Improving Speaking Fluency through 4/3/2 Technique and Self-Assessment Facilitated by Video Recording

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Abstract

This action research aimed to improve students' English-speaking fluency in a school in Los Ríos Province using an adaptation of the 4/3/2 technique and self-assessment of recording videos. A sample of 24 ninth-graders, ranging from 11 to 13 years old, were separated aleatory into a control and an experimental group. Among the participants in the experimental group, 66.7% were female, and 33% were male. In the control group, 50% were female, and 50% were male. The data were obtained through tests, surveys, and interviews. After the implementation, the experimental group showed a significant difference between the pretest (M= 7.83, SD= 1.26) and the posttest (M= 11.00, SD= 1.12) with a $p = 0.00$ with a large impact for learning, Cohen’s $d=2.65$. The results obtained from the pre and post-test revealed that participants improved the speed in speaking English, decreased the number of filled/silent pauses, the number of repetitions, and the number of corrections. Results from the survey and the interview demonstrated that students' perspectives changed in the end. Students had positive opinions on the pedagogical innovation. This research is addressed to the EFL teachers who want to improve their students speaking fluency.

*Keywords: 4/3/2 Technique, Self-Assessment, Video Recording, Speaking, Fluency*
Resumen

Esta investigación de acción tuvo como objetivo mejorar la fluidez del idioma inglés de estudiantes de un colegio de la provincia de Los Ríos utilizando una adaptación de la técnica 4/3/2 y la autoevaluación a través de grabación de videos. Veinticuatro estudiantes de noveno grado, con edades entre los 11 y 13 años formaron parte de la investigación. Los estudiantes fueron divididos aleatoriamente en dos grupos (grupo control y grupo experimental). Los datos analizados se obtuvieron a través de tests, encuestas y entrevistas. Después de la implementación, el grupo experimental mostró diferencias significativas entre el pretest (M = 7.83, SD = 1.26) y el postest (M = 11.00, SD = 1.12) (p < 0.05) mostrando gran impacto para el aprendizaje (Cohen d = 2,65). Los resultados obtenidos del pre y postest revelaron que los participantes mejoraron la velocidad al hablar inglés, disminuyeron el número de pausas, el número de repeticiones y el número de correcciones. Los resultados de la encuesta y de la entrevista demostraron que, las perspectivas de los estudiantes cambiaron positivamente sobre la innovación pedagógica. Esta investigación está dirigida a profesores de inglés que desean mejorar la fluidez de la producción oral de sus estudiantes.

Palabra clave: Técnica 4/3/2, Autoevaluación, Grabación de Video, Producción Oral, Fluidez
Improving Speaking Fluency through 4/3/2 Technique and Self-Assessment

Facilitated by Video Recording

Ecuador adopted officially English as an international language in 1950 under the government of Galo Plaza Lasso (British Council, 2015). Given the importance of this language for international communication in science, higher education, and technology, speaking fluent and accurate English has become necessary and the primary goal for Ecuadorian learners (Joe, 2018). For this reason, the government in the last decades has taken some actions to improve the level of English in the country (Ministerio de Educación y Cultura, 2016).

An agreement, known as CRADLE (Curriculum Reform Aimed at the Development of the Learning of English; Ministerio de Educación y Cultura, 1997a & 1997b), was signed between the Ministry of Education and Culture (MEC) and the British Council. This agreement helped thousands of Ecuadorian teachers to learn more about teaching, and it also modified the national English curriculum. Nowadays, it is focused on the communicative approach, and consequently, it is expected that students leave the high school with a B1 level of English according to the CEFR (Common European Framework of Reference, Ministerio de Educación y Cultura, 2012). However, although all of the efforts taken by the authorities, Ecuador is still considered the country with the lowest level of English-speaking proficiency in South America (Cronquist & Fiszbein, 2017).

Improving speaking is considered one of the most challenging steps for students (Juhana, 2012; Santos & Barcelos, 2018). Learning this skill involves not only cognitive factors but also external such as emotions (Mota et al., 2014). A study conducted by Santos et al. (2020) found out that learners from the Los Ríos province present some negative emotions that hinder their class participation, such as fear, lack of confidence, or shyness; consequently, they are not able to practice their oral skill. Other aspects are the lack of
opportunities to use the language outside the classroom, the lack of vocabulary, and how English is taught in Ecuador (Haboud, 2009). Briones and Ramírez (2011) pointed out that the classes are still teacher-centered, and some teachers only consider the students with high levels resulting in no development of the language competence by the lower level students.

Observations made for this research project at a private school in Los Ríos province report low speaking performance in ninth graders when they tried to express themselves using English. They were not capable of speaking fluently on topics they had already learned, and they were not able to pronounce some words correctly. Researchers have shown two useful ways to improve students speaking fluency. The first one is called 4/3/2 oral repetition technique (Nation, 1989) facilitated by video recording (Chandra, 2007; Christel & Frisch, 2008), and the second one is self-assessment (Ariafar & Fatemipour, 2013; Baleghizadeh & Masoun, 2014; Jamrus & Razali, 2019; Moqbel, 2018, Rodríguez-Ochoa, 2007). Nation (1989) worked with the 4/3/2 oral repetition technique, and his results proved the effectiveness of this technique through a significant improvement in New Zealand students' speaking fluency. The same good results were found by Moqbel (2018) when he worked with self-assessment with university students.

Therefore, since learning is a continuous process (Chanani & Wibowo, 2019) acquired through practice and experiences (Alarcão, 2002), it depends on the teacher to search for methodologies to improve the students’ learning needs through the use of strategies that can be applied in the class. Thus, this innovation aimed to use self-assessment and 4/3/2 technique to improve speaking fluency for ninth-grade students in Los Ríos province, Ecuador. It is the first time these two techniques are used together and are facilitated by video recordings in this province. Then, this study addressed three research questions: 1) To what extent will self-assessment of students' recorded videos and
4/3/2 technique improve speaking fluency? 2) How will the students' perspectives about the innovation change at the end of the study? And, 3) What are students' opinions about the strategies used for this innovation?

**Literature Review**

This innovation applied central studies about speaking, fluency, oral repetition, self-assessment, and Communicative Language Teaching (CLT). This section displays the theoretical foundation of the study used to support the information provided in the investigation.

**Speaking**

The definition of speaking is hard to find because many scholars define it differently (Brand & Götz, 2011; Kessler, 2010; Nakatani, 2010; Woodrow, 2006), but what is similar in all of them is the importance of this skill to language learners.

Eckard and Kearny (1981) and Howarth (2001) defined speaking as an exchange of utterances among people, which involves an authentic communication of ideas, information, or feelings. So speaking is considered cooperation between two or more individuals in shared time. Burns and Joyce (1997) and Luoma (2004) described speaking as producing, receiving, and exchanging information. Additionally, they said that this skill is spontaneous and predictable since the meaning depends on the context, participants, and purpose. For that reason, developing this skill can be difficult for students because it occurs in real-time. So, organizing what to say is not an easy task (Sanchez, 2019), resulting in pressure on the students, which increase the anxiety to speak (Akkakoson, 2016; Mak, 2011)

Brown (2001) classified the spoken language into two types: monologue, when the speakers are giving a lecture and is not interrupted, and dialogue when there is an exchange of information among people, and they use the take-turning process. Both involve the four
communicative competences: grammatical competence, appropriate rule of grammar and use of vocabulary; sociolinguistic competence, aim and norms of communication; discourse competence, organization of oral discourse; and strategic competence, fluency, and accuracy (Canale, 1984).

Speaking is labeled a challenging skill to assess because people can focus on multiple factors and characteristics (Fulcher, 2003); for that reason, some researchers considered it less tangible to evaluate (Isaacs, 2016; Ludenberg, 1929). Teachers face problems when assessing their students speaking due to the forms it can have: monolog, paired conversation, group discussion (Fan & Yan, 2020), and the different conditions it presents: planned or spontaneous (Carter & McCarthy, 2015). Then, a diversity of assessment strategies has been adopted by teachers such as oral portfolios (Cronenberg, 2020), speaking scales and scoring (Hughes, 2002), and technological tools (López, 2019; Sanchez, 2019; Oña, 2019) to help them in this process.

Therefore, to have the reliability of test scores is necessary to use specific and precise measurement tools such as the rubrics (Bachman & Palmer, 1989). To this study, the speaking definition made by Burns and Joyce (1997) and Luoma (2004) was applied because it is the one that matches the purpose of this study.

**Fluency**

Fluency is one of the crucial elements of speaking skills, and this term is connected to "communication" (Harmer, 2007, p. 142). Lennon (2000) defined fluency as "the rapid, smooth, accurate, lucid, and efficient translation of thought or communicative intention into language under the temporal constraints of online processing (p. 26)". So, fluency is not only speed but also social interaction. Fillmore (1979) postulated that fluency is characterized by four different dimensions: a) talk with not many pauses in a specific range
of time; b) talk with cohesion and coherence; c) adapt the speech to different contexts, and
d) be creative in the language and create diverse situations.

In the second language learning context, fluency is viewed as proficiency. When a
student says that someone speaks fluently, it means this person has an adequate level of oral
proficiency in the L2. Students misunderstand this concept because they think fluency is the
ability to speak fast, so when they learn a language and speak rapidly, they think they are
fluent in that language (Browne & Fulcher, 2017). Indeed, fluency is associated with
speed, but not only this aspect needs to be taken into account. It is similarly related to
accuracy. To master a language is necessary to speak it fast and correctly (Hughes, 2002).

Researches on this topic have grown lately in this field (Ginther et al., 2010;
Koponen & Riggenbach, 2000; Lennon, 2000; Luoma 2004) because of the rise of three
different teaching approaches which focus on improving oral fluency: Communicative
Language Teaching (CLT; Littlewood, 1984), Content-Based Instruction (CBI; Tedick &
Wesely, 2015) and Task-Based Instruction (Ellis, 2017). Consequently, techniques to
measure student's oral fluency have also appeared and developed.

The most common aspects of speaking fluency measured by the studies are: First,
rate, the number of syllables spoken by a minute. The bigger the number of syllables, the
higher the fluency (Cucchiarini et al., 2002; Ginther et al., 2010; Kormos & Denes, 2004).
Second, hesitation, connected with the number of pauses that are done in a determined time
(Goldman-Eisler, 1958; Riggenbach, 1991). These pauses can be due to the lack of
vocabulary, time to reformulate the sentence, or just distraction (Park, 2016). There are two
types of pauses: silent pauses (Riggenbach (1991), pauses with no articulations (Park,
2016), which can be categorized by their length: a) micro pause – 0.2 second of silence, b)
hesitation – 0.3 to 0.4 second of silence and c) unfilled pause – 0.5 second or greater of
silence (Riggenbach, 1991) and filled pause, pauses with articulations such as 'Uhm,' 'er,'
and 'mm. Third, repair, repetition of the same speech to make corrections because the speaker said something that is judged inappropriate, wrong, or irrelevant (Jefferson, & Sacks, 1977; Kranke & Christison, 1983; Nagano, 1997; Rabab'ah, 2013; Schegloff, 2007).

In this innovation, the term fluency is understood as the capability of speaking the target language at an appropriate and natural speed (Bygate, 2009) without many pauses as well as the ability to produce grammatically correct sentences (Richards & Theodore, 2001).

**Oral Repetition**

EFL students face problems when speaking in class (Nakatani, 2010; Santos & Barcelos, 2018). A way that teachers can help students develop this skill is oral repetition. This technique first appeared during the Audio-lingual Method, and it was used from 1940 to 1960. It is characterized by students repeating drills given by the teacher (Brown, 2001).

Using this strategy has shown many advantages for teachers. Jin (2006) and Kellem (2009) stated that an excellent way to increase verbal fluency is to use the same language many times. Bradlow et al. (1997) and Wang et al. (2003) found that using repetitions in class improved L2 student's phonetics perceptions as well as their oral production.

However, with the arrival of the Communicate Language approach, oral repetition has lost its prestige. Wong and VanPatten (2003) declared that drills are not necessary or beneficial anymore. Nonetheless, Tice (2004) said the opposite; he affirmed that drilling remains a useful technique if used appropriately.

Starting from the assumption that this technique brings good results when used correctly, this research applied oral repetition through a video recording tool to improve ninth-graders' speaking fluency.

**4/3/2 Technique**
The 4/3/2 technique or timed monologue was created by Maurice (1983) to help students improve their speaking fluency. This technique invites students to give the same talk three different times; the length of each time decreases to make students accelerate the way they speak. It was demonstrated by Boers (2014) and de Jong and Perfetti (2011) that when students have to use the same speech repeatedly, the function embeds these statements in their memory and makes them easily recoverable for future use.

Nation (1989) and Yang (2014) concluded that this technique is ideal for improving students' fluency. Zhou (2006) corroborated with this idea and added that 4/3/2 does not only enhance students' speaking ability but also increases the students' accuracy. Many authors have worked with this technique to improve students’ fluency in different contexts. However, Table 1 shows that most studies focused on the university context and few of them in the school. In Ecuador, one study was conducted with teenagers and adults from a private language school in Guayaquil.

Table 1.

4/3/2 Technique studies landscape

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Participants</th>
<th>Level</th>
<th>Type</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arevart &amp; Nation</td>
<td>1991</td>
<td>Adults</td>
<td>B1</td>
<td>Quanti</td>
<td>University/USA</td>
</tr>
<tr>
<td>Asri &amp; Muhtar</td>
<td>2013</td>
<td>-</td>
<td>-</td>
<td>Quant</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Boers</td>
<td>2014</td>
<td>Adults</td>
<td>mixed</td>
<td>Quanti</td>
<td>University/New Zealand</td>
</tr>
<tr>
<td>Yang</td>
<td>2014</td>
<td>Adults</td>
<td>B1</td>
<td>Quali</td>
<td>University/China</td>
</tr>
<tr>
<td>Molina &amp; Briesmaster</td>
<td>2017</td>
<td>Adults</td>
<td>-</td>
<td>Mixed</td>
<td>University/Chile</td>
</tr>
<tr>
<td>Yufrizal</td>
<td>2018</td>
<td>Adults</td>
<td>-</td>
<td>Quanti</td>
<td>University/Indonesia</td>
</tr>
<tr>
<td>Permata et al.</td>
<td>2019</td>
<td>Teenagers/adults</td>
<td>-</td>
<td>Quant</td>
<td>School/Indonesia</td>
</tr>
<tr>
<td>Sánchez</td>
<td>2019</td>
<td>Teenagers/adults</td>
<td>A2</td>
<td>Mixed</td>
<td>Language School/Ecuador</td>
</tr>
</tbody>
</table>

Source: the author

Based on the remarkable results from those studies, except for Asri and Muhtar (2013), who had no significant improvement, the 4/3/2 technique seems to be an excellent teaching method to improve students' speaking fluency. Therefore, in this research project, students from ninth grade in a private school in Los Rios had to record the same video three
times. The first with 90 seconds of duration, the second with 75 seconds, and the third with 60 seconds.

Self-Assessment

Assessment is a vital element of the teaching and learning process. It can improve teacher's practices and students' learning (Moqbel, 2018). Another importance is the fact that it can give teachers and students feedback. A field that emerges from the assessment is called self-assessment.

Self-assessment has gained much attention in the current language teaching context (Saltos, 2019; Vega, 2019). It happens because it accentuates the independence and autonomy of the student (Ariafar & Fatemipour, 2013; Baleghizadeh & Masoun, 2014; Jamrus & Razali, 2019; Moqbel, 2018; Rodríguez-Ochoa, 2007).

Self-assessment is the process that allows students to self-reflect on their learning. It does not mean that students give them grades, as said by Moheidat and Bani Abdelrahman (2011), but make them reflect upon their performance, ability, or progress. This practice presents some beneficial features for the learners: It encourages responsibility (O'Malley & Valdez, 1996), engages learners in the learning (Paris & Ayres, 1994), and makes students aware of the learning process (Butler & Lee, 2010).

However, some researchers have suggested that students have the predisposition to state what they cannot do or what is hard to do rather than what they can do (Bachman & Palmer, 1989; Esfandiari & Myford, 2013); most of the time, learners overestimate their performance. What is necessary to do to avoid this situation is to make the self-assessment process a habit in the class (Muñoz & Alvarez, 2007; Nunan, 1992) and working with rubrics because these tools elucidate the targets for their work (Ross, 2006). Phan and Phuong (2017) confirmed this hypothesis when they applied rubrics for their students to
assess their speaking fluency. They realized that the participants became more conscious about how they speak in class and improved their oral fluency.

Some studies have tried to explore speaking self-assessment and fluency (Alibakhshi & Sarani, 2014; Babaii et al., 2016; Moqbel, 2018; Phan & Phuong, 2017). Alibakhshi and Sarani (2014) worked with 60 EFL Iranian students in a language institute and used self-assessment to improve their speaking fluency and accuracy. They had positive results and realized that by the end of the study, students became more critical in their learning. Hence, this research asked students to self-assess themselves after each video they made. Also, they received feedback from the teacher.

**Communicative Language Teaching (CLT)**

Communicative Language Teaching principles were taken into account in designing the lesson plan for this research because CLT focuses on engaging students in communication to improve their communicative competence (Kasumi, 2015; Richards, 2006;). According to Thamarana (2015), CLT has many advantages. Firstly, he said that this method improves speaking competence. Secondly, he said that students have meaningful learning because they learn what they have to use in their daily life. Thus, when students work with this approach, they tend to develop their speaking skills.

**Backwards Design**

The backward design begins with the final task (assessment) and the goals in mind (Wiggins & McTighe, 2005). This approach lies in three stages: 1. identifying desired outcomes; 2. determining acceptable assessment evidence; and 3. learning plan experience. All of them propose what students can do with the knowledge learned in meaningful contexts and how they can transfer learning.

The lesson plan template used for this innovation was based on the backward design (Wiggins & McTighe, 2005), whereas it works with real learning situations, it is done for
the benefit of the students’ learning, and it focuses on the student-centered approach. Hodaeian and Biria (2015) and Rea and Román (2018) implemented backward design in their classes and noticed a breakthrough in students’ learning.

**Computer-Assisted Language Learning (CALL)**

Some researchers realized that they need to include technology in class to facilitate the learning process (Anil, 2016; Charles & Issifu, 2015; Chiramel, 2014; Joyes et al., 2009; Levy, 1997; MacKeogh, 2003; Singh, 2015) and motivate students to learn (Brown, 2007). Levy (1997) defined CALL as how technology is applied in class to reach the learning goal. Its use has improved the educational field since it makes learning focused on the student (Gray, 2008).

Barrot (2016) used Facebook as an e-portfolio platform in the EFL/ESL writing classrooms and noticed progress in her students’ writing. Oña (2019) worked as well with social media, he implemented the use of WhatsApp to record his student's oral production, and as a result, he boosted his students' oral accuracy. Rivera (2019) encouraged participation, engagement, and collaboration in a university classroom through the ClassDojo app.

Based on the useful previous theoretical framework, this research aimed to use technology (mobile phone, tablet, or computers) as a way to record videos of students’ timed monologue-speech objecting improvement of their oral fluency. These recordings facilitated student and teacher assessments.

**Making Videos in EFL**

EFL and ESL teachers have adopted video-recording in their classes in the last decade (Ahn & Lee, 2016, Chandra, 2007; Christel & Frisch, 2008; Prema & Kumar, 2018; Soto et al., 2017). The literature on its use to enhance students' speaking skills in language learning offers several advantages, either for teachers and students. Teachers can reflect on
their teaching and search for improvement (Menggo et al., 2019). Students can flourish critical thinking by self-observing and assessing their linguistics and non-linguistic speaking usages (Savaş, 2012) with videos. Students can practice their speech and make it again if necessary (Bajrami & Ismaili, 2016). Furthermore, the most important, video recording can engage students in learning (Çakir, 2006).

Some apps and platforms can be used to record videos, but for this research project was chosen Flipgrid. This app is a video discussion platform designed by Microsoft to engage students in recorded conversations (Chaka & Nkhobo, 2019; Green & Green, 2017). This app has been used in the educational field because it facilitates social learning and permits teachers to answer students verbally or by videos in a grid (McLain, 2018). Green and Green (2017) employed Flipgrid to engage students in online discussions, and Stoszkowski (2018) worked with Flipgrid to develop social learning at the University of Central Lancashire. Chaka and Nkhobo (2019) used Flipgrid and another app to measure student engagement in an institution in South Africa. All of these researchers demonstrated the importance of working with videos in class.

**Innovation**

This pedagogical innovation was done in light of the principles of Communicative Language Teaching because it was expected that students improve their speaking fluency. The lesson plan used for this innovation (Appendix 1) focused on a real-life context promoting real communication. The goal was to teach students movies, tv-series and giving opinions vocabulary so that, in the long run, and on their own, they could speak fluently, accurately, and participate in a conversation about topics of their interest. To reach this objective, changes in the classroom roles were necessary.

Students were the principal agent of learning, and the teacher was a guide to the learning process. Furthermore, some strategies were needed to be taken to capture student
attention and spark interest. The teacher set the scene to involve students in the innovation; they were famous YouTubers who had a channel which focused on giving movie and tv series review. Recently their favorite movie or tv series was released, so they had to make a new video to the channel to tell their followers their opinion about it.

First, the teacher scaffolded students with all the necessary information they needed to record a video and make a movie review; each class approached a different part of the research. The vocabulary was introduced through games and role-plays, then the verb tenses were explained through real contexts to make sure students understood their uses, the genre movie review was presented through videos and later compared with other kinds of genres to check if students know its specific characteristics. After each activity, feedback was provided by the teacher to each student to show them their breakthroughs. During all the activities mentioned, students practiced the 4/3/2 technique, sometimes in a group, sometimes with all the class; they had to give small talks about the topic of the class.

Finally, students were required to record three videos about a movie or tv series review using Flippgrid (Appendix 2). Each video had a different length. After learners recorded each video, they were shown in class, and students had to self-assess themselves using rubrics looking for improvement to the next video to become better (Appendix 3). Also, the teacher provided feedback for each student.

Methodology

This study is considered action research because the author investigated his educational context to improve students' learning (Ferrance, 2000). First, the author stated a problem, second collected data, third analyzed the problem, fourth, planed an action, fifth, implemented the action, and finally evaluated the outcomes after executing the solutions (Johnson, 2020). This study used qualitative and quantitative instruments to examine how self-assessment of video recordings and the 4/3/2 technique improve speaking fluency.
Setting and Participants

A sample of 24 ninth-graders from a private school in Los Ríos province, with ages from 12 to 13 years old, participated in this study. They were separated aleatory into a control group and an experimental group. Among the participants in the experimental group, 66.7% were female, and 33.3% were male. In the control group, 50% were female, and 50% were male. The participants did the Cambridge exam at the beginning of the year, and they pursue the A2 level of English.

The participants presented different contexts of learning English, some of them learned in school, and some of them learned in the USA. They all considered having good speaking fluency nowadays as very important, and each one of them showed reasons for learning English as a love for the English language and life opportunities. They presented some difficulties in learning English; these difficulties were related to speaking skills.

Regarding the use of technology, all participants had access to the internet at home and had some kind of technological device that can be used for learning as tablets, computers, and smartphones. Table 2 displayed below presents a summary of the experimental group participants' social demographic information. Each participant chose a pseudonym according to the ethical considerations' procedures to keep private their anonymity.

Table 2:

Experimental Group Participants socio-demographic profile

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age</th>
<th>Where learned English?</th>
<th>Why learned English?</th>
<th>Difficulties in English</th>
<th>Importance to have a good speaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitoria</td>
<td>Female</td>
<td>13</td>
<td>School</td>
<td>Life opportunities</td>
<td>Pronunciation</td>
<td>Very important</td>
</tr>
<tr>
<td>Domenica</td>
<td>Female</td>
<td>13</td>
<td>USA</td>
<td>To help in future jobs</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Ariana</td>
<td>Female</td>
<td>12</td>
<td>School</td>
<td>Love for the language</td>
<td>Pronunciation</td>
<td>Very important</td>
</tr>
<tr>
<td>Flor</td>
<td>Female</td>
<td>13</td>
<td>School</td>
<td>Travel and meet new people</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Morie</td>
<td>Female</td>
<td>13</td>
<td>School</td>
<td>Job and opportunities in life</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Paula</td>
<td>Female</td>
<td>13</td>
<td>USA</td>
<td>Love for the language</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Gladys</td>
<td>Female</td>
<td>12</td>
<td>School</td>
<td>Love for the language</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Alejandra</td>
<td>Female</td>
<td>13</td>
<td>School</td>
<td>Love for the language</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
<tr>
<td>Kelvin</td>
<td>Male</td>
<td>12</td>
<td>School</td>
<td>Importance of the language</td>
<td>Pronunciation</td>
<td>Important</td>
</tr>
<tr>
<td>Nanzo</td>
<td>Male</td>
<td>13</td>
<td>School</td>
<td>Opportunities in life</td>
<td>Speaking</td>
<td>Very important</td>
</tr>
</tbody>
</table>
Instruments

The instruments were designed to collect the data to answer the three research questions. The independent variables were the self-assessment of students' recorded videos as well as the 4/3/2 technique, and the dependent variable was students' speaking fluency.

Quantitative Data

Pre and Posttest

Students were required to record two videos that were used as a speaking test, one made at the beginning of the innovation (pretest) and one made at the end of the innovation (posttest). Both videos were done during the online classes not to have editions made by the students and look more real. A rubric (Appendix 4) was used to measure to what extent self-assessment of students' recorded videos and 4/3/2 technique improve speaking fluency. This rubric focused on three different aspects of speaking fluency: rate, hesitations (breakdown), and repair. Table 3 shows how each calculation was made.

Table 3

<table>
<thead>
<tr>
<th>Aspect</th>
<th>No.</th>
<th>Acoustic measures</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed fluency</td>
<td>1</td>
<td>Mean length of words (MLW)</td>
<td>Log (spoken time/number of words)</td>
</tr>
<tr>
<td>Breakdown fluency</td>
<td>2</td>
<td>Number of silent pauses (NSP)</td>
<td>Number of silent pauses / spoken time</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Number of filled pauses (NFP)</td>
<td>Number of silent pauses / spoken time</td>
</tr>
<tr>
<td>Repair fluency</td>
<td>4</td>
<td>Number of repetitions (NR)</td>
<td>Number of repetitions / spoken time</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Number of corrections (NC)</td>
<td>Number of corrections / spoken time</td>
</tr>
</tbody>
</table>

Adapted from Bosker et al. (2012)

Demographic and Pre and Post Survey

Two types of questionnaires were applied in this research. The first, a socio-demographic survey (Appendix 5), aimed to get to know the participants. It contained questions like name, surnames, English learning background, access to technology, and the
internet. The second questionnaire, which was applied twice, was a pre-and post-survey (Appendix 6) that follows the Likert Scale style (1 – Strongly Agree and 5- Strongly Disagree). The first time was done to see student's previous knowledge on fluency, self-assessment, and their opinions on working with videos and oral repetition to learn English. Moreover, the second time, at the end of the innovation, to see if something has changed. The questionnaire was in Spanish to make it clear for the participants.

**Qualitative Data**

**Interview**

Semi-structured interviews (Appendix 7) were conducted with each participant to check their perspective on the innovation and their speaking fluency development point of view. Each interview took 10-15 minutes, was video recorded under the participants’ authorization, and was done using the Zoom platform. This interview was conducted in Spanish because of the English level of the participants. Later it was translated into English.

**Data Collection and Analysis**

**Pre and Posttest**

The researcher used the software JWatcher 1.0 to obtain the number of silent pauses, the number of silent pauses in seconds, the number of filled pauses, the number of repetitions, and the number of corrections in the pre-post video from the experimental and control group. JWatcher is a software used to quantify behavior (Blumstein et al., 2012). This software helped to create reliability in the results. It was the first time this software was used for educational purposes. Then, each video was transcribed in order to count the number of words. Second, with the results from the JWatcher, the rubric was used to assess students and get their final grades.

Later the data was moved to the SPSS 25 statistical program to obtain the mean and standard deviation. A paired t-test was run to identify if there was a significant value
between the means of the pre-and post-tests from both groups by calculating the p-value (significance) and the effect size (Cohen's d). If the p-value is less than 0.05, it presents a high level of significance by rejecting the null hypothesis (Altman & Krzywinski, 2017; Gehlbach & Robinson, 2018). According to Thalheimer and Cook (2002), each value obtained from the effect size (Cohen's d) has different meanings: small, if the value is 0.20, medium with 0.50, and large with 0.80. Afterward, an independent t-test was carried out to compare the post video results from the experimental and control group.

**Pre and Post-survey**

The statistical program SPSS 25 was used to calculate the mean, standard deviation, and mean difference from the pre-survey and post-survey. Furthermore, a paired sample t-test was run to identify if there was a significant value between the means of students' perspectives in the beginning and after the innovation. Finally, the Cronbach Alpha coefficient (Cronbach, 1951) was calculated to measure the reliability of the surveys. According to George and Mallery (2003) the results obtained have the following meanings: a) Excellent, > 0.9; b) Good, > 0.8; c) Acceptable > 0.7; d) Questionable, > 0.6; d) Poor > 0.5; and d) Unacceptable < 0.5.

**Interview**

An interview was conducted in Spanish on September 4th, 2020, with all the participants via the Zoom platform. It lasted 10 minutes. After, the interview was transcribed, translated to English, and reviewed. The process of analyzing the interview was based on Holliday (2005). First, the interviews were read to have a general idea of the participants' answers. Later, the researcher sought for opinions of the students regarding the two techniques used in the study (4/3/2 and self-assessment) and recording videos in class.

Next, the researcher grouped the most recurrent opinions according to the techniques and use of videos. In the 4/3/2 appeared the following four themes: a) Increase
Speaking speed; b) decrease words repetitions; c) express better in English, and d) anxious to speak. For self-assessment, there were two different topics: a) Awareness of the mistakes; b) Awareness of the learning. Moreover, for recording videos, there were also two common topics: a) Practice and b) Decrease the shyness to speak with classmates. Finally, one week after finishing, the same process was done again to check if something new appeared and improve the results, but nothing changed.

**Ethical Considerations**

This action research followed the procedures of ethical considerations (Kaewkungwal & Adams, 2019). First, the researcher asked permission to apply the pedagogical innovation in the school (Appendix 8). Later, the author explained to the participants the objective of the research, got consent and authorization from the parents (Appendix 9). Hesse-Biber (2016) postulated the importance of doing these steps when working with teenagers.

Besides, the author made sure to have only voluntary participation (Hogan, 2008) and protect the privacy and anonymity of the research participants through the use of pseudonyms (Tolich & Iphofen, 2019). For the tabulating and interpreting the data, students' names were replaced with pseudonyms (Vega, 2019). These steps were made because the author believes that ethical behavior is fundamental for symbiotic work since it triggers a reliable atmosphere between researchers and participants (Grady, 2010).

**Results**

This section displays the results gathered from the qualitative and quantitative data. It is presented according to each research question.

**Research question # 1. To what extent will self-assessment of students' recorded videos and 4/3/2 technique improve speaking fluency?**
The results obtained from the fluency rubric in the pre and post-test to answer question number one are presented in two different ways. Firstly, it is displayed the general results, and secondly, it is demonstrated the results in a detailed way.

**General Results from Fluency Rubric**

The author run a paired t-test in the SPSS to compare the pre and posttest of the experimental and control group. Table 4 demonstrates that the experimental group showed a significant difference between pre-implementation (M= 7.83, SD= 1.26) and post-implementation (M= 11.00, SD= 1.12) scores when examining all the sample together; t(11)= -9.19 and p = 0.00 with a large impact (d=2.65). On the other hand, the control group showed a not significant difference between pre-implementation (M= 8.00, SD= 1.34) and post-implementation (M= 8.25, SD= 0.86) scores when examining all the sample together; t(11)= -0.583 and p = 0.571 with a small impact (d=0.22).

<table>
<thead>
<tr>
<th>Paired Sample t-test Results from Experimental Group and Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental (N=12)</strong></td>
</tr>
<tr>
<td>Test</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Pre</td>
</tr>
<tr>
<td>Post</td>
</tr>
<tr>
<td><strong>Control (N=12)</strong></td>
</tr>
<tr>
<td>Test</td>
</tr>
<tr>
<td>Pre</td>
</tr>
<tr>
<td>Post</td>
</tr>
</tbody>
</table>

Note: N= sample M= mean SD= standard deviation Min= Minimum Max = Maximum Sig (P): Significance Es= effect size

The results suggest that the experimental group improved their speaking fluency by the end of the pedagogical innovation, which meets the goal of the research.

An independent t-test was also carried out to compare the post-test results from the experimental (M = 11.00, SD = 1.12) and control group (M = 8.25, SD = 0.86). The outcomes, as demonstrated in table 5, shows that there was a statistically significant
difference because the p-value ($p = 0.000$) is less than 0.05; also, the alpha value is $d = 2.75$, greater than 0.08, which means that the implementation had a large effect. These results proved that both groups improved their speaking fluency, but the students from the experimental group had a substantial improvement compared to the control group.

Table 5

Experimental and Control Post-test

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Post</td>
<td>11.00</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Note: N= sample M= mean Sd= standard deviation Sig (P): Significance Es= effect size

**Detailed Results from each Descriptor of the Fluency Rubric**

The researcher conducted another paired sample t-test to compare each aspect from the rubric to look for considerable changes in the experimental group. The results exhibited in table 6 revealed that the participants had significant changes in four different features.

Students increased the number of words spoken per minute decreased the number of silent pauses, the number of filled pauses, the number of repetitions, and the number of corrections.

Table 6

Experimental Group Rubric results.

<table>
<thead>
<tr>
<th></th>
<th>Experimental Group - N = (12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
</tr>
<tr>
<td></td>
<td>Number of words</td>
</tr>
<tr>
<td>Mean</td>
<td>97.75</td>
</tr>
<tr>
<td>SD</td>
<td>19.64</td>
</tr>
<tr>
<td>Min</td>
<td>71</td>
</tr>
<tr>
<td>Max</td>
<td>131</td>
</tr>
</tbody>
</table>

|       | Post-test                   |
|       | Number of words             | Number of silent pauses | Total of silent pauses in sec | Number of filled pauses | Number of repetitions | Number of corrections |
| Mean  | 136.08                      | .25                    | .92                            | 1.50                   | .83                 | .58                |
| SD    | 17.61                       | .622                   | 2.23                           | 1.38                   | .577                | .515               |
| Min   | 108                         | 0                      | 0                              | 0                      | 0                   | 0                  |
| Max   | 167                         | 2                      | 7                              | 4                      | 2                   | 1                  |
Participants changed their perspectives in some aspects from the beginning until the end of the innovation. Now, they know what fluency, oral repetition, and the 4/3/2 technique are. Additionally, they believe that they speak English at an appropriate speed. Through the students’ experience, they affirmed that oral repetition and self-assessment
could improve their speaking fluency. Finally, working with technology has built learners’ confidence, but they still find it challenging to learn with ICTs.

Research question # 3. What are the students' opinions about the strategies used for this innovation?

The most common opinions of the students about the techniques 4/3/2, self-assessment, and making videos were grouped into similar categories: the 4/3/2 technique has six; the self-assessment has two, and making videos has two. Table 8 shows the number of times each category appeared in the students' utterances.

Table 8

<table>
<thead>
<tr>
<th>Technique</th>
<th>Category</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/3/2</td>
<td>Repetition provides the practice</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Increase speaking speed</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Decrease words repetitions</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Be able to express better in English</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Anxious to speak</td>
<td>1</td>
</tr>
<tr>
<td>Self-Assessment</td>
<td>Awareness of the mistakes</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Awareness of the learning</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Search for the perfection</td>
<td>4</td>
</tr>
<tr>
<td>Recording videos</td>
<td>Practice</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Decrease the shyness to speak with classmates</td>
<td>3</td>
</tr>
</tbody>
</table>

The 4/3/2 technique presented four positive categories and one negative category. Students reported that using this method helped them improve their learning in different ways. All of them said that repeating the same speech at different times provided them practiced and raised their confidence about what to say. Two students stated that they increased their speaking speed and one said she decreased her words repetitions. Both opinions can be confirmed in their pre and post-test results. However, one student presented a negative opinion about using this technique. She revealed that during the time she had to speak faster, she became tenser. Table 9 shows students' opinions about this technique.

Table 9
Students’ opinion about the 4/3/2

<table>
<thead>
<tr>
<th>Category</th>
<th>Students’ opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetition provides the practice (12)</td>
<td>I am practicing more so that when I have to speak in English again,</td>
</tr>
<tr>
<td>Increase speaking speed (3)</td>
<td>I can do it faster because I already practice it. (Alejandra, interview)</td>
</tr>
<tr>
<td>Decrease words repetitions (1)</td>
<td>Because repeating, for example, a paragraph, a story many times makes you speak faster. (Ariana, interview)</td>
</tr>
<tr>
<td>Express better in English (2)</td>
<td>I have learned not to repeat the same words when I am speaking and to speak fluently. (Paula, interview)</td>
</tr>
<tr>
<td>Anxious to speak (1)</td>
<td>It helped me to speak a little faster. However, on the other hand, it is a little more complicated because I get tense when I have to speak faster. Imagine that I was worse than Eminem trying to speak fast and without stopping me because I stop a lot in English. (Morie, interview)</td>
</tr>
</tbody>
</table>

Regarding the self-assessment, all the opinions were positive. The twelve participants stated that this technique helped them become aware of their mistakes, and consequently, they became conscious of their learning, which motivated them to learn more. Table 10 presents the students’ opinions about self-assessment.

Table 10

Students’ opinions about self-assessment.

<table>
<thead>
<tr>
<th>Category</th>
<th>Students’ opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of the mistakes (12)</td>
<td>I always repeated a word that I think was AND, and it helped me because now I try to search for new words in order not to say the same ones (Gladys, interview)</td>
</tr>
<tr>
<td>Awareness of the learning (2)</td>
<td>Being honest with myself, it helped me to know what I was missing and what I was not missing. I could not fool myself because I knew what I had. (Domenica, interview)</td>
</tr>
<tr>
<td>Motivation to learn (3)</td>
<td>Because we see in what we are wrong, in what we have to improve, in what we did well, and that motivates us to improve it (Andrew, interview)</td>
</tr>
</tbody>
</table>

Finally, the opinions of students about recording videos were almost the same from the two techniques. Using videos to the participants allowed the participants to practice and reflect on their learning. Moreover, in some cases, they built confidence due to the number of times of recording. Table 11 displays the students’ opinions.
Table 11

Students’ opinions about recording videos

<table>
<thead>
<tr>
<th>Category</th>
<th>Recording Videos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice (9)</td>
<td>When I am recording videos, sometimes, I have to repeat them, and with this, I have learned more because I am memorizing some words. (Flor, interview)</td>
</tr>
<tr>
<td>Decrease the shyness to speak with classmates (3)</td>
<td>When you get used to making videos, you lose your shyness. (Simón, interview).</td>
</tr>
</tbody>
</table>

Both techniques had a favorable reception from the students. They demonstrated in their opinions and confirmed by the results they learned during the pedagogical innovation, and both techniques generate learning.

Discussion

Regarding the first research question, this study demonstrated that A2 level students could improve their speaking fluency through repetitions and self-assessment. Students were able to increase the number of words spoken per minute, decrease the number of silent pauses, the number of filled pauses, the number of repetitions, and the number of corrections. So, the techniques met the expectations as demonstrated by other researchers (Boers, 2014; Molina & Briesmaster, 2017; Permata et al. 2019; Sánchez, 2019; Yang, 2014; Yufrizal, 2018).

The results in this study go against the findings of Asri and Muhtar (2013) on the use of the 4/3/2 technique. According to these two authors, students did not have significant results because they feel boredom as this technique did not allow them to interact with the other classmates. Asri and Muhtar (2013) might have had this problem because they worked with just one technique, contrary to this study, which combined two methods.

Kelvin, one of the participants during the interview, confirmed this thought when he said:
Working separately on the techniques would not help much, but when using the 4/3/2, we have to increase our speed and the self-assessment to reflect on our learning, we can learn better. Self-assessment gives us a kind of motivation to keep improving, trying, and doing it faster the next time. They make a good team. (Kelvin, interview)

The 4/3/2 technique nurtured in students the importance of speech organization and taught them about the metacognitive strategies (Woodrow, 2006). When students prepared beforehand what they had to say, they become confident. The act of preparing what to say before says it has helped students to decrease anxiety and increase confidence to speak (Akkakoson, 2016; Mak, 2011). Another aspect was that when the learners delivered the same speech three different times, they were memorizing and practicing the vocabulary (Jin, 2006). Each time they showed progress, which confirmed the findings on the efficiency of repetitions to increase faster speech (Boers, 2014; Nation, 1989; Thai & Boers, 2016). Therefore, students became motivated to participate since they saw their improvement. Brown (2007) said that motivation is one emotional variable that should be considered in class.

On the other hand, self-assessment fostered reflection in the students. The role of the educator is to make students critical about their learning in order to seek changes. When students had the opportunity to see their mistakes, they became aware of their learning process. They reflected on their English speaking, and little by little, they changed the aspects they judged they did wrong.

Two different steps made students give accurate and reliable self-assessment. One was the rubrics; without them, students would have focused on different aspects that were not necessary (Ross, 2006). The rubrics played a critical role in helping students focused on
what was significant according to the goal of the study. The second one was the proper training; students self-assess and did peer assess many times. Each time the researcher gave them proper feedback. So, in the end, the practice leads learners to the correct way of doing the whole process (Muñoz & Alvarez, 2007; Nunan, 1992).

Concerning the second question, students changed their perspective in some aspects of the questionnaire. This change demonstrated that learning is an ongoing and continuous process (Chanani & Wibowo, 2019). It was expected that students change their points of view throughout the class; the survey results indicated that they are actively learning and they are engaged in the whole process. Hence, it showed that learning is not only made in the cognitive plan, but it is also constructed through experiences of daily life (Alarcão, 2002).

The interview questions were designed to check students' opinions about the strategies used in this pedagogical innovation. In general, students presented positive opinions about the whole process of the classes. They reported that they learned about writing a movie review since this was the main topic of the lesson plan: "I also learned how to write a movie review. Now I know how to make movies or series critique" (Vitoria, interview). This student informed that now she is also able to make movie critiques. Furthermore, the learning was not only about the language content. One participant reported that this innovation helped him with 21st-century skills such as working in groups: "I also learned a little to share with my classmates and work in groups" (Nanzo, interview).

Finally, the use of technology was an essential ally to this pedagogical innovation. Working with technological tools made the class more student-centered and personalized learning (Joyes et al., 2009). The video recordings aligned with self-assessment and the 4/3/2 technique permitted students to improve their cognitive and emotional plan. The
videos allowed the researcher to have a better visualization of the students speaking test and differentiate some aspects of the rubric; for example, the filled pauses with silent pauses.

Video recording also had optimistic impacts on the participants. Students got motivated by using videos in class (Çakir, 2006; Soto et al., 2017). The fact of editing their videos, adding effects, and make the way they desired increased their motivation to do their best and promoted learners' engagement in the class (Prema & Kumar, 2018). However, it was not only in the emotional context that recording videos had positive impacts. It also affected the students learning. The video of one minute and thirty second and one minute and fifteen seconds, students were required to do it at home. So, they could do as many times as they want until they meet their expectations. Each video recording was a different time of practicing English (Bajrami & Ismaili, 2016), which helped students improve their speaking fluency.

**Conclusions**

Improving speaking fluency, as stated in the literature review, is one of the most challenging procedures for a learner because it involves many external factors. Thereby searching for different ways to help students depend on the teacher. This research has demonstrated two useful techniques that can be applied by teachers at any level and at any time. The results have demonstrated considerable outcomes in learning improvement and consequently showed the importance of this study for learners and educators. The 4/3/2 evidenced to students the importance of planning, practicing, and repeating; on the other side, the self-assessment revealed the importance of feedback. Both techniques indicated to students that they could be autonomous toward their learning, and they can search by themselves different ways to reach their goal as a learner, making them the primary agent of their learning.
However, if students do not feel comfortable using the techniques chosen by the teacher, they might feel demotivated to learn, and the results can be influenced. For this reason, it is recommended to get to know the students’ opinions and perspectives on the methods used in order to select the appropriate method for that specific learning context. Teachers can conduct interviews or apply surveys to reach these goals. In this study, the interview helped the researcher to identify that even though one student had an improvement in her fluency, she did not feel comfortable using the 4/3/2 technique. On the other side, the surveys helped to see which aspect of the pedagogical innovation, students changed their perspectives based on their beliefs.

Finally, it is essential to highlight the importance of undertaking action research in the educational context. This type of study benefits both: students and teachers. It allows the educator to test different possibilities and methods to find solutions to a situation in the classroom. The results collected helped the teacher to understand better the teaching context resulting in the development of critical thinking. Through the outcomes, teachers can become more motivated and search for new methodologies until they find the most appropriate and effective technique/method for their students. For those reasons, learners tend to be part of a positive learning environment with approaches explicitly designed for them.

**Limitations**

This research presented some limitations. The first one is related to the way the classes were taken. As students were not used to online classes, this might have influenced the learning process. Finally, the sample size, the ninth class, only contained 24 students, and as they were separated into an experimental and control group, the size was not big enough, which might affect the absence of variability in the results and the possibility to generalize the effects of both techniques.
Recommendations

Future researchers could improve this study by taking some actions differently:

First, having a significant sample and having a larger number of classes in order to be able to generalize the results. Second, working with students of different levels than A2, especially with higher levels, to see and compare the efficiency of these techniques in other contexts. Finally, as a pre and post-test, researchers can use role-plays activities to see if, during improvisations, students are aware of their mistakes or their speaking speed.
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https://doi.org/10.1121/1.1531176


Appendix 1

Lesson Plan

Available upon request.
Appendix 2

Flipgrid

Available upon request.
Appendix 3

Speaking Self-assessment checklist

Jardel Coutinho dos Santos
Candidato(a) a Máster.

Name: ________________________________________ Date: ____________________

Available upon request.
Appendix 4

Fluency Rubric

Student name: __________________________________________________________
Date: ____________________

Available upon request.
Appendix 5

Demographic Information/ Información Demográfica

Name: ________________________

Available upon request.
Appendix 6

Pre- and post-survey

Available upon request.
Appendix 7

Semi-structured interview: students' perception of innovation

Interview Questionnaire

Available upon request.
Appendix 8

School consent letter

Available upon request.
Appendix 9

Parents’ consent letter

Available upon request.
Appendix 10

Experimental Group Detailed Results

Available upon request.
Appendix 11

Control group detailed results

Available upon request.
Appendix 12

Pre- and post-survey results

Available upon request.
Appendix 13

Interviews in Spanish

Available upon request.
Appendix 14

Movie Review Example by the Students

Available upon request.