, and execution time. (Appendix E). Moreover, the researcher showed a questionnaire (Appendix F), a consent letter for the students' parents (Appendix G) to get the students' participation permission in the current innovation, adding the activities and videos uploaded on the Padlet app (Appendix H).

Results

For establishing what impact Self-regulation had in the students' oral interaction through recordings in mobile devices, it is worth mentioning that results showed Self-regulation influenced with an improvement. Consequently, this section presents all the gathered information, among quantitative and qualitative data.

To answer research question number one: **To what extent did students' oral interaction improve?** the teacher results gathered from the Pre-test and post-test were contrasted and analyzed in the SPSS software through a one-sample T-test. This

analysis shows the means, standard deviation, minimum and maximum, and the effect size of Pre-tests and post-tests applied by the teacher. Moreover, it is essential to compare class averages obtained by the teacher to measure students' speaking improvement.

Table 2

Descriptive statistics of Speaking test:

	N	Mean	Std. Deviation	Minimum	Maximum	Effect size
Teacher Pre-test	28	5.7143	1.2204	4.00	9.00	1.54
Teacher Post-test	28	7.5893	1.2176	6.00	10.00	

To evidence that students' speaking skills improved by using strategies for self-regulation, data in table 1 illustrates the effect size that measures the pre-test and post-test based on Cohen's d with 1.54. This effect size is considered large. According to McLeod (2019), in his article *What does effect size tell you?* Cohen's criteria consider that the range between 0.2 to 0.3 describes a small effect, 0.5 describes a moderate effect, and more than 0.8 describes a large effect, thus, self-regulation had a positive impact on students' oral interaction.

Additional support for accreditation is presented in figure 1. It presents a comparison among the three speaking subskills analyzed in the rubric.

Figure 1

Means Comparison of Speaking Pre and Post-Tests by subskills

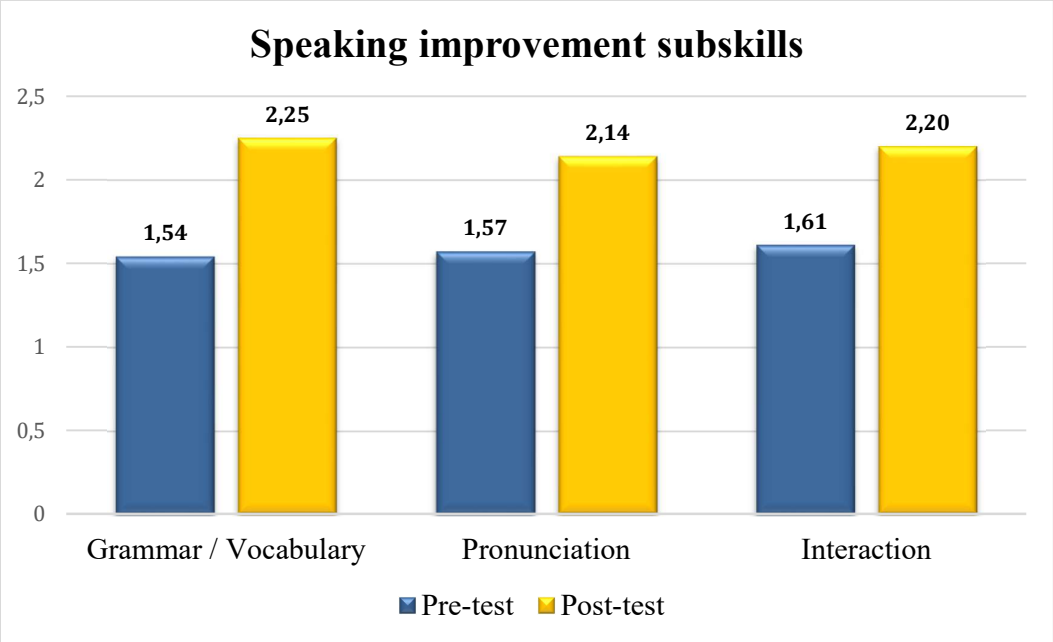
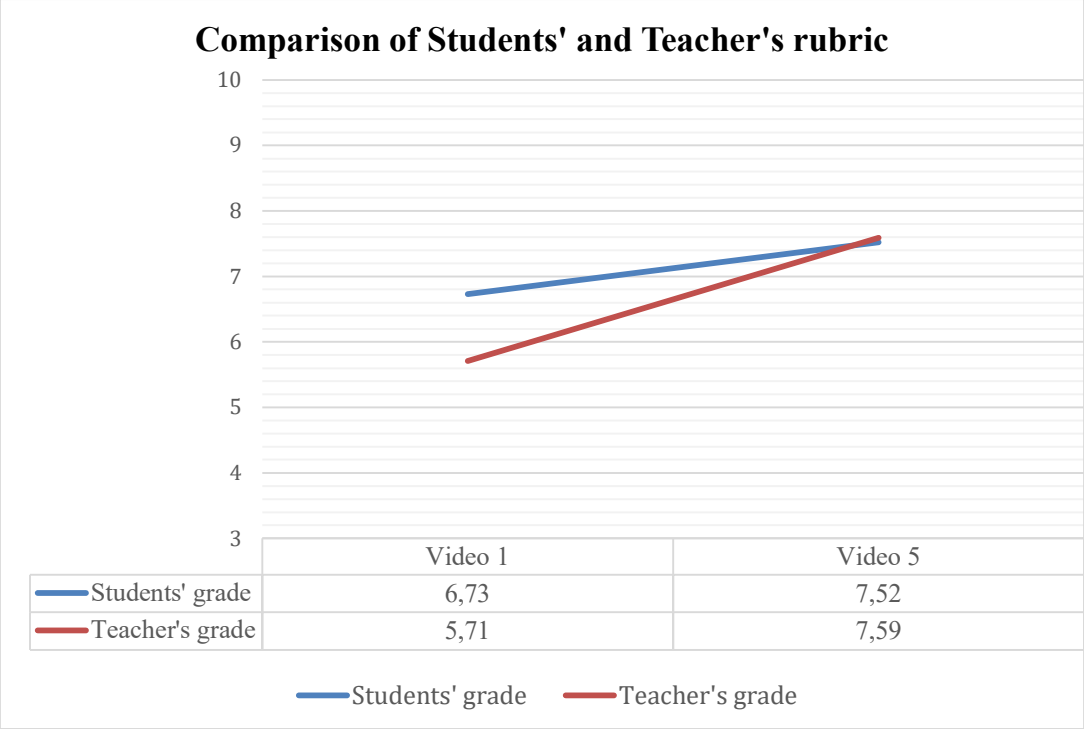


Figure 1 reports the results for the three speaking subskills: grammar/vocabulary, pronunciation, and interaction, all with scores over three. All the subskills showed improvement, especially the grammar/vocabulary skill the most, but there is a meaningful improvement in the interaction subskill with a difference of 0.59.

To answer research question number two: **To what extent did students' self-assessment improve?** the results from Part A involving speaking subskills from the adapted rubrics, in the case of students, showed the following values: Pretest M=6.73 and the Posttest M=7.52. On the other hand, the teacher`s mean was 5.71 for the pretest and 7.59 for the posttest. There is a slight variance in teacher's grades compared to students' grades. Student's and teacher's pretest differ in 1.02 while results from the students` and teacher`s posttest grades differ only 0.07 so they showed a minimum significant variation, a strong decrease.

Figure 2

Comparison of Teacher and Students Speaking Self-Regulation Rubric



With these results, there is evidence that the introduction phase of the innovation where students were trained about how to self-assess before the process, succeeded.

To answer research question number three: What was the student's perspective of this innovation? it was fundamental to develop a qualitative approach. The researcher directed a semi-structured interview to eight chosen students from the whole group, based on the students' development in their oral interaction during the whole process of the innovation. The interview was applied with students in the Spanish language due to their English language level. To comprehend the students' perspective of the innovation, it was proposed these questions:

1. **What did you learn from this process?** With this question, students highlighted that they learned different things such as grammar, new vocabulary words, pronunciation improvement, how to develop in front of a camera, pronunciation, and how to make dialogs.

"I learned to perform in front of the camera, new words, new functions of English language and making dialogs" (Ss 8,6,2)

"I improved my knowledge, in grammar and vocabulary of certain keywords, and pronunciation" (S1)

"I learned to concentrate better, and to motivate myself in the use of English" (S3,4)

2. **What did you do to learn?** This question dealt with how the content knowledge was learned, specifically the learning strategies used by the students during the innovation process. With the students' responses, it is evidenced that Self-regulation encouraged students to learn and practice more about grammar, vocabulary words from the unit to finally apply these new contents in their videos. Moreover, self-regulation supported using of imagery, technology, and sound repetition of new vocabulary words, established improvement in each speaking subskill.

   "I used photos, and images to learn new vocabulary" (Ss 3,8)

   "I surfed the internet or used apps in my smartphone to know how to pronounce the new words" (S6)

   "After knowing about the pronunciation of words, I repeat orally until I learn well" (Ss 1,5)

3. **What did you like about this innovation**? In this question, students expressed that they liked the opportunity to self-assess as a part of self-regulation and then reflect on their results and establish their rhythm and goals. Additionally, they liked to cooperate among themselves in the video because they did not have opportunities in previous years.

"I liked to self-evaluate without pressure and anxiety, in my rhythm" (S3)

I liked the participation with my friend appearing in the videos. We didn't communicate well at the beginning, but through the process was everything cool because never speaks in groups in English" (S4)

4. **What were the challenges during the innovation?** There were some challenges throughout the process. It was difficult for them to appear in videos at the beginning. Thus, they spent a lot of time recording the videos. Fortunately, they could manage that situation and they improved their oral interaction. Another challenge was that some students did not have a smartphone to record the videos or sometimes they did not have the internet at home. To solve this, some peers share their devices to record videos, and then they shared the video among themselves through WhatsApp. The innovation had challenges that fortunately could be overcome with empathy and solidarity.

   "At the beginning, it was difficult for me appearing in front of the camera trying to speak in English" (Ss 2,3)

   "In the first videos, I wasted a lot of time to record" (S8)

   "At home, I did not have a cellphone to record videos and sometimes I did not have internet." (S7)

With the learning logs applied among 28 students, they shared their experiences, indicating this innovation was joyful and it allowed them to interact and to know better each other. Furthermore, self-regulation allowed them to improve their oral skills, reflecting on their fears and weaknesses and changing these into fortresses with a personal commitment.

Discussion

The gathered results with the quantitative and qualitative analysis exhibited that self-regulation, with the use of mobile devices, had a positive impact on students' oral interaction improvement. Learners were guided by the researcher in fields such as: how to self-assess properly in the three speaking subskills, and how to self-regulate using the action plan to reflect about what and how they learned, and how they became independent students, making their commitments to learn. The low level of English language, specifically in public educational institutions motivated this current research.

To establish the influence of self-regulation on students' oral interaction improvement, it was necessary referring to quantitative data responding to the first research question. Between pre-test and post-test, the effect size was defined according to Cohen's criteria with d=1.54, considering this as large. Additionally, the pre-test and post-test evidenced that their results are significantly different (1.88) giving reliability to students' oral interaction improvement.

The success of self-regulation in students' improvement began when the researcher taught students about the self-regulation process. At the beginning of the training, students misunderstood self-assessment with self-regulation processes. It was essential establishing their relation but with a key difference to solve their doubts. About this dilemma, Brown and Harris (2014), stated Self-assessment allows the development of metacognitive skills to get a better understanding and expectations about learning and transfer of knowledge to practice. It refers to a personal evaluation working better in formative activities than summative activities due to its focuses on learners' performance assessment raising their competencies, skills, and the understanding of the criteria for evaluating their work. Rolheiser and Ross (2013)

highlighted that a successful self-evaluation training assessment by using examples and models can encourage students to take their responsibilities and become independent to improve their quality of learning and to increase self-confidence. On the other hand, Self-regulation is an ability that leads students to become autonomous learners, and it is focused on students creating a perception of self-strength and a good willingness for learning with better understanding. (Greene, 2018). According to Schunk and Ertmer (2000), it is a process where learners use personally their knowledge, thoughts, feelings, and attitudes guided to the achievement of personal goals. Considering other colleagues' studies, Rodriguez (2021) agreed with Schunk and Ertmer about self-regulation helps learners to increase their oral interaction skills supporting the process in students to be independent learners.

After the introduction phase of the innovation, students began with the video recordings for 5 weeks. They were aware of their weaknesses and fortresses using part A of the adapted rubric which includes three speaking subskills. Moreover, the use of their action plan, inferring what strategies they can use in the next video for personal improvement. They wrote their dialogues applying the new vocabulary words, consulting online dictionaries or translators to practice pronunciation. Then, they practiced their dialogues in pairs until they feel confident for the final record weekly.

To respond to research question number two about Students' Self-assessment improvement, the quantitative results indicated that there is a meaningful difference between the teacher's and students' scores from the first video and the final video. The students' overall score in the first video registered a difference of 1.02 with the teacher's grade of the first video. In the case of the final video, the teacher's overall score was higher only with 0.07 respect students' overall score. These gathered results implied that students at the beginning of the innovation developed their self-assessment

wrongly but with the proper guide and training from the researcher throughout the innovation process, in the final video, the results were better, with more accuracy than the first video. This fact evidenced that students' self-assessment was successful due to the appropriate introduction and tracing from the researcher to students. Regarding self-assessment improvement, Sisquiarco et al. (2018) showed that feedback based on strategies and supported by previous training can support students, increasing the use of these strategies and improving their oral performance. Effective learners manage and regulate their learning. Thus, through self-assessment, students get a critical sense of their learning process. The researcher observed that between the second and third video, students could improve their self-assessment progressively, evidencing its concern to evaluate better according to each sub-skill parameter as well as in the process of recording each video.

To know about students' perspective of the innovation, issue of the third research question, they expressed they enjoyed a lot being part of this innovation. With the opportunity to work in pairs and the use of mobile devices to record their videos, students felt motivated to study and practice both inside and outside their classroom. They made their commitment showing the best effort to accomplish their tasks with the deadlines. About this experience, Joo (2016) stated that both teachers and students instead of considering students' scores, it is better to focus on the whole process of active participation in self-assessment practices and work in pairs to improve their interaction skills. Brown and Harris (2014) also argued that students and teachers need a good feedback process where teachers can share both weak points and fortresses with students, to reflect on these for improvement.

Students felt comfortable working with mobile devices, except students who did not have these or also did not have the internet at home. In those cases, students that had

all the resources helped others that did not have, practicing values such as solidarity and empathy. Students figured out and reflected on the role of Information and Communication Technologies (ICT's) in their self-regulation process. People worldwide can learn meaningfully using mobile devices with educational sites and digital apps. According to Pellerin (2012), Speaking was the most developed English language skill with advances in virtual learning environments, considering resources and activities promoting students' interaction in real contexts. Furthermore, Miangah and Nezarat (2012) stated that Collaborative Learning is one of the advantages of mobile assisted language learning (MALL). Through interaction, students can share information, ideas, and feelings. MALL reinforced what students reviewed in class due to tasks that can be done inside or outside the classroom, optimizing time and space.

Every activity involved in this innovation was organized and planned to focus on Understanding by Design principles (UbD). It is an alternative method for curricular planning involving concepts and the transfer of these into solving-problems contexts to promote meaningful learning. (Wiggins & McTighe, 2011). Yurtseven and Altun (2015) stated that UbD is focused on "backward design," an approach that supports students to recognize the authentic and original use of English and increases the students' willingness in the topic, to transfer knowledge to real life activities.

Integrating the use of technologies through mobile devices with self-regulation for oral interaction improvement was an outstanding practice where students enjoyed and learned at the same time. In the UbD planning the researcher integrated the four language skills with vocabulary and grammar, to develop a class according to Communication and Language Teaching principles (CLT). Techniques used in this innovation such as negotiation of meaning, role-playing, recreating real situations, or

strategies such as pair or collaborative work looked for the improvement of oral interaction as the goal of a proper communication process. (Kuhn, 2010).

Conclusion

To demonstrate whether self-regulation could improve students' oral interaction was the aim of this action research and mixed methods research, through its gathered results and analysis. A positive influence and a large effect size were established about self-regulation in oral interaction in the three research questions. Additionally, speaking sub-skills such as grammar/vocabulary and pronunciation, as well as writing showed improvement in students.

Participants' attitude was positive about the innovation since they felt motivated to learn English in a different way than they used to. Students reflected about evaluating themselves in a real context about their mistakes and good performance to change these weaknesses into fortresses through self-assessment. Then, they reflected on how and when they improve their oral interaction, establish personal commitments and become independent learners through self-regulation.

Understanding the self-assessment as a part of self-regulation, by students, was essential for the success of their improvement. Being conscious about the assessment criteria, establishing their own goals, and improving the rhythm was the road to a feasible innovation process.

Besides, using self-regulation with mobile devices was engaging for students. They had the opportunity to work in pairs, collaboratively, and to register their participation by video recordings. At the beginning of the process, some students felt fear of making mistakes and about doing these in front of a camera. They progressively gained confidence due to they were improving their vocabulary and pronunciation using online dictionaries or digital apps to search for new vocabulary sounds. Through self-

regulation, they demonstrated responsibility, determination, and persistence through the recording of their videos.

With this innovation students, reflected that apart from using self-regulation for oral interaction improvement with mobile devices, they can use it as a technique or resource for other academic subjects or fields. In a few words, self-regulation can help students to destroy obstacles and barriers in their lives.

Limitations

One of the limitations of this research was that external factors interfered. The classroom counted with forty students but by bad behavior problems, twelve students were sanctioned with expulsion for 15 days. This factor changed all planned.

Moreover, not all students had mobile devices to work with or they did not have internet service at home. Recording videos or uploading these on the Padlet website was difficult for these students. In those cases, students that have cell phones or tablets shared these with students who did not have them. Students who did not have internet service at home were helped both by peers that had internet at home and by the teacher to upload videos on the Padlet website.

The lack of time was another negative aspect of the research. The last month of the school year had a lot of activities and sometimes these interfered with the planned activities.

Recommendations

Teachers should promote in students a reflection about the importance of a proper self-assessment. Teachers need to consider dedicating enough time to train students in their self-assessment according to its criteria or parameters.

This innovation was focused on the UbD principle that should be shared with teachers of other academic subjects as support for colleagues in each educational

institution. Particularly, teachers should be trained carefully about self-assess and self-regulate properly.

Self-regulation gives students the sense of reflecting on what they learn, how they learn, their weaknesses, and how they can change these into strengths. Some students are demotivated for learning and the self-regulation process can help to motivate and to encourage them into the learning practice not only as acquiring of knowledge but in a transfer of knowledge into real-life activities.

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Appendix A

Placement test

Available upon request.

Appendix B

Strategy Inventory for Language Learning (SILL) survey

Available upon request.

Appendix C

Rubric

Available upon request.

Appendix D

Lesson Plan

Available upon request.

Appendix E
Authorization Letter

Available upon request.

Appendix G
Parents' authorization

Available upon request.

Appendix H
Padlet: Oral interaction EFL

Available upon request.

Appendix I
Semi-structured Interview

Available upon request.

Appendix J
Innovation Chronogram

Available upon request.