



## **Facilitating Self-regulation with Mobile Devices to Improve Oral Interaction**

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Abstract

The purpose of the current study was to improve oral interaction in English as a foreign language through self-regulation facilitated with mobile devices. The ongoing innovation lasted six weeks, and it consisted of thirty students of second year of baccalaureate of a state school in Guayaquil, Ecuador. The mixed-method action research used quantitative and qualitative methods in order to attain the objective of this study. This action research was carried out by comparing the results of the self-evaluation rubric of pre-tests and post-tests. At the end of the innovation, the students were interviewed to report their perspectives toward self-regulation strategies, those answers were also supported with information taken from the learning logs. The effect size of pre-tests and post-tests (Cohen's  $d = 1.4$ ) demonstrated a large impact on oral interaction. The results indicated that self-regulation let the students improved the subskills of grammar, pronunciation and thus oral interaction because students created a habit of reflecting on their performance and applying strategies according to their needs. The effect of this research is also favorable for EFL teachers who desire to develop their students' oral interaction.

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

## Resumen

El objetivo del presente estudio es mejorar la interacción oral en inglés mediante la autorregulación facilitada con dispositivos móviles. La innovación duró seis semanas, y abarcó a treinta estudiantes de segundo de bachillerato de una escuela secundaria estatal en Guayaquil, Ecuador. Esta investigación de métodos mixtos utilizó instrumentos cuantitativos y cualitativos para lograr el objetivo del estudio. Esta investigación se llevó a cabo mediante el análisis comparativo de los resultados de pruebas previas y posteriores mediante el uso de la rúbrica de autoevaluación. Al final de la innovación, los estudiantes fueron entrevistados para percibir su perspectiva hacia la innovación y la autorregulación, estas respuestas fueron complementadas con los resultados de los registros de aprendizajes. El tamaño del efecto de las pruebas previas y posteriores ( $d = 1,4$  de Cohen) demostraron un gran impacto en la interacción oral. Los resultados indican que la autorregulación permitió a los estudiantes mejorar las sub-destrezas de gramática, pronunciación y por ende la interacción oral porque los estudiantes crearon un hábito de reflexión sobre sus desempeños y aplicación de estrategias basadas en sus necesidades. El efecto de esta investigación es también favorable para los docentes de inglés, que desean mejorar la interacción oral de los estudiantes.

*Palabras clave:* Autorregulación, Autoevaluación, interacción oral, aprendizaje de idiomas asistido por dispositivos móviles.

### **Facilitating Self-regulation with Mobile Devices to Improve Oral Interaction**

In modern-day globalization, English language has great importance in many fields above all in the education and occupational areas. People can interact with others by means of the English language because it is spoken throughout the world (Nishanthi, 2018). English as foreign language (EFL) is crucial to be acquired at educational institutions as subject since it is a prominent need in educational field (Spriniva, 2019).

However, students have a basic level of English language, especially they do not command the speaking skill. Despite the fact that they have received English classes for several years; in some cases, since the primary school and some students since the high school cycle.

The majority of students when they are in 3<sup>rd</sup> baccalaureate, they do not attain the highest level B1 as the government requires. For that reason, the ministry of education made English subject compulsory to be taught in all public schools since 2016 (Ministerio de Educación, 2014).

The EF English Proficiency Index (EF-EPI) in 2020 reported the proficiency of English language worldwide, in which, the results of South America showed that English language as subject is deficient. In Ecuador, it was found more decadent than other Latin countries since it was in ranking of 81 over 100 countries in the study (Education First, 2020).

According to the Ministerio de Educación (2012) stated that students could communicate and establish a conversation spontaneously with familiar and unfamiliar topics that are associated with their interest and educational field. For 2<sup>nd</sup> baccalaureate students, who were the group of the students taken as sample for this research study, the Curriculum demands B1.1 level to develop interactions with others (Council of Europe, 2018). However,

there are numbers of students who find difficulty when speaking in English, which is a skill that students need to develop.

Tuan and Mai (2015) claimed that speaking skill could be a challenge for students to get better because there are factors like lack of conversational topic, low participation, and use of the English language in class. That is to say, that students encounter challenging to interact with others in English since they present these factors mentioned above. Furthermore, during my teaching experience in 2<sup>nd</sup> baccalaureate, students encounter difficulties when it comes to speaking, for instance: make up simple sentences. They become blocked when they want to communicate or share their ideas in the target language. The students do not feel motivated in acquiring the English language, because of previous teacher's methods, lack of educational resources, which could hinder the progress of students in speaking skill or oral interaction.

Brown and Harris (2014) stated that self-regulation can help student's development. This enables students to set and obtain their goals, assessing progress associated with objective criteria, and enhancing the outcomes of learning. It aids students to be more involved and interested in assessing their progress.

Toharudin, Rahmat, and Kurniawan (2018), in their research, stated that self-regulation is relevant in the modern age. Toharudin, Rahmat, and Kurniawan (2018) stated that self-regulation is dynamic, competitive, productive and increases motivation to students. They indicated it helps students improve their learning process and student's autonomy. Peeters et al. (2014), in their study, confirmed that most teachers do not know how to teach students to self-regulate by having insufficient knowledge about self-regulation. They pointed out that if they as teachers want students to become effective learners, they must be first effective

learners. This is the case in Ecuador, where teachers are not trained to self-regulate to students.

Tenelanda and Castelo's research in Ecuador (2016) conducted a study on the use of mobile devices to improve pronunciation and fluency by voice recording. They defined those students built up the self-confidence to work on their own by listening to recordings.

Researchers as Vega and Ontaneda (2019) indicated major development in speaking skills by using self-regulation with mobile devices to record spoken videos. Students increase their oral communication, but also, they gain autonomy and self-direction.

Mobile devices are great support for both teachers and students to use authentic materials for teaching language and learning and can be useful for language assessment purposes. (Stockell and Hubbard, 2013). Gromik (2012) conducted a study for 14 weeks, where students recorded themselves on phones in English. The teacher assessed their videos and provided feedback. They were also self-assessed. Through his research, he showed that was a significant improvement in their speaking skill.

Mobile devices can be relevant for language acquisition, they can also have disadvantages. They can have negative effects for instance: diverting attention and time consuming (Sung et al, 2015). Miangah and Nezaret (2012) claimed that using mobile devices are great support for education, but they also stated there is still a gap in the education field.

However, there are studies done in Ecuador by Rivera (2020); Mendoza (2020), and Armijos (2020) who showed the effect of self-regulation using mobile devices to develop oral interaction. Saltos (2019) stated that self-assessment was a bridge of help to achieve self-regulation with the use of mobile devices.

A study conducted by Panadero et al (2017) when students self-assessed their own performance, they could analyze rigorously their strengths and weakness. They showed that self-assessment led to improvement of learning.

This innovation was held at a state high school placed in Guayaquil, Ecuador. The selected group was 2<sup>nd</sup> baccalaureate and it lasted six weeks. The students were thirty with level A1 with the age of 16 to 17 years old. As result of the students who presented poor performance in oral interaction, the students used their mobile devices to make a video recording where they interacted with a specific topic given, provided feedback and self-assess through a rubric. This research tries to help students with their learning and their speaking skills through self-regulation.

### **Literature Review**

The sole purpose of this study is to develop the oral interaction by using self-regulation. The primary topics that have been used in this innovation are following: second language acquisition, how to acquire as a second language and as a major component of interaction; Self-regulation which focuses on developing learning outcomes and facilitates student autonomy, self-assessment where students evaluate their learning; and Mobile Assisted language learning (MALL) with the objective of improving oral interaction.

#### **Second Language Acquisition (SLA)**

Krashen (2013), differentiated that there are two manners of developing language competence that students can acquire in a second tongue: language acquisition and language learning the first one mentions that students can pick up and develop the target language through natural learning that is, in a subconscious manner without concerning grammar rules, whereas; the second one occurs when learning is a conscious manner. That is to say, when

students know what they study, for example, grammar rules, because of that, they learn or study it daily at school (Krashen, 2013).

Krashen indicated five hypotheses: Acquisition-Learning hypothesis, the Natural order hypothesis, the Monitor hypothesis, The Comprehensible Input and Affective Filter hypotheses. These theories lead to the development the language.

The Monitor Hypothesis production of a language in a spontaneous manner derives from how the language was acquired or learned. It is related to grammar structures when it is acquired and self-correction by students, that is when students produce the language, they concentrated on grammar before producing (Vinoliya, 2016).

As claimed by Krashen (cited in Nath et al., 2017), The Affective Filter hypothesis refers to emotional states that impede learning, when students have a mental block that hinder the comprehensible input. This affects the process of improvement of a subject. For instance, the English subject where students are exposed to a second language and tend to feel anxious and concerned about producing the language effectively.

Krashen (as cited in Lessard-Clouston, 2018) stated that The Input hypothesis refers to when acquiring a language by receiving messages. Krashen pointed out that a language is acquired by just listening and reading, and this helps students to the process of developing of the target language. Comprehensible input should be incorporated into learners beyond the student's language ability to improve the language.

Ellis (2005) stated the importance of exposition to the language in the diverse context in the target language, applying the natural input. For example: watch videos in English, sing songs, and storytelling because these develop the language learning. The more immersed they are to the target language, the better they will be.



Lessard –Clouston (2018) said that output takes part in SLA to produce the language coherently. That is to say, when they speak and write are developing their fluency and writing skill.

Both input and output are crucial for second language acquisition (SLA), input makes students receptive, and output produces the language they are essential for the acquisition process (Lessard –Clouston, 2018). Moreover, interaction is the third vital component for SLA.

Brown (2000) defined interaction occurs when there are two or more people to exchange their ideas and thoughts with the aim of a particular purpose. It helps the L2 acquisition since it involves communication. Ellis (2005) stated that interaction enhances the acquisition when a conversational interaction emerges, and students become involved in negotiating for meaning. It induces to interactional mending because it connects both input and output, and the main objective is on meaning. This attains through feedback.

As mentioned by Al-Bashir et al (2016), feedback is a great help for students to acquire and improve in academic performance. It is a powerful way to self-regulate, it also helps students to self-assess and reflect about their learning.

### **Self-regulation and Self-assessment**

Ergen and Kanadli (2017) defined self-regulation as an effective and productive manner in which students can set their objectives or goals, the development of their constructive behavior and emotions. This aids students to get to know themselves and become autonomous learners, therefore they would be motivated to enhance in an academic purpose. Self-regulation helps students to obtain their objectives which can either emerge from their benefits or social demands (Matric, 2018). Furthermore, self-regulation brings motivation

which is hugely important for students to make effort to get good outcomes (Brown & Harris, 2014).

Thohir (2017) defined that motivation is an inner process that enthusiasm to attain something to reach objectives, and it takes during the learning process. It is characterized in various types. One of them is the intrinsic motivation as potent motivation for acquiring a language. Brown (2000) stated that intrinsic motivation is a fundamental feature for learning since it comes from students' needs, where students are eager to learn and personal enjoyment without any reward required. It helps to stimulate students in giving the initiation of learning. There is a correlation in intrinsic motivation and self-regulation. It plays a vital role in the students' awareness of commitment in their academic purposes (Mega et al., 2017). That is to say, that motivation implies that students feel engaged in their learning process, and this leads to students to obtain good outcomes in their academic performance.

Self-assessment is a procedure of formative assessment where students reflect, judge, and assess their process of learning, it allows them to recognize their strengths and weakness. It aids students' learning and it presents feedback for both teachers and students to take part in the process of teaching and learning (Ratmimigsih, 2018).

Brown and Harris (2014) stated that self-assessment is based on self-regulation, in which students determine their abilities, meet and gain challenging tasks, set goals and assess progress against criteria. Furthermore, it aids students become independent students, the teacher can stimulate them about their own learning through training. It reflects the students' goals in the target language and tasks and strategies learning that they can require by their own and it is completely driven to keep learning (Harmer, 2007). It is also fundamental that

teachers assess the students' process and provide feedback to comprehend their learning progress based on a rubric.

According to Hattie and Timperley (2007), self-assessment conducts self-regulation and it is a fundamental process of assessment of learning since provides to students the essential feedback so that they can analyze and mediate about their own learning performance, and consequently they can take action in what they have to improve through formative feedback. It is necessary that students have feedback constantly in order to know how they are doing and thus to improve their learning (Brooks et al., 2019).

Shute (2007) stated that feedback reinforces the skill acquisition, it represents as component in motivating learning. It also helps to have certain abilities as critical thinking and perception by associating with their real live and the authenticity. The students can be dynamic in their learning process and this manner then, they attain their objectives.

### **Assessment of Speaking**

Speaking is one of the most significant and necessary skill to be developed so students can communicate in effective and spontaneously manner, and it is the most complex to assess (Leong & Ahmadi, 2017). One of the methods of how to assess students effectively is providing feedback since it helps a lot to attain an improvement in their learning and have better performance academically. Additionally, it would be a great deal of help for them to perceive if they are in their right direction (Wiggins 2012).

Ramirez and Artunduaga (2017) concluded that assessing authentic tasks is a manner to engage students. It makes active students, they participate more in class and it provides an effective manner to encourage oral production. Authentic tasks aid to connect the prior knowledge as a result they can participate and get involved more frequently in oral activities

in which oral interaction is developed. Furthermore, applying authentic tasks in class would help that they can handle situations in real life.

Tibrani et al. (2017) indicated that authentic assessment is headed to immediate feedback and the development of the cognitive learning, it demonstrates a profound understanding since it connects their learning with their prior knowledge and develops their critical thinking.

Lessard-Clouston (2018) said that interaction is crucial to incorporate in class since it provides the opportunity to students for exchange information. It presents authentic communicative tasks such as games, role plays, and dialogues since these types tasks provide exchange and negotiation of meaning. It is a necessity for the development of the communicative competence, and this helps to improve the learning and fluency Joo (2016) concluded that providing speaking assessment needs to have a thorough comprehension so students can self-assess the oral production correctly and their partners too.

### **Mobile –Assisted language Learning (MALL)**

Mobile technology is present in the teaching and the learning process, too. It also benefits to develop English language proficiency such as oral production, listening comprehension, and the acquisition of vocabulary (Hashim et al., 2018). Yudhiantara and Saehu (2017) mentioned that mobile phones had brought numerous opportunities for foreign languages since mobile phones have a lot of activities and tools for teaching and learning. Also, it helps students to regulate and keep their progress. Where students can learn and practice at anywhere and anytime since the mobile phones are portable.

Pellerin (2012) described that mobile phones are a great advantage for improving motivation, particularly young learners to use the target language. They are a support for both

(teachers) can assess and (learners) can self-assess through these tools. For instance, students make audio-videos of different authentic topics, dramatic play, personal experience, making up dialogues such as “going for vacation” the students can listen and observe their own video. They can reflect and analyze on their own video and evaluate what they need to develop.

Miangah and Nezarat (2012) described that mobile learning has benefits that students can work cooperatively. Where there will be interaction, and this helps a lot to improve that students communicate and express naturally.

### **Understanding by Design (UbD)**

According to Yurstseven and Altun (2015), Understanding by Design is known as a “Backward design” approach. It is a framework based on the association among learning goals, learning assessment and learning stages in a lesson plan. This is beneficial for teachers since it aids what to teach and how before planning. Furthermore, this facilitates to teachers to organize, design and evaluate a unit plan, and it conducts to make the instruction more meaningful and efficient.

### **Innovation**

This innovation proposed as learning objective that students improve their oral interaction through mobile devices, the entire innovation lasted six weeks, five hours per week, a total of 30 hours.

The innovation was conducted in a public school in Guayaquil. The participants were a group of 30 students who were 16-17 years old. It occurred in two phases: training and implementation. The training phase lasted one week. First, students’ profile was determined by applying two instruments: a placement test (Appendix A) to determine the students’

English level, and the SILL survey (Appendix B) to know the students' background and their learning styles.

The results of these instruments demonstrated that the students were A1 level according to CEFR and the strategies that stand out the most were: using all mental processes, organize and evaluate their learning, and remember more effectively. Additional information was also obtained, like the majority of students were acquainted with technology, for instance, the use of the internet for browsing the web, applications and YouTube. However, the teacher explained the procedure of how to create a Gmail account to the students did not have it. Therefore, they could upload the requested videos.

After knowing the students' demographic information, the students were trained about the current innovation, which is self-regulation (self-assessment and action plan). For this purpose, the students watched a model video about the performance of A1 speakers, after that, the students were guided on how to assess the video using Part A of a rubric (Appendix C) adapted from Cambridge A1 level.

The following step was to work with a pilot video which consisted on pair work where the students used their mobile devices for recording their own videos. With those videos, the students self-assessed utilizing the speaking rubric already known but adding the action plan which is Part B of the rubric.

Once the students experienced their first self-assessment, the second phase of the innovation took place. The implementation of the innovation lasted 5 weeks, along this period of time the classes were planned by using the Unit backward design (UbD; Appendix D) where all the activities led to the transfer of learning. Weekly, the students received classes with a specific topic, during it, the students were asked to actively participate in meaningful

and authentic activities. The students practiced intensely during classes for developing their oral interaction in order to improve and gain confidence. They continued working in pairs, making up dialogues related to the week topic, recording themselves, and uploading videos to the Padlet platform.

On this account, at the end of the week the students were required to analyze carefully the video uploaded in order to assess through the rubric. After the students examined and self-monitored what to do to enhance their learning, the teacher scrutinized the worksheet, and then gave two types of feedback, one about the videos recorded and another one about the self-assessment of the students. The last feedback gave the students the opportunity of reflecting about their judgements and strengthen the self- assessment skills. Moreover, it helped the students to set goals and to select strategies for improving their performances on the next week and thereby little by little to reach the self-regulation skill.

To complement this self-assessment from the third week onwards, the students wrote their reflections or learning logs about their self-assessment, the reflections emphasized what they needed for improving in oral interaction.

### **Methodology**

This current study is an action research design, here the participants explore, produce and make their own instructive practice deliberately and cautiously utilizing the methods of analysis (Ferrance, 2000). It is also a mixed method because it gives answers for problems found, gathering and scrutinizing both quantitative and qualitative data.

Two variables were identified in this study: dependent and independent variables. The independent variable was self-regulation, a practice that raise the students' academic achievement because it helps students to use their capabilities to take control of their

outcomes in their oral interactions. The dependent variable was oral interaction, the weak skill of this group of students.

This study responded to the following questions, and for identification purposes, they will be represented by the following codes:

1. To what extent did student's oral interaction improve? (RQ#1)
2. To what extent did student's self-assessment improve? (RQ#2)
3. What were the students' perspectives of this innovation? (RQ#3)

To respond the RQ#1 and RQ#2 quantitative data were collected through pre and posttest which were graded using a rubric. For the oral interaction the data came from teacher's results of pre and posttests and for the analysis of self-assessment improvement the teacher's means of pre and posttests were compared to the students' means. Finally, to answer the RQ#3 about the students' perspectives of the innovation, qualitative data were collected through three instruments: students' reflections, the action plans and the interviews.

### **Ethical Consideration**

Ethics is fundamental in a research study; indeed, the researchers must uphold three core principles which are respect for persons, beneficence, and justice (Pillay, 2014). Consequently, it was sought the informed consent of the students as well as of the educational institution where the present innovation took place. The researcher presented a questionnaire (Appendix E) and consent letter (Appendix F) for the students' parents in order to get permission for students to get involved in the current innovation, including the activities and videos uploaded on Padlet (Appendix G). To get the permission of the institution, also a permission was asked (Appendix H).



## Participants

The participants of the current study were 30 students, their ages ranged from 16 to 17 years old. There were 14 were male, representing 46% of the sample, and 16 were females, representing 53% of the sample. This group of students belonged to a public school located in south of Guayaquil, Ecuador.

Regarding English proficiency, after the students were evaluated with the placement test, the results placed the majority of them in A1 level.

To know about students' background and strategies used for acquiring the English language, the Strategy Inventory for Language Learning (SILL) was used. This survey was created by Rebecca Oxford (Oxford, 2003) and contains different strategies used by second language learners.

**Table 1**

### *SILL Results before the Innovation*

<b>Part</b>	<b>Which strategies are covered</b>	<b>Population' average of each part</b>
<b>A</b>	Remembering more effectively.	<b>3.1</b>
<b>B</b>	Using all your mental processes.	<b>3.3</b>
<b>C</b>	Compensating for missing knowledge.	<b>3</b>
<b>D</b>	Organizing and evaluating your learning.	<b>3.2</b>
<b>E</b>	Managing your emotions.	<b>3</b>
<b>F</b>	Learning with others.	<b>2.9</b>

Data in Table 1 bears out that the groups of strategies that stand out the most with medium percentage of use are parts B, D and A, which are covered by the strategies: using all mental processes, organize and evaluate their learning, and remember more effectively.

### **Instruments**

The instruments collected information about the study. The investigation included quantitative and qualitative data gotten from among the following instruments:

#### **Speaking Self-regulation Rubric**

This rubric was adjusted from Cambridge A1; it has two main parts: A and B. Part A scored out 9 points, and assessed the speaking skill by scoring three essential indicators or descriptors: the use of grammar / vocabulary range; pronunciation and interactive communication, each of them ranked from one as the lowest and three as the highest.

It is worthy to mention that this instrument was firstly applied to other teachers before applying the students in order to know if it was valid and reliable. Heale and Twycross (2015) explained that validity and reliability are measures of quality of an instrument. With this in mind, other teachers tested this instrument to define if it would measure the oral production accurately and if it would have the same results if it is used in the same situation on repeated occasions along the innovation.

The rubric was applied weekly after each video, 5 in total. Both, teachers and students, applied the rubric to assess the improvement of speaking and self-assessment skills.

Part B, a segment at the end of the speaking rubric, scored out 1 point and is associated with the action plan that guided the students either to select the most appropriate strategies and to set goals in order to improve their performances to reach the self-regulation skill. This part of the rubric provided qualitative data.

In order to answer the RQ#1: **To what extend student's oral interaction improved**, the teacher's results of the pre-test and post-test were compared. The first video was the pre-test and the last video was the post-test.

To answer the RQ#2: **To what extend students' self-assessment improved**, both the teacher and students' means were compared in order to notice if students' grades got closer to the teacher's ones, in the same way, taking into account the pre and posttests.

To analyze the quantitative data, the teacher's scores of pre and post tests were tabulated in a spreadsheet of Excel, then in SPSS statistics software and to obtain the descriptive statistics.

In addition, the effect size was calculated and interpreted according to Cohen's criteria where 0.2 to 0.3 represents a small effect, 0.5 moderate effect, and 0.8 or more large effect (Cohen, 1988).

As it was mentioned above, part B of the rubric provided qualitative data regarding the strategies used by the students to improve their performance week after week, nevertheless, there were two more instruments that gave qualitative information to answer RQ#3: **What the students' perspectives of the innovation were**. Those are learning logs and semi-structures interview (Appendix I).

### **Learning Logs**

This is a reflection about three main questions: What did I do? How did I work? What did I learn? The students wrote those reflections after videos 1, 3 and 5. Each student wrote about their feelings about the use of technology in the class and their perspectives about the quality of self-assessment and the feedback.

### **Semi-structured Interview**

Eight students were chosen for the interview, and they talked about their self-assessment and how positive they felt during the innovation. The sample group was chosen among the participants who obtained different levels of progress from the highest to the lowest average in order to know their perspectives and improve the innovation in the future. The objective of examining the student's perspective encompasses the self-assessment skills, their progress in the speaking skill, action plan and the self-regulation strategies that students employed. The questions were the following:

1. What did you learn during the innovation?
2. What did you do to learn?
3. What did you like more about the innovation?
4. What were the challenges during the innovation?
5. What strategies do I apply to self-regulate?

### **Data Analysis**

Three research questions were raised in this work. RQ#1 and RQ#2 were answered with the quantitative data obtained from the speaking rubric and self-regulation segment. Once the data were collected, immediately after, the results were analyzed via IBM SPSS and the paired samples t-test in order to determine if there was a significant difference between the pre-test and post-test.

First, the mean was calculated among the student's scores, also the standard deviation and the effect size.

In the present study, the data obtained from the interview were transcribed, grouped and analyzed via content analysis in order to find out the tendency in the answers regarding expectancies of the innovation, and the best strategies that helped to reach the self-regulation

skills. Furthermore, more support for most of the answers provided in the interview were given by the learning logs written by the students after self-assessment of videos 1, 3 and 5.

## Results

The results of this research have been organized in such way that answer each of the research questions, beginning with the quantitative findings and finally with the qualitative findings.

To answer the RQ#1: To what extend did student's oral interaction improve? The teacher's scores of the speaking self-regulation pre and posttests were compared through related samples t-test with a significance of 5%, for which the hypotheses H0: There is no significant difference in the pre-test and post-test scores and H1: There is a significant difference in the pre-test and post-test scores were set. After determining that  $p < \alpha$ , so H1 is accepted, therefore it was confirmed that there is a significant difference in the pre-test and post-test scores.

**Table 2**

*Descriptive Statistics of Speaking Test*

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t-student</i>	<i>P-value</i>	<i>Effect size</i>
<b>Pre-test</b>	30	7.280	1.2568	7.860	.000	1.4
<b>Post-test</b>	30	8.900	.8944			

Table 2 shows that the effect size is 1.4 and based on Cohen's premise about the interpretation of these results, the effect size is considered large. This value accredits the positive results obtained by applying the innovation that the researcher has proposed.

Most compelling evidence is shown in the following graphs where each of subskills tested by the rubric are compared.

**Figure 1**

*Means Comparison of Speaking Pre and Post-Tests by subskills*

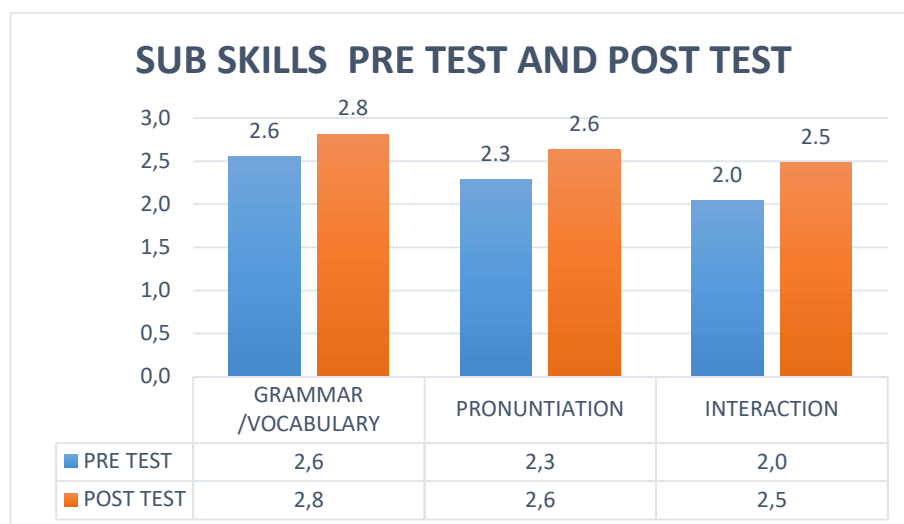


Figure 1 shows the results of each parameter: grammar/ vocabulary, pronunciation and interaction obtained from the speaking rubric. Based on these data, it is evident that the stronger parameter of the students is grammar /vocabulary, however the parameter of interaction improved the most with a MD= 0.5.

For the following analyzes, the decision criterion was that *p-value* is less than  $\alpha$ . Alpha had a value of 5% significance.

**Table 3**

*Descriptive Statistics of Speaking Pre and Post Test by Subskills*

SUBS KILLS PRE-TEST AND POST-TEST						
<i>Grammar/Vocabulary</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t-student</i>	<i>P-value</i>	<i>Effect size</i>
<b>Pre-test</b>	30	2.550	0.4614	3.565	.001	0.65
<b>Post-test</b>	30	2.817	0.2451			
<i>Pronunciation</i>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t-student</i>	<i>P-value</i>	<i>Effect size</i>
<b>Pre-test</b>	30	2.290	0.5040	4.080	.000	0.75

<b>Post-test</b>	30	2.630	0.3698			
<b>Interaction</b>	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>t-student</i>	<i>P-value</i>	<i>Effect size</i>
<b>Pre-test</b>	30	2.043	0.5328			
<b>Post-test</b>	30	2.483	0.4639	5.966	.000	1.09

After determining that there are significant differences between the pre- and post- test of each parameter, the p value (p-value <  $\alpha$ ) of the three parameters was calculated.

Table 3 shows that all those values are less than 0.05, which means that the correlation between the variables is significant. If the effect size is 0.65, 0.75 and 1.09 respectively, that means that there is a large effect size for all of them; however, the effect size of 1.09 in interaction parameter means greater than a large size; with this in mind, it can be concluded that interaction has had a greater impact among students with better results, in contrast with the other parameters, thus corroborating the effectiveness of the proposed innovation.

Continuing with the RQ#2: To what extent did students' self-assessment improve? The results of speaking self-regulation rubric of both teacher and students were compared, in the same way these instruments were applied at the beginning and at the end of the innovation, and they show the following results.

**Table 4**

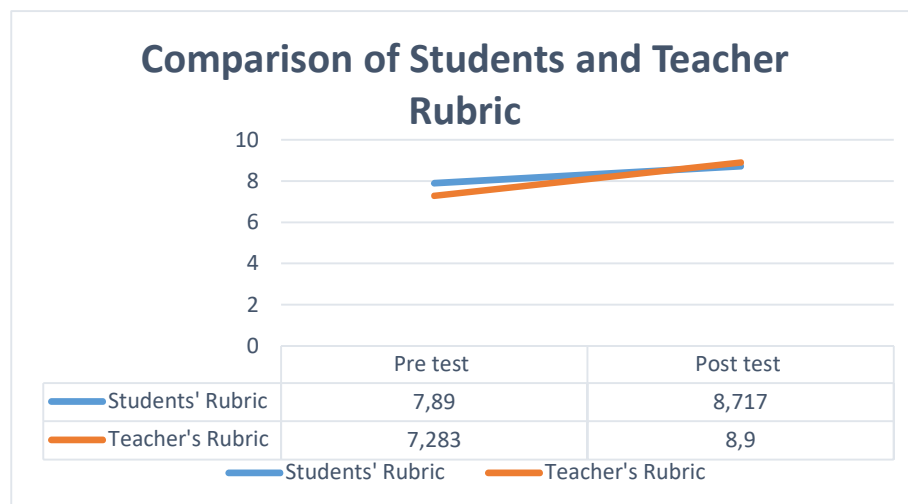
***Means Comparison of Students and Teacher Speaking Self-Regulation Rubric***

<b>COMPARISON OF STUDENT AND TEACHER SCORES</b>		
	<b>Pre test</b>	<b>Post test</b>
<b>Teacher's Rubric</b>	7.283	8.9
<b>Students' Rubric</b>	7.89	8.717
<b>Mean Difference</b>	<b>0.607</b>	<b>0.183</b>

Table 4 proves that after the analysis, there was a difference of 0.60 between the means obtained in the pre-test of both the students and the teacher, being higher the mean of the students' rubric (M=7.89) in comparison with the teacher's rubric (M=7.28). On the other hand, the mean difference of post-test of the students and teacher was 0.18, which shows an important improvement in the self-assessment skill. This time the mean of student was lower (M=8.71) than teachers' (M=8.9).

**Figure 2**

***Comparison of Teacher and Students Speaking Self-Regulation Rubric***



Data provided in Figure 2 support evidence to the previous analysis, since the post-test line of the student and teacher are closer although the students' scores are lower than the teacher's but the difference between them is 0.18. In addition, if the mean of students' pre-test (M= 7.89) and post-test (M=8.71) are analyzed, it can be determined that in fact the self-assessment skill has improved a lot.

In order to answer the RQ#3: What was the students' perspectives of the innovation? qualitative data were collected from the interviews of eight students as well as important information was collected from the Part B of the self-regulation rubric and from their



reflections or also called learning logs. These answers let us know in a general view how the students managed to obtain self-regulation little by little throughout the implementation of the innovation to apply it in benefit of their oral performance.

Part B of the rubric is the action plan that contains the future goals and the best strategies to be used in the students' performance improvement. This part of the rubric showed that most of students wanted to improve their interaction in class, followed by pronunciation and in lower portions they wanted to improve vocabulary and grammar. When students explained the reason why they wanted to improve these areas, the most important reason was to improve their interaction in class and to improve their performance in English subject. The results of the posttest with the speaking evaluation parameter, specifically let evidence that the students reached that desire.

Additionally, the action plan showed that the most used strategies by the students to improve their speaking performance are: to practice the language with music and movies, to listen to what I speak and correct it.

These results were corroborated with the answers of the students in the five questions of the interview.

#### **Q. 1 What did you learn during the innovation?**

In the interview applied to the students, various opinions were collected which expressed the improvements in speaking with the application of this project. Among the most outstanding comments and those with which most of the students agreed are this innovation helped them to get more confidence to interact in class by using English language. Indeed, they learned more vocabulary regarding the week topic and all the activities that teacher

proposed were related to that topic, so they noticed that their vocabulary increased as well as their pronunciation improved.

*“I learned many new words and their pronunciation and this helped me to interact more with my classmates and the environment that surrounds me.” (S21)*

*“I improved in pronunciation because I found an on-line dictionary that says the pronunciation of words in English and helped me to understand what someone is telling me, so I can answer their questions”. (Ss 2, 29, 5)*

*“I learned new words in each class, after each class I repeated them orally a lot of times and also wrote sentences using them.” (Ss 18, 16)*

*“I learned to identify my own mistakes” (S10, 8)*

All those opinions denoted that the application of the innovation caused an improvement in the speaking performance of the students, because they were had with the necessary sources, vocabulary meaning and its pronunciation, to get confidence at the moment of producing the language. Moreover, along the innovation they learned to identify their own mistakes and strengths.

## **Q. 2. What did you do to learn?**

In this part of the interview, the students mentioned similar activities proposed in the action plan of the speaking self-regulation rubric, in which the majority of the students agreed that they carried out activities such as record themselves before presenting their performance to the teacher to find their mistakes, practicing the language with music and movies and practicing with someone.

This occurred because they weekly analyzed their self-assessments and teacher's feedback, then they selected and applied the strategies suggested in the action plan to improve their performances.

*"I started to record my presentation with my mobile phone, then I checked it and detected some mistakes and I corrected them". (Ss. 10, 8)*

*"I watched TV shows or movies and listened to the pronunciation of words in an on-line dictionary" (Ss 29, 2)*

Most of the learning logs (20 students) mentioned that they practiced some difficult dialogues in pairs, changing roles to practice the conversations. Most of the classes the students asked their close classmates to practice the dialogue before to record and upload the video to the platform. These strategies were useful for them in order to reinforce their learning.

Those answers, on one side, denote the interest of students in using technological tools with which they are familiar with. On the contrary, a very small number of students showed little interested in practicing with peers, they preferred practicing alone. This group of students lacked internet and enough sources to invest in technology.

### **Q. 3. What did you like more about the innovation?**

Something that attracted the students' attention and motivated them is the use of interactive technological tools and resources, which allowed them to end up the monotonous or boring activity. The students expressed:

*"I really like the use of videos and online tools." (Ss 29, 10,5,2)*

*"I like the use of online tools because they are able all the time" (Ss 8, 2)*

*“I enjoy when the teacher uses videos and online tools avoiding the use of past teaching practices. (Ss 29, 10, 8, 5, 2)*

Another positive perspective collected through the learning log is that the teacher shared with the students a variety of technological tools such as online dictionaries, web pages for practicing speaking, and they were engaged in authentic speaking activities which helped them learn new things and to improve their English oral proficiency.

*This is the first time that the teacher gave the students the opportunity to practice the speaking skill by using the cellphones with academic purposes. (Ss 21, 18, 16)*

*“The self-assessment helped us to become more independent and reflexive, even though, it was a hard job but I like so much because this type of evaluation let me be aware of my own mistakes”. (S1)*

#### **Q. 4. What were the challenges during the innovation?**

Given that the teacher wanted to help the students become more independent and taking into consideration that students do not have the same learning capacities, some students felt abandoned and sometimes lost. However, as the innovation went by the students started to look for some other sources of help and they tried some of the sources shared by the teacher. Students also felt ashamed of recording their first videos and uploaded in a platform where every classmate could see.

*“I did not know how to upload the video to Padlet and I had to ask for some help to the teacher” (Ss 21, 18, 16)*

*“I do not have internet at home, so I cannot practice as the rest of my classmates do” (Ss 8, 10)*

*“I did not want to upload my first videos because I did not know enough vocabulary and my pronunciation was terrible” (29, 5, 2)*

*“I don’t judge my performance as the teacher’s judgements, so I felt I am doing a bad job” (S1, 22)*

**Q. 5. What strategies do I apply to self-regulate?**

The strategies most used by the students were: being aware of mistakes made in English and use that information to improve, look up the meaning and pronunciation of a word in on-line dictionaries, music or television programs, listen to my teacher’s feedback and the strategy of reviewing English lessons, this shows that by applying these strategies the students are capable to recognize their weaknesses and therefore seek techniques that allow them to continually improve.

*“I record myself, then I listen to the audio carefully in order to find my own mistakes and correct them” (Ss 18, 16, 21)*

*“I write my script, then I practice it with my pair as many times as possible” (Ss 10, 8)*

*“I organize my time to review my English notes, then to write my script and record myself with my cellphone to identify my mistakes”. (Ss 29, 5, 2)*

*“I listen to my teacher’s feedback about my performance and self-assessment to identify what my weaknesses are and improve them in the next video” (S1)*

*“I compare my previous results with the new ones to be sure that my performance is improving in all aspects.” (Ss 22)*

## **Discussion**

The findings revealed that facilitating self-regulation had a positive influence on oral interaction and academic achievement in general. Therefore, according to the previous results, for the first research question, the scores of pre and post speaking test are significantly different (1.62) in favor of the improvement of oral interaction.

This improvement is the consequence of the fact that students were well trained on how to reach the proficiency to monitor their own progress (self-assessment training) in order that they can adjust or reinforce the strategy implementation according to their learning needs (self-regulation). This fact is supported by Brown and Harris (2014) because they argued that through self-assessment the students determine their abilities, meet and gain challenges tasks, set new goals and assess progress against criteria. Furthermore, Harmer (2007) added that the teacher can stimulate the students about their own learning through training as reflecting the students' goals in the target language and tasks and strategies learning that they can require by their own and it is completely driven to keep learning.

The students had to create and record dialogues every week and to achieve that, they launched their action plans, using strategies like checking their notes and web pages to find extra information and looking for a dictionary that helps with the pronunciation of unknown words, practicing in pairs difficult words before recording the final draft. These activities helped the students become more independent, even more when they had to self-assess their works.

Additionally, the students set the goal of improving their oral production by relating their self-assessments to the teacher's feedback in order to use strategies in accordance with their learning needs. To enumerate some of those needs, it can be mentioned: recording

themselves before presenting their performance to the teacher to find their mistakes, practicing the language with music and movies and practicing with someone; that is to say they establish their actions plans. In few words, self-assessment plus the action plan that students did week after week let them improved because they got the self-regulation skills. Authors like Hatti and Timperley (2007), Shute (2007), Leong and Ahmadi, (2017), Tibrani et al. (2017) and Brooks et al. (2019), agree that self-assessment is a fundamental process of assessment of learning since it provides to students the essential feedback to analyze and mediate about their own learning performance. Learning mediation consists on that the students are able to develop productive goals, and action plans after the feedback that students receive (Rolheiser & Ross, 2001).

In the same line, within the innovation, there was use of technology plus the classes planned with UbD caused a positive impact. Students liked to do the speaking activities proposed by the teacher for that reason they got a significant improvement in this skill. Ramirez and Artunduaga (2017) pointed out that to engaged students in authentic tasks is an effective manner to encourage oral production. In addition, this innovation was planned according to UbD which allowed the students to experience and to practice constantly the English language within authentic tasks like conversations, and dialogues based on real-life situations (Even, Yurtseven & Altun, 2015; Brown 2000).

To answer the second research question to what extent the self-assessment improved. The results of teacher and students' rubric were compared. At the beginning of the implementation of this innovation the students continued with the tendency in which they scored themselves higher than the teacher did with a difference of 0.607 between means, but at the end, this group scored themselves almost the same as teacher with the difference of

0.183. The students self-assessed their works after each week, and while the innovation was running the students acquired a better understanding of the assessment. This merit is attributed to the training in self-assessment and the feedback provided by the teacher.

According to Hattie and Timperley (2007), feedback is a consequence of performance, also it is essential for the students because it helps them to mediate their own learning performance, that is to say there must be feedback after the self-assessment because in that way the students realizes if what they understood is similar to what is aimed. Likewise, Brooks, et al. (2019) mentioned that feedback should come after self-assessment in order that the students know how they are doing. Therefore, students assessed their works by using the established criteria in the speaking rubric, those criteria made the assessment and reflection get easier to carried out. Indeed, Papanthymou and Darra (2018) argued that self-assessment is a process in which students determine the quality of their own work in accordance with specific criteria for the potential advancement of their work.

As a matter of fact, the teacher gave feedback to each pair after their weekly video, at the beginning the students tended to self-assess with high scores because some of them did not understand at all the parameters established in the rubric, but then they understood and their reflections turned more accurate according to the reality of their performances.

At the same time, this practice is a powerful way to develop the self-regulation skills (Ratmimigsih, 2018; Brown & Harris, 2014) since students can determine their abilities, meet and gain challenges tasks, set goals and, assess progress against criteria.

Continuing with the third research question about the students' perspectives, most of them agreed that they felt grateful of being part of the research because through this innovation, they have acquired the self-regulation skills that will help them to improve their



learning not only in L2 but also to achieve their goal in several educational contexts (Brown & Harris, 2014).

At the beginning of this innovation, the students feel scared of recording the videos because they did not have enough practice or sources to develop a dialogue. While the innovation ran, their vocabulary got wider (MD=0.2), therefore they got those necessary sources to experience and practice the dialogues letting them improve their pronunciation (MD=0.3), consequently they motivated to interact (MD=0.5) and continue improving. This fact is corroborated by Spiller (2012) who indicated that when a student identifies his/her learning progress, this provokes further learning.

Years ago, the use of cellphones in class was a serious fault, but after this innovation this perspective changed, now the students consider their cellphones as learning tools, not a mere distraction tool. Mobile technology has become an essential device in the teaching-learning process, especially in the development of English oral proficiency. That could be possible since the tools of mobiles phones are largely potential for upgrading language learning such as oral production, listening comprehension, and the acquisition of vocabulary. (Pellerin, 2012; Hashim et al., 2018)

### **Conclusions**

This research project aimed to determine if self-regulation facilitated with mobile devices could improve students' oral production and the results reveal significant improvement in the variable of oral interaction. As general conclusion, it can be said that self-regulation improved the oral interaction as well as their writing, acquisition of vocabulary and listening through mobile devices.

Consequently, the management of this self-regulation competence lets the students take control of outcomes, keeping them in that track. That is to say, to improve their academic achievements, and consequently command the English language.

Students' oral interaction improved progressively. Along the innovation, the students were committed to reflect on their performance through an effective self-assessment complemented with the selection of appropriate strategies to overcome their mistakes or weaknesses. This self-assessment was effective because the students learned to reflect on their performances based on the established criteria in the rubric. In addition, the rubric offered them a list of possible strategies to be used in their improvements.

Learning new vocabulary and learning its pronunciation helped the students gain confidence and knowledge to interact spontaneously. While the students' vocabulary got wider, it was notably that students interacted with others be these peers or teachers without hesitating.

Self-assessing was a new technique implemented with this group of students, and the positive impact that this research gained was because of the rigorous training about the use of this technique. For that reason, it is important to take the necessary amount of time to show and practice this type of assessment because the effectiveness of the innovation depends on it. Students learned to self-assess because the teacher gave appropriate feedback, this feedback helped them to realize that they were self-assessing correctly according to the rubric criteria. Self-assessment and feedback go hand in hand.

The use of mobile devices in the classroom improved the learning process because the students could use them to record their performance, search some important information, and know the pronunciation of new words. Those practices helped most of the students to be more

independent to the point of choosing the strategies by their own, as well as the tasks more convenient for their learning needs.

### **Limitations**

Some limitations should be noted in this part. The scope of this study was limited in terms of technology in class and mobile devices ownership. As noted, there was a lack of technological resources in the classroom and, some students did not have their own cellphones to record the videos. In addition, the participants did not have access to the internet at home, thus they had difficulties in uploading the videos on time. However; the students supported each other with the recordings and with the process of uploading the videos. Moreover, some academic activities organized by the institution interrupted some activities of this innovation

### **Recommendations**

It is recommendable to instruct the teachers as well as the students in doing realistic self-assessment based on established criteria because in this way the students can assess their own work and guide their own learning to the growth-pathway. If students manage this skill, they will be able to compare their performances with the evaluation criteria proposed in the curriculum at the end of each educational level.

The teacher that wanted to apply this type of assessment must invest time in teaching and providing the students enough practice in self-assessment as a basis for meta-cognitively skills, necessary to get the self-regulation competence.

It is necessary that teachers of other areas in the school get aware of the benefits of using mobile devices in classroom, even at the same time the researchers must be wise enough to manage the use of mobile devices in the classroom with academic purposes only.

The implementation of UbD as planner of the English classes helps the students experience the use of English, really motivate, and commit them to use the language. That means not only to study grammar rules or vocabulary, but also to use the language in real contexts. With this in mind, all teachers should use this strategy to plan their lessons.

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### **Appendix A**

**Placement test** to assess the ability of students to practice English as placement test  
before the implementation of innovation

Available upon request.

### **Appendix B**

#### **SILL SURVEY**

Version for Speakers of Other Languages Learning English

Version 7.0 (ESL/EFL) © R.L.Oxford, 1989

Korean version prepared by Park Bun-seon, Kwon Mi-jeong, Hwang Jung-hwa, 1998

Available upon request.

### **Appendix C**

**Speaking Self-Regulation rubric**

**(Student and Teacher)**

Available upon request.

### **Appendix D**

**Backward Design – Lesson Plan**

Available upon request.

**Appendix E**

**Questionnaire for parents**

Available upon request.

**Appendix F**

**AUTORIZACIÓN**

Available upon request.

**Appendix G**

**Padlet**

Available upon request.

**Appendix H**

**Authorization Letter**

Available upon request.

**Appendix I**

**Interview**

Available upon request.

**Appendix J**

**Innovation Chronogram**

Project: Facilitating Self-regulation with Mobile Devices to Improve oral interaction

Available upon request.