

Master's Dissertation/
Trabajo Fin de Máster

**SCAFFOLDING STRATEGIES: AN ACTION
RESEARCH STUDY ON THE EFFECT OF
SCAFFOLDING IN READING AND STUDENT
MOTIVATION**

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ABSTRACT

The present action research study implemented to 56 EFL learners in a private Ecuadorian university reports into the effects that CLIL methodologies such as scaffolding have as a motivating factor in students and as a tool to enhance their reading comprehension skills. The subjects were separated into two groups during the academic term in which they were monitored, the ESG (experimental scaffolded group) and the CNSG (control non-scaffolded group). Initially, the subjects participated in a reading comprehension pre-test and survey aimed to learn about their current reading comprehension skills and perceptions on reading. The evolution of the CNSG and the ESG is traced through the administration of reading comprehension tests applied once a week during ten consecutive weeks and the analysis of the outcomes. In addition to these intergroup comparisons, intragroup improvement is also examined to determine the evolution of both the ESG and the CNSG throughout the study period in terms of reading comprehension skills in order to determine if the scaffolding techniques are truly responsible for the differences discovered. Finally, an interview was carried out individually to the students of the ESG to find out their opinions about the program. The analysis of the results revealed that the ESG improved their reading comprehension skills as a result of the scaffolding techniques. The post-study interview also resulted favorable indicating that students felt motivated during the process.

Keywords: action research, motivating factor, scaffolding techniques, reading comprehension skills

Estrategias de Andamiaje: Un Estudio de Investigación-Acción sobre el Efecto del Aprendizaje de Andamiaje en la Lectura y Motivación en Alumnos.

RESUMEN

El presente estudio de investigación-acción implementado a 56 estudiantes de Inglés como Lengua Extranjera de una universidad privada Ecuatoriana reporta en cuanto a los efectos de metodologías AICLE, como es el aprendizaje de andamiaje, como un factor de motivación en la lectura de alumnos y como una herramienta para mejorar sus habilidades de lectura comprensiva. Los sujetos fueron separados en dos grupos durante el periodo académico en el cual fueron monitoreados, el GEA (grupo experimental con proceso de andamiaje) y el GCSA (grupo control sin proceso de andamiaje). Inicialmente, los participantes realizaron un pre-test y encuesta con el propósito de aprender acerca de sus actuales habilidades de comprensión lectora y sus percepciones acerca de la lectura. La

evolución del GCSA y del GEA, es trazado a través de la administración de pruebas de comprensión lectora aplicadas una vez a la semana durante diez semanas consecutivas y el análisis de sus resultados. Adicionalmente a estas comparaciones intergrupales, el mejoramiento individual de cada grupo también es examinado para determinar la evolución de los grupos, el GEA y el GCSA durante el periodo del estudio en cuanto a habilidades de comprensión lectora y así determinar si las técnicas de andamiaje son verdaderamente responsables de las diferencias descubiertas. Finalmente, se realizó una entrevista individual a los alumnos del GEA para conocer sus opiniones sobre el programa. El análisis de los resultados reveló que el GEA mejoró sus habilidades de comprensión lectora como resultado de las técnicas de andamiaje. Las entrevistas post-estudio también resultaron favorables y los estudiantes reportaron que se sintieron motivados durante el proceso.

Palabras Clave: investigación-acción, factor de motivación, técnicas de andamiaje, habilidades de comprensión lectora

1. INTRODUCTION

Reading comprehension is a vital component in any language and demonstrates the level of knowledge that an individual possesses. According to Sternberg (1987, p.90), reading comprehension tests a person's present ability to learn from context and this ability is an indicator of someone's intelligence. The effectiveness of any language program is dependent on this factor as well, whether a pupil is able to successfully understand a text and perform various types of activities from their interpretation of the text. Reading comprehension in a second language measures the ability of a student not only to be able to read (in a second language) but also to be able to use his cognition to deduct, predict, analyze and apply all or most of the information in a text for a specific purpose. It is detrimental to believe that any learning can take place without cognitive engagement, activities such as copying and repetition in traditional learning are therefore deemed as ineffective since they lack supporting context and are cognitively undemanding (Smith & Paterson, 1998, as cited in Coyle, 2007, p. 554). Furthermore, traditional learning does not support the student-centered focus of the 21st century which promotes student cooperation, autonomy and focuses on motivation and interest (Kuhlthau, Maniotes & Caspari, 2015, pp.31, 39, 175).

The issue that arises about the reading skill in a second language is which strategies to use when pupils not only dislike reading in L2 but, principally, they dislike or do not have the habit of reading in their own native language. Poor reading habits among individuals from all age groups is a problem that most Latin American countries face and this is not the exception in Ecuador. It was found by Rivadeneira and Hernandez (2019, p.92) that 82% of the Ecuadorian students they tested did not have a positive attitude towards reading and 70% lacked reading habits. It has been concluded that the main reason students are reading is because they have to, in order to complete academic tasks (Jaramillo, Vargas, Cabrera, Vivanco, & Zuniga, 2019, p.198). Another study performed by UNESCO (United Nations Educational, Scientific, and Cultural Organization) found that most Latin American students graduate from high school not being able to read properly in their L1 (2017). This lack of intrinsic motivation towards read is a major impediment in language acquisition.

Various methodologies have been developed and applied in an attempt to find the perfect paradigm to ensure reading comprehension success in the classroom. The means to achieve this seems to be the underlying question and definitely the target at many educational institutions. Language education has undergone many changes in public and private schools in Ecuador and currently requires all university students to achieve a level B1 in English to be able to graduate in conformity to the Common European Framework for Languages (CEFR).

In Ecuadorian public education, the CLIL (AICLE) model has been adopted as part of the basic principles in its curriculum in order to integrate second language acquisition with other aspects such as culture and cognition, necessary skills in the development of pupils and as an attempt to improve second language skills in the country. Despite these efforts, Ecuador still ranks among the lowest in English skills, according to EF English Proficiency Index (EPI) published in 2019, Ecuador is in the 81st place out of 100.

2. CLIL GENERAL OVERVIEW

As a response to the need in the European Union (EU) to increase the language competence among its citizens, the EU language policy established as a requirement in all European institutions that everyone learn two other languages in addition to their native language. To fulfill this L+2 requirement the EU devised the implementation of CLIL. Content and Language Integrated Learning (CLIL) is a model which has been adopted by European Institutions for many years and is growing in popularity in other parts of the world. It was initially developed in the 90's with political scientist and professor David Marsh as the leading contributor in its process. It is a dual-focused approach aimed at using a second language to teach school subjects and language simultaneously while focusing on students achieving what Coyle labeled as the 4 C's Framework of CLIL (fig.1). Within the framework are content, cognition, communication, and culture, vital elements that allow learners to acquire skills, experiences and knowledge necessary to strive in a culturally diverse and multifaceted world such the one we are living in (Marsh & Martin, 2012).

Figure 1

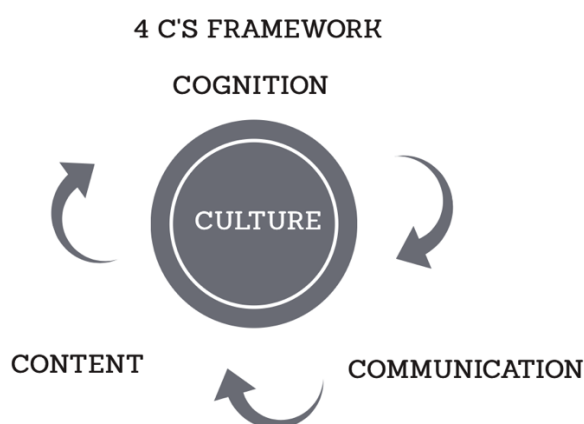


Figure 1: Do Coyle 4C's Framework

CLIL not only emerged as a solution to improve language skills in the EU but also to achieve the educational demands of the 21st century. For instance, it aims to enhance cognitive skills by providing opportunities to take students from LOTS (low order thinking skills) to HOTS (high order thinking skills). In 1956, the Bloom's Taxonomy, named after its originator Benjamin Bloom, was devised to classify levels of intelligence and as an attempt to provide guidance as to how students should be progressing in their intellectual behavior. In other words, tasks should be formulated to begin by stimulating students to recall or remember previously learned knowledge (first stage) until they progressively go into more challenging demands so that at the end of the task or unit they will be able to create or construct something new on their own (final stage). The six stages are described in greater detail in table 1 (Forehand, 2005).

Table 1

LEVELS OF INTELLECTUAL CAPACITY	PURPOSE	EXAMPLE ACTIVITIES (key words)
CREATE (stage 6)	Use information to build or generate something new	Design, develop, construct, formulate, assemble
EVALUATE (stage 5)	Examine information and draw conclusions	Appraise, argue, defend, critique, support, value
ANALYZE (stage 4)	Take information and discover relationships within it	Differentiate, organize, relate, compare, contrast
APPLY (stage 3)	Use information in a new setting	Solve, demonstrate, use, implement, interpret
UNDERSTAND (stage 2)	Grasp and make sense of new information	Classify, describe, explain, recognize, report
REMEMBER (stage 1)	Find or remember previously learned information	Define, duplicate, list, memorize, repeat

Table 1: Bloom's Taxonomy

In CLIL, the focus is not on form but instead on the ability for students to be able to communicate and get their message across. However, it is essential that students develop two

levels of proficiency in L2, BICS (Basic Interpersonal Communication Skills) and CALP (Cognitive Academic Language Proficiency). The former refers to the everyday conversational vocabulary needed for basic communication, while the latter refers to the language students need to be able to produce in oral and written form in order to achieve academic success. BICS is often acquired in class and by interacting with peers and teachers but CALP is acquired through the materials that are used in the classroom and the activities that are performed by students such as reading comprehension and writing activities. Cummins (2000) stressed the distinction between these two levels of language proficiency because it is important that students develop both, he observed that while children of different ages might have had the same level of BICS they did not have the same level of CALP. What this means is that they would not be able to attain the same level of academic and cognitive results. This distinction is also important since in many cases educators assume that if a student possesses BICS they will succeed academically but this will not be an accurate assumption and it may inhibit the student from receiving the support he needs to achieve CALP. Therefore, it is important to take this into account in teaching and for teachers to design appropriate activities so that during class interactions students can develop BICS, as well as focus more on CALP developmental activities such as reading comprehension.

Since learning is an evolutionary process, as stated by Piaget (1924) and Vygotsky (1934), learning must adapt to the current learning environment which is the reason CLIL gives emphasis in developing cultural intelligence among students, teachers and all the stakeholders (as cited in Montealegre, 2016: pp.288-291). It is important to understand that there will be differences in each individual's interpretation of information which is shaped by the culture he is raised in (Tomasello et al., 1993). Therefore, since these culturally shaped ideas and thought are always changing and can adapt to create better and new things (Fosnot, 2005), it is essential to teach students the importance of accepting different ideas and cultures to bring forth unity among individuals. Piaget and Vygotsky sought to help us understand that being open minded and accepting towards other cultures not only helps us see things differently for our own enrichment but results in the creation of new things benefiting everyone as a whole regardless of someone's cultural background (as cited in Liu & Matthews, 2005).

CLIL is a student-centered approach which is based on important theories such as constructivism, cooperative learning and comprehensible input since it not only focuses on content but on how to transmit this content effectively to students. Therefore, it is important to understand how these theories help achieve the language, communicative, cognitive and

cultural goals in the classroom. As Cummins (2005) explained, student experience is emphasized by encouraging their active learning instead of receiving knowledge inertly (as cited in Pastor, 2011, p.111). The use of these theories also provides students with opportunities to develop their Zone of Proximal Development (ZPD), a concept developed by Vygotsky during the 1920s.

The Zone of Proximal Development is the specific stage in learning in which a student is able to connect what he already knows to the next level or stage of knowledge by learning new concepts and attaining new skills by performing meaningful tasks. However, ZPD is mainly achieved through the different mediating tools provided by a tutor and through interaction with peers (Shabani, Khatib, & Ebadi, 2010, p.238). Therefore, it is important to mention the role of the teacher in achieving ZPD. First, as a guide for the students and second, in providing the adequate tasks so that students can reach their next level of expertise. Tasks should aim at keeping students in their ZPD by being meaningful and challenging enough so that they arouse interest but do not disengage them by being too difficult.

2.1 Constructivism

Since CLIL has a more hands-on perspective, it focuses on implementing constructivist ideas and methodologies which shift away from the traditional way of learning where the teacher is the sole distributor of knowledge to the students in a monotonous atmosphere. Constructivism derives from the studies of Jean Piaget who observed that effective learning takes place through interaction. Interaction empowers learners to be autonomous and to achieve higher levels of cognitive development and improved understanding. It also brings forth cognitive conflict and this is perceived as vital in order to construct new knowledge (D. Johnson, R. Johnson & Smith, 1998). Vygotsky was also a pioneer of constructivism and thought that pedagogy and assessment should target the individual needs of each student rather than treat a whole group alike. Instructors must understand that each individual has his own learning processes and that information is processed differently by each individual. Nevertheless, the exchange of each individual's unique information or ideas is necessary and results in cognitive growth and knowledge construction (Hertz-Lazarowitz, Kirkus, Miller, 1992, p.2).

2.2 Cooperative Learning

As a result of the constructivist ideas of Piaget and Vygotsky and taking into account the need of a reform in the field of education during the 20th century, cooperative learning

emerged and also became an integral part in CLIL. The aim of cooperative learning was to improve social relations and consequently, academic achievement. “Cooperative learning promotes interaction and facilitates the development of cognitive and personal growth” (Casal, 2006, as cited in Pistorio, 2010, p.3). Cook and Pelfrey (1985) found two essential advantages of cooperative learning. First, when working in a group a person in need of help receives this help better if it comes from a member of his own group rather than from a member outside his group such as the teacher. Second, it gives a sense of belonging to a person in being part of a group which has positive consequences in learning (as cited in Hertz-Lazarowitz, Kirkus, Miller, 1992, p.4). Positive and effective social interaction is said to be achieved by a number of factors and include “the physical organization of the classroom, the learning task, teacher instructional behavior, teacher communicative behavior, student social behavior, and student academic behavior” (Hertz-Lazarowitz et al., 1992, p.5).

In the same way that constructivism focuses on the individual or promotes giving each student differentiated treatment, so does the Multiple Intelligences Theory (MI) which also looks at the individual and the importance of understanding that each person has his own natural abilities and that understanding this, when seen from a teacher’s perspective, is also an important aspect in delivering the best possible experience to students. The MI theory aims for teachers to understand that intelligence cannot be measured based on a single scale, rather, it is measured according to each person’s own individual talent. Developed by Howard Gardner in 1983, the MI theory has proven to be an effective way of teaching in the classroom as it not only allows each student to exploit his individual talents but contributes to the attainment of greater cognitive skills. Gardner believed that by creating activities with the student’s different interests in mind is a great motivator and it helps them achieve more and learn better. At first, six different types of multiple intelligences were recognized but other intelligences have been adopted since. Today, eight different types of intelligences are recognized; these are:

- 1 - **linguistic (word smart)**: good for public speaking, well-developed verbal skills and word comprehension
- 2 - **logical-mathematical (number smart)**: good mathematical skills, comprehension of number and logical patterns
- 3 - **spatial (picture smart)**: well-developed art and creative skills, inclined to pictures and images
- 4 - **musical (sound smart)**: capacity to understand rhythms and an inclination for music, instruments

5 - **naturalist (environment smart)**: inclined to nature, notices animals and plants and can name them

6 - **bodily-kinesthetic (movement smart)**: good with bodily movements and handling objects, constructing objects

7 - **interpersonal (people smart)**: capable at working with people, natural leaders, sensitive to other peoples' feelings and desires

8 - **intrapersonal (self-smart)**: capable of working alone, sensitive to own feelings (Brualdi, 1996)

3. READING

In order to teach reading, we must first recognize all the implications that this overtakes. Reading is an interactive process involving many simultaneous actions which make it a rather complex activity. Grellet's insight of the reading process allows us to see reading as not only the interpretation of a text or the act of reading word by word but a skill in which guessing, predicting, converting words into sense units, picking up cues represented by words all becomes an indispensable aspect of the reading process (Grellet, 1981, as cited in Paran, 1996, p.26). Moreover, reading is described as a "guessing game" in which thought and language interact (Goodman, 1967). At the U.S. National Commission on Reading Conference that took place in 1985 titled "*Becoming a Nation of Readers*", skilled reading was described to be a constructive activity in which people are strategic and motivated (Anderson, Hiebert, Scott, & Wilkinson, 1985, pp.20-26). Reading as a constructive process signifies not only the decoding of messages contained within a text but also what the reader can bring into it, his individual world knowledge, ideas and views. Skilled readers are also strategic, they understand that reading demands applying their knowledge accordingly the demands of the task. In other words, they understand that there are different purposes for reading and they must adjust their reading to fulfill a specific purpose. Another important characteristic in reading is motivation. Readers become skilled because they are motivated and since teachers are facilitators in the learning process, their role is crucial in constructing an amicable learning environment and to be able to provide the necessary support students need for reading success.

Some experts believe that teaching L2 readers must be approached bottom up or by decoding individual components in text and interpreting what these components portray about the text as a whole. Wallace (1992) and Eskey (1988) consider that L2 readers restricted reading ability and lack of linguistic skill impedes the use of contextual cues (deducing

meaning of words from context), something that L1 readers are capable of doing. Furthermore, Wallace (1992) also recommends that teaching reading strategies is not recommendable for L2 readers, instead readers should be receiving extra support through the text, context and reading task (as cited in Paran, 1996, pp.27-28).

3.1 Pre-reading Activities

A type of support that teachers of a second language ought to dedicate time and resources to is pre-reading activities. By pre-teaching about the information contained in a text and enhancing background knowledge of the text, reading comprehension in a second language is said to improve significantly (Carrell & Eisterhold, 1983; Floyd & Carrell, 1987; Johnson, 1982). Pre-teaching techniques help learners make good use of their background knowledge in an active and productive way (Tudor, 1989, p.324). In addition, since readers must reconstruct the meaning of what they are reading, they must be able to assimilate prior-meaning (prior-knowledge) to meet their current demands and make any adjustments as necessary in order to comprehend a text (Goodman, 1967, pp.130-131). Johnson (1982) found that pre-reading activities are also valuable to introduce cultural information about a topic specially when readers are not familiar with that topic if, for example, it pertains to a different cultural background. He concluded that when students are first introduced to a topic which is unfamiliar to them, they perform better since they have better recall on familiar information as opposed to unfamiliar information.

Pre-reading activities also allow for the fulfillment of Bloom's Taxonomy objectives, taking students gradually from LOTS to HOTS. When doing reading activities, students must practice both, lower and higher order thinking in order to show that they understand the text and also that they are able to provide critical insights from what they have read (Mulcare & Shwedel, 2016, p.6). In reality, fostering critical thinking in students will bring forth their active involvement as well. As stated by Damron and Mott (2005), interactive learning methods bring forth "reflective thought" and increase student involvement. Hence, pre-reading activities provide the opportunity for this to occur.

An added value of pre-reading strategies is that they help develop automaticity, a quality that L1 readers possess. Automaticity in reading is the word recognition that is the result of practice and exposure to the same words frequently, it can only be developed through substantial amounts of repetitive practice (Segalowitz, 1991). Pre-reading activities provide this type of exposure and repetitive qualities since vocabulary words are presented and

reviewed over and over and students are exposed to similar topics throughout the course of their language education.

The role of vocabulary in reading comprehension has also been found to be important. Reading programs, especially for struggling readers, need to focus on vocabulary assessment and instruction since most of the time inefficiency in reading is due to vocabulary problems (Joshi, 2005, p.215). Stahl and Fairbanks (1986) also concur that vocabulary knowledge has an influence on comprehension since contextual knowledge or knowledge about words in a text is directly attributed to the exposure people have had to those words in context. The more exposure to vocabulary someone has, then, is an indicator of that person's level of reading comprehension (Sternberg, 1987, p.4). Joshi (2005) presents some vocabulary pre-teaching strategies which are helpful to learners in improving reading comprehension, he argues that dictionary instruction of vocabulary words is ineffective. Instead, teachers should focus on more meaning-based approaches which connect words to context. Some examples of these meaning-based approaches are: drawing attention to context by embedding words into sentences, providing students with sentences that contain missing words so that students guess what they are from context, another useful strategy is exposing students to synonyms and antonyms. Structural analysis or instructing about root word meanings is also important when teaching vocabulary so that when students encounter a word that contain certain root words they are more easily deciphered. The underlying goal of these type of vocabulary activities is to provide opportunities to use vocabulary so that it becomes a meaningful experience.

Again, the focus must be on enhancing the reading experience and Tomlinson (2003) reports about the usefulness of pre-reading activities and the way that they allow learners to experience texts in the best way possible. He also mentions that pre-reading activities stimulate mental activity, imagination, associations that take us from LOTS to HOTS, attention, and the use of inner speech. Inner speech are the inner conversations we have with ourselves when reading that help us understand and make connections of what we are reading relative to topics that we are already familiar with.

3.2 Reading Developmental Stages

Chall (1983) devised five developmental stages in learning to read in English which are also important to take into account when teaching L2 reading. Stage 0 – Beginners: at this stage since students don't know how to read yet, they mostly use images and guess what the story is about based on those images. At this stage, mostly guessing, memory and knowledge of the world work together to construct the meaning of the text. Stage 1 – novice readers:

students are starting to learn how to decode written messages and connecting them with sounds, syllables, and words since they are more aware of the language. Stage 2 – ability to decode: a characteristic at this stage is the ability to automatically and unconsciously process language. These learners have improved significantly at this stage and must be motivated in order not to lose the progress they have made. Stage 3 – learning the new: during this stage reading has become a tool for gaining new knowledge. It is indispensable that teachers reinforce knowledge before any reading is done at this stage because this establishes a supportive background in which further learning can take place. Vocabulary enrichment is also necessary at this stage. Stages 4 and 5 are mostly aimed at high school and university level students who are advanced in the English language and for whom reading has become a primary method of learning (Birch & Fulop, 2020).

It is important to take these stages into account to work with language learners according to the stage they are in because they also go through this process. Specifically stages 1-3 are relevant and confirm what has already been mentioned about the reading process in terms of the use of resources and strategies (i.e. pre-reading activities) which become an integral part of reading.

3.3 Comprehensible Input

In terms of developing reading comprehension skills and to stimulate language acquisition, Krashen's Comprehensible Input theory (CI) acknowledges the consequence of well-planned and stimulating texts which go beyond the current level of a student but still remain comprehensible, also known as $i+1$. Krashen (1998) has stated that clear improvement and even high levels of proficiency can be acquired without output but cannot occur without comprehensible input. Hence, a reading passage cannot be too easy nor too demanding for there to be comprehension success. He also claims that we acquire language once we understand messages and teachers must give students messages that they understand. Furthermore, the efficacy of CI also depends on scaffolding so that students understand the messages conveyed by a reading passage.

According to the text-driven approach, Tomlinson (2003) provides valuable information about the text collection, selection and experience. First, the creators of these texts are said to have the wrong purpose in mind, the syllabus, when they should be actually designing or selecting materials prior to generating the syllabus. That is, first focusing on the materials which will be adequate to achieve the learning goals and teaching objectives. Next,

in the creation of materials process, writers should be guided by learning and teaching principles.

Penaflorida (1995) used six principles for effective and efficient material development; materials should accomplish the following: (1) reach curriculum objectives and assessment goals, (2) be authentic so that students relate them to their daily lives, (3) stimulate interaction (4) shift student attention towards formal aspects of the language, (5) allow learners to develop learning skills, and (6) promote the use of the skills learnt in a real world context (as cited in Tomlinson, 2003, p.109).

3.4 Fostering a Reading Culture

Due to the fact that reading pedagogy is an ample topic and a challenging one, it is of special concern in the present study to investigate the different means of improving reading comprehension taking into account Ecuadorian students reading habits, intrinsic motivation and overall reading perceptions. Considering these elements is fundamental in reading comprehension since, as Baker (2002) affirmed: “Any analysis of bilingual education must take account of situational and context variables so that developments are interpreted through a sociocultural lens” (as cited in Coyle, 2007, p.543). In other words, and applying what was said to the reading skill, students reading culture is an important factor and the use of appropriate techniques to help them, given their specific cultural context, is a determinant on how well students will perform in reading comprehension tasks and, as a consequence, improve their L2 level. In view of this, it was hypothesized that teacher scaffolding prior to reading would be positively associated to increased student motivation to read in English which would lead to increased performance, since the more interest a person has in reading, the more they will do it and the better they will become at it. It was also hypothesized that increased reading comprehension results would relate positively to students’ engagement during class activities which promote cooperation and interactivity.

4. SCAFFOLDING

Scaffolding, in simpler terms, can be defined as any means used by a teacher to provide assistance to students in the learning process, so that the intended outcomes are reached. In the process of reading, the focus of this study, the intended outcome is for students to achieve a higher level of vocabulary and deep understanding of a text in order to apply this knowledge to carry out a specified task. It is a term initially used in psychology by Vygotsky to refer to the help that a parent provides to his child in the child’s development

process (Wood, Bruner, & Ross, 1976). It is compared to the learning of a new language because in the same way a child depends on his parent to learn new things, a student depends on his instructor to learn vocabulary and grammar. Scaffolding is deemed as substantial in language acquisition as it allows students to reach their Zone of Proximal Development (ZPD).

Wells (1999) believed that the way to achieve ZPD is through scaffolding. He acknowledged three main aspects of scaffolding that make it ideal for ZPD: (1) students cooperate in a task where knowledge is co-constructed and which incentivizes dialogue; (2) the activity provides such significant value that knowledge is rooted into students; and (3) the eminent role of the tools which are used during scaffolding.

As stated by Meyer (2010), Scaffolding has been found to be effective in decreasing cognitive and linguistic load, assisting students to accomplish a task through an appropriate and supporting structuring, and supporting language production by providing phrases, vocabulary and collocations needed to complete assignments or tasks.

4.1 Scaffolding in Reading

In reality, acquiring reading skill is complex for native speakers of a language nonetheless for learners of a second language. As explained by Paulo Freire (1972), reading involves thought, cognition, decoding of words and messages, and most importantly dialogue. Dialogue from the teacher to its students in a context where both parties can express themselves in an equal manner. Freire also indicates that valuable teachers are those who are in constant search for knowledge and open to learn even from their students. Therefore, as previously stated, teachers must find ways of keeping students motivated and engaged in reading.

Scaffolding plays an important role in motivating students to read. It has been acknowledged that passion for reading does not develop instantaneously but rather grows overtime as a consequence of the experiences and supporting learning environment (Guthrie, Wigfield, & Perencevich, 1997, p.55), these, constructed by teachers. Guthrie et al. (1997) states that scaffolding for motivational development includes the coordination of various support methods, namely: conceptual knowledge base, social interactions, use of comprehension strategies and environmental features in the classroom.

Rose, Lui-Chivizhe, McKnight & Smith (2003) had a valuable outlook on reading in which they describe it as a continuous tripartite cycle. In this cycle, instructors must first aim at orienting learners on the general topic of the text before reading it and secondly, for

learners to interpret the information contained in the text. The *orient* aspect mentioned by Rose et al. is therefore in the hands of the instructor, which can be defined as scaffolding. The reading cycle is represented in Figure 2 below, and as it can be observed, requires the preparation (*orient*) by the teacher and consequently the identifying (*interpret*) of information i.e. new words and expressions by the students. The third aspect in this cycle, elaboration, although mentioned to be optional, offers an added value in the process of reading since it provides students with a deeper connection to the topic when their opinions and own experiences are exposed in the form of class discussions. Class discussion is appropriate and works well as an interaction tool and in fostering communication among peers.

Figure 2

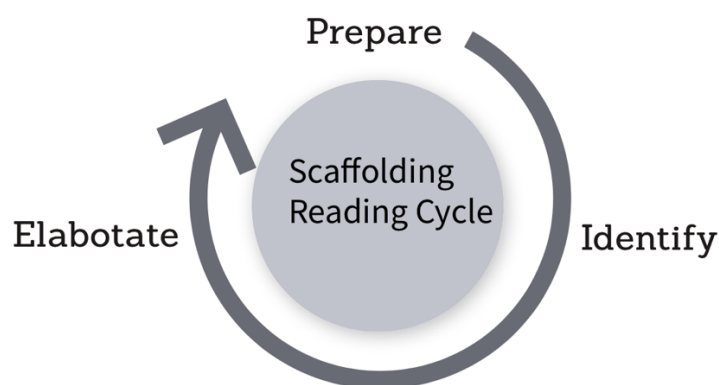


Figure 2: Scaffolding Reading Cycle

Previous studies have found that employing scaffolding techniques in reading comprehension yield positive results. Chung (2006) studied the results of scaffolding in reading comprehension in university students, she used a think-aloud method and found that through teacher's assistance, students were able to connect prior knowledge to a new text and were able to understand it better, resulting in higher reading comprehension scores. Furthermore, she concluded that the use of scaffolding had better results in less proficient students.

Another study on the effects of scaffolding was conducted by Chi (2007), where she analyzed and compared the scaffolding strategies used by two EFL teachers on elementary school children by keeping record of the teacher's scaffolding methods they employed during their classes, which were consequently organized in different scaffolding themes. For instance, Chi recorded the frequency in which the teachers offered explanations, clarified and verified student understanding of concepts, and linked new information to students'

background knowledge. It was discovered that in both groups, the students' reading comprehension was enhanced due to scaffolding.

Most studies on the benefits of scaffolding have been focused on the face-to-face modality and the ones that exist about online learning do not really focus on a specific skill such as reading but since this study will be executed entirely online, it is beneficial to point out some views about scaffolding in an online modality.. Cho & Cho's (2014) study on *Instructor scaffolding for interaction and students' academic engagement in online learning* reveals that scaffolding strategies used in online learning are key for academic engagement and to achieve academic goals. A more recent study, also proves that scaffolding produced better learning outcomes when compared to non-scaffolded groups (Doo, Bonk & Heo, 2020). Furthermore, they concluded in their meta-analysis that meta-cognitive gains were achieved rather than gains in affective or cognitive areas.

4.2 Scaffolding for Motivation

When mentioning scaffolding it is also important to discuss the role of scaffolding in student motivation. The success in learning a new language relies, largely, in student motivation (Gardner, 1988; Lennartsson, 2008; Oroujlou & Vahedi, 2011). Motivated students have been found to perform better than less motivated ones, as stated by Gardner (2007, p.16): "the more highly motivated students have higher grades than the less motivated ones", and goes on to say: "that the more anxious the student the lower the English grade". Developing student motivation is important at all stages but most importantly at the early stages of learning a new subject or skill because they gain confidence, which will help them in later stages. Student motivation is directly connected to their interests. Students are likely to recall more information when interest is well-developed in class, individual interest is said to contain two components, an individual's knowledge of and value for a particular topic or subject (Renninger, 1998, 2000).

When speaking about motivation, it is important to focus on the topic of interest since interest in a particular subject or area leads to increased motivation to learn about that subject or area. In fact, it has been found that interest has a positive impact on learning (Tobias, 1994). Investigations have shown that cultivating individual interests has a favorable effect on people's attention, persistence in an activity or task, increased learning and involvement and even the enjoyment in the process of learning (Ainley, 2007; Prenzel, 1988; Renninger, 2000).

In the area of reading, developing all types of interest and reading engagement lead to increased reading comprehension skills (Hidi, 2001; Wigfield, Guthrie, Perencevich, Taboada, Lutz, McRae, & Barbosa, 2008). In addition, Wigfield (2010, p. 25) indicates that student reading motivation is influenced by, among others, autonomy support, collaboration support, and strategy instruction, fundamental stimuli satisfied by using scaffolding in reading activities.

The scaffolding process is stated to work as a motivational and engagement tool in the classroom (Guthrie, Wigfield, & Perencevich, 1997). The teacher's role is once again highly valued in this process for two reasons. First, as a model of the behavior and actions that are expected from students when accomplishing an activity and second, they have the responsibility of using the adequate resources to encourage motivational development (Hidi & Harackiewicz, 2000). Among the list of adequate resources for the development of motivation and which are controlled by the teacher are: the use of appropriate texts, visual stimulus such as pictures, challenging problems which neither are difficult nor too easy, and scaffolding (Guthrie, Wigfield, & Perencevich, 1997; Hidi, 2001; Hidi & Harackiewicz, 2000; Prenzel, 1988).

5. THE STUDY

Considering what has been established, the present study is carried out as a small-scale action research on the effectiveness of scaffolding techniques as a motivation tool in reading and its effects in reading comprehension skills. Quantitatively, it has studied the effects of different scaffolding techniques and its effects on the reading performance of second level (A2) English language learners at Higher Level Education in Ecuador throughout the course one academic term (lasting approximately three months). On the other hand, the qualitative aspect of the study has measured the students' initial perceptions towards reading as well as their motivation to read by applying a survey at the beginning of the experimental period to both groups being studied. Then, after the experimental period by individually interviewing the experimental group to discover reading perceptions and level of motivation after the scaffolding techniques have been employed for various weeks. The study is divided into three stages: the initial survey and pre-test applied to both groups, the use of scaffolding techniques on the experimental group, and finally, the individual interview to the students in the experimental group. The reading texts and comprehension questions were the same for both groups, they had 25 minutes to complete it and were graded over 10 points requiring a minimum of 7 points to pass, this is in accordance with the Ecuadorian grading standards. The

only distinction in the process was that prior to the reading and comprehension questions, the teacher applied pre-reading scaffolding techniques to the experimental group.

5.1 Objectives

General Objective: To measure the effectiveness of scaffolding techniques as a motivator in reading and their impact on reading comprehension performance.

Specific Objectives:

- To motivate higher education students to read in English by providing support using scaffolding techniques.
- To engage students with a text and for them to produce meaningful interpretations of it.
- To facilitate students' interpretation of a text by establishing connections to previous knowledge.
- To analyze the impact of various scaffolding techniques on students reading comprehension skills.
- To apply scaffolding techniques through the use of technology in an online learning environment.

5.2 Research Questions

RQ1: Do reading scaffolding techniques help develop superior competence in reading comprehension?

RQ2: Does the experimental group achieve higher consistent results in reading comprehension versus the control group during the scaffold period?

RQ3: What are students' perceptions about the use of pre-reading scaffolding techniques?

5.3 Sample

The subjects for this study are 56 students aged 18 to 27 from higher education at an institution in Ecuador, who study English as a foreign language as a requirement to obtain their bachelor's degree and who receive a total of 120 hours of English per level, requiring to pass a total of six levels in order to obtain a certificate of proficiency in English. From the total of 56 chosen subjects, 27 are part of the experimental scaffolded group who will be

referred to as ESG and 29 are part of the control non-scaffolded group who will be referred to as the CNSG. Their current level is Elementary A2 (second level).

5.4 Variables

Independent variable: the independent variable corresponds to the reading scaffolding techniques implemented to the ESG 2nd level students from Higher Level Education.

Dependent variable: the dependent variable are the results of the reading comprehension scores after the scaffolding techniques have been applied to the ESG and the CNSG.

5.5 Materials

The materials consisted of six elementary English texts taken from the book National Geographic Learning Life Second Edition. The book is being used as part of the English course book at educational institution where the subjects belong to. The texts were authentic and entailed topics from varied contexts such as: science, film and the arts and tourism. The book 101 Scaffolding Techniques for Languages Teaching and Learning (Fields, 2017, pp.15-34) was used as the tool from which some of the scaffolding techniques were taken. These techniques include: paint me a story, too many cooks, I've got it, what was that and I've got this which can be observed in greater detail on table 3. In addition, the Course Management System Moodle was used to create and evaluate the reading comprehension questionnaires which were applied to both the ESG and the CNSG.

5.6 Instruments

5.6.1 Instrument Design

In an attempt to understand the reading habits of students and the effect this can have on their motivation and overall performance during reading comprehension activities, an initial survey has been conducted to ascertain what has been hypothesized, that students low reading performance is directly associated to their lack of intrinsic motivation to read in general (whether this is in their native language or L2) and above all, their disinterest to read in English. Lack of motivation to read means that students will be poor readers and the ability to read is fundamental to gain English language proficiency (Cambria & Guthrie, 2010; Shmais, 2002).

The survey was administered to both, CNSG and ESG which comprised personal data such as the students age and inquired about their reading habits including their reading

preferences, time spent reading, main motivation to read, frequency reading in English, motivation to read in English and overall reading experience in English class. The survey is comprised of 10 items in which students had to choose from eight multiple choice questions and two open-ended questions. See figure 4.

In addition, the subjects took part in an initial reading comprehension test which was used as a pre-test in order to determine the homogeneity of both groups in terms of reading comprehension skills and to ensure the precision and quality of the resultant statistics. The pre-test consisted of twelve questions related to an in-class reading from the book National Geographic Learning Life Elementary Level. It was designed to measure students' ability to read and understand a text, it contained eight multiple choice and four vocabulary in context questions.

During the second stage, students answered reading comprehension exercises. The reading comprehension exercises were adapted from the book Nat Geo Life since the students had to complete 12 units and each unit had one main reading activity which is part of the teaching plans and syllabus as a main element of the curriculum required for higher level education students at the university were the subjects belong to. Taking into consideration their current level and Krashen's input hypothesis target $i+1$, students had to answer multiple choice, true/false, matching, ordering, short answer, and labeling type questions based on the text.

At the final stage, an interview was conducted to the ESG only, to observe if their perceptions toward reading had changed during the course of the semester and as a result of the scaffolded reading techniques. Individually and through the ZOOM Video Conferencing Platform each student answered a total of eight questions ranging from their opinions of the readings they have done, their opinions on the techniques used by the teacher, their comprehension of the texts as a result of the scaffolding techniques applied, and their overall perception towards having improved in their English competency. The interviews were administered in Spanish and then translated verbatim to English.

5.6.2 Instrument Administration

The study focused on using Constructivism, Cooperative Learning and Comprehensible Input, three theories relevant in CLIL. There were seven continuous sessions (seven units) in which these theories were applied once a week before the main reading of each unit. The texts were authentic and presented $i+1$ input of various types such as articles, leaflets, blogs and websites. Although both, the ESG and the CNSG, received approximately

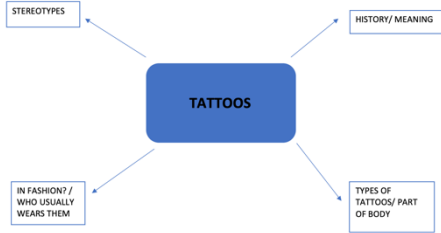
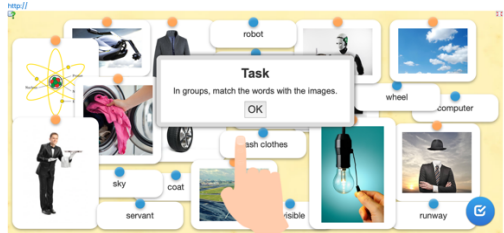
the same amount of time for the reading activity, the CNSG worked individually during the entire reading activity finding new words and their definitions before reading the text and answering the questions, while the ESG received a constructivist-interactive approach which included the application of a different scaffolding technique (pre-reading activity) before the main reading of each unit led by the teacher and learning cooperatively about the main topic of the reading before being exposed to the text.

The reading process for the ESG was as follows: on the day of the main reading activity of each unit, first the teacher explained the pre-reading activity by modeling to the students what was required of them as part of the scaffold prior to reading. The teacher then asked one student to explain what they had to do to the whole class to verify that everyone understood what they were supposed to do. Consequently, the students were divided into different breakout rooms in the platform Zoom. This is the same as if the students were working in groups at a classroom since Zoom breakout rooms allow the splitting of the Zoom meeting into up to 50 separate sessions. Each group had approximately 3-4 students. The scaffold activity lasted approximately 10 minutes during which students worked cooperatively in the activity while the teacher monitored them by entering each breakout room periodically. After the time established by the teacher passed, the breakout rooms closed and everyone returned to the main Zoom session for a brief class discussion (approximately five minutes) about each groups discoveries and results, at that time any doubts or questions were also addressed before the main reading activity. Finally, the students worked individually reading the text and answering the comprehension questions.

The scaffolding techniques that were applied to the ESG had the aim of creating explicit links between past learning and new concepts and included useful supplementary materials such as pictures, visuals, multimedia, and graphic organizers (Echevarria & Short, 2010); shown more in detail in Table 3. These supplementary materials used in scaffolding are important for building background and provide valuable resources for students to acquire new skills since they stimulate students' different intelligences as per the Multiple Intelligences Theory while at the same time offering student progression from LOTS to HOTS. The pre-reading activity/ scaffold technique allowed for students to interact with the teacher and their classmates, which motivated them and fostered a positive learning environment. It also prepared them for the reading activity as the scaffold activity facilitated the understanding of the text.

Table 2

Scaffolding Technique	Instructions	Example
Think-Pair-Share (week 1 of scaffolded period)	T: (Think) The teacher asks a specific question about the text. Students "think" about what they know or have learned about the topic. P: (Pair) Each student pairs up with another student or a small group. S: (Share) Students share their thoughts with their partners. After a few minutes, the teacher expands the group discussion into a whole-class discussion.	Text type: Article Title: A Cashless World? Questions asked: 1 - What forms of payment existed before? 2 – What forms of payment exist now? 3 – Do you think it is better to pay with cash or credit cards?
Paint me a Story (week 2 of scaffolded period)	In groups, work together: 1 – re-writing these sentences in the simple past. 2 – find an image that represents the idea of the sentence. 3 - As a class: Each group takes turns showing an image of one of the sentences and the rest of the class tries to guess which sentence it is.	Text type: Article Title: The Longest Journey in Space Example:  On August 20 and September 5, 1977, two spacecrafts take off from Florida. <u>On August 20 and September 5, 1977, two spacecrafts took off from Florida.</u>
Mind Map	In groups, brainstorm the information you already know about TATTOOS by creating a mind map like the one below. Write about the sub-categories below and feel free to add more subcategories. List at least three items in	Text type: Article Title: Tattoos in fashion and for Life

(week 3 of scaffolded period)	each sub-category.													
Too Many Cooks (week 4 of scaffolded period)	1. In groups, help each other translate these vocabulary words onto your native language and make a list of their different meanings. Write your lists in the Reading Glossary Forum. 2. Compare your lists with the other groups.	Text type: Blog Title: Nature in Art Reading Vocabulary: <table><tr><td>art critic</td><td>landscapes</td><td>lakes</td><td>hills</td></tr><tr><td>galleries</td><td>green field</td><td>aboriginal people</td><td>prints</td></tr><tr><td>genius</td><td>disagree</td><td>shark</td><td>rich</td></tr></table> raw – crudo raw(wool) - algodón en bruto raw(mineral) - materiales primos	art critic	landscapes	lakes	hills	galleries	green field	aboriginal people	prints	genius	disagree	shark	rich
art critic	landscapes	lakes	hills											
galleries	green field	aboriginal people	prints											
genius	disagree	shark	rich											
I’ve got it! (week 5 of scaffolded period)	In pairs: First, look at a picture and try to guess the name. Then, match the picture card with the vocabulary word and if your guess is correct, you get 1 point. Continue with the rest in the same way. The student with the most points wins!	Text type: Article Title: Why haven’t Scientists invented it yet? 												
What was that? (week 6 of scaffolded period)	1. In pairs, make acronyms from the words given. (create as many as you want) 2. Then, exchange the acronyms with another group. 3. Each group writes out the full word that each letter stands for. 4. Each group shares one acronym with the class and says the meaning of one of the words.	Text type: Travel Website Title: Should I go there? <table><tr><td>sightseeing</td><td>backpacking</td><td>safari</td><td>huge</td></tr><tr><td>pollution</td><td>traffic</td><td>wildlife</td><td></td></tr></table> Words: vacation, beach, summer, camping Acronyms: VBSC	sightseeing	backpacking	safari	huge	pollution	traffic	wildlife					
sightseeing	backpacking	safari	huge											
pollution	traffic	wildlife												

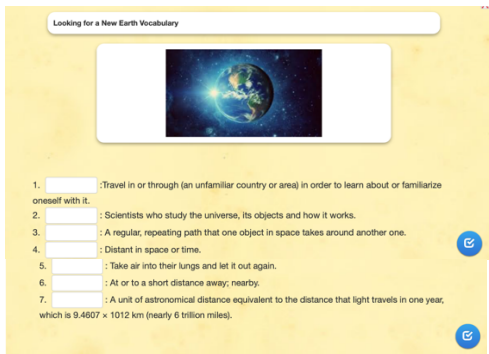
		SCVB BSVC
I know this! (week 7 of scaffolded period)	1. In groups, solve the app looking at the text from p.147. 2. The teacher will give each group one word. Think of a way to represent that word using actions (no words) so that the other students guess the word. 3. Act out your word to the class so that your classmates guess what the word is.	Text type: Leaflet Title: Looking for a New Earth 

Table 2: Instructions and examples of each Scaffolding Technique

5.7 Data Analysis: Statistical Methodology

The data have been analyzed statistically using the 25.0 version of the SPSS program. The participants have been matched according to their English level A2 and a pre-test was conducted to compare their reading results before the treatment of the ESG. The Reading test conducted for the pre-test was taken from the National Geographic Life 2 Book and was implemented by using the Moodle Platform.

To address the research questions (RQs) 1 and 2 a paired sample *t* test has been employed to determine if there were statistically significant differences between (intergroup) and within (intragroup) both groups. Cohen's *d* has been employed to calculate the effect sizes.

Finally, to respond RQ 3, an interview has been conducted to 26 participants in the ESG. The interviews were recorded through the ZOOM video conferencing platform and then transcribed into a document in order to code the student responses into categories to reflect information in a more comprehensible form.

6. RESULTS

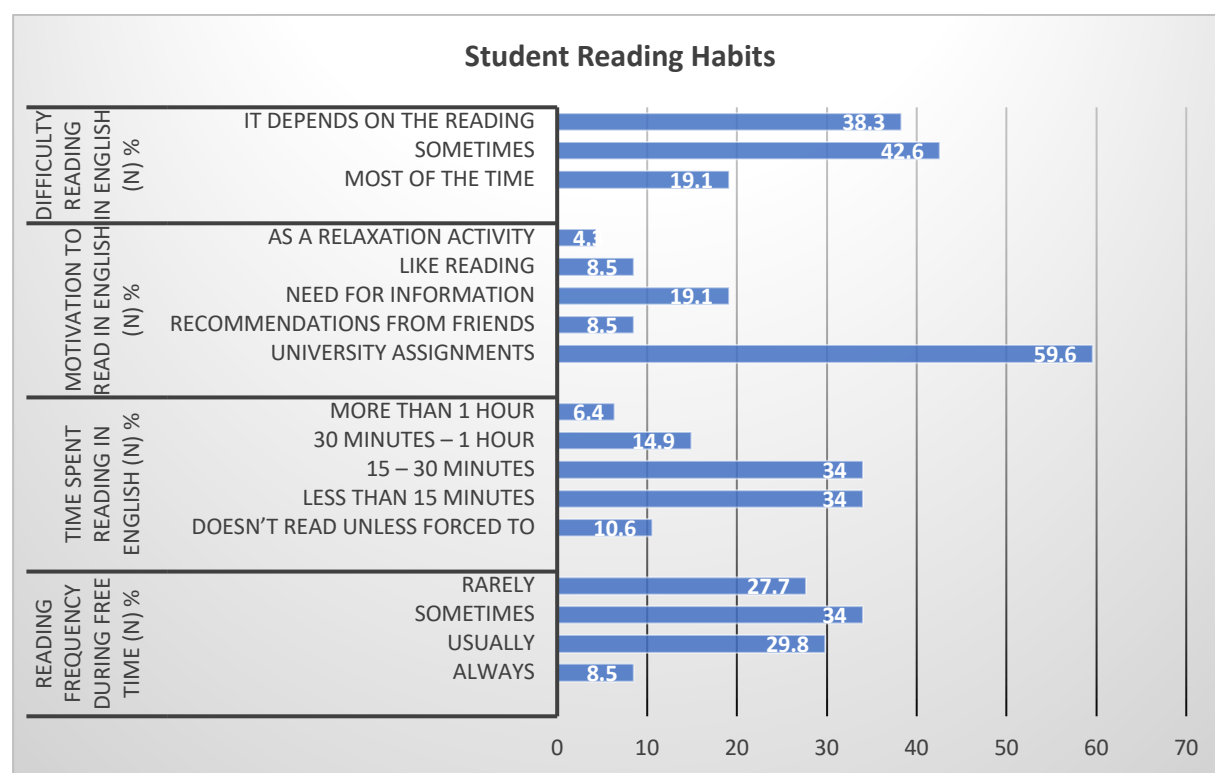
To address the research questions, first the initial survey and pre-test results will be addressed. Next, intergroup comparison results will be presented for RQ1 and afterwards the

intragroup comparison results will be presented for RQ2. Finally, the results of the ESG's individual interview will be analyzed to answer RQ3.

6.1 Initial Reading Habits Survey

The results show that most of the university students who participated in this study don't have regular reading habits in their native language, 27.7% rarely read and 34% read sometimes. The percentage of them who spend time reading in English for 30 minutes to an hour per week is 14.9 and the majority of students confessed that their main reason for reading is in order to complete university assignments. Therefore, departing from the results of this survey, we can conclude that students at higher level are not reading regularly and read only for compulsory reasons.

Figure 3



**Note: results are based on 47 out of the 56 students that participated in the initial survey*

Figure 3: Reading Habits Survey Results

6.2 Pre-test

The pre-test reading results indicate a relatively low contrast between the CNSG and ESG with a slightly higher average in favor of the CNSG. This demonstrates the homogeneity of the groups in terms of reading comprehension skills. Figure 4, below, represents the obtained results.

Figure 4

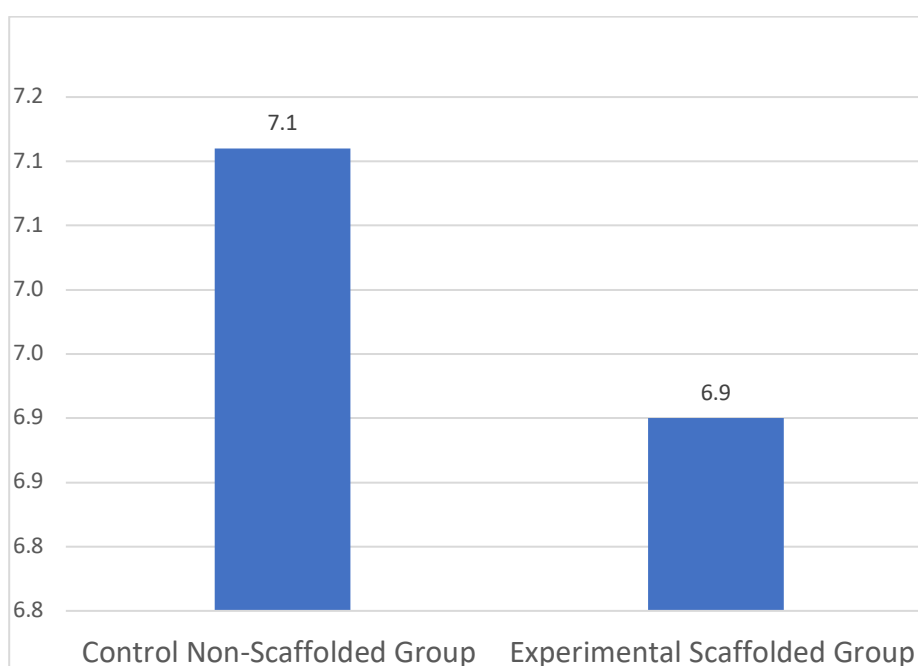


Figure 4: CNSGG and ESG Means obtained in the pre-test

6.3 Intergroup Comparison

During the experimental phase of the semester (seven weeks) and after each scaffolding technique was applied to the ESG during the main reading activity of each unit, a reading comprehension questionnaire was answered by both groups. The intergroup results were automatically calculated and recorded by the Platform Moodle. The averages of the seven different questionnaires answered by the CNSG and the ESG during the course of the seven units were compared. An independent sample t-test was performed to compare the reading comprehension results between the CNSG and ESG. Table 4 shows that statistically significant differences in terms of reading comprehension results surface as a result of scaffolding in favor of the ESG; $t(57) = -4.858$, $p < 0.001$, the effect size is large ($d =$

1.28302). Thus, at the end of the seven weeks, the ESG outperformed the CNSG in reading comprehension skills.

CNSG	ESG		
<i>mean/SD</i>	<i>mean/SD</i>	<i>p-value</i>	Cohen's <i>d</i>
6.36/1.37	7.87/.93	<0.001	1.28302

Table 3: Reading Comprehension Independent Sample t-test results

6.4 Intragroup Comparison

The afore mentioned intergroup comparison is complemented with an intragroup analysis of the ESG and the CNSG reading comprehension results in order to determine whether, in general, there was any improvement in terms of their reading comprehension skills throughout the course of the semester. As it is observed in Figure 5, during the non-scaffolding period for both groups, their reading comprehension results (dependent variable/ vertical axis) are almost parallel, meaning that the differences are not significant. However, during the scaffolding period (independent variable/ horizontal axis), the group that was not treated retained similar results throughout the testing period while the ESG scores increased significantly. Likewise, the ESG increased its average reading scores by one point (from 6.9 to 7.9) while the CNSG decreased by one tenth of a point (from 6.6 to 6.5), see Table 5. Effect sizes, also shown in table 5, differed for the CNSG and the ESG, returning a small effect size ($d=0.216$) for the former and a large effect size ($d=1.320$) for the later, signaling a significant progress in reading comprehension skills for the ESG. Lastly, there was a statistically significant difference in the ESG ($p=0.048$) which was not observed in the CNSG ($p=0.854$).

Figure 5

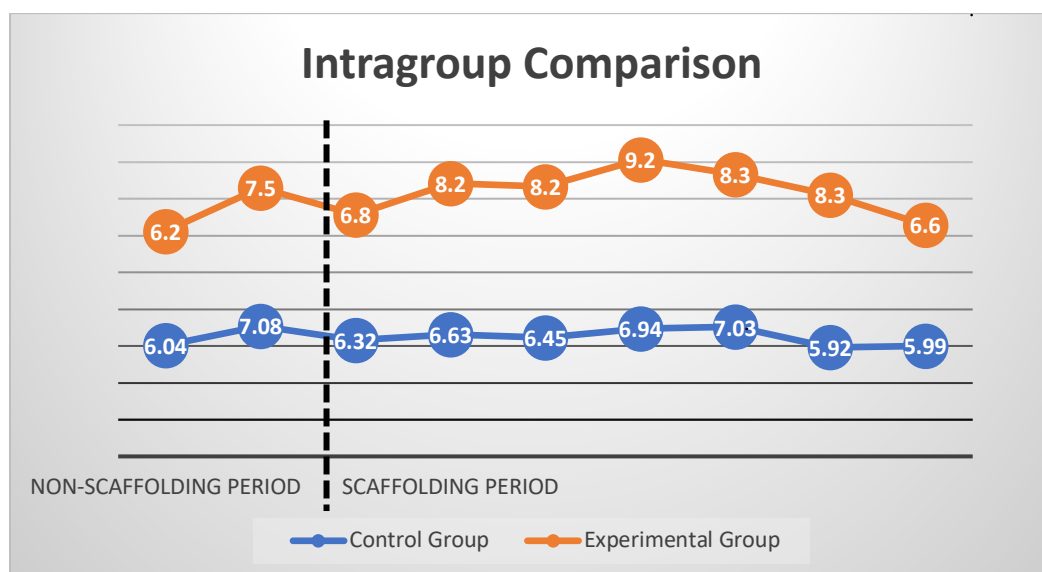


Figure 5: Within-Group Comparison in Reading Comprehension Results

Group	Aspect	Period	Mean	Standard Deviation	Cohen's <i>d</i>	<i>p</i> value
Experimental (scaffolded group) ESG	Reading	Pre-treatment	6.9	0.65	1.320	0.048
		During treatment	7.9	0.85		
Control (non-scaffolded group) CNSG	Reading	pre-treatment	6.6	0.52	0.216	0.854
		During treatment	6.5	0.40		

Table 4: Evolution of the CNSG and the ESG throughout the Study Period

6.5 Post Study Interview

Student feedback is important in determining the scope in which a teaching methodology is successful or not. Gathering student opinion is not only useful and relevant but it is also necessary for assuring the quality of the student experience (Rowley, 1995, as cited in Leckey & Neill, 2001). Hence, the post-study interview was an important part of this study because it addressed areas such as student opinion towards the texts read throughout the

semester, their perception on the effect the pre-reading scaffolding activities had on their comprehension of the text as well as if they considered them to be effective, their opinion about their progress in their English level, and their current perception about reading in English.

The results revealed generally positive attitudes toward the pre-reading scaffolding techniques and the in-class reading experience. One pupil stated “*The techniques motivated us to read and also to gain insight of the reading*”, another student stated “*at the beginning of the semester I wasn’t motivated to read but afterwards it became like a relaxing activity since the topics were not boring, on the contrary, they were very constructive and important*”. However, there were also neutral comments about the reading experience such as “*My opinion towards reading hasn’t changed*”.

A majority of the student’s perceived the process as effective and helpful in various areas. They said that scaffolding helped them understand the text better and increase their English skills, mostly in learning new vocabulary and pronunciation. In addition, and as a main objective of this study, most of them felt an increased motivation concerning reading, which was not there before. Many observed that reading was made simpler and more didactic than in previous experiences they have had.

Although the subjects interviewed are second level (A2) students and some haven’t had enough exposure to reading activities or reading in general, they were able to express that throughout the course of their second language education, including prior to higher level, rarely were such scaffolding techniques used by other instructors. Out of the 26 subjects interviewed, only 2 mentioned to have experienced teachers applying similar scaffolding techniques in reading activities. Table 5 presents students’ opinions in greater detail.

Table 5

Interview Comments
I enjoyed the readings during this semester better than other times. (22)
The techniques employed by the teacher were effective for learning new vocabulary and preparing me for the reading. (23)
The techniques used helped me to remember previous knowledge. (6)
I have noticed that my pronunciation improved. (9)
I think I have improved my English level. (20)

It was nice reading and learning about different world topics and cultures around the world. (13)
I have improved my reading comprehension skills. (19)
I could understand the text better thanks to the techniques used by my teacher. (20)
I enjoyed working with classmates in the activities we did before getting into the reading. (9)
The use of images helped a lot to be able to connect words to their meanings. (2)
In previous courses I have never seen these techniques being used to introduce texts. (21)
Other teachers have used reading techniques in my previous classes. (2)
I am more motivated to read now than before. (23)
My opinion towards reading hasn't changed since we started doing these techniques. (3)

*Note: *(n) is the frequency in which those comments were said during the interview.*

*** 26 out of the 27 students, responded to this interview.*

Table 5: Stage 3 - Post Study Interview

7. DISCUSSION

The findings of this study present valuable information and confirm what has been hypothesized, that motivation is a strong force which allows teachers to assist students, even in tasks which might be considered challenging or unpopular such as is the case of reading comprehension activities. It has been found that by applying scaffolding techniques as a pre-reading strategy, it helps elementary level students improve in three main aspects: motivation, vocabulary enrichment and reading comprehension skills. These three aspects have a domino like effect and are dependent on each other, as it has been discussed in the literature review, this is because scaffolding techniques motivate students and expose them to lots of vocabulary which then allows them to better comprehend a text, be involved with it, and this, enhances their performance in reading comprehension activities.

The initial survey revealed that the participants did not have a positive outlook on reading since only 8.5% of them responded to like reading while 59.6% read in order to complete university assignments, a similar attitude found by Jaramillo et al. (2019, p.198). The pre-test corroborates to this because the participants did not have good reading comprehension skills as they scored low in the test. However, after the scaffolding period, when the ESG participants answered to an interview 23 of them felt more motivated to read than before and 22 responded that they enjoyed the topics read during the semester better than other times. The intrinsic motivation to read which was absent at the beginning of the

semester improved due to the scaffolding techniques. This can also be attributed to the nature of the techniques which were in the form of interactive activities in which students cooperated with each other, which is also a cause of motivation.

When asked about which specific area of the language students mostly perceived to have improved, 23 of them pointed out to vocabulary. They felt the scaffolding techniques helped them to learn new vocabulary words. In each scaffolding activity the students from the ESG received exposure (Sternberg, 1987) to lots of new words, which they had to know the meaning of in order to complete sentences, find synonyms or match with its corresponding image. Therefore, the improvement of the ESG can be correlated to the students' increase in vocabulary knowledge, a fundamental aspect in reading comprehension (Joshi, 2005; Stahl & Fairbanks, 1986).

Additionally, it was expected that motivated students who have more vocabulary knowledge would also improve in their reading comprehension skills. In reality, the ESG had five consecutive weeks of significant progress, reaching up to a 9.2 average over 10 points. The outcomes fall in line with other investigations which have yielded similar results and concur with the fact that reading scaffolding techniques help students perform better in reading comprehension activities (Attarzadeh, 2011; Chi, 2007; Chung, 2006).

8. CONCLUSION

The present study has allowed the provision of empirical evidence that sustain the validity of scaffolding techniques, a teaching strategy supported by CLIL for the attainment of valuable skills and knowledge. It has been focused on improving the teaching and learning experience of higher education focused on the reading skill, a valuable receptive skill which is on the decline since people are reading less nowadays specially in the USA and the EU (Babczonek, 2013; Ingraham, 2018).

Concerning RQ1, the outcomes indicate notable differences in the level of competence between the ESG and the CNSG groups in terms of reading comprehension skills. The results show that the ESG was able to understand texts better and perform better in reading comprehension questionnaires. The p-value obtained from the independent t-test conducted and the effect size are considerably greater in favor of the ESG.

In terms of intragroup comparison and as a result for RQ2, a significant improvement in the reading results can be observed in the ESG during the treatment period as opposed to the period in which the scaffolding techniques were not yet applied to them. However, for the CNSG, the reading results were consistent throughout the whole study period, and inferior to

those of the ESG during the period in which they were treated. Therefore, this draws a clear distinction within the groups indicating that the scaffolding techniques applied to the ESG helped them improve their reading comprehension.

Finally, with regards to RQ3, the students' perception towards the pre-reading scaffolding strategies resulted to be mostly positive which corroborates what was proven quantitatively. In addition, the interviews performed have allowed to establish a clearer picture on which aspects of the process were more successful. In terms of linguistic aspects, students perceived an improvement in vocabulary skills. Students also felt that they could understand the text better and an increase in their reading comprehension skills. Moreover, they were more motivated to read (in comparison to their initial views) and felt that the topics they read about were important for their personal enrichment.

The findings developed in this research study provide significant insights on the reading process and helpful strategies to make it more attractive for students. By scaffolding, teachers can profoundly foster reading engagement among students and as a result, help them improve their reading skills and their overall language proficiency. Scaffolding, then, is attributed for the reading comprehension performance differential and therefore, its continued implementation is highly recommended according to the results. Further investigations would also be ideal on the effects of using scaffolding at all English levels and its quantitative effect on language competence and skills.

Further research might shed some light into and help explain the reason why the first and the last scaffolded units returned low scores for the ESG. When looking back at Figure 5, the ESG scored 6.8/10 on the first week of the scaffolding period and 6.6/10 on the last. Perhaps the scaffolding technique used had something to do with the results which is to say that some techniques work better than others. Or on the contrary, the low scores coincide with mid-term and final examinations in which students are exhausted and less attentive. It would also be interesting to know if these scaffolding techniques, when applied continuously to all levels (from elementary to advanced), have similar benefits and the extent of these benefits.

9. LIMITATIONS

Although this action research study is mainly focused on presenting a more immediate solution to an underlying cultural problem such as reading habits and notions, it is an attempt to lead into more fruitful aspects such as English language competence. Therefore, some limitations must be considered in order to improve its implementation and results. First, a more standardized pre-test would offer greater validity and guarantee the uniformity of the

groups. Secondly, the small sample size did not allow for a broader picture of the study's effectiveness.

Finally, a limitation which arose due to the current circumstances our world is facing at the moment is that the entire study had to be adjusted to fit online learning demands. Some studies indicate that face-to-face teaching is preferred by both teachers and students and offer more interaction and a sense of connectedness (Rovai & Wighting, 2005). In addition, in a student satisfaction study which compared online and face-to-face learning, students favored face-to-face instruction by far (Price, Richardson, & Jelfs, 2007). The limitations of online learning are tangible but despite the mentioned limitations, it is important for teachers to be able to adapt and utilize all the resources available to the current circumstances as well as for students to get the support they need so that they can develop the necessary skills to succeed academically whether it is online or face-to-face; yet it was an added challenge in this study to adapt scaffolded techniques as a motivation tool for students and help them improve their reading performance while learning online.

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11. APPENDICES

Appendix A: Pre-test Reading and Questions

Information

 Flag question

 Edit question

PLACES AND LANGUAGES

First place and first languages

There are over one hundred and ninety countries in the world and about seven thousand languages. In first place is China. Over one billion people speak Mandarin Chinese as a first language. In second place is India with speakers of Hindi. And in third place is Spanish. Spain isn't a big country, but there are over four hundred million Spanish speakers around the world, especially in Latin America.

English as a global language

As a first language, English is in fourth place. About three hundred and eighty million people are native English speakers. But English is in first place as a second language. Over a billion people speak English for doing business, reading the news, or studying science and medicine. In some countries, English is not the native language but it is the official language for the government and in schools.

The other 6,996 languages

Chinese, Hindi, Spanish, and English are the "big" languages. About eighty percent of the world's population speak them. But what about the other 6,996 languages? Many countries have lots of different languages. For example, the sixty-five islands of Vanuatu in the South Pacific Ocean have one hundred and nine different languages!

The last speakers

Finally, there are some languages with only one speaker. They are old people and they speak the language of their parents and grandparents. For example, Charlie Muldunga lives in Australia. He speaks English but his native language is Amurdag. It's an ancient Aboriginal language and he is its last speaker.

Question 1

Not yet answered

Marked out of 1.00

 Flag question

 Edit question

About 7,000

Select one:

☐ a. people who speak more than one language

☐ b. languages in the world

☐ c. aboriginal languages

Question 2

Not yet answered

Marked out of 1.00

Flag question

Edit question

Over 1 billion

Select one:

- ☐ a. native Mandarin second-language English speakers
- ☐ b. native English second- language Mandarin speakers
- ☐ c. native aboriginal second-language English speakers

Question 3

Not yet answered

Marked out of 1.00

Flag question

Edit question

380 million

Select one:

- ☐ a. native Mandarin speakers
- ☐ b. native Spanish speakers
- ☐ c. native English speakers

Question 4

Not yet answered

Marked out of 1.00

Flag question

Edit question

400 million

Select one:

- ☐ a. Mandarin speakers
- ☐ b. Spanish speakers
- ☐ c. English speakers

Question 5

Not yet answered

Marked out of 1.00

Flag question

Edit question

80% speak

Select one:

- ☐ a. Mandarin
- ☐ b. Hindi
- ☐ c. Spanish
- ☐ d. English
- ☐ e. All of the languages mentioned

Question 6

Not yet answered

Marked out of 1.00

Flag question

Edit question

65

Select one:

- ☐ a. Island in Vanuatu
- ☐ b. languages in Vanuatu
- ☐ c. people in Vanuatu

Question 7

Not yet answered

Marked out of 1.00

Flag question

Edit question

109

Select one:

- ☐ a. Island in Vanuatu
- ☐ b. languages in Vanuatu
- ☐ c. people in Vanuatu

Question 8

Not yet answered

Marked out of 1.00

Flag question

Edit question

1

Select one:

- ☐ a. Aboriginal languages
- ☐ b. Speakers of Amurdag
- ☐ c. languages of parents and grand parents

Next page

Question 9

Not yet answered

Marked out of 4.00

Flag question

Edit question

Find the words in the article and match them with the definitions (1-4).

3. The language of the government

1. The language you learn after your first language

4. A very old language

2. The main language that people in a place speak

☒ Choose...

☐ second

☐ ancient

☐ official

☐ first

Choose...

Previous page

Finish attempt ...

Appendix B: Week 4 of scaffolded period reading: Nature in Art

Information

Flag
question

Edit
question

Nature in art

Many artists paint and use nature in their work, but the results are very different. Art critic Liz Searle-Barnes looks at five of them.

Stanislaw Witkiewicz Stanislaw Witkiewicz was born in 1885 in Zakopane, Poland. He died in 1939, but you can see his paintings in art galleries all over Poland. Many people like Witkiewicz's paintings of people's faces, but I prefer his paintings of nature and landscapes. He painted this one in 1907. It shows the Hinczow Lakes in southern Poland. There are the green fields and the white rocks and I like this painting because the water in the lakes is so blue.

Ginger Riley Munduwalawala In the past, Aboriginal people painted pictures of nature on rocks. In parts of Australia, their rock art is 30,000 years old. Modern aboriginal artists also paint nature. This colorful painting by Ginger Riley Munduwalawala (1937–2002) shows hills, rivers, birds, and kangaroos.

Andō Hiroshige Japanese art is famous for landscape paintings. You can often see the sea and sky, the mountains, and trees. Andō Hiroshige, one of Japan's most famous artists, worked in the 19th century and he's one of Japan's most famous artists. He made and sold thousands of beautiful prints in his lifetime, but he died poor.

Damien Hirst Damien Hirst is the richest artist in England. He is a painter, but he is more famous for art with animals (living and dead), including a cow, a sheep, and a shark. In one room of a gallery, he put lots of fruit and real butterflies. They flew around the visitors. Some people say he's a genius, others disagree. Personally, I like his work, but I prefer his early paintings.

Vincent Van Gogh Van Gogh made eleven paintings of sunflowers. They were his favorites because he loved the color yellow. I prefer his other paintings, but many people love his sunflower paintings. They are everywhere: on cards, postcards, and T-shirts. Van Gogh died with no money, but in 1987 someone bought the last sunflower painting for \$49 million.

Question 1

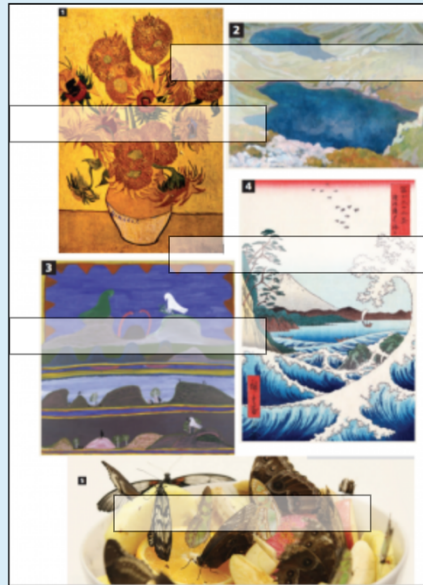
Not yet answered

Marked out of 1.00

Flag question

Edit question

Read about the five artists on page 111. Match them with their works (1–5).



Ginger Riley Munduwalawala

Damien Hirst

Stanislaw Witkiewicz

Vincent Van Gogh

Andō Hiroshige

Question 2

Not yet answered

Marked out of 1.00

Flag question

Edit question

Match the fact to the artist's name.

Ginger Riley Munduwalawala

Damien Hirst

Andō Hiroshige

Vincent Van Gogh

✓ Choose...
art is similar to ancient paintings
died poor
one painting costs millions
living now

Choose...

Question 3

Not yet answered

Marked out of 1.00

Flag question

Edit question

Choose ALL the answers that apply according to the reading.

According to the article, which of the five artists does the writer like? Which of their paintings does she prefer?

Select one or more:

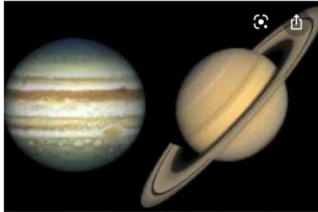
- ☐ a. Andō Hiroshige: lots of fruit and real butterflies
- ☐ b. Stanislaw Witkiewicz: painting two
- ☐ c. Van Gogh: likes other paintings more than the sunflowers
- ☐ d. Damien Hirst: prefers early paintings
- ☐ e. Ginger Riley Munduwalawala: nature on rocks

Appendix C: Week 2 of scaffolded period reading technique: Paint me a Story

Group Names: Wendy Sanchez, Carla Quintana, Jazmine Frias and Elsy Vaca

1.  They fly past new places in our solar system. They flew past new places in our solar system.	2.  Voyager 1 sends scientists the best photographs of the planet. Voyager 1 sent scientist the best photographs of the planet
---	--

Group Names: Andres Vega , Pamela Torres, Kimberly Arboleda, Mauricio Enriquez

3.  They study the clouds, lightning, and strong winds. They studied the <u>clouds, lightning, and strong winds</u>	4.  Voyager 2 also visits Jupiter and Saturn. Voyager 2 also visited Jupiter and Saturn
--	---

Appendix D: Week 7 of scaffolded period reading technique: I know this!

Pre-Reading Activity



1. In groups, solve the app below. Looking at the text from p. 147.
2. Your teacher will give each group a word. Think of a way to represent your word using actions (no words) so that the other students guess the word.
3. Act out your word to the class. So that your classmates guess what the word is.

<http://>

Looking for a New Earth Vocabulary



1. :Travel in or through (an unfamiliar country or area) in order to learn about or familiarize oneself with it.

2. : Scientists who study the universe, its objects and how it works.

Recording...



Wendy Sánchez

5. : Take air into their lungs and let it out again.

6. : At or to a short distance away; nearby.

Breakout Rooms - Not Started

Breakout Room 1

Andrés Vega

Kimberly Arboleda

Nayelhi Reascos

Saona Yunuen Delgado Santillan

Breakout Room 2

joceline ulloa

Melania Castro

Wendy Sánchez

Breakout Room 3

Alejandro Capito

Carla Quintana

Christian Cruz

Breakout Room 4

ENRIQUE TIGSE

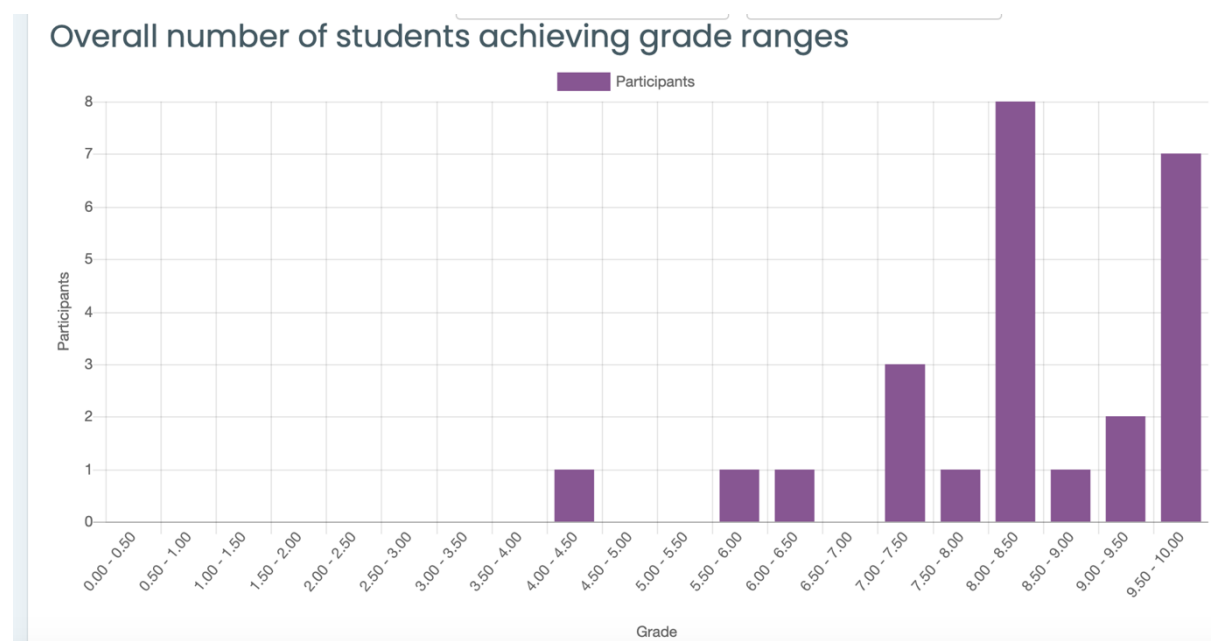
Options

Recreate

Add a Room

Appendix E: Reading Results for ESG and CNSG: Week 2 of scaffolded period

ESG:



CNSG:

