

DOI: <https://doi.org/10.34069/RA/2023.12.07>

Volumen 6, Número 12/julio-diciembre 2023

Chica Ramírez, A.L., Rodríguez Varela, Y.P., Álvarez Guayara, H.A., & Aguilar-Cruz, P.J. (2023). Fostering EFL reading comprehension through the implementation of critical thinking questionnaires in a VLE. *Revista Científica Del Amazonas*, 6(12), 66-78. <https://doi.org/10.34069/RA/2023.12.07>

## Fostering EFL reading comprehension through the implementation of critical thinking questionnaires in a VLE

### Fomento de la comprensión lectora del inglés como lengua extranjera mediante la implementación de cuestionarios de pensamiento crítico en un entorno de aprendizaje virtual

Recibido: 10 de febrero de 2023

Aceptado: 16 de mayo de 2023

Autores:

**Angie Lorena Chica Ramírez<sup>1</sup>**  
**Yeimy Paola Rodríguez Varela<sup>2</sup>**  
**Henry Alberto Álvarez Guayara<sup>3</sup>**  
**Paola Julie Aguilar-Cruz<sup>4</sup>**

#### Abstract

Our research is framed within a qualitative research study which follows an action-research design. The study aimed at analyzing the impact that critical thinking questionnaires through a VLE have on the development of EFL reading comprehension among ninth graders from different schools located in the southern region of Colombia which includes Caquetá, Huila, and Tolima. We implemented fieldnotes, surveys, and students' artefacts as data gathering tools. The findings evidence that the participants enhanced higher order thinking skills and fostered the development of spaces for reflection in which they practiced reading strategies and were involved in contextualized stories. Besides, the interaction between peers in the VLE allowed the participants to co-construct new perspectives, beliefs, and ideas.

**Keywords:** critical thinking, Virtual Learning Environments, reading comprehension, English as a Foreign Language.

#### Resumen

Nuestra investigación se enmarca en un estudio de investigación cualitativa que sigue un diseño de investigación-acción. El estudio tuvo como objetivo analizar el impacto que tienen los cuestionarios de pensamiento crítico a través de un EVA en el desarrollo de la comprensión lectora de inglés como lengua extranjera en estudiantes de noveno grado de diferentes escuelas ubicadas en la región sur de Colombia que incluye Caquetá, Huila y Tolima. Implementamos notas de campo, encuestas y artefactos de los estudiantes como herramientas de recopilación de datos. Los hallazgos evidencian que los participantes potenciaron habilidades de pensamiento de orden superior y propiciaron el desarrollo de espacios de reflexión en los que practicaron estrategias de lectura y se involucraron en relatos contextualizados. Además, la interacción entre pares en el EVA permitió a los participantes construir nuevas perspectivas, creencias e ideas.

**Palabras clave:** pensamiento crítico, ambientes virtuales de aprendizaje, comprensión lectora, inglés como lengua extranjera.

<sup>1</sup> Universidad de la Amazonia, Florencia, Caquetá, Colombia. ORCID: <https://orcid.org/0000-0002-7439-3201>

<sup>2</sup> Universidad de la Amazonia, Florencia, Caquetá, Colombia. ORCID: <https://orcid.org/0000-0003-4921-6948>

<sup>3</sup> English Language Teacher and researcher, Universidad de la Amazonia and Jorge Eliécer Gaitán High School in Florencia, Caquetá, Colombia. ORCID: <https://orcid.org/0000-0003-3203-1883>

<sup>4</sup> English Language Teacher and researcher, Universidad de la Amazonia and Jorge Eliécer Gaitán High School in Florencia, Caquetá, Colombia. She is currently a PhD student in Educational Technology at Central China Normal University. ORCID: <https://orcid.org/0000-0001-8386-9104>

## Introduction

English as a Foreign Language (EFL) reading comprehension enables learners to explore the different meanings of the texts, depending on the contexts. This implies understanding that words are bounded to societal and cultural realities which provide a more contextualized panorama of the text being read, enabling students to read it proficiently and effectively (Roehl & Shiue, 2003). However, mastering the reading skill requires the ability to critically reflect and analyze texts to go beyond their contents. In this sense, Ardhan et al. (2020), Nappi (2017) and Neilsen (1989) point out that reading comprehension opens the door for learners to become critical thinkers as they analyze, evaluate, and synthesize information to meaningfully relate the content of the texts with their own realities. The previous information evidences a link between reading comprehension and critical thinking.

Based on our teaching experience in virtual English courses we have noticed several difficulties in our students' reading comprehension processes. Through the implementation and assessment of the reading activities, we realized that the students' limited vocabulary and the lack of reading practice hindered their comprehension. In light of this, our students did not have an appropriate sequence to follow when approaching texts and they tended to translate word by word, instead of analyzing the whole meaning of the text for its interpretation and contextualization. Additionally, there are no studies published in the area of reading comprehension in our region that give account on the state of this relevant aspect. Consequently, our study emerged with the intention of fostering the EFL reading comprehension through the implementation of critical thinking questionnaires in a Virtual Learning Environment (VLE). Besides, we focused on teaching reading strategies and make a relation between the readings and the students' realities.

## Theoretical Framework

This section evidences the main constructs that framed our study, which are critical thinking questionnaires, reading comprehension, and VLE.

### Critical Thinking

As critical thinking is the first construct that frames our study, we want to emphasize on it as an ability to be developed on students. To this respect, Ennis (1985) describes critical thinking as a "reflective and reasonable thinking that is focused on deciding what to believe or do" (p. 45). Along similar lines, Barjesteh and Vaseghi (2012) stress that critical thinking in literature has to do with the ability to solve problems, and the creativity, and imagination that a person has based on what has read and understood. Similarly, Neilsen (1989) asserts that "all thinking and all reading are critical when they are consequential for our successful functioning in the context(s) of the world" (p. 26). In this sense, critical thinking in reading involves thinking about different alternatives for solving situations in the real context.

**Critical thinker.** Critical thinking creates spaces for reflection, analysis, and solution. According to Neilsen (1989), critical thinking is essential for the development of a more responsible, independent, and productive society. Good thinkers are free from the oppression of others, so they are autonomous and own their thoughts and actions. In this regard, Facione (1990) considers a critical thinker as an inquisitive person who enjoys being well informed and has an open mind to make judgments and evaluations in a prudent and honest manner. All in all, a critical thinker is a reflective person who is conscious about his learning process and is always willing to analyze the different issues of any topic.

**Bloom's Taxonomy.** Critical thinking is a complex process which deals with several cognitive stages to obtain higher order thinking skills. Considering this, Bloom et al. (1956) propose six cognitive stages which include Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. These stages have become a guide for educators who work with critical thinking lessons. To this respect, Blažević (2013) explains the impact that questions have on the cognitive stages proposed by Bloom. This author relates that there are questions which require specific information from a text, making use of the basic cognitive stages, whereas there are other types of questions that ask for more complex issues which involves using higher cognitive stages.



**Higher level questioning.** With reference to the implementation of higher-level questioning, Nappi (2017) claims that “higher level questioning requires students to further examine the concept(s) under study through the use of application, analysis, evaluation, and synthesis while lower-level questioning simply requires students to gather and recall information” (p. 30). By the same token, Kagnarith et al., (2007) stress that “working on questionnaires that are based on a relevant local context brings a motivating dimension of reality to the classroom environment” (p. 3). Consequently, the use of higher-level questions results to be essential for the development of critical thinking skills.

To summarize, our study defines critical thinking as an ability integrated by a sequence of cognitive processes that students need to accomplish to think critically. Additionally, this ability is developed by means of higher-level questioning that create spaces for reflection, analysis and problem-solving. In our study, the idea of implementing critical thinking questionnaires to foster reading comprehension using VLE was to motivate students to reflect, analyze and argue their opinions, being autonomous and critical thinkers about issues related to their contexts. This with the aim of helping them understand better their realities through readings, and the role that they have in the society as action agents.

### ***Reading Comprehension***

Reading comprehension is the second construct that shapes our study, hence, we define it from different perspectives. Hedge (2001), McCarthy (2011), and Uccelli et al. (2015) explain that the comprehension of a text entails the process of recognizing the meaning of words from the context where they appear. In line with this point of view, Rios and Valcárcel (2005) state that “reading comprehension is extracting efficiently what is essential in a written text” (p. 60). Hence, fostering reading comprehension is an arduous endeavor that requires higher order thinking skills; this involves the development of metacognitive processes such as the recognition and analysis of linguistic content, and synthesis and evaluation of comprehension skills (Alyousef, 2005; Grabe & Stoller, 2002; Oxford, 2016). Therefore, reading comprehension can be fostered by implementing critical thinking questionnaires before, during, and after reading tasks.

**The role of metacognition in reading comprehension development.** The ability of knowing and reflecting about what is being learned resulted to be a vital strategy for reading comprehension. According to Karbalaei (2011), the capacity of being aware of the own cognitive process, knowing where, when, and how to apply it is recognized as metacognition. In this regard, O’Malley et al. (1985) point out that “students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future learning directions” (p. 561). In other words, the students who are not aware of their learning process, find more difficulties when understanding and developing reading tasks.

**Strategies for developing reading comprehension.** Reading in EFL can be a tedious activity for students, especially if they do not have knowledge about reading strategies. In this regard, Abbott (2006) describes reading comprehension strategies as “the mental operations or comprehension processes that readers select and apply in order to make sense of what they read” (p. 637). Therefore, it is significant to teach students reading strategies to improve their reading comprehension. Along similar lines, Molina (2018) points out that “involving students in learning a set of reading strategies explicitly to understand a text has become more relevant in the process of reading instruction” (p. 20). Consequently, it is necessary to teach reading strategies to help students’ metacognition, and thus foster their reading comprehension.

It is worth mentioning other reading strategies for comprehension such as predicting, reading aloud, making inferences, asking questions, and recognizing familiar words. In light of this, Cain and Oakhill (1999) assert that “inferences are necessary to link up ideas and fill in details that are not explicitly mentioned” (p. 489). Hence, it is crucial to have a clear idea of what predicting and making inferences imply to have an adequate reading process and understand the information better.

In essence, our study regards reading comprehension as an ability assisted by varied reading strategies which complement each other and create a step-by-step guide for students. Besides, this ability is achieved by the implementation of questionnaires that foster students’ critical thinking, and consequently, allow them to have a more reflective process when reading. The idea of teaching and modeling reading comprehension strategies was to make students more conscious about their reading process, pointing a

clearer direction to follow, and helping students to feel prepared for being autonomous when working with different reading activities in the VLE.

### *Virtual Learning Environment*

We consider VLE as a web platform that supports teaching and learning process. To this respect, Knight (2009) describes VLE as “an online system comprising a range of tools to support learning and the management of learning” (p. 25). In the same breath, Herrera (2017) points out that “VLEs are virtual spaces that teachers and students can use to present and share resources and activities and interact with one another” (p. 481). Consequently, implementing a VLE was a way to promote learning through online communication, taking advantage of many online resources and fostering cooperative and autonomous work in a virtual context.

**VLE implications for education.** The implementation of virtual spaces for learning has brought significant changes for education. Students have passed from a passive to an active role and their autonomy has been challenged. According to this, Kim (2008) mentions that the use of computers in class promotes a constructivist learning environment, enhancing the students’ autonomy, participation, and motivation. In this sense, a VLE is a profitable resource to foster EFL reading comprehension since it facilitates the students’ access to all the information and materials of the course, enabling them to be more autonomous and participative.

To summarize, we consider VLE as an online platform that provides a space for the storage of didactic materials, and media that support learning and teaching processes via internet. Besides, VLE facilitates knowledge building through teachers and students’ interactions, making use of the different ICT tools.

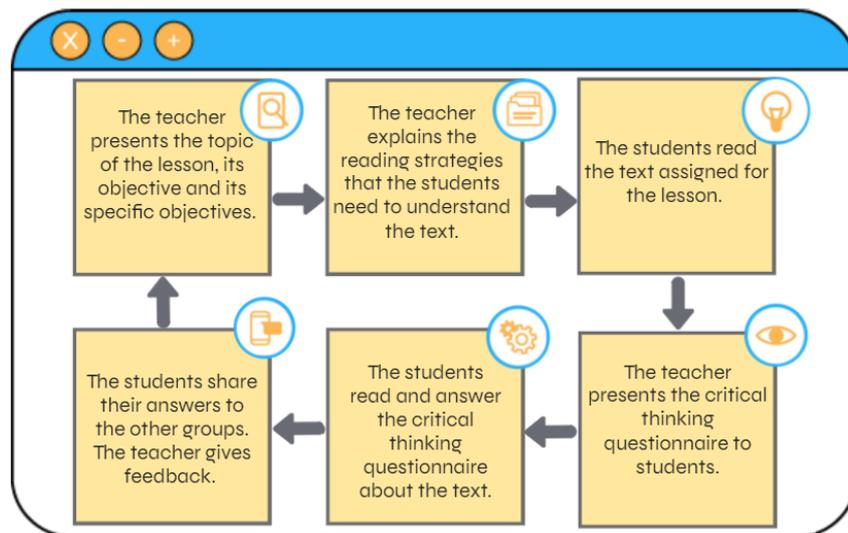
The previous constructs framed the theoretical basis for the development of our study. The literature review, as previously presented, evidences the importance of exploring these categories in the EFL field. For this reason, fostering EFL reading comprehension through critical thinking questionnaires in a VLE provide significant contributions to research in EFL teaching and learning processes.

### **Methodology**

This was a qualitative, interpretative, and descriptive research study which followed an action-research design. Based on Burns (1999), action-research is “a systematic and self-reflective approach to collecting and analyzing information to help teachers to explore issues that they face in their classrooms to change or improve their current practice” (p. 14). Besides, Parsons and Brown (2002) claim that action research is “a form of investigation designed for use by teachers to attempt to solve problems and improve professional practices in their own classrooms” (p. 32). Given these points, we aimed at analyzing the impact that critical thinking questionnaires implemented through a VLE have on the development of EFL reading comprehension among ninth graders. Additionally, carrying out action-research was the most suitable research design to answer our research question: How do critical thinking questionnaires through a VLE impact EFL reading comprehension among ninth graders in an English course?

### **Research Phases**

Our study was developed following Burns’ (1999) action-research methodology which establishes a number of phases to achieve the objectives and to answer the research question. Hence, based on Burns’ (1999) methodology, we validated the research problem by means of a needs analysis. Then, we designed six pedagogical interventions which consisted of a set of activities with their corresponding objectives and contents. We posted these activities in a VLE that we designed. These activities included contextualized readings and critical thinking questionnaires in English, based on the readings, as presented in Figure 1. These questionnaires integrated Bloom’s taxonomy with the aim of involving all the cognitive stages while reading. After that, we implemented our six pedagogical interventions, and the data collection instruments. Then, we conducted the data analysis by means of generating research categories to answer the research question. Finally, we elaborated the conclusion and pedagogical implications of our study.



**Figure 1.** Pedagogical intervention framework

**Participants**

Our study was developed during the lockdown caused by the pandemic, which affected face-to-face teaching in schools all around the country. During this time, the Identities Seedbed of Universidad de la Amazonia decided to offer free online English courses to secondary and high school students in our region to allow the pre-service teachers of the English Language Teaching program to develop their teaching practicum. Since these free online English courses were advertised through social networks, many students from different educative institutions from the southern region of Colombia which includes Caquetá, Huila and Tolima enrolled. We selected the ninth grade following Creswell’s (2012) convenience sampling, considering that it was the grade we had access to, and they all were willing and available to participate in our study. A total of 8 students were registered in the ninth grade. Hence, the participants of our study were these eight 9th graders whose average age ranged between 14 to 15 years old (see Table 1).

**Table 1.**  
*Participants’ information*

Participants’ Code	Gender	Age	City	School
ST1	Male	15	Palestina	I.E. Palestina
ST2	Female	14	Palestina	I.E. Palestina
ST3	Female	15	Palestina	I.E. Palestina
ST4	Female	14	Doncello	I.E. Corazón Inmaculado de María
ST5	Female	14	Guayabal	I.E. Guayabal
ST6	Male	14	Florencia	Colegio Cristiano Shalom
ST7	Female	14	Florencia	Colegio Comfaca
ST8	Female	15	Puerto Rico	I.E. Acevedo y Gómez

**Data Collection Instruments**

Three data collection instruments were used in this study: fieldnotes, students’ artefacts, and surveys. Participants signed an informed consent provided by the researchers to guarantee and protect their confidentiality.

**Fieldnotes.** Creswell (2012) asserts that fieldnotes are the texts written by the researchers that serve as a basis to examine and make records on different issues during the research process. Hence, this data



collection instrument was helpful for keeping track of students' learning processes, attitudes, and outcomes in each intervention.

**Students' Artefacts.** Artefacts can be any type of students' productions. According to Creswell (2012) artefacts can be drawings, symbols, and any other authentic material. The artefacts collected in our study provided insights regarding how students performed during the research interventions and served to evaluate the success of the pedagogical interventions.

**Surveys.** Creswell (2012) highlights that surveys are forms in which the researchers record answers from the participants regarding topics of interest to the study. We implemented closed-ended questions in surveys to register students' perceptions towards their reading comprehension progress and the strategy that was implemented.

**Data Analysis Procedures**

To deal with our research question, we decided to carry out a procedure based on the qualitative approach to analyze the gathered information. For this reason, we selected the Grounded Theory Approach which has to do with identifying and relating general concepts and theories with the experiences developed during the research process (Glaser & Strauss, 1967; 2017). To analyze the data, we implemented a data reduction technique called color coding that allowed us to recognize information related to the main constructs of this study (Zielnski, 1990). The procedure permitted to code the information to move to the data triangulation process. The last procedure to carry out the data analysis was Denzin's (2006) methodological triangulation which entails the use of the three data collection instruments to identify commonalities and establish the subsequent categories and subcategories.

**Results and Discussion**

This section presents the results obtained from the data analysis of each category and subcategory. The information is followed by figures and samples of the three data collections instruments we implemented. All in all, after the data analysis procedures, two categories emerged with their corresponding subcategories, as presented in Table 2.

**Table 2.**  
*Categories and subcategories.*

Categories	Subcategories
<b>Developing reading comprehension through critical thinking.</b>	Executing reading strategies through contextualized stories.
	Critical thinking questionnaires for in-depth analysis of contextualized stories.
<b>Providing peer to peer support through online reading comprehension activities.</b>	Developing reading comprehension activities using VLE tools and resources.
	Discussing and co-constructing beliefs, ideas, and perceptions in a virtual space.

**Category 1. Developing reading comprehension through critical thinking.**

This category deals with the learning outcomes that using critical thinking questionnaires had in the improvement of ninth graders' reading comprehension. According to Ardhian et al. (2020) and Kagnarith et al. (2007), critical thinking plays an important role in the development of learners' reading comprehension as it allows them to relate what is being read with the reality, based on aspects of the local context, which brings motivation to the classroom. In our study, the following subcategories were established:

**Executing reading strategies through contextualized stories.** This subcategory has to do with the opportunity ninth graders had to learn and execute readings strategies, facilitating their understanding and discernment of the contextualized stories. Likewise, Karbalaei (2011), and O'Malley et al., (1985) assert that when students are aware of their own cognitive process, knowing where, when and how to apply it, they are able to become subjects with direction and opportunities to review their progress and

accomplishments. This can be evidenced in some excerpts from the researchers' fieldnotes (FN) in which the process followed, feelings, and impressions are expressed:

When reading and understanding the text, the vocabulary activity and the image helped them to predict the general idea of the text... we need to help them to avoid translating. (FN1)

Through the title and the picture, they did the exercise of predicting, and they did it very well. (FN2)

The key words allow students to get a general idea of the text avoiding translating the whole reading. (FN5)

More evidence of how ninth graders' understanding improved when they consciously made use of the reading strategies they learned can be seen in the students' response to the survey, in which 67% of them strongly agreed and the remaining 33% agreed, with the fact that their reading comprehension improves when they question the decisions made by the characters in the text. These findings demonstrate that ninth graders considered using reading strategies an advantage for understanding the texts and the intentions of the authors as they made use of all the resources available like the title, pictures, and key words that allowed them to identify specific elements to create a more complete idea of the readings. Through this process students internalized the reading strategies to the point of making them part of their reading routine. Accordingly, it is possible to affirm that this positive perception towards the use of reading strategies was consistent throughout the pedagogical interventions as it was evidenced in the information samples provided.

Additionally, the data gathered from the survey revealed that 60 % of the ninth graders strongly agreed and 40% agreed with the statement "in the development of my reading comprehension, I worked in different processes like remembering, understanding, applying, analyzing, assessing, and creating". The previous implies that ninth graders were developing metacognitive processes about the reading strategies they learned. The metacognition allowed ninth graders to be more autonomous in their reading process since this equipped them with the knowledge to decode what they did not know, allowing them to make inferences from the texts and draw conclusions. It was evident in the ninth graders' answers in the critical thinking questionnaires as ninth graders required less support from the teacher and external resources to the text. In other words, we noticed that ninth graders started answering the questions more easily and in a more argumentative way. Correspondingly, we asked the participants about the process they followed to answer the questionnaires and their response pointed out that they had used the reading strategies learned in previous interventions.

When you ask students to talk about their opinions and the decisions they would take, it is easier for them to demonstrate that they really comprehend the reading. (FN3)

One student said that the good thing about debating the questions is that you can rethink the answers by taking different points of view. (FN4)

A student expressed that when she answered the questions about the reading, she did it from her previous experiences about the topic, using arguments and following the reading strategies learnt. (FN4)

Based on what has already been argued, we could infer that the teaching of reading strategies during the pedagogical intervention contributed to the improvement of comprehension as it enabled ninth graders to have knowledge of a sequence of steps to follow when reading, allowing them to make inferences, predictions, and deep analysis of the intentions of the characters and authors.

**Critical thinking questionnaires for in-depth analysis of contextualized stories.** This subcategory implies the higher-level thinking skills that ninth graders acquired through the answering of the critical thinking questionnaires while they deeply analysed the contextualized stories and meaningfully comprehended them. In accordance with Kitzinger (1994) and Kagnarith et al., (2007), questionnaires based on a local context encourage students to be immersed into content, participating, investigating, and providing responses based on their own perceptions. In the same breath, Nappi (2017) explains that there are differences between higher level and lower-level questioning since each one requires a unique process to follow. In this sense, the participants in our study learned to inquire in their partners' doubts and their

own, analyse their reality, improve their decision-making, and their argumentation level. All this, for having a wider understanding of the themes and their context as can be exemplified in the following excerpts from the fieldnotes:

A fundamental part of getting a good answer is to make sure that students understand the question well. Students' answers are more argumentative when the questions are more complex and are discussed with peers. (FN2)

In the first questions, they tended to copy what was written in the text, but in the questions in which they were invited to reflect on their lives they talked and wrote openly. (FN3)

The more complex the questions, the more elaborated the answers. (FN5)

In their answers, they were talking about the reading and their experiences. In this sense, their comprehension improved since they seemed to be immersed in the context of the reading. (FN2)

This goes in accordance with Ellis's (2015) and Hedge's (2001) ideas which explain that reading is a social practice when readers interact and cooperate with peers and/or more proficient individuals to develop a holistic panorama of what is being learnt. Similarly, we can corroborate the evidence with the data collected through the students' artefacts and the survey which demonstrate that the critical thinking questionnaires were helpful for the improvement of ninth graders' reading comprehension, decision-making, and argumentation; 100 % of the participants expressed that the questionnaire at the end of the reading activity helped them to understand the text better.

Besides, the students' artefacts (see Figure 2) demonstrate that ninth graders' higher thinking skills were further developed when they were challenged to answer open-ending questions.

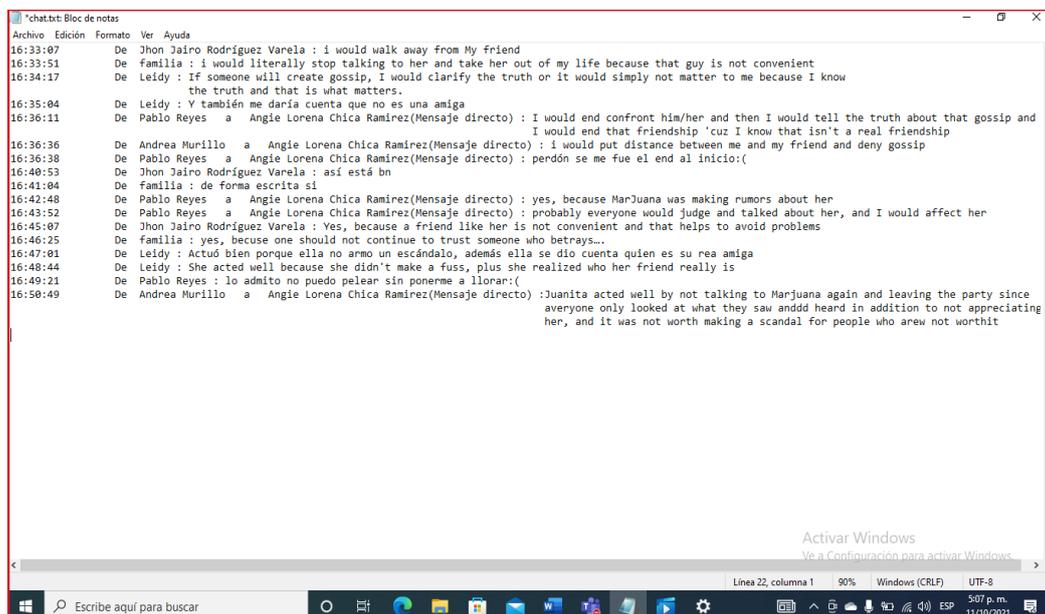


Figure 2. Students' artefacts – Class # 3.

Likewise, this demonstrates that contextualized stories allowed the participants to make comments about what they knew and lived, inviting them to reflect on their actions and the decisions they could make. All this process enabled the participants not only to comprehend the texts, but also their needs and responsibilities in society:

The questions help students talk about their lives and make decisions. (FN3)

A student said that the class was cool because we shared thoughts and ideas, and interacted. (FN2)



They did an excellent job, they found a solution to the problem by analyzing the situation, their feelings, and priorities. (FN2)

Sharing their opinions help them to broaden their perspectives. (FN4)

In the same way, the results collected from the survey support the information stated above in which we can observe that the structure and organization of the questions were key points to foster ninth graders' argumentation. To this respect, 80 % of the ninth graders strongly agreed and 20% agreed that "the open-ended questions in the critical thinking questionnaires challenge their understanding and argumentation level".

Because of this, we can assert that critical thinking questionnaires were appropriate for helping ninth graders to go beyond copying and repeating things that they did not totally comprehend. Critical thinking questionnaires challenged the participants to analyse, compare, apply, evaluate, and discuss the information. Moreover, we learned that it is of utmost importance for teachers to know how to formulate questions that engage students and help them to think critically and reflect upon their reality.

### ***Category 2. Providing peer to peer support through online reading comprehension activities***

This second category embraces the fact of using a VLE to facilitate the development of reading activities and discussion forums through online tools and resources accessible for all students. Accordingly, Herrera (2017), Kim (2008), and Knight (2009) acknowledge that VLE enhances students' language competences by increasing their motivation, autonomy, and providing access to online learning resources and flexible spaces for constant interaction between students and teachers. Having this in mind, the following subcategories arose:

**Developing reading comprehension activities using VLE tools and resources.** The current subcategory refers to the usefulness of working with VLE tools and resources to carry out EFL reading comprehension activities for ninth graders as it was an alternative for pandemic days and distance barriers. Ogbonna et al., (2019) assert that "e-learning is used as a general resource, which involves computers and Internet-based resources and services that allow students to learn through interactive e-learning units and rich media sources, using speech, video, interactive sequences or instruction" (p. 2). In the same way, Hrastinski (2008) points out that a VLE "has the potential to support e-learners in the development of learning communities" (p. 52). This can be evidenced in the following excerpts from the fieldnotes:

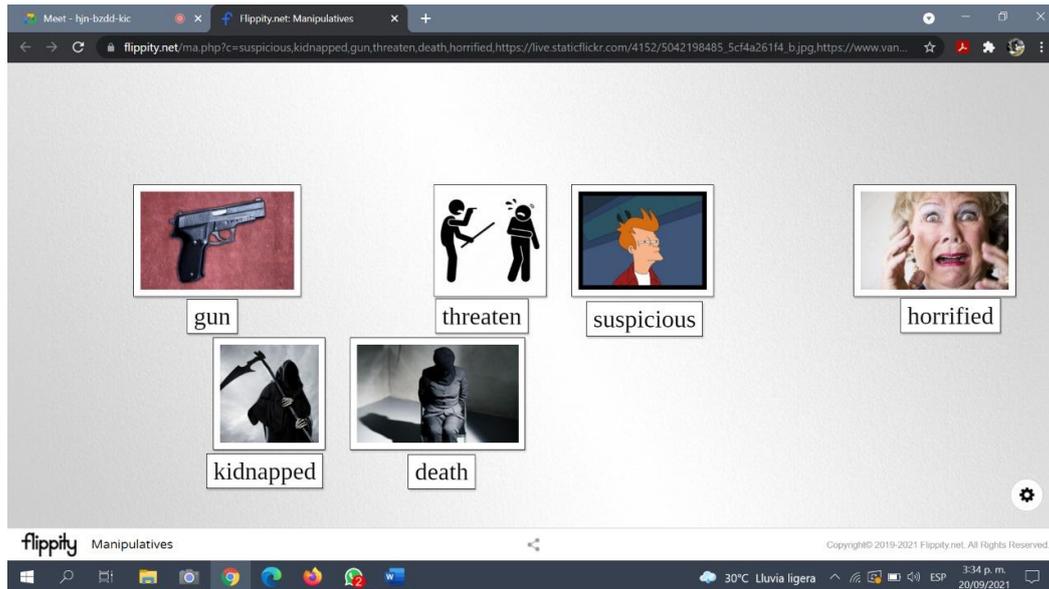
Writing the answers to the critical thinking questions in the chat instead of saying them engaged students to participate more. (FN5)

We had to pass from Zoom to Meet because some students couldn't enter to the class. (FN1)

The use of the platform allows students to share answers quickly, facilitating discussion (FN3)

Classroom management is facilitated because the students are not noisy and are attentive to the class. (FN1)

Additionally, 40% of the ninth graders strongly agreed, 20% agreed and 40% were neutral with the fact that "writting my opinions through the platform chat makes it easier for me to participate in class", which provides a comprehensive account of the usefulness of the VLE for the development of EFL reading comprehension activities. Moreover, the following excerpt from the students' artefacts (see Figure 3) exemplifies the use of a virtual platform to do a pre-reading assignment. In this activity, ninth graders needed to relate the words with their corresponding image. In this sense, the participants learned the meaning of unknown vocabulary, that was useful for their reading comprehension, making use of an online activity created in Flippity.net.



**Figure 3.** Students' artefacts – Class # 1.

Besides, the participants' answers to the survey corroborated the preceding variables. All in all, we interpret that the implementation of the VLE for the development of the EFL reading comprehension activities brought ninth graders the opportunity to learn and have access to all the materials easily. Similarly, the participants enjoyed spaces for interacting and discussing their assumptions, having good management of participation shifts, regardless of the connectivity challenges and other aspects that could have permitted the VLE to have a greater impact on the ninth graders.

**Discussing and co-constructing beliefs, ideas, and perceptions in a virtual space.** As the last subcategory, it entails all the processes, activities, and interactions in a VLE that generate new knowledge, perspectives, and beliefs originated from group reflection spaces. According to Orey and Rosa (2018), "VLEs provide technological resources that enable professors, tutors, and students to participate in online learning interactions regardless of time or distance" (p. 174). Along similar lines, Han et al., (2017) propose that "socio-emotional' aspects of relationships – so important in terms of establishing productivity and creativity within teams – can be achieved in a virtual space" (p. 17). In this sense, a VLE beyond allowing the interaction between subjects from different locations provides a suitable environment for the exchange of knowledge and experiences, as can be illustrated in the following excerpts from the fieldnotes:

The students' opinions reflect that they perceive society as a space for reflection in which there can be different forms of coexistence. (FN5)

Society's stereotypes are evident in the students' daily lives. (FN5)

One student expressed that he likes to think that all people are suffering something, fighting against their own problems because, in that way, he can put himself in other shoes and be tolerant. (FN5)

One of the students said that we all have different points of view, and it is good to learn from other people. (FN2)

Along similar lines, the students' artefacts and the survey responses give an account of how participants perceive working in teams in a VLE. Ninth graders did the exercise of reflecting and creating new perspectives through group reflection and interaction in the VLE. To illustrate this, in the following students' artefact from Class #4, we observe a script that ninth graders created based on the contextualized story called "Life profession". The script evidences the reflection that the participants did about parents' behaviour and opinions toward professions. During this activity, they reflected upon the reading, talked about their experiences, preferences, worries, and plans to become what they want to be.



Jhon: good afternoon father, I have something to tell you.

Yo: tell me son

Jhon: I don't like studying

Yo: what? So, if you don't like to study in what will you work in the future?

Jhon: father I want to be a driver.

Yo: a driver? No. That's a work for poor people. Instead of that, study medicine! If you study medicine and become a doctor you will gain so much money.

Jhon: no father.

Yo: what do you mean by no? do you want to be a loser? And you Tania, what do you want to study? Or you are gonna be like your brother?

Tania: I would like to be a nurse, father.

Yo: that is a low paid work. Study other thing like being in the NASA.

Tania: let me think about it.

Yo: ok, I hope you take the better decision.

Furthermore, as can be appreciated in the following students' artefact from Class #5, we evidence an answer to the question "how commercials on tv and magazines affect the way we perceive the world?" which makes part of the critical thinking questionnaire based on one of the contextualized stories implemented, named "More body than soul". Through this participant's answer, we noticed the capability that ninth graders had to answer and argue open-ending questions, which resulted to be very encouraging since it demonstrated that the critical thinking questionnaires worked as they prepared the participants to evaluate their context and have a critical position about their society, further contributing to it with actions for change. In the same way, this answer shows how enriching it became to communicate these ideas, beliefs, and perceptions about life in a VLE, with participants from different places of the southern region of Colombia.

How commercials on tv and magazines affect the way we perceive the world?

I think commercials and magazines affect the way we perceive the world because what we see in commercials and magazines on internet, the body that we see on Instagram the kind of people that is like perfect in comillas that kind of people affect because like that stereotype or prototype of beauty is something really unreal or something that is really hard to achieve and Young people is the most affected because they start to feel bad with themselves and they start to compare themselves with other people that are more pretty. This affect because the commercials present only people that can deal with all the beauty standards.

All in all, these considerations are framed under the pandemic lockdown which was the time while this project was developed. In this sense, the implementation of the VLE was useful since it allowed to create an agreeable environment for sharing and discussing critically about teenagers' social issues and feelings. In this sense, the VLE enabled the interaction of different populations from Florencia-Caquetá, Doncello-Caquetá, Palestina-Huila, and Guayabal-Tolima in a same class as ninth graders. From this diversity, new ideas, assumptions, and perceptions were formulated, resulting in a co-construction of beliefs, opinions, and meanings.

## Conclusions

After scrutinizing the results obtained, we can conclude that implementing critical thinking questionnaires through a VLE significantly contributed to EFL reading comprehension. We can conclude that ninth graders' higher order thinking skills enhanced as they were working on the stages: remember, understand, apply, analyse, evaluate, and create (Alyousef, 2005; Grabe & Stoller, 2002; O'Malley et al., 1985).

In agreement with Abbott's (2006) and Molina's (2018) assertions, the participants in our study fostered their reading comprehension as they were exposed to the contextualized stories in which they practiced reading strategies. Additionally, the interaction between peers in the VLE allowed ninth graders to co-construct new perspectives, beliefs, and ideas making use of their analytical and reflective reasoning (Herrera, 2017; Kim, 2008; Knight, 2009).

Similarly, the ninth graders' reading comprehension improved as they passed from translating word by word to analysing the main idea of the whole text (Hedge, 2001; Rios & Valcarcel, 2005). Therefore, participants learned reading strategies and improved their metacognition. Correspondingly, ninth graders did the exercise of analysing each part of the text like the title and the picture, putting themselves into the characters' shoes and authors' thoughts to have a wider panorama of the readings. Similarly, the VLE facilitated the exchange of information, the availability of didactic materials and fostered spaces for discussions, reflections, and analysis of content.

With respect to the use of critical thinking questionnaires, we can affirm that they enabled participants to go deeper in the analysis of the contextualized stories, facilitating their understanding and avoiding just coping and recalling information. The organization of the questions had a great influence, as they were graded from the easiest to the most complex ones. Through this process, ninth graders learned to question the reason of things, allowing them to make valid arguments by contrasting their previous knowledge and experiences with the new situations they were exposed to (Kagnarith et al., 2007; Nappi, 2017). Likewise, the participants became more conscious and critical about the issues that occur in society.

Finally, we can assert that implementing critical thinking questionnaires as a teaching strategy can help teachers to encourage their students to talk openly about their feelings and worries, which contributes to students' reading comprehension since they would have the freedom to answer questions about texts expressing what they consider important without fear of being judged or punished for expressing their opinions.

### **Bibliographic references**

- Abbott, M. (2006). ESL reading strategies: Differences in Arabic and Mandarin speaker test performance. *Language learning*, 56(4), 633-670. <https://doi.org/10.1111/j.1467-9922.2006.00391.x>
- Alyousef, H. S. (2005). Teaching reading comprehension to esl/efl learners. *The Reading Matrix*, 5(2), 143-154.
- Ardhian, T., Ummah, I., Anafiah, S., & Rachmadtullah, R. (2020). Reading and Critical Thinking Techniques on Understanding Reading Skills for Early Grade Students in Elementary School. *International Journal of Instruction*, 13(2), 107-118. <https://doi.org/10.29333/iji.2020.1328a>
- Barjesteh, H., & Vaseghi, R. (2012). Critical thinking: A reading strategy in developing English reading comprehension performance. *Journal of Foreign Language Teaching and Translation Studies*, 1(2), 21-34.
- Blažević, T. (2013). Analysis of the Extent to which Critical Thinking is Promoted in Examination Questions in the History High School Matriculation Examination Papers of Australia and Croatia. *Journal of Educational and Social Research*, 3(3), 351. <https://doi.org/10.5901/jesr.2013.v4n3p351>
- Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. Longmans, Green.
- Burns, A. (1999). Collaborative action research for English language teachers. Cambridge University Press.
- Cain, K., & Oakhill, J. (1999). Inference making ability and its relation to comprehension failure in young children. *Reading and writing*, 11(5-6), 489-503 <https://doi.org/10.1023/A:1008084120205>
- Creswell, J. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Pearson.
- Denzin, N. (2006). *Sociology methods: A sourcebook* (5th ed.). Aldine Transaction.
- Ellis, R. (2015). *Understanding Second Language Acquisition*. Oxford University Press.
- Grabe, W., & Stoller, F. L. (2002). *Teaching and researching reading*. Pearson Education Limited.
- Ennis, R. (1985). A logical basis for measuring critical thinking skills. *Educational leadership*, 43(2), 44-48.
- Facione, P. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction (The Delphi Report). Insight Assessment.
- Glaser, B., & Strauss, A., (1967). *The discovery of grounded theory*. Aldine Publishing Company, Hawthorne.
- Glaser, B., & Strauss, A. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge. <https://doi.org/10.4324/9780203793206>



- Han, S. J., Chae, C., Macko, P., Park, W., & Beyerlein, M. (2017). How virtual team leaders cope with creativity challenges. *European Journal of Training and Development*.  
<https://doi.org/10.1108/EJTD-10-2016-0073>
- Hedge, T. (2001). *Teaching and Learning in the Language Classroom*. Oxford University Press.
- Herrera, L. (2017). Impact of implementing a virtual learning environment (VLE) in the EFL classroom. *Íkala, Revista de Lenguaje y Cultura*, 22(3), 479-498.  
<https://doi.org/10.17533/udea.ikala.v22n03a07>
- Hrastinski, S. (2008). Asynchronous and synchronous e-learning. *Educause quarterly*, 31(4), 51-55.
- Kagnarith, C., Theara, C., & Klein, A. (2007). A Questionnaire Project: Integrating the Four Macro Skills with Critical Thinking. *English Teaching Forum*, 45(1), 2-9.
- Karbalaei, A. (2011). Metacognition and reading comprehension. *Íkala, revista de lenguaje y cultura*, 16(28), 5-14.
- Kim, H. (2008). Beyond motivation: ESL/EFL teachers' perceptions of the role of computers. *Calico Journal*, 25(2), 241-259. <https://doi.org/10.1558/cj.v25i2.241-259>
- Kitzinger, J. (1994). The methodology of focus groups: the importance of interaction between research participants. *Sociology of health & illness*, 16(1), 103-121. <https://doi.org/10.1111/1467-9566.ep11347023>
- Knight, S. (2009). *Effective Practice in a Digital Age. A guide to technology-enhanced learning and teaching*. Higher Education Funding Council for England (HEFCE).
- McCarthy, M. (2011). *Discourse analysis for language teachers*. Cambridge University Press.
- Molina, L. (2018). *The impact of strategy-based workshops on tenth graders reading comprehension*. (Master's thesis), Universidad Externado de Colombia, Bogotá, 2018.
- Nappi, J. (2017). The importance of questioning in developing critical thinking skills. *Delta Kappa Gamma Bulletin*, 84(1), 30.
- Neilsen, A. (1989). *Critical Thinking and Reading: Empowering Learners To Think and Act*. Monograph on Teaching Critical Thinking Number 2. Oryx Press.
- Ogbonna, C., Ibezim, N., & Obi, C. (2019). Synchronous versus asynchronous e-learning in teaching word processing: An experimental approach. *South African Journal of Education*, 39(2).  
<https://doi.org/10.15700/saje.v39n2a1383>
- O'Malley, J., Chamot, A., Stewner-Mazanares, G., Russo, R., & Kupper, L. (1985). Learning strategies applications with students of English as a second language. *TESOL Quarterly*, 19(3), 285-296.  
<https://doi.org/10.2307/3586278>
- Orey, D., & Rosa, M. (2018). Developing a mathematical modelling course in a virtual learning environment. *ZDM*, 50(1), 173-185. <https://doi.org/10.1007/s11858-018-0930-8>
- Oxford, R. (2016). *Teaching and Researching Language Learning Strategies*. Routledge.
- Parsons, R., & Brown, K. (2002). *Teacher as reflective practitioner and action researcher*. Wadsworth/Thomson Learning.
- Rios, S., & Valcárcel, A. (2005). Reading: A meaningful way to promote learning English in high school. *PROFILE, Issues in Teachers' Professional Development*, 6, 59-72.
- Roehl, K., & Shiue, C. (2003). *Developing reading comprehension skills in EFL university level students*. St. John's University: Taiwane.
- Uccelli, P., Galloway, E. P., Barr, C. D., Meneses, A., & Dobbs, C. L. (2015). Beyond vocabulary: Exploring cross-disciplinary academic-language proficiency and its association with reading comprehension. *Reading Research Quarterly*, 50(3), 337-356. <https://doi.org/10.1002/rrq.104>
- Zielski, J. (1990). Color coding basics. *Records management quarterly*, 24(3), 34-37.