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Alfabetización

Digital y hábitos básicos
de autorregulación de
aprendizaje de inglés
como lengua extranjera
en población infantil

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Abstract

This article is a report on how a group of young learners improved their speaking skill and sub-skills and enhanced their self-regulation by means of digital literacy in their process of learning English as a foreign language (EFL). The main goal of the investigation was to determine the possible effect of using Information and Communication Technology (ICT) tools on overcoming the difficulties that a group of first graders had when expressing progressive actions orally. The study was done with a group of first graders in a private school of Bogotá. Data was collected by means of questionnaires, semi-structured interviews, voice recordings and a form to be completed by the students' parents. The results indicate that the students improved their speaking skills, particularly in regards to intonation, pronunciation, and extent when expressing continuous actions, besides fostering some basic self-regulatory attitudes.

Keywords

young learners; digital literacy; speaking skills; self-regulation; EFL (English as a foreign language)

Resumen

Este es el informe de una investigación acerca de cómo un grupo de niños mejoró sus habilidades y micro habilidades de expresión oral y su autorregulación por medio de la alfabetización digital en su proceso de aprendizaje de inglés como lengua extranjera. El objetivo principal de esta investigación fue determinar el efecto del uso de herramientas de la tecnología de la información y la comunicación (TIC) en la superación de la dificultad de un grupo de estudiantes de primer grado al expresar acciones progresivas de manera oral. El estudio se llevó a cabo con un grupo de niños de primer grado en un colegio privado de Bogotá. Los instrumentos utilizados para la recolección de datos fueron cuestionarios, una entrevista semiestructurada, grabaciones de audio y un formato para que los padres diligenciaran. Los resultados indican que los estudiantes mejoraron las micro habilidades de expresión oral, tales como entonación, pronunciación y extensión, además de desarrollar algunas actitudes básicas de autorregulación.

Palabras clave

Estudiantes jóvenes; alfabetismo digital; expresión oral; autorregulación; inglés como lengua extranjera

Resumo

Este é o relatório de uma pesquisa sobre como um grupo de crianças melhorou suas habilidades e micro-habilidades de expressão oral e sua autorregulação mediante a alfabetização digital em seu processo de aprendizagem de inglês como língua estrangeira. O objetivo principal desta pesquisa foi determinar o efeito do uso da tecnologia da informação e comunicação (TIC) como ferramenta para superar a dificuldade de um grupo de estudantes de primeiro ano ao expressar ações progressivas de forma oral. O estudo foi realizado com um grupo de crianças de primeiro ano em um colégio particular em Bogotá. Os instrumentos utilizados para a coleta de dados foram: questionários, uma entrevista semi-estruturada, gravações de áudio e uma ficha para os pais completarem. Os resultados assinalam que os estudantes melhoraram as micro-habilidades de expressão oral, como entonação, pronúncia e extensão, além de desenvolver algumas atitudes básicas de autorregulação.

Palavras-chave

estudantes jovens; alfabetismos digital; expressão oral; autorregulação; inglês como língua estrangeira

Introduction

The new trends and the latest digital tools that have appeared to make our lives and mainly education more accessible and practical do not only require users to own the latest digital equipment and have specialized knowledge to understand and use it, but also to have basic digital literacy to take advantage of all those tools and their relevant virtual environments. Teachers and students as digital users must understand that, to achieve excellent results while studying or learning by those digital means, they need to know that, if they are literate enough to use digital tools, the process of teaching, learning and practice will be more enriched.

When using digital media tools wisely and being aware of their possible benefits, digital users can acquire digital literacies—for instance, multimodality, which allows users to combine the different modes in order to create original digital productions as defined by Kress (as cited in Beach, Campano, Edminston, & Borgmann, 2010). This suggests that, with the conscious use of digital environments, media and ICT tools, students can improve their way of learning, as in the particular case of this study. As Blanchard and Moore (2010) explain, students from early ages can also take advantage of technology and digital tools to enhance their learning process, which requires that teachers make the most of digital tools and digital trends to help them overcome the weaknesses they have.

Teachers need to use ICT responsibly in order to gain the expected results regarding academic goals, and they, as well as parents and students themselves, must take advantage of the virtual content and environments available to enrich the learning process. In the specific case of English as a foreign language, learners can attempt to reach a more efficient communication level if they are guided by their teachers and parents on how to use ICT tools responsibly.

Given the above, and after observing first graders at Colegio Corazonista, as well as the school's high tendency to using digital tools and devices to practice and study topics in English, and after

having inquired about the criteria behind its use, it was found that neither the students nor their parents knew how or why these tools were used in class. It was also determined that several tools had not been used appropriately by students, parents and even teachers, and that there was not enough awareness of the real benefits that the educational community could get from the responsible and conscious use of technology-mediated tools. This conjecture was reinforced during the application of the needs analysis and assessment of the quality of speaking production and oral skills. The results confirmed that, although students used and liked digital content to study and to practice English, those devices were not being well used for the learning process of English as a foreign language.

Additionally, the use of a voice recording made during the class and some empirical observations revealed that the students did not have the confidence to talk about personal information in English. It was observed that, when responding, students displayed different behaviors like hesitation, the use of Spanish, answering with incomplete sentences, or limited oral production. These students could not talk about a given topic for more than a few seconds.

All these considerations led the researchers to reflect on the possibility of helping students improve their speaking abilities by the conscious use of the appropriate digital media and ICT tools, and raising their awareness of the benefits these devices and technology could have on their learning process and of how they were also useful for improving speaking skills and some sub-skills, keeping in mind their developmental stage and cognitive level. Therefore, with this study, the researchers intended to analyze the insights of the efficient use of different ICT tools to improve the students' speaking skills, especially when expressing continuous actions (a topic that was mandatory in the first-grade syllabus) and to demonstrate that digital literacy skills can be integrated to the improvement of a foreign language. It also aimed to help learners become self-regulated in order to use the ICT tools provided by the web 2.0 in a more conscious and responsible way.

Strategy Selected to Address the Problem

As Heider and Jalongo (2014) suggest, digital literacy has a positive impact on the students' learning improvement when it is implemented in the study routine inside the classroom and also at home. Besides, if the students become aware of the importance of being digitally literate, they will take advantage of ICT and will create a routine for using these ICT tools more wisely, which will make them more self-regulated. For all these reasons, digital literacy was selected as the strategy to solve the problems that the researchers identified in first graders at Colegio Corazonista: They showed poor speaking skills and sub-skills when expressing continuous actions, they were not digitally literate and needed to start some habits to become self-regulated learners. To this end, this study looked into:

- the influence of a digital literacy plan to overcome the difficulty that first graders had when expressing progressive actions orally
- the extent to which the students might have acquired self-regulation routines

Conceptual Framework

Second Language Acquisition

Keeping in mind that this investigation was carried out with a group of first graders aged between six and seven years old, who were in the stage in which learners can acquire their mother tongue (L1) and a second language (L2), Second Language Acquisition (SLA) theory will help to identify the characteristics of a learner at this stage of the acquisition process. As Nunan (2011) argues, if the learner is still young, the acquisition process will be developed in a better way. This is explained in the critical period hypothesis, which states that it is important to take advantage of this period before the neurological changes appear and the learning language process becomes more difficult to develop. In other words, "natural and complete acquisition of a language can occur only between the ages two and puberty, and also...

children and adults acquire the language differently" (Krashen, Sferlazza, Feldman, & Fathman, as cited in Gürsoy, 2011, p. 757). Given this assumption, it is important to take advantage of this acquisition process to develop speaking skills while the student is still young and involved in an environment that is focused on helping him or her achieve this goal. In this case, the school and the classroom seem the best settings to do it.

As stated in Saville-Troike (2006), "the scope of SLA includes informal L2 learning that takes place in naturalistic contexts, formal L2 learning that takes place in classrooms, and L2 learning that involves a mixture of these settings and circumstances" (p. 2). Moreover, Ellis (1997) asserts that SLA is defined as the process in which people learn a language other than their mother tongue; this learning can be developed in any environment or inside a classroom. This research study was carried out with a group of first graders in the latter setting presented, the classroom, in which formal L2 learning took place. SLA theory is used in this study, as it focuses on the unconscious process of the acquisition of a target language. Therefore, this process is advantageous for young learners because this way of acquiring a second language helps students acquire the knowledge and abilities to communicate with more confidence without thinking about correctness and rules, and taking the risk of speaking and expressing ideas freely (Krashen, 1982).

The affective filter from SLA theory is one of the hypotheses that this research study will highlight as important, since the participants of this research study demonstrated in the needs analysis that their lack of speaking abilities could be the result of negative affective and emotional aspects, such as low self-confidence and anxiety. Krashen (1981) explains how low or high levels of anxiety may interfere with the students' performance in oral production; similar behaviors are perceived when students are not self-confident; thus, learners that face these difficulties may understand but not acquire the target language. That is why building positive learning environments during class sessions can help students overcome

these issues and give them the confidence to take risks when participating or making contributions orally so that they can succeed in their learning or acquisition process.

Speaking skills and sub-skills

In regards to these skills, it is necessary to define the kinds of abilities that were intended to be reinforced and improved in this study. Nunan (2011) defines *speaking* as the activity that a person does every day in order to communicate in an effective way. Furthermore, according to Ekbatani (2010), “Speaking is the productive skill in the oral mode. [...] Speaking in a second language is considered the most challenging skill to assess” (p. 3). Considering this, the aim of this research study seemed difficult to accomplish. That is why, with this study, we intended to develop the speaking sub-skills of the students because, by enhancing the speaking sub-skills through the use of ICT tools and digital literacy, the speaking skills of the students could improve as well.

The British Council (n.d.) defines *sub-skills* as “[...] specific behaviors that language users do in order to be effective in each of the skills” (n.p.). Speaking sub-skills are listed in Nagaraj (1996) as different abilities that can be improved in class by the use of different activities, namely being able to produce meaningful sounds (pronunciation), to produce meaningful chunks, to use the appropriate syntactic patterns in order to produce language; to focus on intonation, rhythm, and stress, to ask and answer, and to be able to use appropriate vocabulary and the appropriate register; and to be able to use facial gestures, body language and verbal language to convey information. Other sub-skills are fluency, appropriacy, turn-taking, extent or relevant length, repair and repetition, appropriate use of discourse markers, among others (Lackman, 2010; Brown, 2000; Harmer, 2007). Thus, based on the context of this investigation, the target sub-skills selected to improve the students’ oral production were: intonation, interaction, and extent, which could be developed and improved in depth as long as the students use the language and produce meaningful

sounds and utterances. The sub-skills presented were selected keeping in mind the learner’s ability and their basic level of performance in the English language.

Intonation is defined by Wells (1996) as the “melody” of oral production. This involves rises and falls of the voice, rhythm, accent, and stress, among other features, which allow speakers to convey meaningful expressions. This description allows us to analyze the connection between the importance of intonation explained in Gangal (2012) as a useful element to recognize different kinds of sentences, such as questions and affirmations. *Interaction* is defined in the Dictionary of Language Testing (Davies, Brown, Elder, Hill, Lumley, & McNamara, 1999) as the exchange of meaning that commonly occurs between two or more speakers. In the context of this study, this interaction will occur mainly between two learners, and the accuracy in meaning that they reach when intending to convey ideas is going to be proportional to the time that students have been exposed to the English language and the competences acquired in this period of time, which is of approximately one year and a half. Finally, the last speaking sub-skill that was taken into account, as previously mentioned, was extent; in the case of young learners, this needs to be limited to their capacities and ability of expression and the construction of short meaningful chunks in order to create interaction in and outside the classroom.

Digital Literacy

This new term emerged when digital media appeared, and it was strengthened during the last decade by the creation of digital devices and new forms of communication and the use of technological tools. Literacy, according to Kern (2000), is the use of socially, historically, and culturally situated practices of creating and interpreting meaning through texts.

It entails at least a tacit awareness of the relationships between textual conventions and their contexts of use and, ideally, the ability to reflect critically on those relationships. [...] literacy is dynamic-not static- and variable across and within discourse communities and cultures. [...]. (p. 16).

Being literate demands being aware of continuous changes and dynamics in terms of culture and communication. Thus, being digitally literate, according to the British Columbia Government (n.d.a), includes having “the interest, attitude and ability of individuals to appropriately use digital technology and communication tools to access, manage, integrate, analyze and evaluate information, construct new knowledge, create and communicate with others in order to participate effectively in society” (p. 1).

Littlejohn, Beetham, and McGill (2012) stated that “By digital literacy we mean the capabilities required to thrive in and beyond, in an age when digital forms of information and communication predominate” (p. 547). They state that communicating by digital forms is easier nowadays, given that the Internet is present in almost the entire world, and these virtual and digital environments persuade people to develop skills to create, use sources, evaluate, add contents and acquire knowledge and learn more via the Web.

Arrieta and Montes (2011) define the term *digital literacy* in several ways, keeping in mind the perception of different authors. One of the definitions provided is that digital literacy is the ability that a person has to read, produce, and recognize the meanings and information provided by a site and, in addition, a digital literate is necessary to produce information and to develop strategies to develop the aforementioned skills. The Government of British Columbia (n.d.b) organized the Profile for Technology Literate Students as divided by ages and describes what 5–8 year old students must achieve to be considered digitally literate: (a) independently apply digital tools and resources to address a variety of tasks and problems; (b) demonstrate the safe and cooperative use of technology; (c) communicate about technology using developmentally appropriate and accurate terminology; and (d) demonstrate the ability to navigate in virtual environments such as Web sites.

In Colombia, the program “A que te cojo ratón,” implemented by the Ministry of Education of Colombia (2005) and supported by the *Programa Nacional de Uso de Nuevas Tecnologías* (National

Program for the Use of New Technologies), focused on training teachers all around the country to become digital literate and on helping those teachers acquire certain abilities in order to take advantage of ICT tools to design digital resources and environments to implement them in their classes. Teachers were also trained in the appropriate use of tools to create texts, images, web pages, and digital communication channels. However, there is no document related to the competences an elementary student must acquire to be considered digitally literate.

Baker (2010) mentions the relevant aspects of digital literacy in “young contexts” and highlights its importance to promote not only the handling of the computer, the understanding of its environments and the use of technology in general, but also the learning process of the child when acquiring literacy by using a computer when, in fact, learners also improve their communicative abilities with this innovative way of learning. Consequently, learners simultaneously improve their speaking, writing, listening and reading skills by implementing these kinds of literacy.

Given that the focus of the current study is SLA, it is also important to mention Hicks and Turner’s (2013) suggestions to English teachers to become advocates of the new ways of teaching, keeping in mind that digital literacy offers the advantage of innovating teacher practices, without forgetting our traditions, but framing them into digital and technological contexts, and challenging ourselves as teachers to new ways of teaching and learning by getting involved with technology and diverse tools that can enhance the quality of the profession and achieve the expected results from students. Hence, it is clear that teachers are relevant in the process of complementing their teaching practice with the use of technology in order to be updated and to become digital literates, which means that this profession will be enriched with all the content and the benefits that digital environments can offer teachers. However, this also requires engagement and commitment by teachers to integrate all these new tools in their daily work to help students change the idea that the Internet and technology are only used for entertainment purposes.

Self-regulation

It is a desire for teachers to instill in the students not only the motivation to improve their learning by following their teacher's advice and suggestions and by doing the activities and using the strategies proposed by them, but also to help them find ways to create or apply learning routines that demonstrate that they can take advantage of ICT tools in order to acquire knowledge and interact. This allows students to acquire knowledge by themselves and to develop learning processes more consciously. However, as Zimmerman (2002) highlights, teachers must identify young learners' strengths and weaknesses and make them aware of them so that they can take action to overcome their difficulties and strengthen their abilities, and thus improve their learning processes.

Zimmerman and Schunk (2011) argue that promoting self-regulation in the elementary stage has relevance in and impact on the process of young learners' learning, motivation and development and the use of different strategies to improve their academic performance. Zimmerman (2000) formulates three phases of the self-regulation process (i.e., forethought, performance, and self-reflection), in which several skills take place. In the forethought phase, we can find the skills of setting learning goals, analyzing the level of difficulty of a learning task, and selecting appropriate learning strategies to achieve goals. These are not only learning strategies but also the ones related to time use, resources, and space to learn or study. In this first phase, we can also find self-motivation beliefs, which refer to outcome expectations, task interest and self-efficacy. This last element is considered as the positive feeling of the individual that he/she will be able to reach the goals set. In the performance phase, we can find two processes: self-control and observation as ways to monitor whether the process is going well or if any changes need to be made. Finally, in the self-reflection phase, we can find the skills to evaluate performance, strategies, objective achievement, and to analyze causes of failure or success, among other skills.

Pintrich (2000) considers self-regulated learning as a process of active construction in which the learner monitors, regulates, and controls his/her cognition, motivation and behavior. As we can see, in his model, Pintrich (2000) gives special attention to the affective and motivational dimension of learning. In this dimension, the learner examines his/her possibility and capacity to achieve the goal, evaluates task difficulty as well as its usefulness and his/her own interest in it. In other words, according to Pintrich (2000), motivation is related to self-efficacy, goal orientation, perception of task difficulty and value, interest in the task, be it extrinsic or intrinsic, and causal attribution, which refers to the causes of failure or success.

We can then say that it is possible and appropriate to promote self-regulation in young learners so that they can identify what their difficulties are, the tools that can help them improve their skills, and reflect upon the importance of monitoring themselves, keeping in mind the motivation they might have when developing a certain activity and the time that they spend doing it. These strategies or behaviors that young learners can develop will have a positive impact on their language learning and even more benefits could be obtained if self-regulation behaviors are integrated into a digital learning context.

According to McDonough (2001), other strategies that can be used in order to improve self-regulation when learning languages include cognitive, affective and metacognitive strategies. This author also highlights that these strategies can be developed by young learners who are more likely to develop and control their own cognitive processes than the affective and metacognitive ones. Additionally, Cho and Shen (2013) mention that when self-regulation is used or applied in digital contexts and when the teacher is in charge of the accompaniment of the learners, this can help the students to achieve self-efficacy, since it challenges learners and motivates them to invest time and effort in accomplishing the objectives set. The teacher also has the duty to design virtual scenarios and digital materials that have a

positive influence on the language learning and the self-regulated learning process of the students.

The above-mentioned aspects provided a guide that was useful for the researcher in order to accomplish each of the objectives of this study. It was expected that young learners who participated in this study would take advantage of their SLA process and take this to new learning scenarios in which ICT and CALL (computer-assisted language learning) provide different and new experiences for improving different skills and focusing on speaking. The responsible use of these tools will help students to become digital literates and at the same time develop language-learning strategies that will guide them towards the path of becoming self-regulated young learners. This must be done keeping in mind the students' age and language level.

State of the art

Several research studies have been based on the constructs that this research took into account in order to help the participants improve their speaking skills and sub-skills by being digitally literate through the implementation of CALL and different ICT tools and by focusing on the development of learner self-regulation.

Marsh (2011) has focused on highlighting the different literacy strategies and processes that a young learner can create and experience through the use of virtual worlds. In this study, the author found that the majority of the worlds are designed for playing and creating avatars and also found that literacy and multimodal communication are two elements that were important in the creation of the social component in the study. Moreover, it was found that children had the opportunity to participate in digital environments that gave them the experience of working with authentic material and activities as well, and this was helpful for them to experience how the digital and virtual scenarios work and what they offer.

Ariza and Suárez (2013) demonstrated the importance and the effectiveness that ICT tools have in developing a sense of autonomy in students. Some

of the findings of this study reveal that students are able to develop and recognize the relevance of creating study routines and how to expect more from themselves in terms of being committed to their follow-up activities. Moreover, they discovered that time management is an issue that improved with the implementation of the ICT tools and that motivation grew. They also found that students became more reflective and aware of the improvement of their language skills, especially their speaking. As self-regulation was one of the key constructs in this study, it was expected to get similar results in the present study. For instance, creating routines that allow the students to be more organized and helping them develop autonomy in their early school stage through the use of digital content that contributes to improving speaking skills.

McClelland and Cameron (2011) wanted to demonstrate the importance of self-regulation in the life of young learners, so that they can have more control over their feelings and behavior in social and learning environments. The authors defined *self-regulation* as the "integrative construct that includes controlling, directing, and planning cognitions, emotions, and behavior" (McClelland & Cameron, 2011, p. 32). The researchers consider self-regulation important in order to achieve school success and argue that it allows students to develop several abilities, such as flexible attention, working memory, and behavioral aspects. These abilities lead students to higher performance levels, and then the school can also show that, by means of this, students can finish their studies successfully. It was previously mentioned in this section that the development of self-regulation skills is one of the main objectives to achieve in this study. This is because the participants were in their early school years and they could create a culture of organization, time management and adaptation to new learning environments faster and easier, thus, these abilities would be developed in order to help the students become digital literates.

According to Mahmoodi, Kalantari, and Ghaslani (2014), when a student develops self-regulatory strategies appropriately, then he or she is also able

to learn better and to be more motivated to do so. The authors demonstrated that students can develop strategies to learn, perform, create, and do better in learning environments, as Pintrich and De Groot (1990) said. The researchers wanted to find out which of the self-regulatory strategies were most commonly used among English language learners in Iran, and also to demonstrate the relationships that could exist between language learning, self-regulation, and motivation. After the implementation and analysis, the researchers found these to be the most common self-regulation strategies: students made associations, studied additional hours, evaluated themselves in English, changed the perception of seeing English as a difficult subject, and took notes. Another finding has to do with the relationship that researchers discovered exists, to a great extent, between self-regulation and motivation. They also found that there is no significant relationship between self-regulation and L2 learning but that the learners are more aware of the learning process, which is demonstrated by them implementing strategies that improve their achievements in L2 learning.

Method

The research approach selected to carry out this study was the action-research method, since, according to Burns (2010), its purpose is to find a solution to a problematic situation, inviting the researcher to be a reflective and critical investigator in his or her own teaching context. Furthermore, thinking about the context, necessities, and expectations of this study, the researcher took into account that action-research supports, to a great extent, the changes that a teacher desires to make in a specific situation in their own context—in this case, the classroom—in order to “increase understanding” (Kemmis & McTaggart, as cited in Nunan, 1992, p. 18).

This study fits the principles of action-research because there was a problem that the researcher identified by means of empirical observation inside a classroom, related to the students’ speaking skills when expressing progressive actions. Then, the problem was intended to be solved using strate-

gies carefully selected as the use of digital literacy and the fosterage of self-regulatory habits. After the plan was designed and implemented, students both improved their speaking skills by using different digital tools responsibly and consciously and became self-regulated learners applying strategies adjusted to their level.

Data Collection and Procedures

Several data collection instruments were designed, piloted and administered. First, a questionnaire, which was piloted, was sent to the parents in order to evaluate some aspects that were likely to change during the intervention. The questions were aimed at gathering data about the students’ behavior when using ICT tools at home and at determining to what extent they improved digital literacy when practicing and studying in order to enhance speaking skills by using the digital tools provided. Second, a semi-structured interview was also piloted and administered. It was semi-structured so that its open questions and its flexibility would help the researcher explore and discover aspects by having a conversation with the interviewee. With the application of this instrument, students had the opportunity to express what they felt during the intervention and if they found this experience was worthy or not, if they felt motivated to learn, if they used the digital tools consciously in order to learn and improve the speaking skills, or if they were simply getting distracted with those tools.

The third instrument was voice recordings of the students’ speaking performances at the end of the intervention in order to prove the possible improvements in their speaking skills. Those recordings consisted of short talks to describe, using the present continuous, the actions that the students saw in a picture or in a video that the teacher showed them. This instrument was selected because, as Pinnegar and Hamilton (2009) suggest, voice or audio recordings give the researcher the opportunity to go back to the recorded scene and analyze the improvements or areas to improve. The recordings were evaluated and analyzed according to a rubric designed by the

teacher/researcher, which assessed if the students met some criteria that gave account of the improvement in their speaking skills by paying special attention to intonation, the ability to interact with other partners by expressing utterances about progressive actions, and the extent of those utterances.

As the fourth instrument, during the implementation stage, parents were asked to fill in a weekly form about the behavior of the children when trying to become self-regulated learners while practicing and using the digital tools to improve their speaking skills at home. To analyze the responses of these instruments, it was necessary to analyze discourse with each of the responses that parents provided. This analysis consisted of reading each answer and then transforming it in the way that could be read and analyzed in terms of pedagogy and language learning.

Pedagogical Intervention

Vision of language

By thinking of the possibility of helping students improve the way they express their ideas orally, and of the importance of encouraging an appropriate mastery of the language functions in a foreign language, one of the aims of this research study was to help students improve their speaking sub-skills when expressing continuous actions based on the communicative approach, which has been defined by Berlin (2012) as the possibility that students have to use the language learned in a context, and which favors a more “student-centered” classroom. Moreover, Byram (1997) states that, following Hymes’s concept on communicative competence, language learning is not only a matter of grammar, but also a way to learn how to use the language appropriately. These two concepts guided the way that the researcher conceived her strategy to help students improve their speaking ability in class and encourage them to be active participants of such change, while being the main agents in the class and inviting them to produce language orally and thus communicate and interact with others, not thinking of the grammar of the language but of using functions appropriately.

Vision of learning

The pedagogical intervention was also developed under the guidance of constructivism. This approach is defined by Martin and Loomis (2006) as the way in which learners merge previous knowledge with new knowledge and, as a result, they will give personal meaning to what they have learned. With this in mind, the intervention intended to incorporate digital literacy in these children’s learning process so they could merge the new knowledge acquired by learning through digital environments with the knowledge they already had in order to improve certain language aspects and speaking skills.

Furthermore, connecting constructivism with ESL instruction, according to Reyes and Vallone (2008), would help learners develop more than the learning of language, content, and process; it would give students the opportunity to investigate, discover and criticize, all of them at the same time. In this way, it was expected that the digital literacy process would be enriched by means of this practice of constructivism in the ESL process.

Moreover, it is also worth mentioning the integration of the Zone of Proximal Development (ZPD), a concept that was developed by Vygotsky (as cited in Kozulin, 2003), which suggests that a person who has more abilities can assist another one with less abilities. This was applied in the implementation of this study in the assistance that parents provided their children to help them develop the digital activities and to appropriately manage the equipment needed for the purpose of acquiring and improving the learning related to the virtual and web tools and, hence, the speaking skills.

Instructional design

The implementation stage was carried out over five weeks, for one hour daily, which means that 25 hours were dedicated to fulfilling the objectives of this study. This stage had steps that needed to be followed in order to support the pedagogical implementation of the strategies chosen: defining, finding, creating, evaluating, and communicating, as explained in the Somerset Learning Platform (Somerset County Council, 2014).

The topics and content covered in chronological order in each of the stages were as follows: In the defining step, *The approach to digital environments*, in which the students and the teacher explored the digital tools and devices that were to be used during the implementation, their use, the pros and cons, and the level of efficiency. In the finding step, *Building analytical scenarios*, in which the students were in contact with some of the different digital and virtual tools that would be part of the classes. For instance, web quests, PBS kids, Nick Jr., interactive book, SpeakPipe, and teacher's blog, among others. The third topic, in the creation step, was related to the *Implementation of ICT by means of CALL and follow up of the routines*. During this stage, digital content, ICT tools and online activities were integrated to the class. All the activities were focused on improving the students' speaking skills

by expressing utterances orally by using continuous actions. After that, the step *assessing to collect results* was developed. In this stage the researcher checked the students' learning process by assessing their contributions and reflections in order to reflect and create content and thus, to support the research design through observation.

In the last step of this implementation stage, the participants were invited to communicate and exchange information, experiences and thoughts about the process developed. At the end of this stage, the cards of the *follow-up process* of the home and school routines were collected. Such cards corresponded to charts that intended to collect data from parents' and teacher's views regarding the time spent by the children doing the computer activities, their emotions, their understanding of the activities and the topics, as well as the skills in using the tools (Table 1).

Table 1. Follow-up card

Student's Name:	Week 1	Week 2	Week 3	Week 4	Week 5
Course:					
Parent's Comments					
Teacher's Comments					

Source: Own elaboration.

Findings

The Grounded Theory approach (Corbin & Strauss, 2008) was used to analyze the data collected. For that purpose, the first step was to find common

concepts by means of open coding (Table 2). Such common concepts became patterns that, in turn, led the researchers to find codes.

Table 2. Illustration of open coding

	WEEK 1		WEEK 2	
	Approach to Digital equipment		New e-learning environments	
K1	Para ella es divertido estudiar por medio del juego, especialmente si es en el computador	<i>Emotions</i>	Se emociona con actividades nuevas. Se motiva.	<i>Motivation</i>
		<i>Games</i>		<i>Emotions</i>
K2	Desde el principio del año, el enfoque ha sido muy adecuado para K2, a ella le gusta mucho.	<i>Suitable methodology</i>	K2 sin dudas ha aprendido mucho en esta materia	<i>Learning</i>
K3	Tiempo 20 minutos se muestra interesada	<i>Raise interest</i>	Es creativo al momento de requerir ideas innovadoras	<i>Creative</i>
				<i>Innovation</i>
K4	Vocabulary, pronunciation, he is very interested in hearing his voice, and repeat the exercise many times	<i>Second language awareness</i>	Taking advantage, the kids are related with the new technologies from very early ages	<i>Take advantage of new technology</i>
K5	El niño pasa una hora aproximadamente en el computador. Algunos días de la semana. Le gustan mucho las actividades.	<i>Engagement</i>	Ha reforzado su vocabulario y memoriza más rápido	<i>Memorize</i>
K6	Puede grabar su voz, pues le gusta y se interesa en escucharla		El niño accede con más facilidad a las actividades por sí mismo	<i>Self-learning</i>
K7	Le llama la atención que pueda escuchar su propia voz para poder corregir después su pronunciación	<i>Self-correction and raise interest</i>	Se mostró interés por aprender nuevos experimentos por medio de Turtle Diary, le gusta jugar	<i>Interest</i>
K8	El niño se muestra muy emocionado de hacer uso del computador	<i>Emotions—excitement</i>	Hace uso de aproximadamente 15-20 minutos cada 3er día	<i>Dedication</i>
		<i>Use the computer with educative purposes</i>		

Source: Own elaboration.

Table 2 illustrates how the patterns emerged (see shaded columns). Then, by means of axial coding, we established relationships among such codes, as seen in the semantic map shown in Figure 1.

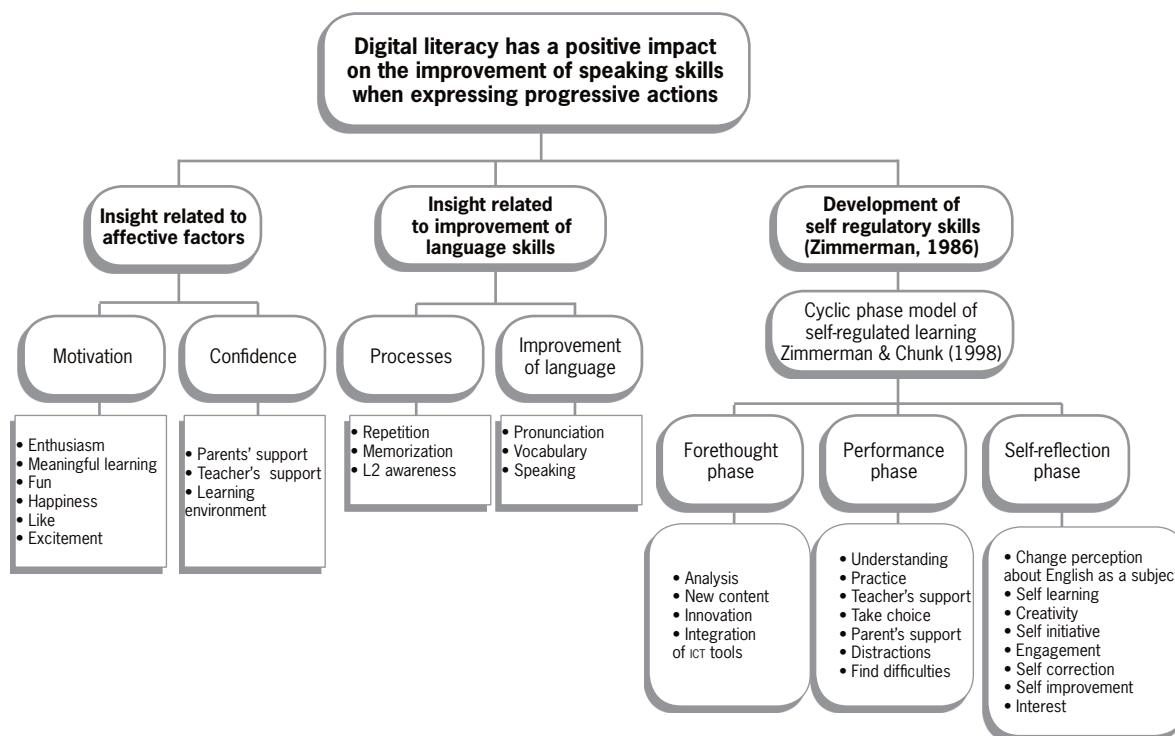


Figure 1. Sample semantic map to illustrate axial coding

Source: Own elaboration.

Finally, by means of selective coding, a core category and three categories emerged to respond the research question and show to what extent the objectives were fulfilled (Figure 2).

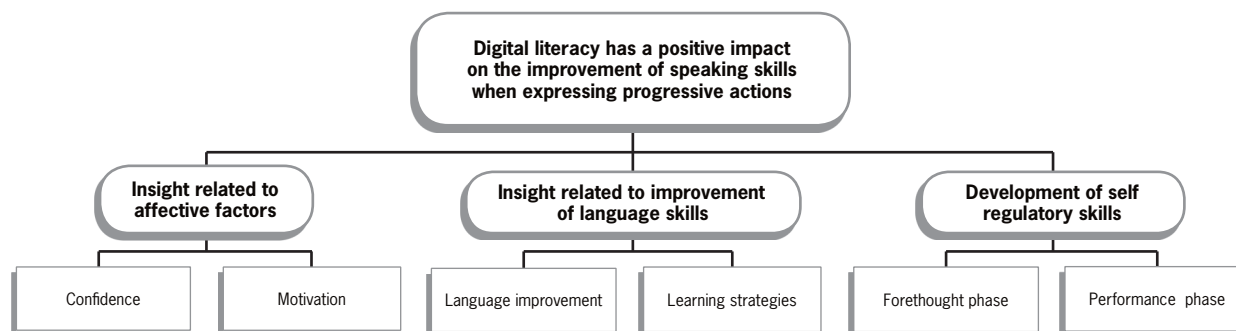


Figure 2. Categories and subcategories

Source: Own elaboration.

As shown in Figure 2, the categories can be described as follows: A core category emerged known as “digital literacy,” which has positive effect on the improvement of speaking skills when expressing progressive actions and which branches out in three categories:

1. Insights related to affective factors, divided into confidence and motivation, which were the two subcategories that emerged in relation to the emotions that the students experienced during the intervention.
2. Insights related to the improvement of speaking skills include two sub-categories: The first one

has to do with the improvement of several aspects of language, such as vocabulary, the ability to interact, the extension of their interactions, and pronunciation; the second one is the strategies that students used to improve their speaking in English.

3. Insights related to the development of self-regulatory skills, which shows evidence of two of the stages of the cycle of self-regulatory processes, namely forethought and performance.

Insights Related to Affective Factors

After analyzing the data collected, it was found that students, aside from increasing learning, also experienced a variety of emotions in each stage of the intervention. Most of these emotions were positive and demonstrated that the activities and strategies that were applied motivated and encouraged the learners to lower their anxiety and feel confident about exploring, discovering, and creating new ways of learning English through new environments.

Confidence

Krashen (1982) categorizes self-confidence as one of the important elements of the affective filter. He explains that, if the learner is confident and believes in what he has learned, the performance when using the foreign language will be better. This was clearly demonstrated when analyzing and evaluating the results of the data, given that students felt confident to talk, to use ICTs to express ideas in English and to create routines to accomplish the assignments of the intervention.

Confidence as one of the subcategories identified in this research study helped the researcher know that young learners can develop that confidence and that they do their best if they feel comfortable in the learning environment which can be either virtual or a place, in this case the classroom. This can be illustrated in the excerpts, taken from the instruments.

Siempre le gusta y se anima a hacer tareas cuando sabe que es en el computador (The child likes it and gets excited when he/she knows that the activity has to be done using the computer). (Excerpt 6. Follow-up chart. October 2014).

Me divertí mucho y la profe Begonia¹ nos enseña con mucho amor. (I had fun and also teacher Begonia teaches us with so much love). (Excerpt 7. Students' questionnaire. October 2014).

The previous sample of the students' answers to the questionnaire shows the importance of the teacher's support during the pedagogical implementation and its quality. Most of them agreed that the support they received from the researcher was adequate in quality and quantity and expressed that this process was successful thanks to the teacher's encouragement and to her commitment with the learners' learning process. When children feel interested in doing an activity, they will improve their self-efficacy, which in turn will improve their performance level. That level of self-efficacy can be raised by the teachers' encouragement and attitude towards the students and the class. In the following excerpt it can be seen that the students felt interested in the virtual activities, what likely raised their self-efficacy attitude.

Demuestra mayor interés por las actividades virtuales. (The student seems to more interested in virtual activities). (Excerpt 25. Follow up chart. October 2014).

Support from parents was also a significant element for the success of this research study, mainly because they were the ones who guided and observed the children's process at home. They filled out the follow-up charts in order to provide the researcher with valuable information, and it also helped the learners to accomplish the majority of the tasks and homework assigned, all of which was useful to evaluate the process regarding the students' expression of continuous activities orally and to reflect on their self-regulation ability as well.

Motivation

One of the most repeated units of analysis encountered when analyzing the data was that students felt motivated about the pedagogical intervention and expressed this with words and with attitudes.

¹ The names of the participants have been changed in order to protect their identity, complying with the ethical considerations of research.

Many of the answers given and comments that parents and students made in the instruments were related to the good performance students achieved in second language by following the instructions of the assignments and the directions that the teacher gave in order to motivate them to carry out these tasks. She could then prove that students enjoyed the process and the development of the activities at home by demonstrating different emotions and positive feelings based on parent's comments.

El niño se muestra muy emocionado de hacer uso del computador. (The boy is excited using the computer). (Excerpt 1. Follow up chart. October 2014).

Feliz, emocionada. Entiende muy fácilmente las actividades, pero requiere cambiar pronto de juego. (Happy, excited. She understands the activities easily but she needs to change the activity in a short period of time). (Excerpt 2. Follow up chart. October 2014).

Excitement and happiness were the feelings that the students experienced the most according to the results found in the instruments. The learners expressed motivation and excitement when experiencing the importance of learning in a meaningful way, for instance, when using their knowledge in English to develop the activities that were assigned in digital environments.

Manifiesta emociones positivas frente a nuevos procesos y de acuerdo al tema se esfuerza por comprender y entender. (The student expresses positive emotions towards the new processes and makes an effort to understand and comprehend). (Excerpt 3. Follow-up chart. October 2014).

Porque me divierto y aprendo. (Because I have fun while I am learning). (Excerpt 4. Students' questionnaire. October 2014).

Porque las actividades son chéveres. (Because the activities are nice). (Excerpt 5. Students' questionnaire. October 2014).

Insights Related to Improvements of Language Skills

When the language skills are learned and managed by a learner, this learner is someone who has a "higher level of intellectual competence," as Vygotsky mentions in Fredericks (1974). This means that when a student of a foreign language is able to communicate using these skills, it is not only a fact of merely communicating ideas, but of creating strategies, processes, and plans that lead to the improvement of the language and being in contact and interacting with others in an intellectual and systematic way.

This category encloses two elements that identified the processes that young learners used to improve their language, which were not suggested by the teacher, but which they did instinctively. They also demonstrated that they could improve in aspects of the language such as pronunciation, vocabulary, and speaking during the time that the intervention was taking place.

Improvement of speaking skills

According to the analysis done to the voice recordings using a rubric, effective spoken performance of progressive actions was evidenced when the students could describe a visual aid and convert the information from the visual aid into utterances and oral sentences that expressed continuous actions.

The student interacts respecting the structure of the tense to express continuous actions. (Taken from the rubric).

Se le facilita la pronunciación y el entendimiento del idioma inglés. (It is easy for him/her to pronounce and to understand English). (Excerpt 11. Follow-up chart. October 2014).

Muestra mejora en la pronunciación, su vocabulario en inglés se ha incrementado (The improvements in pronunciation are noticeable, his/her vocabulary has increased). (Excerpt 12. Follow-up chart. October 2014).

Las actividades son muy buen complemento en especial lo que tiene que ver con la pronunciación. (They are good activities, especially those about pronunciation). (Excerpt 13. Parent's questionnaire. October 2014).

During the implementation, the students had the opportunity to correct themselves, which happened thanks to the different video and audio recordings that they listened to and that they could compare with their classmates' recordings and reflect on how differently they pronounced the words. That is why it is very important to highlight the ability of students to improve their pronunciation no matter the level, and motivate the learner to use digital tools for models to improve their pronunciation given that these are very accurate models and thus the quality of the learning in terms of pronunciation will be outstanding.

Furthermore, the results obtained showed that the students improved their performance when speaking in regards to intonation. Additionally, the children were able to talk for thirty seconds or more, which was challenging for them as young learners.

The student expresses utterances using appropriate intonation for questions and answers. (Taken from the rubric).

The student is able to speak up to 30 seconds. (Taken from the rubric).

Another aspect that was evaluated with the rubric was the ability to interact using the same topic.

The student is now able to establish short dialogues with their peers. (Taken from the rubric).

The students were instructed to have a short talk with a partner giving an instruction expressed as a continuous action, and the other student had to act out that instruction. This process was successful and demonstrated that the students were skillful enough to speak and to improve this skill by means of technological tools and a self-regulated learning routine.

En el blog aprendí nuevas palabras en inglés. (I learned new words by using the blog. Excerpt 14). Students' questionnaire. October 2014).

Something similar happened with the acquisition of vocabulary given that virtual learning sites provide thousands of resources that help the students increase their vocabulary.

Ahora tiene una mejor expresión y seguridad al hablar, aunque se equivoque en ocasiones. (Now she expresses herself better and she is more secure when speaking even if she makes mistakes). (Excerpt 15. Follow-up chart. October 2014).

It was rewarding to see how many statements by the parents and even students revealed that being digitally literate students may help them be better language learners and achieve their goals. In respect to this category, we can confirm that the students improved in terms of intonation, ability to interact, and extension of interactions.

Strategies used by students to learn and improve their language skills

Some of the strategies that the students followed during the intervention to help themselves understand more, learn better, and apply the knowledge acquired and which they took initiative to follow are useful to succeed in the foreign language: memorization, repetition, and awareness of the use of the L2.

Most of the parents explained that students turned to these strategies (memorization and repetition) to learn and to remember different elements that each activity offered. For instance, a huge range of vocabulary, new concepts, strategies to manage the ICT tool, the ability to remember content, and to improve the speaking skills by listening and repeating and memorizing what they were listening to, watching, or reading. This can be evidenced in the following excerpts:

Se identifican acciones, al repetir el ejercicio y se logra algún grado de adquisición del vocabulario. (Actions are identified, by repeating the activity, it is possible to learn the vocabulary). (Excerpt 8. Follow-up chart. October 2014).

Puedo identificar la palabra de español al inglés. (I can identify the word in Spanish and translate it into English.) (Excerpt 9. Students' questionnaire. October 2014).

The students are now able to identify what the most important part of the activity is and can also apply strategies and use strategies to learn and then, demonstrate their learning by expressing utterances in continuous actions.

Considero que las actividades virtuales la motivan más sobre todo por medio de la parte lúdica, de esta forma memoriza más. (I consider that the virtual activities motivate them more, especially because of the playful component, in this way it is easier to memorize more.). (Excerpt 10. Parents' questionnaire. October 2014).

Parents and students recognized that, although the participants of this study are first graders, they used different strategies and processes that were developed by them to be able to use the language and to express ideas using progressive actions.

Development of Self-Regulatory Skills

The third category found in the analysis of the data was the presence of self-regulatory skills. It was evidenced that, during the process of the implementation, students had to develop certain skills that demonstrated that they could self-regulate their own process, obviously, at their cognitive level, keeping in mind their age.

To account for this, this study used Zimmerman's (2008) cyclical model of Self-Regulated Learning to prove that students achieved certain phases while developing several activities or they simply demonstrated some special skills that allowed the researcher to establish that children can also self-regulate their learning process.

Forethought

The Forethought phase can be identified in self-regulated learners because, as Zimmerman and Bandura clarify in Zimmerman (2008), the initial phase of the cycle must demonstrate the students' ability to set objectives and to create plans in order to execute them while doing the tasks. This phase was identified by means of some of the students' behaviors.

Los fines de semana planea dedicar más tiempo, le gustan las actividades, es hábil utilizando las herramientas. (He plans to dedicate more time to the activities on the weekends, he likes the activities, he is skillful when using the tools). (Excerpt 17. Students' questionnaire. October 2014).

Continúa trabajando igual tiempo promedio, por su iniciativa; se interesa cuando entra al blog, mejora en entendimiento, su habilidad mejora. (He/she continues working for the same average time, under his own initiative, he/she is interested in the blog and it is noticeable that his/her understanding and skills improve.) (Excerpt 18. Parent's questionnaire. October 2014).

These previous samples of student and parent answers show how students planned the time to do the activities and felt motivated to practice at home. As mentioned before, the tools and the type of work influenced the decision that they made when they sat down to do the activities. In this regard, we can see that two main aspects of self-regulation are present in the students' self-regulatory attitudes, according to Pintrich (2000), namely motivation and behavior. In terms of motivation, according to the data collected, we noticed that the students had an intrinsic motivation and a sense of self-efficacy.

Tools like the blog, the computer, the games, and interactive activities change the perception of homework for students, who invest more time doing them when tasks are presented through these tools and create a sense of responsibility and respect their study routine. Here there is evidence that there was task value activation, which in turn increased the students' motivation, following Pintrich's (2000) model.

Performance

In this phase, Zimmerman (2008) states that the important elements are the steps that the students follow to accomplish the tasks proposed and the results that they can get from these tasks. In this phase several aspects were identified that demonstrated the students' behaviors when trying to self-regulate their learning. For example, finding

difficulties, understanding, practicing, and asking for the teacher's and parents' support.

The teacher's and parents' support are present in this study. For students, this guidance was important in their process of learning a language and mostly in the handling of digital tools, given their young age. This is the behavior of digital literates who know that it is better to work and to have the support of an adult.

Maneja bien el ambiente digital, mientras refuerza el aprendizaje. (The student handles the digital environment well and at the same time reinforces his learning). (Excerpt 20. Follow up chart. October 2014).

Likewise, based on Zimmerman's model, and bringing back the strategies that the students used, namely memorization and repetition (explained in the second category above), the data revealed that the students were strategic in this phase of self-regulation. Even though they are children, the students were also conscious of the strategies they used.

In sum, we can say that promoting digital literacy in a group of first graders originated a high level of motivation and different positive emotions in the students and consequently allowed them to improve the student's speaking skill, in particular, the speaking sub-skills (intonation, interaction and extent) when expressing progressive actions. It also had a positive effect in the development of basic self-regulatory skills.

Conclusions

In sum, this qualitative action research explored the possible effect of digital literacy on the improvement of speaking skills, particularly the expression of progressive actions, and on the development of self-regulation routines. The findings obtained from different instruments show that the participants were interested in learning about digital tools and their characteristics, about their use in the classroom and at home, and how to take advantage of them to explore the different digital content that the Internet offers, such as blogs, voice recordings, videos, images, games, and interactive activities.

Additionally, findings demonstrated the students' responsibility when using the digital tools, based on the rules and advice that the teacher gave them, for instance, controlling the time, not looking at any kind of advertising, making sure that parents were with them and helped them in the process of becoming self-regulated students. The participants could also recognize the progress and improvements that they had in their speaking skills in every class and during the sessions that were designed to be developed at home to practice continuous actions.

The routines that students developed at home and the responsibility, commitment and enthusiasm demonstrated towards the homework assigned is also a proof that self-regulation is also achievable in young learners. It must be acknowledged that the participants were willing to follow the instructions and developed a feeling of self-improvement given their belief of self-efficacy.

Regarding the affective factor, this study and the activities that were done with the participants awakened in them several feelings and emotions that increased their motivation towards the implementation and the activities proposed. For instance, to use the computer, to visit web sites, to record their voices, to study through videos and the change that the class had in regards to the regular sessions that they used to have made them feel motivated, happy, enthusiastic, confident, among other feelings.

The study also unveiled high engagement from parents during the process of the intervention at home. All the necessary documents and charts they received with the information and instructions for the process of the intervention were written in such way that they felt motivated and helpful in their child's process. Moreover, during the interventions the students received constant guidance from the parents to do the activities, so parents played an important role in the completion of this process.

The digital component was also appropriate because students and parents took advantage of it and could demonstrate that being digitally literate can enhance the language learning process through the several tools and sites that were integrated into

this study. Additionally, it was also perceived that young learners have the ability to develop learning strategies and demonstrate significant good results in their speaking skills by setting the first steps to become self-regulated and digital literate learners.

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