



**CATHOLIC UNIVERSITY  
OF SANTIAGO DE GUAYAQUIL**

**OFFICE OF GRADUATE STUDIES  
MASTER'S DEGREE PROGRAM IN  
TEACHING ENGLISH AS A FOREIGN LANGUAGE**

**TITLE**

**ENHANCING CRITICAL WRITING SKILLS OF UCSG'S PRE-  
PROFESSIONAL LEVEL STUDENTS OF THE SCHOOL OF  
ENGLISH LANGUAGE TOWARDS SUCCESSFUL  
DEVELOPMENT OF WRITTEN ACADEMIC TEXTS**

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**OFFICE OF GRADUATE STUDIES  
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### **CERTIFICATION**

We certify that this research project was presented by **Natasha Cecibel Del Pozo Diaz and Juan Pablo Espinoza Morales** as a partial fulfillment of the requirements for the **Degree of Master in Teaching English as a Foreign Language**.

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We, **Natasha Cecibel Del Pozo Diaz** and **Juan Pablo Espinoza Morales**,

**HEREBY DECLARE THAT:**

The Research Project: **Enhancing Critical Writing Skills of UCSG's Pre-Professional Level Students of the School of English Language towards Successful Development of Written Academic Texts** prior to obtaining the **Degree of Master in Teaching English as a Foreign Language**, has been developed based on thorough investigation, respecting the intellectual property rights of third parties regarding citations within the corresponding pages whose sources are included in the bibliography. Consequently, this work is of our full responsibility.

Under this statement, we are responsible for the content, truthfulness and scientific scope of the aforementioned paper.

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Natasha Del Pozo Díaz

To my beloved family.

Juan Pablo Espinoza Morales





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## ABSTRACT

This research report presents the results of a quantitative study carried out at the English Language School of the Catholic University of Santiago de Guayaquil. The first part of the report portrays the data gathered through the Critical Thinking and Writing Test, which was applied to the 30 students of the pre-professional level of the English Program. The outcomes were basically quantitative, the study was nonexperimental, the type of research used was descriptive and the study was fundamental in its purpose; statistical charts were devised for clear understanding of the outcomes. The second part shows the product of the application of two surveys used for determining the application in class of Bloom's Taxonomy higher order levels of thinking given to the target population and to the faculty. Data collected from the Critical Thinking and Writing Test exposed students have not extended their knowledge to internalize and analyze thoughts and put them into their own words. It was found that it is an unsuccessful challenge for them to give responses because their language is most of the times inaccurate, partially correct and sometimes misleading. It is complicated for the group to interpret and conclude ideas. Results also proved the population's higher-order-critical thinking skills are underdeveloped; therefore, they encounter difficulty converging into critical essay development. Nevertheless, the data that comes from the surveys related to the use of Bloom's higher order thinking skills in class revealed that the perception of the target population and of the faculty is that both groups use those thinking skills with consistency. The design of a proposal based on technology and access to internet is offered as a complementary or supplementary tool to improve the writing skills of the students of the English Language School.

**Keywords:** Critical Thinking, Critical Reading, Critical Writing, Bloom's Taxonomy, Complementary Tool, Supplementary tool.

## I. INTRODUCTION

Writing is necessary for all English students, but the practices that the students of the Language School in the Catholic University Santiago de Guayaquil are engaged in, refer to and require learning the language to undertake study or work in English, as a medium, in higher education. Therefore, this group of students is not learning English as a foreign language just to communicate socially, but to use it in their professional or academic careers. This means they have to learn English by observation, study, and experiment and create structured academic texts that will be written with a clear purpose and with a specific audience in mind.

This type of writing requires a certain level of proficiency since students need to understand lectures, read textbooks, write reports and, when they graduate, they need to write their undergraduate thesis dissertations. For that, the students need to plan, organize, write, re-write, edit, proof-read (Langan, 2012). This process involves not only writing descriptively, but using previous research papers and analyzing them, discussing and evaluating other points of view, comparing and contrasting, providing support, presenting findings, discussing limitations; in other words, writing critically (Robinson, 2017). The process also demands from the students to write different text types as well as different genres with the right register and in the right style (Bacha, 2002). The implication of paraphrasing to avoid plagiarism is also important, and for that purpose, the students need to know to research, use sources and cite them correctly (Elder & Paul, 2014). Therefore, it is obvious that one of the most challenging skills in English to master is probably writing.

It was noticed after the application of a critical reading and writing test that the group of students under analysis has difficulty reaching the higher-order level thinking skills necessary if one is trying to write critically and project one's own voice. Consequently, it is important to ponder the way to contribute to the development of new strategies that the students can apply to develop their high thinking skills so they can write meaningful texts.



## **1.1. Statement of the problem**

The School of English Language at the Catholic University Santiago de Guayaquil requires their students to take an exam that proves they have achieved effective operational proficiency English level prior graduation. The effective operational proficiency is a reference made in the Common European Framework of Reference for Languages (Council of Europe, 2001) which is an international standard for describing language ability. Students usually take the CAE (Cambridge Advanced English) exam which is used around the world to describe learners' language skills and to give evidence of their ability to use English fluently and flexibly in a wide range of contexts.

Nevertheless, although students get their CAE certificate, it has been observed that some problems emerge when it comes to developing their academic texts. Their written production is limited to personal narrative, by recalling facts and basic contexts, and explaining ideas or concepts. Expository writing, where students have to use information in new situations and draw connections among ideas, is a complicated process for them. As a consequence, persuasive writing, where they have to use their higher thinking skills to justify a stand or decision and write creatively to develop their academic texts, is a really complex task to perform.

The reason why this is happening could have its origin in various sources. First, writing is a process that involves the mastering of several discursive elements, some of which students may have only partially mastered. Examples of these elements are mechanics, sentence structure, spelling, organizing ideas, drafting, editing, etc.

In addition, a key part of being a writer is also being a reader. When people read they learn new words, they learn sentence syntax, they ask questions, construct general ideas, revise meaning, etc. Evidence indicates that extensive reading improves literacy, social skills, and gives people access to culture. In 2012, the Institute of Statistics and Census of Ecuador (INEC) carried out a survey on reading habits (Ministerio de Cultura y Patrimonio,

2017). The people surveyed were in an age range of 16 years and over, and lived in urban homes of Quito, Guayaquil, Cuenca, Machala and Ambato. People aged 16 to 24 years read for school purposes whilst people aged 25 and over indicate that they read to access knowledge. Additionally, the survey revealed that 51% of men read the newspaper and 34% read books, while 41% of women prefer books, compared to 34% who prefer newspapers. The remaining percentages fluctuate between journals and other media. Reading preferences are linked to access to reading material. This information shows that reading for pleasure and enjoyment is not yet incorporated in the behaviors of the Ecuadorian population. Perhaps educational authorities are taking scarce advantage of the digital era to encourage their students to read books of their interest in the different platforms that are now available on the Internet.

Finally, it has been seen that many of the English School students' academic texts lack validity, reliability and authenticity because they tend to copy and paste texts from Internet to present their homework. This may indicate that they are not immersed in using higher-order thinking skills. All these issues might have an impact on the students' capacity to develop their academic and scientific texts at the end of the Bachelor of the English program because of probable insufficient training in drawing connections among ideas, justifying a stance or decision and in producing new or original work.

## **II. OBJECTIVES**

### **2.1. General objective**

Identify actual writing skills of pre-professional level students at the English Language School of UCSG when composing their academic texts through the application of a standardized critical thinking and writing test to diagnose their academic writing needs.

### **2.2. Specific objectives**

1. To recognize the main critical thinking and writing abilities that students need to develop their written papers.
2. To verify the most common critical thinking and critical writing skills used by undergraduate students when engaged in the production of academic texts.

## **III. RESEARCH QUESTIONS**

### **3.1 General research question**

What skills are necessary to boost the abilities of pre-professional level students of the School of English Language so they succeed in writing academic texts?

### **3.2. Specific research questions**

1. What are the most common critical thinking skills the students under analysis use when writing their academic texts?
2. What type of training is necessary for students to develop critical thinking and critical writing skills?

## **IV. LITERATURE REVIEW**

Several factors are relevant and influence the acquisition of a second or foreign language. In the field of learning and acquisition of a language some of the most important views of scholars are presented as a framework to the role critical thinking has in academic writing.

### **4.1. Language acquisition**

Language acquisition is one of the most remarkable aspects that has been studied by several scholars. In first language acquisition, theories have gone from the behaviorist perspective, to the innatist perspective and to the interactionist developmental perspective. For cognitive and developmental psychologists, children have the ability to learn from experience as they are exposed to conversations and interactions with people who surround them (Lightbown and Spada, 2013). They propose that children have an innate learning ability, but they give more importance to the influence the environment has on them.

Piaget and Vygotsky are two of the most important proponents of the view that the ability of children to acquire a language is connected to their cognitive development, which takes place as children mature and interact with the environment. For Piaget, "the acquisition of language is itself subordinated to the working of a symbolic function which can be seen in the development of imitation and play as well as in that of verbal mechanisms" (1962, p. 1-2). For Vygotsky, "The specifically human capacity for language enables children to provide for auxiliary tools in the solution of difficult tasks, to overcome impulsive action, to plan a solution to a problem prior to its execution, and to master their own behavior." (1978, p. 28). Studies like the one made by Sachs, Bard, & Johnson (1981) show the importance of interaction and the need of linguistic input in the development of language. Sachs et al. studied the case of two children who had deaf parents. The older brother only received language input from TV, and by the time he went to school, his speech was below his age level; the other child acquired

language with his brother as a model; after both of them were subject to intervention, they improved their expressive abilities.

Another vision of language acquisition is related to the children's cognitive capacity of making connections between what they hear and their interaction with the environment. For connectionists, children have the ability to develop associations between things that occur together; thus, "language acquisition involves not only associating words with elements of external reality. It is also a process of associating words and phrases with the other words and phrases that occur with them" (Lightbown and Spada, 2013, p. 29). In second language acquisition, this implies that first the mind is trained in acquiring language *A* patterns and then exposed to language *B* patterns that constitute their counterparts. According to Gasser (1990), these patterns form a network where inputs and outputs are activated forming units that represent form and meaning joined by connections which are supported or faded in reaction to regularities in input patterns. Additionally, Gasser mentions two factors that are relevant in particular for second language acquisition of adult learners. In his words, "cognitive developments not related specifically to language may limit the learner's ability to acquire language or may predispose the learner to particular acquisition strategies" (p. 13). Thus elements that bear an influence on the learner's language acquisition process include their physical and cultural setting and their compelling needs.

Second language acquisition (SLA) investigates the human capacity to learn a new language after acquiring a first language. SLA favors the study of late-starting acquirers of a target language. Ortega (2009), based on several studies, makes reference to important factors that influence SLA. In terms of age for example, she mentions that adults and older learners have an initial advantage over young learners, but after five years, this situation is reversed. She also adds that second language (L2) learners who begin the study of a language before puberty acquire a morphosyntactic and phonological competence that is similar to native speakers' production, with some exceptions. For instance, some adult learners achieve native, or near-native levels of L2, which proves that an early start is not necessarily the reason for

successful acquisition of the target language; motivation and quality instruction are reasons that may be associated with this fact. On the other hand, children who start learning an L2 between the ages of two and four may not perform as native speakers, and this may be associated with L1 dominance. In terms of cross linguistic influences, Ortega concludes that transfer is a phenomenon that can be produced because of the similarities or the differences between a first language (L1) and an L2, and that this transfer could be positive or negative. Additionally, she mentions that cross linguistic influences do not necessarily lead to ungrammatical solutions since transfer can be present in errors of omission, commission, underuse and overuse of L1-patterned frequencies. Moreover, Ortega adds that L1 transfer is not a mechanical process but rather about tendencies and probabilities. Finally, she concludes that “knowledge of two (or more) languages can accelerate the learning of an additional one, and all previously known languages can influence knowledge of and performance in an L3” (Ortega, 2009, p. 53).

Second language acquisition theories have been determined by first language acquisition schemes. One very popular first language acquisition model that has been of influence to several scholars is *Universal Grammar* posited by Chomsky in the 1960s. He claims that humans have the ability to learn any language; accordingly, people are all born with an innate grammar, and with an understanding of the rules and mechanisms of language which leads them to discriminate grammatically correct sentences from ungrammatical ones. Therefore, it is not by observing or memorizing that we learn a language, but by understanding its rules. As published by Cook & Newson (2014), *Universal Grammar* adopts a cognitive approach and explains that human beings can interpret expressions in their native language, but they do not have conscious awareness of the processes involved. This *Universal Grammar* is concerned with the grammatical competence people have in their native language and with the principles that speakers apply to all languages.

This *Universal Grammar* postulation has been of influence to Krashen’s model of second language acquisition described in the early 1970s that has a focus on meaning and not on memorizing rules. His Monitor Model is defined

in terms of five hypotheses. As mentioned by Krashen (1987), the *acquisition-learning hypothesis* states that adults develop competence in a second language subconsciously and consciously. For the first one the process is similar to the way children acquire their first language; therefore, speakers are not thinking of the rules of grammar, they just know what sounds right or wrong. For the latter, the conscious knowledge of a second language, Krashen uses the term “learning”. In this process, speakers acquire formal knowledge of the language by learning its grammar and rules. Next, according to Krashen (1987), the *natural order hypothesis* establishes that the acquisition of second language grammatical structures occurs in predictable sequences; nevertheless, “the order of acquisition for second language is not the same as the order of acquisition for first language, but there are some similarities” (p.13). The author, after analyzing empirical studies of second language acquisition, posted the average order of acquisition of grammatical morphemes for English as a second language. The reviews reveal that children and adults first learn the “ing” of the progressive followed by: the plural copula (“to be”), the auxiliary (progressive, as in “he *is* going”), the article (a, the), the irregular past, the regular past, the third person singular (s), the possessive (s).

Then, the *monitor hypothesis* postulates that learning and acquisition of a second language are used in specific ways: “the acquired system initiates a speaker’s utterances and is responsible for spontaneous language use. The learned system acts as an editor or ‘monitor’, making minor changes and polishing what the acquired system has produced” (Lightbown and Spada, 2013, p. 37). The fourth hypothesis is the *input hypothesis* which, according to Krashen (1987), is related to acquisition and not to learning and to the fact that speakers acquire a second language by discerning input that is beyond their present level of competence ( $i + 1$ ), where ‘i’ represents their current level of knowledge and ‘+1’ denotes the grammatical forms they have not already acquired. This acquisition happens when the speaker is focused on meaning, on the need of communication, and not on the form of utterances; thus, “when communication is successful, when the input is understood and there is enough of it,  $i + 1$  will be provided automatically” (Krashen, 1987, p.

22). Finally, the *affective filter hypothesis* confirms that several affective variables have a role in second language acquisition. Motivation, self-confidence and good self-image, and low anxiety are factors that are related to attainment in second language acquisition. Even though input is still the primary variable in second language acquisition, keeping affective filters low and promoting low anxiety will create a learning environment that will derive in acquiring competence.

On the other hand, some cognitive approaches to second language learning propose that parallel mechanisms function in L1 and L2 learning. For example, the input-based emergentist perspectives factors mentioned by Mitchell, Myles & Marsden (2013) propose that grammatical rules are not innate to human beings, but they surface from language use and practice in context; this is, learners extract structures from the language input they are immersed into. The factors influencing this process are input-related and learner-related. The former refers to how often an item occurs in the input, how conspicuous the feature is, whether the item is crucial or not to carry meaning, and the lexical and semantic settings in which the component happens. The latter states that language learning is construction-based, rational, exemplar-driven, emergent and dialectic. Construction-based refers to what learning involves; this is learning and recycling 'constructions' that "associate morphological, syntactic and lexical forms with particular semantic, pragmatic and discourse functions" (p. 103). Rational alludes to the possibility that language representations in the brain are tuned to foresee the most applicable and relevant constructions in a discourse setting. Exemplar-driven relates to how learners abstract regularities from grammatical patterns to form similar constructions. Lastly, emergent clarifies how "language regularities emerge as learners determine structure from language usage" (p. 104), and dialectic explains that L2 learning problems are minimized when interaction of speakers with other speakers, instructors or instructional events take place.

As stated by Mitchell, Myles & Marsden (2013), other cognitive approaches to second language learning suggest that L2 learning is different from L1 learning, and it is more explicit, too. Some researchers have attempted to



describe L2 learning by using models of memory and sentence processing, others direct attention to explicit knowledge, and yet others mention that awareness and attention are involved in second language learning. For instance, AL-Hammadi (2012) concludes in his study of the role of recognition memory in L2 development that “the activation of working memory can help students uncover the meaning of unknown words. Associating vocabulary instruction with both students’ prior knowledge and other pre-reading activities intended to construct background knowledge could help them identify new words” (p. 91); this in turn will benefit their learning outcomes. Next, Ellis (2005) summarizes the following criteria to define explicit knowledge: in terms of degree of awareness, explicit knowledge responds using rules; in respect to time available, it has no time pressure; moreover, explicit knowledge is primarily focused on form, has a low degree of certainty in responses, encourages metalinguistic knowledge and favors late, form-focused instruction. Ellis specifies that explicit knowledge, or metalinguistic knowledge as it is often described, is not enough resource to promote fluent use; thus, the role of attention and awareness in L2 learning has been considered and investigated. Peters (1998) proposes that learners must notice variations in phonology, in grammar, in pragmatics, in vocabulary, in discourse that make difference in meaning. On the other hand, Carr and Curran (1994) claim that noticing is especially important when the learning input is complicated or ambiguous. In the end, all language learning requires some level of noticing form.

## **4.2. Second language writing**

The first L1 theories of writing began to emerge in the early 1980s. Graves (1984) and Flower and Hayes (1980, 1981) gave only little consideration to social contexts, task variation, motivational factors, or language knowledge. Nevertheless, incorporating the role of genre and ideas of social setting and task variability in writing research anticipated the importance given to the role of language and socializing practices in writing development.

According to Grabe (2001), in the 1970s and the 1980s, L2 theories of writing followed on English L1 views of writing, and considered the importance given

to language and the organizational structuring in written production, and the influence of diversity in social practices. Hinkel (2002) reports that in the early 1980's, Zamel (1983) published evidence on the similar processes that are involved in teaching L1 and L2 writing. In her view, writing is a creative method of elaborating ideas; and, in teaching composition, the process should include "invention, prewriting, producing multiple drafts of essays, peer review of compositions, and revising" (p. 48-49). According to Hinkel (2002), Zamel observed the writing process of 6 students from China, Spain, Portugal, Israel, and Iran, who were not apprehensive or worried about grammar or vocabulary when writing; their focus was on creating meaning. Zamel realized that the students who lack language proficiency were more concerned on writing grammatically and lexically correct paragraphs than those who, because of their higher English proficiency, concentrated more on the composing process. For her, students should be taught to express their thoughts and receive adequate assessment and sufficient explanations from their teachers.

Nevertheless, up until the early twentieth century good writing was the equivalence of good grammar and good organization. Nunan (2003) published Harvard University's entrance requirements of 1874: "Each candidate will be required to write a short English composition, correct in spelling, punctuation, grammar, and expression, the subject to be taken from such works of standard authors as shall be announced from time to time." (p. 89). The author reports that in second language writing instruction at that time, form was more important than function, and the process of creation of ideas was seen as not relevant.

Nunan gives credit to the National Council of Teachers of English (NCTE) as the initiator of a progressive writing instruction which in the 1960s started including "the entire process of writing—invention, drafting, feedback, and revision—and not just the product" (2003, p. 89).

In addition, in the 1960s the idea of contrastive rhetoric was introduced to express the possible problems writers could face because of the influence of their first languages. "The teaching of reading and composition to foreign

students differ from the teaching of reading and composition to American students, and cultural differences in the nature of rhetoric supply the key to the difference in teaching approach” (Kaplan, 1966, p. 11). Kaplan mentions logic as a “cultural phenomenon” and defines it as “the basis of rhetoric”: “Rhetoric, then, is not universal either, but varies from culture to culture and even from time to time within a given culture. It is affected by canons of taste within a given culture at a given time” (1966, p. 12)

Later, in the 1990s, Ramanathan & Kaplan (1996) gave importance to a number of culturally driven English L1 assumptions that distinguished L1 and L2 academic writing practices and training. Among those practices, originality, critical thinking, creativity, logic and individual voice have a high value in English L1 university cultures.

Grabe also mentions articles written by Leki and Carson (1995, 1997), in which they report that L2 students consider that their writing experiences were too easy, with emphasis on success and security, and that it is difficult for them to cope with the writing demands they must face in courses at university level since they were not challenged sufficiently. Conversely, Al Fadda (2012), in a study made to determine what difficulties King Saud University students encounter when learning to write academic English and to differentiate between students’ learning needs and objectives, found that students face difficulties and stress in developing their writing abilities because of the difficulty in distinguishing between spoken and written styles in the English texts. Gilquin & Paquot (2008), examined the written production of upper intermediate to advanced foreign learners of English. They determined that foreign learners’ written papers display many characteristics of speech, L1 transfer, and scarcity of formal alternatives, giving their assignments a ‘chatty’ style. For them, there is an urgent need to give the learners corpora that includes academic text types other than argumentative essays.

Bacha (2002) mentions, in a study of academic writing skills in higher education, four major L1 writing theories that have influenced on L2 English writing. The first one is Moffet’s (1968), known as the process approach,

which concentrates on the writer, the audience and the different types of texts. Next, the cognitivist model (Flower & Hayes, 1981), which overlaps the process approach but focuses more on the rhetorical modes of discourse (narration, description, exposition, argumentation); this process shows the relation between structure, meaning and meaning in context, thus giving emphasis to process and product in writing, as mentioned by Bacha. Then, the interactionist model, which puts emphasis on the audience, and finally the social constructivists' model, which focuses on organizing academic texts according to different disciplines and their writing models required.

Several authors have published about second language writing instruction. Nunan (2003) proposes four principles for teaching writing. First he gives relevance to understanding students' reasons for writing. He mentions that it is important to include in the writing curriculum genres and types of writing that will be useful for other courses too; he does not see including only the type of writing preferred by a teacher as convenient for the students. Next, Nunan advises providing opportunity for students to write. He comments that good writing will be the result of lot of practice.

For the author, teachers should provide their students with opportunities to express their ideas as in responding to a journal entry, in writing a letter, in analyzing poetry. Nevertheless, Nunan also implies that not all writings should be graded: "You don't keep score when you're practicing free throws, so teachers shouldn't grade "practice writing"" (Nunan, 2003, p. 93). Then the author references that it is necessary to make feedback—that is always welcomed by the students— helpful and meaningful.

In the process of making students independent writers, Nunan mentions giving the students comments on the margins of their papers in the form of symbols with which all of them should be familiar, so they can correct their papers themselves. He also suggests giving summary comments in personalized conferences with them. Finally, Nunan alludes the importance of clarifying for the students how their performance will be evaluated. With the intention of removing from the students' belief that their writing is assessed subjectively Nunan indicates it is important teachers develop

rubrics. The author defines a rubric as: “a kind of scoring grid that elaborates the elements of writing that are to be evaluated. This rubric should outline the weight of grammar and mechanics in relationship to content and ideas, as well as other features of writing” (Nunan, 2003, p. 94) In terms of classroom techniques and tasks that can be used as part of the process approach to teaching writing, Nunan suggests spending some time brainstorming—listing ideas that come to mind in relation to a topic without giving much thinking—, word mapping—using Venn diagrams to organize ideas— and quick writing—writing rapidly beginning with a topic for later use of identified interesting thoughts— before engaging in formal writing.

Celce-Murcia, Brinton & Snow (2014) highlight the importance of the writing ability in the twenty-first century for English as a second or as foreign language learners; in their words, factors such as internet and globalization have made writing across cultures essential in several fields including education. For Celce-Murcia et al., the nature of L2 writing ability can be seen as a cognitive ability, the skills and knowledge of learners, and as a sociocultural phenomenon, the means of communication needed in an specific setting with the intention of acquiring a specific goal.

From the cognitive perspective, second language writing is a combination of ability and L2 proficiency. For writers, the process of writing involves following several steps before publishing the final product. These steps include having a clear overall message, the main ideas, the supporting ideas; they must be able to transmit what they believe about the topic, to persuade to disagree; they must plan, monitor and revise their writing and keep concentrated on the process until they are pleased with the final draft.

For L2 learners the process is more complex, because they have to concentrate on using the appropriate language to express their ideas clearly and correctly. From the sociocultural perspective, writers must adapt to the different discourse practices of diverse groups of people who have different standards and expectations for using language. This includes different conventions and stylistic choices to write reports, papers, letters, etc. Finally, Celce-Murcia et al. comment that the best practices teachers should be

aware of, when teaching writing, include understanding their students' needs and wants, their characteristics, their ability to write, and their experience as writers.

Brown (2007) mentions several issues in relation to second language writing: the nature of the composing process of writing, the relation between process and product, contrastive rhetoric, differences between L1 and L2 writing, authenticity, responding to student writing, and voice and identity. Brown manifests that when writing, students go through the processes of thinking, outlining, drafting, editing, and that these processes require having specific skills; furthermore, as Chen (2005) adds, students show different styles and preferences when composing (as cited by Brown, 2007).

Brown proposes teaching students “how to generate ideas, how to organize them coherently, how to use discourse markers and rhetorical conventions to put them cohesively into a written text” (2007, p. 391). In addition, he mentions the importance of revising, editing for grammar and mechanics, and producing a final product. Oh, Lee & Moon (2015), in examining the relationship of planning, L2 linguistic knowledge, and individual differences to L2 writing, came to the conclusion that writing instruction is effective when linguistic knowledge is present; nevertheless, their study also suggests that giving importance only to language teaching and not focusing on content is not the right direction to go.

The authors suggest a balance in teachers' instruction: “individual differences such as self-efficacy, L2 writing strategies and motivation make a significant contribution to L2 writing” (Oh, Lee & Moon, 2015, p. 78). Working efficiently at every step of the process is an approach that has been applied in due course of time. Brown presents important facts that should be considered in the process of writing (adapted from Shih, 1986): he includes the need of helping students be aware of their own composing process and to construct their own strategies for prewriting, drafting and rewriting; in addition he mentions giving students the opportunity to write as many drafts as they need until they have solved all the questions and projected all the answers; in the process students must receive feedback from the teacher and from their

classmates; finally Brown mentions teachers should have personal conferences with students to highlight strengths and weaknesses of their papers.

O'malley & Pierce (1996) share similar ideas about the process of writing and pose three stages. The first one is about prewriting, where motivation, discussion and concept development should be developed. They suggest the students use graphic organizers to clarify ideas. The second is the writing stage; here O'malley & Pierce suggest giving students opportunities to edit and revise their papers as they work with peers with whom they can share thoughts on how to improve the product. The third stage is postwriting. Once the product is finished, students can read it out loud to other students (Gebhard 1983, as cited by O'malley & Pierce, 1996).

One last important component of process writing is conferencing. In conferencing, teachers plan meeting with their students and inquire them about the strategies they used to finish their papers. "The questions reflect the stages of process writing and might focus on how the writer selects the topic, plans the writing, composes the written pieces, and edits or revises the product afterwards" (Church 1993, as cited by O'malley & Pierce, 1996, p. 139).

Several studies have been conducted that show that differences between L1 and L2 writers are definitely issues to consider when teaching writing. Silva (1993) found differences between L1 and L2 writers from 72 reports of empirical research comparing L1 and L2 writing. The report shows that less planning, less fluency, less accuracy, less efficiency in the planning and organizing of material to write papers, together with the differences in the correct use of grammatical and rhetorical conventions and lack of lexical variety, were the factors that made the difference.

In relation to contrastive rhetoric, Kaplan's work (2005) shows that when students start learning the English writing conventions, they are not blank notebooks that we can fill with information expecting to get excellent writing products. They come with a background of culture and their own

predispositions that are the result of years of previous schooling on how to write papers.

Kaplan's "Contrastive Rhetoric Hypothesis" states that "different languages and cultures do, in fact, employ a "rhetoric and sequence of thought" that vary in observable ways from other languages and that may, by extension, create difficulties for L2 writers and for their L1 readers" (Ferris, 2011, p. 648); this hypothesis has been subject of study of many researchers. For instance, LoCastro (2008) reports that teachers of English as a foreign language in Mexico noticed that learners constantly write long sentences and use punctuation markers, floating commas or semicolons, differently from the way native English speakers do when they write essays or articles.

For LoCastro, understanding students' L1 practices and their educational background could help teachers take decisions of how to teach the formal features of English grammar and procedures in academic writing. Consequently, rhetorical first language interference is definitely at play in the students' writing and it must be considered as a possible source of difficulty. It is the teachers' role to guide the learners into understanding the differences and adopting the English rhetorical conventions.

On the relation between fluency in writing and linguistic experience, Chenoweth & Hayes (2001) made a study with a group of English native speakers who were learning French or German; it revealed that when language experience increased, fluency also increased. This fluency was reflected in the average length of phrases, the number of words written per minute and the number of revision episodes.

On the same topic, Kowal (2014) studied how Polish university students of Swedish as a second language improved their fluency during a three-year period. In general, students whose production at the beginning of the experiment was slow and less fluent, made the greatest progress compared to those who were more skilled with regard to language and typing. "The development of fluency in second language writing is a complex process that involves both the ability to write fast, or without great effort, and the skill to



produce longer text units without many pauses or revisions that may affect the flow of text creation and transcription” (p. 244) .

Another important factor to consider in second language writing is authenticity. Researchers confirm that authentic learning is more effective for second language learners because when writing with a real purpose and for real audiences other than the teacher, significant progress in reading and writing is achieved. Lombardi (2007) comments that authentic learning is focused in real-world problems and solutions, in solving problem-based activities, in working on case studies and in participating in communities of practice.

Reeves, Herrington & Oliver (2002) mention other factors that are characteristics of authentic learning: collaboration, reflection on students' own learning, the opportunity to examine information from different sources and distinguish important from inappropriate information, diverse interpretations, and integrated assessment. Raimes (1991) (as reported by Brown, 2007) distinguishes display writing from real writing. The former refers to writing for the teacher and the latter refers to “writing when the reader doesn't know the answer and genuinely wants information” (p. 395). Consequently, it is important that ESL and EFL teachers plan on including in the curriculum tasks that give students the opportunity to write about topics of their interest, and not only to display knowledge.

The role of the teacher in second language writing is another significant aspect to consider. Brown (2007) mentions the importance of teachers responding to students' writing as facilitators, offering guidance and not imposing their thoughts. In the words of Harmer (2007), when students are asked to write the teacher must be a motivator, a resource and a feedback provider. The role of motivator implies the teacher creating the appropriate conditions for the breeding of ideas and encouraging students to make as much effort as necessary to comply with the different writing papers. The roles of the teacher as a resource and as a feedback provider are especially important when students need information and language to complete

extended writing activities because instructors can give ideas and offer correction.

In a study about the influence of teacher commentary on first draft papers of advanced university ESL students, Ferris (1997) reports that a substantial part of the comments appeared to lead to substantive student revision. Yet another study made by Paulus (1999) about the effect of peer and teacher feedback on student writing, categorizing the types and sources of revisions and evaluating the first and final drafts of 11 ESL student essays, found that peer and teacher feedback influenced at meaning level.

Finally, about the significance of voice and identity that students can portray through their writing, Ivanič (2001) wrote a research paper about voice as self-representation in L2 writing. He argues that the lexical, syntactic and organizational aspects of writing construct identity and locate writers culturally and historically; for this purpose, he examined the writing of six graduate students studying in British universities and recommended teachers to raise awareness about voice so students can project their personal and cultural identity in their writing. On this topic, Matsuda (2001) presents evidence that in Japanese discourse, voice is a result of language-specific discursive features, and reports that Japanese students face difficulties in constructing voice in English written discourse and in getting familiar with the strategies used in English.

Nevertheless, voice is not only connected to cultural identity, voice is also associated with students putting their original ideas into written work. In response to this need, Canagarajah (2013) states that critical thinking is necessary for students to produce texts and is also part of a social activity where there is interaction between a writer and an audience with a specific purpose. Canagarajah describes how a critical orientation redefines writing. He explains that writing is a social activity that does not represent someone writing alone in a room; it is done for a diverse audience of readers.

The writer's product is influenced by the expectations and values of the audience. Canagarajah adds that writing involves a mental procedure where

the writer needs to search several resources, publishers, and papers to compose thoughts. He also states that writers do more than just using the rules of grammar to construct a text; they also present their reality, their values, and portray themselves in their words. The final product has gone through a process of writing drafts, using visions and doing revisions, before it is released to the public. For Canagarajah adding the word critical to writing “develops an attitude and a perspective that enable us to see some of the hidden components of text construction and the subtler ramifications of writing” (p. 2010).

### **4.3. The connection between reading and writing**

One of the arguments that connects reading concerning the improvement of writing abilities is the one expressed by Krashen (2004). He suggests that people can attain competence in writing similarly as they acquire proficiency in oral language. For him it is reading for meaning what makes the difference; for him “knowledge of writing comes from the input provided by reading” (Hirvela, 2004, p. 112). Therefore, Krashen gives primary importance to the power of reading as the foundation of language education. He reports the impact of in-school free reading programs on literacy. Schools immersed in this type of program devote part of the day for unrestricted free voluntary reading (FVR). He provides accounts on the impact of this type of programs, compared to traditional programs where reading and direct instruction of vocabulary, grammar, reading comprehension and spelling are present: “In 51 out of 54 comparisons (94 percent), readers do as well as or better than students who were engaged in traditional programs” (p. 2).

This study suggests that free reading is as effective as traditional instruction; “reading results in literacy growth” (p. 2). In second language learning, several studies involving FVR proved to have had positive outcomes. For example, Stokes, Krashen & Kartchner (1998) report university level students learning Spanish as a foreign language and involved in FVR had more competence in the subjunctive and were able to use it in real situations. In addition, Lee, Krashen, and Gribbons (1996) report that international

students living in the United States, involved in free reading, showed mastery of the English relative clause. Finally, the amount of free reading is related to better performance of international students on the TOEFL examination, as shown in studies made by Gradman and Hannania (1991), and Constantino, Lee, Cho, and Krashen, (1997) as reported by Krashen (2004).

People who read more, read better, and the impact is seen in “better reading comprehension, writing style, vocabulary, spelling, and grammatical development” (Krashen, 2004, p. 17). Krashen reports two cases of students who could not improve their writing skills even though their teachers tried several approaches. The approaches included working on error correction, having conferences about style and format, writing down words in a notebook and spelling them orally, and hiring a private tutor. One of the students only improved after being involved in summer reading; advance in the other student could be perceived after visiting libraries and buying books to read in the target language. In addition, Lee and Krashen (1997) reported that those students who read more have less writing apprehension since they have more expertise in the composing process and enjoy reading more.

Hirvela (2004) offers a justification to include reading as a necessary part of writing. He proposes three approaches. The first one is about students reflecting on the reading process. Instead of just discussing reading comprehension questions, Hirvela suggests asking students to analyze what strategies are effective for reading and how they deal with problems that may arise when reading; this type of reflection can lead to an awareness of the composition process. The second approach implicates using writing as a way of clarifying and comprehending a text; according to Hivela, writing about a piece of reading (journals or response answers) ends up in a deeper comprehension of texts and makes an influence in the writing process. Finally, the third approach involves using grammatical patterns such as the phrases and structures, the style, and the rhetoric information found in reading materials as models to write texts.

One of the very first reviews about the correlation between reading and writing was made by Stotsky (1983), who reported that “studies show almost

consistently that better writers tend to be better readers, that better writers tend to read more than poorer writers, and that better readers tend to produce more syntactically mature writing than poorer readers” (p. 636). The outcomes Stotsky reported included positive results of the influence of writing exercises on reading, and of the influence of reading (especially of literary texts) to improve the writing ability; therefore, “the reading experience may be as critical a factor in developing writing ability as writing instruction itself” (p. 637).

On the same ground, Tierney and Shanahan (1996), present reviews about the connections between reading and writing. Their areas of discussion include the extent to which reading and writing “involve similar, shared or overlapping linguistic, cognitive or social resources”, “how readers and writers transact with one another as they negotiate the making of meaning”, and “the thinking and learning that occurs as learners shift back and forth from reading to writing according to goals they pursue in different subject areas such as science, social studies, and literature” (p. 246). The authors propose understanding how reading and writing should be explored, acquired and practiced together.

They also mention that findings from several investigations suggest that “combined reading and writing engenders a more inquisitive attitude to learning, and that it facilitates the expansion and refinement of knowledge” (p.265). Also in 1991, Reinking and Bridwell-Bowles acknowledged the impact of technology on reading and writing.

Technology began to provide learners with texts other than print texts, and the role of computers in literacy instruction became prominent, idea supported also by Tierney (1992) (as cited by Hirvela, 2004) who included in his review the shift in interest from single source texts to multiple source texts. He also mentions that the relation between reading and writing is “dynamic and complex, because the nature of thinking varies depending on the learners’ purposes, the context of the learning and the content being addressed” (p. 252).

Additionally, Hirvela (2004) cites Nelson (1998) as someone who has revised the connections between reading and writing. She discusses three frameworks: the first one is the 'post' critique', where reading is not seen as a different process from writing, but as interconnected with it. The second one is the 'communication revolution' framework where technology is seen as an important part of the reading and writing process; she gives relevance to hypertext, which is "a system of interlinked textual units –texts or portions of texts– through which a reader can move" (p. 269). The last one, the 'social constructivist' framework where importance is given to the social contexts in which readers and writers coexist.

Hao & Sivell (2002) (as cited by Hirvela, 2004) report that separated skill teaching, absence of authenticity of exercises used for language teaching, and inadequate sequence of teaching-learning activities combine to delay the development of writing skills. As Aldosari (2011) cites, the theoretical work of several researchers like Rosenblatt (1938, 1978, 1994), Moffett (1983), Flower (1994), Vygotsky (1986), the pedagogical work of Atwell (1987) and Elbow (1986), and Bartholomae and Petrosky (1986) emphasize "reading, writing, listening, speaking, and thinking are all involved as readers and writers activate schema to create meaning from their own and others' texts. Reading and writing are not separate entities but parts in a communicative process" (Aldosari, 2011, p. 327).

Brown (2007) comments about the integration of skills. First, he mentions that in communication there is interaction between people who send and receive messages as they are engaged in conversation. Next, he adds that there is an interrelationship between written and spoken language, and this relation is a motivating reflection of language and culture and society. He also comments that one skill often reinforces another as when people learn to speak following models of what they hear. Finally, he remarks that real language is not only the combination of skills, but it is also a blend of the things people think and feel and the way they act.

Nevertheless, in EFL contexts things vary. It has been seen that students get to be competent readers but not so good writers. This discrepancy is an

issue Tierney and Shanahan (1996) revealed; there is an overlap between reading and writing abilities in terms of 'acquisition, application and manifestation'. Grabe (2001) (as cited by Aldosari, 2011) also mentions two differences between reading and writing: the focus of attention of reading is on meaning, whereas the focus of attention of writing is over the whole of language to communicate a message successfully. Additionally, Grabe (2003) suggests content-based instruction and task based learning as the two frameworks that may work better when incorporating reading and writing for English language learners.

Content-based instruction is an approach in which language is the medium to portray information, and language skills are taught in context. Reading and writing are practiced while developing tasks where subject matter controls the variety and sequencing of language items (Brown, 2007). In task-based instruction on the other hand, learners focus their attention on learning processes, on learning strategies and on experiencing the language through real listening and reading texts instead of working on intensive reading-writing processes (Celce-Murcia, Brinton & Snow, 2014).

Finally, Grabe & Zhang (2013) categorize some characteristics of L2 writers: L2 students do not have as much practice in academic writing tasks as L1 students; L2 have weaker reading skills; they have limited exposure to extensive reading and apply information from reading to writing tasks scarcely; their vocabulary knowledge and their grammatical accuracy are limited; their writing-composing process takes longer, and they have little support for acquiring critical thinking skills for academic reading and writing assignments. The role of critical thinking in academic practices has been discussed by many authors as one of the factors of the success or failure of students who have to write academic texts not only for their university studies but for their everyday activities. To provide context to what represents the role of critical thinking in writing, it is vital to present some important factors related to its concept and discuss its role in academic writing.

#### **4.4. Critical thinking**

There are several similar definitions of critical thinking in the literature, but on a broad sense, they all come from Dewey's view that people see problems as a source of motivation to learn and to think critically. "Only by wrestling with the conditions of the problem at first hand, seeking and finding his own way out, does [the student] think". (2014, p. 136). Among the several descriptions of critical thinking, Paul (1993) manifests that "critical thinking is disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thinking" (p. 137). Paul asserts that if we get familiar to thinking critically, we will develop "intellectual humility, intellectual courage, intellectual perseverance, intellectual integrity, and confidence in reason" (p. 423).

Other important details about critical thinking are given by Kuhn (1999). In his model of critical thinking, he embraces the thought that, in critical thinking, individuals use metacognition to justify their thinking. He also believes that critical thinkers use metastrategic skills which help them evaluate situations and apply consistent criteria for not falling for one favored assertion without considering other alternatives. Finally, Kuhn mentions evaluative epistemology in which opinions are all different and in which someone knows something when judgement, evaluation and argument are present. For Kuhn competence in the three categories makes an individual aware of their thoughts, responsible of deciding what to believe and why, and accountable for deciding when to update beliefs. This high level of awareness allows individuals to take control of their lives.

Several other authors like Watson and Glaser, McPeck, Siegel, Brookfield, Kurfiss, Facione (as cited by Simpson & Courtney, 2002) support the idea that critical thinking is not a set of strategies to be learned, but rather a process that includes cognitive and affective domains of reasoning. Brookfield (1987) considers that emotions are vital to the critical thinking process, because critical thinking is not only a logical process but "emotions are central to the critical thinking process" (p.7). He explains that asking critical questions about our past experiences and beliefs may cause anxiety



and irritation as we may feel afraid of changing our “current ways of thinking and living”; but, we may also feel liberation and excitement when we abandon assumptions that might have been preventing our improvement.

On the same subject, Elder (1996) argues that critical thinking cannot conduct our beliefs unless it evaluates our cognitive abilities and our emotion states; in other words, critical thinking provides a link between intellect and feelings. For Elder, it is critical thinking which enables individuals to take command of their judgement, mental state, feelings and wishes. Critical thinking then, provides a basis for a rational emotional life because, to solve problems effectively, individuals must not only have the cognitive skills but the desire to do.

Elder considers that an intelligent person is a mindful person, with high values, involved in actual thinking, rigorous appraisal and judicious behavior; therefore, for him, the affective dimension is necessary as an important component of high quality thinking. Damasio (2006), a University of Iowa neurologist, agrees in some way with Elder, because he believes that emotions are the key element in decision making and learning. He supports this thought with evidence from patients who, after losing the regions of the brain that allow them to experience emotions (because of the removal of a tumor for example), have their decision making ability compromised and cannot make logical decisions.

#### **4.4.1. Components of critical thinking**

Brookfield (1978) holds critical thinking has four main components. First, he considers that identifying and challenging assumptions is a major tenet of critical thinking. In his words, critical thinkers identify assumptions that may be commonly accepted by people at organizations or at a personal level, examine their accurateness and legitimacy, and then they are able to compare and make assumptions that fit their reality. Secondly, encouraging the importance of context is crucial to critical thinking because hidden assimilated assumptions may also influence our interpretations of reality

when we see actions in context. The third component of critical thinking is related to trying to imagine and explore alternatives.

Brookfield states that critical thinkers always explore new ways of thinking because, depending on contexts, norms are organized differently. Lastly, this exploration of new ways of thinking leads individuals to reflective skepticism. Critical thinking makes individuals doubtful of universal truths; thus, critical thinkers have to explore, check and experience and do not believe those who claim having the answers to all the questions and the solutions to all the problems. They will inquiry people who offer the only solution, the ultimate development, or the only model that is appropriate for all learners. Thus, critical thinkers are able to use their knowledge to perceive, recognize, conceive and reason things carefully.

#### **4.4.2. Phases of critical thinking**

According to Brookfield, there are several phases present in the process of critical thinking, and although authors define them with different terms, the components of each phase are present in the following description. First there is an event, usually a negative one like unemployment, divorce, disability, etc. that triggers critical thinking. The second phase is one of judgement and estimation that Brookfield calls 'appraisal', where individuals identify and elucidate an apprehension, self-examine and look for others who have a similar inconsistency. The third phase is exploration where, after discovering inconsistencies, people search new ways of explaining them, try new ways of thinking, new concepts when seeking meaning. The fourth phase is about developing alternative perspectives. Apps (1985) calls this stage the transition between the old and the new ways of thinking. The final stage is of integration of the new ways of thinking into our lives that may involve transformation of certain approaches and of some traditions, though, there is always the possibility to confirm current postures.

On the other hand, in 1956 Benjamin Bloom et. al. outlined six levels of critical thinking to outline a taxonomy of educational objectives that went from the basic knowledge of a subject to higher levels of critical thought. "The

framework was conceived as a means of facilitating the exchange of test items among faculty at various universities in order to create banks of items, each measuring the same educational objective.” (Krathwohl, 2002, p. 212). The six categories in the cognitive domain, i.e. knowledge, comprehension, application, analysis, synthesis, evaluation, were ordered from simple to complex. According to Churches (2008) it is in the 1990’s that Lorin Anderson, a former student of Bloom, revised his taxonomy and published a revised version in 2001. Adams (2015) comments about the changes made to the taxonomy.

The original six categories were retained, but some of them were renamed, others were interchanged, and the noun forms used to label them were changed to verb forms. Therefore, the knowledge category was transformed to remembering, comprehension to understanding, application to applying, analysis to analyzing, synthesis to evaluating, and evaluation to creating. Adams recognizes two important uses of the taxonomy. First, learning objectives become behavioral because they are focused on observing what learners can do as the result of education; and second, the learning objectives are ideal to encourage higher levels of cognitive skills in students, so they can accomplish more complex tasks that require deeper cognitive processing.

Bloom’s taxonomy has been used in various fields of education and has proven to have good results when used as a scaffolding tool to get students from the basic levels to the higher levels of thinking. Athanassiou, McNett & Harvey (2003) concluded, in a study made about critical thinking in a management classroom with undergraduate students at Assumption College in Massachusetts, that they considered the taxonomy tool is beneficial as they improved their skills; thus, they incorporated the information they were learning with the knowledge they already had about different topics to generate their own academic products which were more complex and effective.

Another study, made by Joseph (2016), discovered how much students in English language classes across five pre-university colleges in Bangalore,

India, used critical thinking in their classes. The study used the revised Bloom's taxonomy of educational objectives as a framework to survey students and collect responses that come from using selected chapters from their English texts. The results proved that most students use the lower thinking skills of remembering and understanding whilst several of them use higher thinking skills of applying, analyzing, evaluating, and creating. The study served to understand breaks in critical thinking and to recommend pedagogical tools that could help maximize the use of higher order skills in critical thinking.

Leroy (2011) proposes using Bloom's to sequence writing and defines nine possible ways of producing texts: model writing, where people display samples of genre; read literature and instruction on genre; brainstorm topics in free writing, maps, and outlines; reflect on how to improve ideas and ways of organization; write a first draft and obtain comments; peer review; revise notions and grammar; evaluate commentaries; assess product and perhaps write an alternative draft.

In addition, Betts (2008) comments on the challenge that designing a course represents for graduate students, since this symbolizes moving from basic knowledge and concepts to advanced applications of that knowledge. He emphasizes the need of setting appropriate learning outcomes, which are crucial for high quality courses. For that, Betts used Bloom's Taxonomy of educational objectives to guide the students from their basic levels of learning to higher levels of learning of synthesis and evaluation that allowed them to develop and assess an effective design of a course.

Students at tertiary level are expected to have the capacities of analysis, evaluation, and creation of content, which, according to Bloom's taxonomy, represents higher-order thinking skills, and not just those of remembering and understanding. However, those higher-order skills seem to be a challenge for many students. Bhangaonkar, Chu & Quek (2016) used a framework to design systems that support high level thinking called 'StoryTree'; the narrative-based version implements the introduction, middle and resolution structure to monitor thinking in literature synthesis tasks. The

results of the investigation proved that “the use of the narrative-based version of the StoryTree system helps students to produce reports that they perceive to be high on coherence and comprehensiveness.” (p. 6).

Granello (2001) reports the use Bloom’s Taxonomy as a pedagogical tool to improve literature reviews, and explains the cognitive complexity of knowledge, comprehension, application, analysis, synthesis and evaluation, involved in graduate written work. He accounts the different skills used by students in the various levels of the taxonomy: in the knowledge level, students only echo information from various sources; in the comprehension level they condense central ideas of the articles studied; in the application level, students make a selection of the most important points and findings from research papers that are useful for their investigation; in the analysis level, they use the information found to support the thesis of their papers; in the synthesis level, they incorporate and merge ideas to produce their texts; finally, in the evaluation level students can determine the quality of researched papers, based on tangibly distinct standards.

Granello proposes some tips to move to the next level: in the remembering level he indicates that it is necessary to make summaries of the most important ideas from articles consulted, and he highlights the necessity of paraphrasing to avoid plagiarism; in the comprehension level he suggests stating a connection between material read and the work being developed to determine if the information should or should not be included in the paper; in the application level, he advises refining questions to determine important elements of source articles, and measuring if conclusions are based on findings; in the analysis level, Granello recommends working with numbers and evidence from other researchers to sustain one’s thoughts; finally in the synthesis level, he endorses developing the ability of identifying strong points of supply from weak points of supply and focusing on cultivating an appropriate methodology of research.

## **4.5. Critical thinking in the classroom**

Can education improve the ability to think critically? In the words of Bain (2004), effective teachers give students authentic tasks and confront them with challenging problems that awake their need to rethink their assumptions and engage as deep learners. According to Halpern (2013) there is evidence that it is possible to use education to improve critical thinking skills, especially when it is designed to boost the transfer of these skills to different areas of language. In a critical thinking course, students learn different skills to enhance their performance. "These skills include understanding arguments and beliefs of others, critically evaluating those arguments and beliefs, developing and defending one's own well-supported arguments and beliefs" (Bassham, Irwin, Nardone & Wallace, 2010, p. 7).

Therefore, critical thinking involves thinking straight to identify, examine and estimate arguments and truth claims. It also means to overcome personal biases, to prepare and present conclusive explanations in support of conclusions, and to make rational, smart decisions about what to believe and what to do. Bassham, Irwin, Nardone & Wallace (2010) propose some critical thinking standards. First they mention clarity. In their opinion, people do not communicate clearly for reasons like negligence, lack of ability, or simply to appear astute. Next, they comment on precision, and describe it as the relevance critical thinkers give to finding problems and the alternatives. After, the authors refer to accurateness, and qualify critical thinkers as passionate for accurate information and as individuals who need to be as informed as possible. Finally, they highlight the importance of staying focused on relevant ideas and information, on the need of becoming aware of possible inconsistencies, on the significance of deep thinking, and on the necessity of being fair, impartial and free of biases.

On the other hand, Halpern (2013) proposes a four-step model for critical thinking instruction. The first one is about the explicit instruction of critical thinking skills like "seeking out contradictory evidence, using metacognitive knowledge, making risks, give reasons for choices, recall relevant information, understand basic research principles, synthesize information

from a variety of sources, demonstrate and advanced ability to read and write complex prose”, etc. (p. 19). The second step is related to the disposition for effortful thinking and learning, and about this, Halpern states the need of developing motivation to work following a plan, to go through accuracy, to look for information and to persevere in finding the solution to a problem. Halpern (2013) suggests refraining from giving answers with the first ideas students find after hearing a question.

Planning is necessary to prevent giving responses that will not be effective. He also mentions that close minds have negative ideas, do not want to consider new points of view about a topic, and do not want to change previous ways of thinking, or see things from another person’s perspective. Open minds are necessary to gather more information, to clarify issues, to suspend judgment. The third step is the transfer of training.

Halpern suggests that the issue in learning thinking skills is that sometimes there are no signals in the context to activate the recall of the thinking skill. “Critical thinkers need to create the recall cues from the structural aspects of the problem or argument so that when the structural aspects are present, they can serve as cues for retrieval” (p. 25). In other words, we should be able to transfer thinking skills in a way that although there are no apparent signals, those signals become salient.

The last step is about metacognitive monitoring. Flavell (1979) defines metacognitive knowledge as “...one’s stored knowledge or beliefs about oneself and others as cognitive agents, about tasks, about actions or strategies, and about how all these interact to affect the outcomes of any sort of intellectual enterprise” (p.1). In addition, Hacker, Dunlosky & Graesser (1998) sustain that:

“Metacognitive thoughts do not spring from a person’s immediate external reality; rather, their source is tied to the person’s own internal mental representations of that reality, which can include what one knows about that internal representation, how it works, and how one feels about it” (p. 3).

For Halpern (2013), metacognition is the “‘boss’ function that guides how adults use different learning strategies and make decisions about the allocation of limited cognitive resources” (p. 27).

#### **4.6. Barriers to critical thinking**

Bassham, Irwin, Nardone & Wallace (2010) mention several common reasons why many people find critical thinking so difficult: “lack of relevant background information, poor reading skills, bias, prejudice, egocentrism, peer pressure, conformism, sociocentrism, unwarranted assumptions, narrow-mindedness, stereotyping, denial, wishful thinking, short-term thinking, relativistic thinking, selective perception, selective memory, overpowering emotions, self-deception, face-saving, fear of change” (p. 11).

According to the authors, egocentrism, sociocentrism, unwarranted assumptions, relativistic thinking, and wishful thinking are the elements that have an influential role in obstructing critical thinking. First, there are two aspects involved in egocentrism, self-interest thinking and self-serving bias. Almost every one defends beliefs that match their self-interests without considering that what is good for one may not be good for someone else. Critical thinking demands that we weigh evidence and arguments objectively and impartially because we must look up to truth even when truth is not of our like.

On the other hand, self-serving bias is a common inclination to overestimate oneself. If we do not consider our strengths and weaknesses in problem solving, self-serving bias will become an obstacle to intellectual development. Next in description is sociocentrism, which is related to group-centered thinking. In sociocentrism two main ideas emerge: group bias, related to an unconscious tendency to see our family, community or nation as better than others, and conformism, related to the tendency of following the crowd for the desire of being accepted and to conform to a group principles and opinions.

Other factors that Bassham, Irwin, Nardone & Wallace present as reasons to obstruct critical thinking are unwarranted assumptions and stereotypes. “An



unwarranted assumption is something taken for granted without good reason” (p. 16), and stereotypes are beliefs that may or may not accurately reflect reality, because typically, stereotypes are based on small samples; thus, if we are aware of these two factors, we should avoid making our decisions based on assumptions or stereotypes. Next is the presence of relativistic thinking, the view that truth is a matter of opinion, with two popular forms, subjectivism and cultural relativism.

The former is related to thinking that truth is a matter of personal estimation of a phenomenon, and the latter is related to the view that truth is a matter of collective and social opinion. Finally, wishful thinking can also obstruct critical thinking because people tend to believe something not because they have proof, but simply because they want it were true.

#### **4.7. Applying critical thinking to academic writing**

“Critical thinking is designed to help writers to recognize the way in which writing follows from thinking, not by memorizing a formula, but by understanding that relationship” (Vallis, 2010, p.5). In preparation to writing critically, individuals ask real life questions to themselves to come to a reasoned conclusion that will solve a problem, and not the other way around, which is trying to answer a question to solve an issue as it is commonly understood.

When writing, it is necessary to question the validity of a topic and find the reasons why the proposed topic is grounded on shared or individual ideas. In addition, academic writing is a creative process: “The way individuals think through things that they encounter may require an intuitive or experimental willingness to imagine other possibilities. Such thinking often yields unconventional answers to which people would not necessarily have arrived by more formal means” (Vallis, 2010, p.21). An example of this creativity is trying to answer riddles which commonly appear to be unsolvable: what has four eyes but cannot see? *Mississippi*.

But critical thinking is not only about asking questions, it is also about how to get to them. It is a continuing self-corrective habit-of-mind that aids

academic writers in the examination of the features that impact the way they think, how those features can bias their thinking, and the restrictions. Therefore, finding a reason to write and making critical questions to guide writers to avoid bias is the first and one of the central steps in academic writing. It demands some kind of specialized knowledge on the field being researched, so this makes students feel intimidated by the fact that there are several scholars that have been studying certain topics for years.

According to Vallis (2010), what divides students from scholars is not their advanced degrees; it is the fact that students think that everything has been written about a certain topic, whereas “scholars tend to know that the conversation is still open, and any good question can lead to a new way of looking at something, and therefore can produce new knowledge in any given field” (p. 33). Curiosity is needed, not only specialized knowledge; critical thinking is not only about asking questions that need answers, it is a long challenging process of analyzing arguments, questioning beliefs, drafting and redrafting to clarify ideas and to create a product with a personal point of view.

In preparation for making a personal argument, as stated before, information needs to be thoughtfully analyzed, and in this process critical thinking is at play. Robinson (2017) recommend to see what other people say about the topic of investigation and to take notes of the writers’ thoughts and of one’s own questions and responses to them. Sometimes individuals will read documents which are trying to persuade them to agree with the writer, and other times they will be just posing a point of view and not attempting to change their minds. In writing an analysis of a document, writers should mention information about the author’s purpose and the methods, and next state their own thesis that should come from the evaluation of the author’s arguments and is supported as well.

Robinson (2017) also recommend individuals should recognize the purpose of the material they are reading by noticing the author’s self-presentation and the piece’s positive or negative effects, and commenting on it; this can be done by identifying the types of words used to write descriptions, how data is

presented, and how subjective or objective they can be when writing their arguments. “Failure to understand the author’s intention can cause problems for all levels of comprehension, from ‘getting the idea’ to subtle insights expected of skilled readers” (Bruce, 1980, p. 380, as cited by Barr, Pearson, Kamil & Mosenthal, 1996).

Another significant point the authors mention is the importance of writing with an audience in mind. Learners are not supposed to write only for the teacher, they are supposed to write for a more general audience who, at some degree, shape the tone and the essence of the argument. They must have in mind that the audience is literate, is intelligent, and has their own points of view, so the learners give enough information in their attempt to respond to a problem. The audience may know more or less than the writer, but the information given has to be well supported so the readers can make an intelligent decision about the validity of arguments.

#### **4.8. How to promote critical writing**

Halpern (2013) comments that an attitude towards developing critical thinking skills must be encouraged in students, where they are ready to plan, to be flexible, to be persistent, to read or listen to other points of view and to be mindful and ready to reach consensus. She also suggests that critical thinking is a slower type of thinking where students weigh evidence, evaluate theories and judge authority.

Bean (2011) quotes that when students write papers that only restate what authors say about a topic, they are not engaged in formal academic writing that demands analytical and argumentative thinking. This type of writing is originated in a problem or a question and entails analyzing different points of view and different ways of thinking; this may cause a type of uneasiness in the writer who needs to put all the thoughts together to find the right answer to a problem or a question, and develop reasons for arguing about one stand or another. Therefore, Bean proposes the following strategies to develop thinking skills: creating cognitive dissonance for students, presenting knowledge as dialogic rather than informational, teaching the academic

'moves' and genres, and creating opportunities for active problem solving that involve dialogue and writing.

Zull (2002) explains that what psychologists call *cognitive dissonance* is what makes students leave their comfort zone of their own ideas and beliefs to see things from a different perspective (as cited by Bean, 2011). For Zull, the networks of neurons that contain knowledge have to be undone to rearrange and create new networks with new knowledge; for that, teachers must give the students tasks that demand them to question their beliefs and to try to give a better explanation to questions and problems.

Besides the cognitive dissonance, Bean proposes presenting knowledge not as information to be told in class, but as dialogues that present opposing views, where students have to not only read books and listen to lectures, but to defend or attack different thesis related to the topics of study. In relation to "moves", there are some that are common in several disciplines; Bean mentions: "they say/I say", "Yes, no, OK but", "so what?" These moves will make the students agree, disagree, extend, say why some arguments are more important than others, summarize different points of view or sum up a contribution that will add to the knowledge presented by different authors.

It is also useful to teach the students about the different genres within disciplines so they can write a report, a proposal, a business plan, etc. Finally, Bean discusses the importance of giving the students tasks where they have to solve problems, answer questions, deliberate on course readings and use the information given in class to write papers and to debate.

#### **4.9. Steps for integrating writing and critical thinking**

According to Paul & Elder (2002), "critical thinking is the disciplined art of ensuring that you use the best thinking you are capable of in any set of circumstances" (p. 7). They imply that even though thinking is natural to all people, consistent high quality thinking does not come easy. In addition, this type of thinking requires intellectual work, and it is hard to keep at a high level; critical thinking requires people willing to commit, to do hard work and

to practice. For them, developing into a thinker requires people to explicitly notice the thinking they are doing and to become committed to “recognizing both strengths and weaknesses in that thinking” (p. 10). In their words, critical thinking requires the integration of three dimensions of thought: the idealistic, the realistic and the pragmatic; the latter will lead people to engage in real actions for reaching their ideals. In other words, critical thinking makes people more prosperous, more positive and better citizens.

Finally, Paul & Elder (2002) define a well-cultivated thinker as someone who makes questions and formulates them openly and accurately and collects, evaluates and interprets relevant material; a good critical thinker comes to reasoned inferences and tests them against important principles; an effective critical thinker “thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and communicates effectively with others in figuring out solutions to complex problems” (p. 15).

Critical thinking and writing are connected because as in critical thinking individuals ask questions, answer them, and regulate thought processes to proceed in a proper way; this process mostly happens in writing.

According to Bean & Weimer (2011) there are several steps teachers can take to integrate writing and critical thinking activities into a course. They propose that the first step should be teachers and students being aware of what critical thinking is.

Throughout this paper, critical thinking has been defined under the glass of several authors; what is important here is to mention the connections Bean & Weimer find with writing. They mention that writing is a process and a product. It is a process where people do critical thinking and a product because writers communicate the outcomes of that critical thinking in writing. It is expected the product be interesting and show it is the answer to questions aroused by a prompt.

Experienced writers analyze subject matter problems and rhetorical problems when they develop their papers. The first one refers to writers trying to give

supported answers to presented issues based on reasons and evidence, and the latter refers to writers asking themselves questions that will guide their products to the correct audience, to the correct use of conventions, to the intention of the paper and to the possible new alternatives that have not been proposed before to solve a problem.

The second step is based on Kurfis (1988) eight principles for designing a course that supports critical thinking (as cited by Bean & Weimer, 2011): critical thinking is an acquirable skill, problems are a source of incentive, effective courses balance challenges to think critically with learners' developmental needs, courses are task centered, learners are required to articulate and defend their ideas in writing, students work together to learn, they are taught problem-solving skills; the evolving needs of students are acknowledged to plan the course.

The third step is related to designing critical thinking tasks for students to address. The type of tasks will depend on their level of knowledge and expertise and on their commitment with the subject matter; the point here is to motivate their curiosity and encourage learning.

The fourth step mentioned by Bean is about developing a range of ways to give critical thinking tasks to students that should be integrated in the course. The options proposed are: formal writing assignments, thought-provokers for exploratory writing, small group tasks that demand collaborative learning, critical thinking problems as starters for class discussion, and practice exams that students can do at home to received feedback through in-class discussion.

The fifth step proposes the development of strategies to include exploratory writing, talking, and reflection in our courses. The strategies will teach students not to jump to conclusions too quickly, but to work on judgment, oppose some points of views, and evaluate evidence; in addition, reflective tasks are "aimed at encouraging students to think metacognitively about their own thinking processes, to connect learning in one course to other courses or to their own lives, to transfer skills from one setting to another, and to

integrate their learning” (Bean & Weimer, 2011, chapter 1, section 5, paragraph 1).

The sixth step is about teaching students strategies of how to use evidence to support claims. Different disciplines gather and use evidence differently; some get it from observations of natural or cultural experiences, others from numbers, from statistical analysis, from ethnographic annotations, from transcripts, from interviews, etc. “Still others analyze aural, visual, or verbal texts housed in libraries, historical archives, art galleries, museums, popular media archives, or websites” (Bean & Weimer, 2011, chapter 1, section 6, paragraph 1).

The seventh step intends to coach students in critical thinking. Training in critical thinking is necessary through “guiding discussions, critiquing solutions, writing comments on students’ drafts, holding conferences, sharing autobiographical accounts of their own thinking and writing processes, discussing strengths and weaknesses of sample papers, breaking long assignments into stages, and stressing revision and multiple drafts” (Bean & Weimer, 2011, chapter 1, section 7, paragraph 1). Finally, step 8 suggests treating writing as a process. Teachers must encourage learners to write several drafts that should be revised by peers and teachers before delivering the final product.

#### **4.10. Skills for writing academically**

People write for several purposes such as for pleasure, to give technical information, to convince, to challenge a reader, to express a point of view, to write a report, a book a poem, etc. Elder & Paul (2014) present several interesting ideas about writing. They state that the purpose of writers makes an influence in the tools they use when writing, and they also acknowledge that there are important writing skills that are necessary to produce a text that has depth and meaning. They call this type of writing substantive writing which requires a reflective mind that has a purpose and precise objectives when writing. A reflective mind is critical and “it assesses what it writes for clarity, accuracy, precision, relevance, depth, breath, logic, significance, and fairness” (Elder & Paul, 2014, chapter 1, section 5, paragraph 1).

The reflective mind does this while reading, listening or writing; therefore, if the writer is communicating a message that is difficult to understand, then the text should be explained in more detail and with enough examples to connect ideas with the writer's experience. In addition, writers must have in mind that their perspective may be different from the readers' viewpoint; therefore, the better they are at understanding the readers' outlooks and convictions, the better they comprehend their own.

For Elder & Paul, there are some basic structures to all reasoning that are necessary to think at a higher level: "we think for a purpose within a point of view based on assumptions leading to implications and consequences. We use concepts, ideas, and theories to interpret data, facts, and experiences in order to answer questions, solve problems, and resolve issues" (Elder & Paul, 2014, chapter 1, section 6, paragraph 3). They compare the work of creating a paragraph with building a house by saying that the house must have a design and foundations and an entrance as an introduction in a paragraph; it must have floors that connect through stairways, etc. Teachers cannot expect the students to build houses if they do not teach them how to do that.

According to Elder & Paul skilled writers think about the main topics and on all the information that may be required to make texts more accessible to readers. While writing, they question themselves the purpose of the writing, its coherence and its clearness, the effectiveness of the words used to write the text, its context, and its accuracy. Finally, they add that substantive writing involves choosing a topic that is worth saying something about, decide what to say about that topic, expand meaning, and give examples that are useful to clarify ideas. This involves connecting our writing to the readers' experiences by using metaphors and constructing analogies. Gentner and Smith (2012) define analogical reasoning as "the ability to perceive and use relational similarity between two situations or events" (p. 130). For them analogy is at the center of higher-order thinking since this aspect of human cognition allows people to solve problems and helps them in decision-making practices, processes that happen in everyday life. On the other hand, the use of metaphors in EFL writing requires learners to have



knowledge of the target language and culture. In a study made by Chen and Lai (2013) conducted in an EFL writing class, students received specific instruction in metaphor teaching with a method called *metaphoric mapping*; it was proved that students increased the use of metaphors and creative analogies in their writing.

Since critical thinking processes like analyzing and evaluating thinking are essential when writing, Elder & Paul (2014) suggest that paraphrasing, using our own words when writing, is essential for writing substantively. Nevertheless, paraphrasing is not an easy task for EFL learners. Hirvela and Du (2013), in a study made with two Chinese students engaged in an undergraduate academic writing course, show that paraphrasing source text material is not an easy task for L2 writers.

The teaching of paraphrasing requires not only giving the students a set of skills and strategies to use in their writing; it requires observing the process of paraphrasing as a skill that needs to be developed and transitioned from “knowledge telling to knowledge transforming, and not assume that teaching word replacement and grammatical restructuring strategies is all that paraphrasing instruction is about”. (p. 97). Elder & Paul (2014) suggest using the following clarification strategies for paraphrasing: state basic points, elaborate basic points, and use analogies or metaphors to exemplify experiences lived by the writer.

Other skills writers should develop when writing efficient academic texts are coherence and cohesion. Bublitz (2011) acknowledges the similar relation there is between coherence and cohesion in terms of meaning, but he recognizes that cohesion is centered in inter-sentential semantic relations that focus on textuality, form and structure, whereas coherence he describes as a cognitive category that relies on the interpretation of the language user. In Kolln’s view (1999) cohesive categories include the use of transition words, personal and demonstrative pronouns, collocations, ellipses; on the other hand, coherence he describes as “cohesion on a global scale” (p. 94) because when describing cohesion, unified texts, development of sentences

into paragraphs, rhetorical considerations readers and writers possess, and writing genres must be considered.

Langan (2012) illustrates four steps people should take when writing: first, the writer should consider unity, which implies selecting a point of view and sticking to it throughout the paper; next, the writer must endorse his/her writing, which demands supporting that point with enough evidence and examples; then, it is essential the writer consider giving their text coherence, which entails organizing and connecting the information provided in the paper appropriately; and finally the writer should have good sentence skills, which implies writing sentences that are clear and error-free.

In terms of coherence, Langan (ibid) suggests that the writer should provide information that is easy to read because the writing a) is well organized, b) has effective transition words and c) uses other connecting words. To organize a paper properly, he proposes the use of time order and emphatic order devices: using connectors such as *first, next, then, after*, etc. represent the former; choosing the last position in a paper to mention its most important details through the use of other type of connectors such as *finally, last of all, and the most important* represent the latter.

To help readers succeed in understanding the writer's points of view, Langan suggests using transition words which are crucial to connect thoughts. He considers the use of words that show *time* and words that show *addition*, essential, because "they are bridge words, carrying the reader across from one idea to the next" (2012, p. 90). The author mentions time words such as *before, first, second, next, as, when, while, later, after, finally, then*, etc.; he also mentions addition words such as *one, first of all, for one thing, to begin with, another, also, in addition, next, last, finally*, etc.

Finally, he places *repeated key words, pronouns, and synonyms* in the category of *other connecting words*. Repeated key words are useful when the writer wants to tie ideas together or make the key idea clear for the readers; pronouns are essential to take the place of phrases or concepts and avoid unnecessary repetition. Lastly, synonyms are convenient to expand on variety by evading unnecessary recurrence of the same words. The use of

other cohesive devices are recommended by Ur (2012): 1) paraphrasing; 2) the use of conjunctions such as *and, but, yet, because, although, if*; 3) the use of sentence adverbs or adverbial phrases such as *however, on the one hand, in addition*; and 4) pronouns and possessives with antecedents such as *the one, she, their*.

As seen by Celce-Murcia, Brinton & Snow (2014), L2 writers deal with the use of cohesive devices at different stages in their learning path. “The structures used to create cohesion vary depending on text types, levels of formality, and goals of information emphasis and focus, posing a significant challenge for ESL writers” (p. 242). In addition, Hinkel (2002) reports that notwithstanding text length, “written discourse conventions require cohesion that, among many other important considerations, include appropriate use of tenses” (p.193). Therefore, it is important cohesion codes be held to the time frame of texts.

There are several issues in cohesion present in second language writers’ papers. Hinkel (ibid) reports that L2 writers mainly use pronouns, simple conjunctions and exemplification markers like *such as, an example, an instance, and an illustration* when selecting cohesive devices in their texts. Besides, Leki, Cumming, and Silva (2008) mention L2 writers make constant use of conjunctive ties such as *moreover* and *on the other hand* and they infrequently use lexical ties like *synonyms, antonyms, and classifier nouns* (as cited in Celce-Murcia, Brinton & Snow, 2014).

Connor (1984) conducted a study of cohesion and coherence in which ESL learners’ writing was compared to native speakers’ writing. In terms of cohesion, it showed that ESL writers do not use the various lexical cohesive devices native speakers use; in terms of coherence, the study proved L2 writers lacked: “1) adequate justification for claim statements, and 2) sufficient linking of concluding statements to preceding subtopics of the problem” (p. 1). Ghasemi (2013) reports about the connection between the uses of cohesive devices (CDs) and the quality of the writing studied by different EFL/ESL investigators.

One of the results of the investigation revealed that compositions where students used more CDs did not necessarily prove to be more coherent, and that the CDs employed in their writing were overused. Another outcome of the study indicated that students prefer to repeat words instead of using synonyms and antonyms when supporting their ideas. In addition, the quality of the papers written is related to how well the CDs were used. On the other hand, it was proved that students with similar socio-cultural backgrounds use similar linguistic and textual resources in meaning construction as reported by Castro (2004). He made a study of Filipino college freshmen writing in L2 English, and examined their social construction of meaning. It was verified that there were no differences in the use of grammatical cohesive devices at low, mid and highly rated essays, and that Filipino's most common ways of using grammatical cohesiveness were through lexical repetition and the use of synonyms.

Developing an argument also plays an important role when writing academically. Stirling (2013) recommends doing so when presenting opinions to persuade an audience. He defines a successful argument as one that informs and demonstrates coherence, which determines the clarity and the logical sense of a text. He suggests a coherent text should be organized deductively or inductively; it should have progression, from general to specific or from specific to general; it should have development, i.e. introduction, body and conclusion; in addition, a coherent text should have topical and grammatical unity, and the language used should include a varied word choice, idioms, and sentence variety. He also recommends using rhetorical strategies to cause a good impression and make a paper more effective. He suggests using: narration to order events in time or chronological order; process to put affairs in sequence; description to portray images by the use of adjectives and adverbs; illustration to support ideas; compare and contrast to show similarities and differences between two items; cause and effect to explain action and result; definition to describe a subject; and classification to categorize ideas into topics.

On the same grounds, Langan (2012) recognizes nine different patterns of paragraph writing that are important for students to write coherently. One of

the patterns is about developing an essay with emphasis on exemplification. For the author an essay that emphasizes exemplification uses examples or real illustrations to influence the readers on believing what is written on a paper. Another pattern talks about an essay with emphasis on narration. This type of essay will try to make a point and tell a story. For Langan, details play an important role to make it entertaining; in addition, order, description, and argument will make an influence in making the report clear and coherent. Developing an essay with emphasis on description is another pattern of paragraph writing. Langan describes this type of essay as one that makes the readers experience stories through the senses. "Vivid details are the key to good descriptions, enabling your audience to picture and, in a way, experience what you describe" (p. 319).

A different pattern of paragraph writing is developing an essay with emphasis on process. Langan defines this type of essay by highlighting that it will clarify the steps involved in a procedure or experience. The focus will be on providing instructions or information on a certain topic like the steps to apply for a scholarship for example. Another pattern involves developing an essay with emphasis on cause and/or effect. In his words, Langan adds that the purpose of this essay variety is to explain "(1) the causes of a particular event or situation; (2) the effects of an event or a situation; or, more rarely, (3) a combination of both" (p. 327). A different pattern of paragraph writing is developing an essay with emphasis on comparison and/or contrast.

For Langan the intention here is to write papers that portray how similar or different things are. Students would have to decide on focusing on the difference of similarities between things. An additional distinctive pattern of paragraph writing focuses on developing an essay with emphasis on definition. "When you write an essay that emphasizes definition, your main purpose is to explain to readers your understanding of a key term or concept, while your secondary purpose is to persuade them that your definition is a legitimate one" (p. 334). Developing an essay with emphasis on division and classification is an extra kind of pattern of paragraph writing.

The purpose of this type of essay is to introduce the audience with a particular way of separating and categorizing topics. Langan gives examples such as classifying types of clothing according to the function, the materials they are made from, by fashion, etc.; a narration or description should be included for the audience to clearly understand the students' point of view on a certain matter. Finally, developing an essay with emphasis on argument is the last type of pattern of paragraph writing, and its emphasis is on convincing the audience that one's point of view is the right one. "In addition, at time, you may have a second purpose for your essay: to persuade your audience to take some sort of action" (Langan, 2012, p. 342).

## **V. METHODOLOGY**

### **5.1. Context**

This research work set out in an attempt to identify whether the abilities that pre-professional level students need in order to succeed in writing their academic texts have been developed in their first three semesters of training at the English Language School and especially in their composition and academic writing classes. Additionally, the opinion of the teachers of the English School in relation to the thinking skills they encourage and develop in their classes was taken into consideration.

### **5.2. Participants**

The participants were 30 students that are currently taking the pre-professional semesters of their studies. Their age range is between 19 to 35 years, mostly females; they have passed their first, second and third semester at the School of English Language, which includes taking and passing courses like Composition, Introduction to Academic Writing, Academic Writing, Linguistics, Language Arts, among others. The teachers are all graduate professionals with no less than 5 years of teaching experience. Their age range stands between 30 to 53 years; they are 5 females and 4 males.

### **5.3. Research Design**

To estimate the methodology to be used in this thesis, it was necessary to identify the perspective and role that the researchers would take when recognizing and analyzing the problem. The type of research conducted was quantitative. Some of the characteristics of quantitative research are:

- Describing a research problem through a description of trends or a need for an explanation of the relationship among variables.
- Providing a major role for the literature through suggesting the research questions to be asked and justifying the research problem and creating a need for the direction (purpose statement and research questions or hypotheses) of the study.

- Creating purpose statements, research questions, and hypotheses that are specific, narrow, measurable, and observable.
- Collecting numeric data from a large number of people using instruments with preset questions and responses.
- Writing the research report using standard, fixed structures and evaluation criteria, and taking an objective, unbiased approach (Creswell, 2012, p. 13)

In terms of quantitative data collection, the author mentions that instruments for measuring quantitative data contain questions and possible answers previously prepared for the study. Among the instruments are survey questionnaires, standardized tests, and checklists properly selected to obtain information from teachers or/and students.

Ary, Jacobs, Sorensen, & Razavieh, (2010) comment that this type of research comes from positivism. According to the authors positivists consider that “general principles or laws govern the social world as they do the physical world and that through objective procedures researchers can discover these principles and apply them to understand human behavior” (p. 23). According to Schutz 1973, Behling 1980, Schon, Drake and Miller 1984, Burrell and Morgan 1979, Daft 1983 and Lee 1989 (as cited by Lee, 1991) the positivist approach has been acknowledged as a model which has extensive application in social science. Ary et al. (2010) add that positivism is the common scientific method where the researcher gathers data that can be analyzed by other researchers since the findings are precise and discernable. Cohen, Manion, & Morrison (2000) cite Giddens (1975) to mention two suppositions made in positivism. First, techniques selected can be used for social sciences purposes, where the researcher is an “observer of social reality” (p. 8); and second, researchers’ final product must be presented in a way that reflects natural science in *law-like generalizations*, which implies that the view of researchers is of interpreters of their topic of investigation presented for consideration in discussion.

Additionally, the scope of the study is nonexperimental because the researchers did not manipulate the variables; and inside this type of



research, the form used was survey research. Ary et al. (2010) note that survey research (also called descriptive research) proceeds using different instruments such as questionnaires and surveys to collect information from the sample population. "Surveys permit the researcher to summarize the characteristics of different groups or to measure their attitudes and opinions toward some issue" (p. 28). For Kothary (2004), "the main purpose of descriptive research is description of the state of affairs as it exists at present" (p. 2). Moreover, Creswell (2014) mentions that "a survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. From sample results, the researcher generalizes or draws inferences to the population" (p. 155-156). In addition, the author cites Babbie (1990) to state that the purpose of survey design is "to generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population (p. 157).

In addition, the study is fundamental in its purpose because fundamental research is, as Kothary (2004) mentions, focused on making generalizations and does not aim at discerning an answer to solve a problem that affects society which would be in the field of applied research. Fundamental research looks forward to expanding knowledge in an explicit research space. Finally, it can be said that the study is exploratory in its design. Kothary (ibid) makes a difference between exploratory or formalized design. "The objective of exploratory research is the development of hypotheses rather than their testing, whereas formalized research studies are those with substantial structure and with specific hypotheses to be tested" (p. 4).

#### **5.4. Instruments**

In 1991 Facione signaled the California Critical Thinking Skills Test (CCTST), which is a standardized test designed for College level, as the best commercially available critical thinking skills assessment instrument because of its multiple-choice items that access higher order thinking skills in contexts requiring developed critical thinking. He suggested that it is very useful not only in assessment, but also in research, evaluation and placement.

Nowadays, there are several other tests that have been promoted over the years to measure critical thinking skills. For example, The Foundation for Critical Thinking (n.d.), which promotes that the purpose of assessing instruction for critical thinking is improving students' abilities to think their way through content using their reasoning, sponsors one important instrument, the *International Critical Thinking Reading and Writing Test*, which provides evidence of whether students can 'read closely and write substantively'. The organization sponsors the tests because, if used appropriately and graded accurately, it can guide instructors to teach fostering critical thinking in their various subjects.

According to Paul & Elder (2006), this *International Critical Thinking Reading & Writing Test* assesses the capacity of students to use reading and writing as implements for getting knowledge. The authors put forward that reading helps individuals to construct meaning; for them, the most important and valid ideas are the ones that have been published, and if students want to write an opinion of a publication, they have to be able to identify important ideas and express significant opinions in clear objectives and precise language.

It is essential for students to develop the cognitive skills that are necessary for close reading. Paul & Elder (2006) claim that people who use critical thinking skills are immersed in constant reading of significant texts that have an influence on the refining of their beliefs about life. "If used successfully, the results of the test make it possible to determine the extent to which students have or have not learned foundational critical thinking, reading and writing skills" (Paul & Elder, 2006, Chapter I, section 3, paragraph 1).

The authors claim that when people read, they are able to differentiate the purpose of texts and will query, outline and tie prior knowledge with new knowledge. The expected outcomes include students deliberating as they read, making summaries of texts in their own words, creating a network of vital thoughts in a text with preceding understanding; moreover, it is estimated that students correctly paraphrase the information they encounter in texts, rationally explain the thesis of a paragraph, and analyze the sense of information provided, i.e. its objective, its main enquiry, the facts it covers, its

focal idea, etc. Furthermore, as Paul and Elder claim, it is projected that students can estimate what they read in terms of *clarity, accuracy, precision, relevance, depth, breadth, logic, and significance*, and they are also expected to role-play an author's viewpoint.

Therefore, for all the arguments mentioned, after careful scrutiny and after taking the steps provided by the test authors, it was decided to give this test— *The International Critical Thinking Reading and Writing Test*—to the target population to define the state of their critical thinking and writing abilities.

The test has five levels of close reading and substantive writing. The first level is paraphrasing, which is translating an author's wording into our own. The second level is explicating, where thinkers' ability to state, elaborate, exemplify and illustrate the thesis of a paragraph is measured. The third level is analysis. Here, students prove they have the ability to identify the author's purpose in writing a text, the most important question in the text, the most significant information, the most basic conclusion, the most basic concepts, theories or ideas, the most fundamental assumptions, the most significant implications of the text, and the point of view in the text. The fourth level is evaluation. Here the students evaluate a text using eight basic intellectual standards: clarity, accuracy, preciseness, relevance, complexity, consistency, significance and fairness. The fifth level of the test, role-playing, was not given to the students since it was identified that the first four levels would retrieve enough information concerning what skills students had been developing and which ones they still lacked. Moreover, Paul & Elder (2006) justify the fact that all the forms in the test need not be included when giving the test to students. They acknowledge that different combinations of the forms can be made according to the testing situation.

Paul & Elder, 2006, also provide specimen answers presented in a rubric with a scoring scale that go from 0-10. The responses the authors offer indicate how participants' answers should be rated. 0-2 points are to be given to unacceptable answers which are imprecise and/or vague. 3-4 points are to be awarded to poor responses: "The answer, though partially accurate

and minimally clear, is significantly inaccurate or misleading” (Chapter 1, section 10, paragraph 2). 5-6 points are to be granted to mixed level answers: “The answer is clear but not perfectly accurate. It is partially correct and partially incorrect” (Chapter 1, section 10, paragraph 2). 7-8 points are to be delivered to commendable answers: “The answer is well expressed, though with minor problems. It is basically correct and clear. Any misunderstanding is minor” (Chapter 1, section 10, paragraph 2). 9-10 points are to be provided to excellent answers: “The answer is accurate, insightful, clearly and precisely stated, and well exemplified (when an example is relevant). (Chapter 1, section 10, paragraph 2).

Although Paul & Elder (ibid) provide specimen answers for the test, the authors recommend that it is necessary to achieve reliability when scoring the examination. For that, prior to giving and grading the tests taken by the population, one faculty member and the test graders, who have a basic understanding of critical thinking, took the tests themselves and compared their answers to the authors’ specimen answers.

It is necessary to mention that test graders arrived to an agreement on the range of reasonable interpretations before applying the test to students. The grading rubrics were used for each individual answer within the forms chosen. An overall score for each form was obtained by scoring each part within the form and giving an average grade that represented an overall score for the form. Students were given enough time for completing the test, resources were provided, and answers were given to questions that arose during test time. They were encouraged to work at each part of the test trying to find answers with which they were satisfied. Out of the three test forms provided by Paul & Elder (ibid) in the *International Critical Thinking Reading and Writing Test*, the test chosen was the excerpt taken from the book *The Art of Loving* (pp. 1-2, 23-24, 47), written in 1956, by Erich Fromm (chapter 2, section 3), which provided an adequate topic considering the age and interests of the students.

In addition to this *International Critical Thinking Reading and Writing Test*, a survey designed by Wang and Farmer (2008) for a study about adult

teaching methods used in China and Bloom's taxonomy was adapted to be used with faculty teachers and students. Wang and Farmer's instrument was validated by five teachers of adults in a university in the United States who participated in a pilot study.

The authors describe Bloom's categorization of cognitive learning (1956), and mention that learning objectives are directed to the acquisition of knowledge, which represents the least complex objectives of cognitive processes, and to the representation of comprehension, application, analysis, synthesis and evaluation, which represent the most complex processes. The instrument Wang and Farmer (ibid) called Lower-Order Thinking Skills and Higher-Order Thinking Skills (LOTSHOTS), with adaptations, was used with the sample group of pre-professional level students of the School of English Language to determine the type of thinking skills faculty members endorse in their classes.

In addition, the same survey, also with adaptations, was given to teachers to define their perspective on the use of lower and higher thinking skills in their teaching periods. The verbs used by the authors in the instrument of observation, were selected according to Bloom's taxonomy, so they represented evident and assessable results. Thus, a high score on the knowledge level of the taxonomy represented evidence of teachers using only lower-order learning skills, and a high score on the evaluation level of the taxonomy represented evidence of teachers using higher-order learning skills with their students. The survey scale used to assess the level of agreement or disagreement to the statements provided was the Likert scale of 4=always, 3=usually/often, 2= rarely, 1= never.

Finally, a survey adapted from Keller and Cernerud (2002), who examined students' perceptions of e-learning at Jönköping University in Sweden, was used. It included questions related to how confident they feel on the use of a platform, the use of computers, internet connection and the intention of using the platform to improve their reading and writing skills.

## **5.5. Procedure**

The first step into researching the population's actual level of academic writing skills development was to apply the Critical Thinking and Writing Test to construct the actual profile of the group of students under analysis. The nature of the test is qualitative, but its results were systemized in the manner of statistics. Furthermore, through deductive analysis of the literature available concerning cognitive processes, it was possible to attain insights into critical writing skills by means of critical thinking and critical reading elements.

A second step included the conduction of a survey to explore the population's perceptions regarding the application of critical thinking activities and the cognitive processes encouraged by the teachers of the English School. It is a very well-known fact that a great number of teachers have been using Bloom's Taxonomy to help design their teaching and their assessment models ever since it was developed. Out of the six categories proposed by Bloom, the last four: application, analysis, synthesis and evaluation, require critical thinking levels of reasoning; these same four categories are used when attempting to evaluate critical writing (Schroeder, 2007).

Critical thinking tests rely on objective methods to evaluate students' abilities to not only describe, but also apply, analyze, synthesize, and judge. These tests demand a certain degree of cognitive training that includes thorough reading and knowledge of common features of academic writing. The results of the survey were classified according to the six levels of the taxonomy; they indicated the students' appreciation and the teachers' appreciation of the teaching modes used in class.

Finally, a similar survey regarding the application of higher level thinking skills within Bloom's Taxonomy was administered to the 9 teachers of the English Language School; this included variations regarding the way the questions were addressed. The results were then analyzed and consolidated in graphs that show the statistics of all the process described above.

## VI. DATA ANALYSIS

### 6.1. The international Critical Reading and Writing Test

The figures that follow represent four levels of close reading and substantive writing: paraphrasing, explicating, analysis and evaluation.

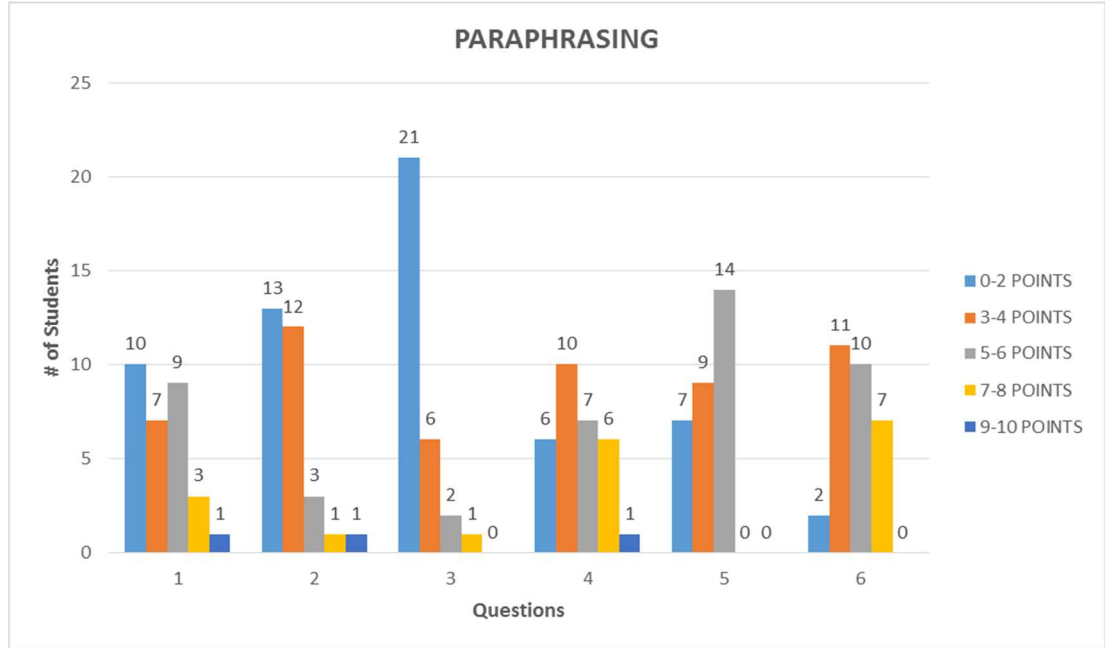


Figure 1: Paraphrasing, questions 1 to 6

Source: Critical Thinking Test applied to Sample Population

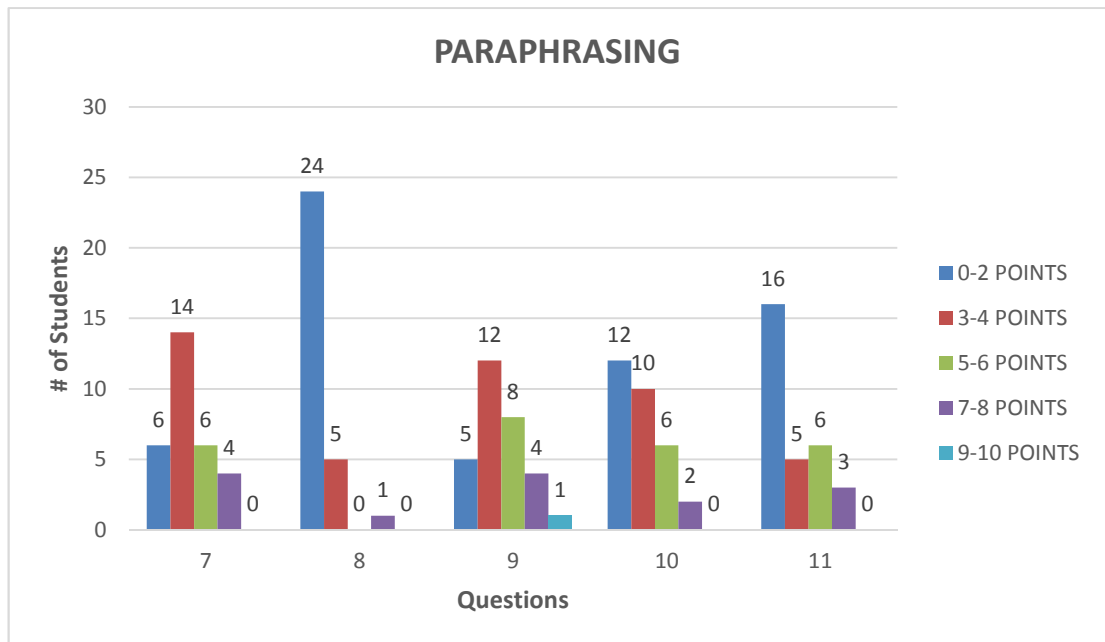


Figure 2: Paraphrasing, questions 7 to 11

Source: Critical Thinking Test applied to Sample Population

Figure 1 and figure 2 represent students' ability to paraphrase Form A, *The Art of Loving* sentence by sentence. The figures project that 36.97% of the students scored 0-2 points, which portrays their poorly developed ability to provide acceptable answers considering responses in this category are read as inaccurate and/or unclear as expressed in the grading rubrics provided by the test authors. Additionally, 30.61% of the students achieved 3-4 points which the test authors qualify as minimally skilled because even when they could be partially accurate and slightly clear, in the whole they are significantly inaccurate or misleading.

Then, the answers of 21.52 % of the students fell into the category of 5-6 points, which, according to the authors, implies clarity but not perfect accuracy. They view these type of answers as partially correct and partially incorrect. In addition, 9.7% of the students scored 7-8 points in their answers because their outcomes were commendable; i.e. basically correct and clear with minor misunderstandings. Finally, 1.2% of the students were awarded 9-10 points, of highly skilled writers, which means their answers were excellent; being the product accurate, insightful, and clearly and precisely stated.

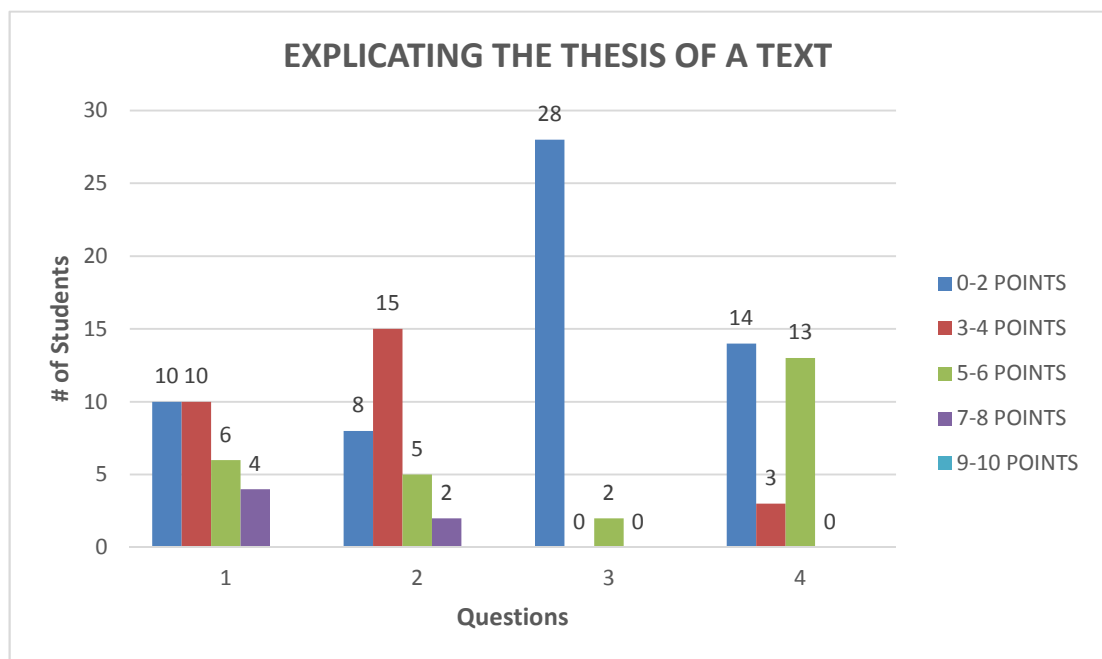


Figure 3: Explicating the thesis of a text, questions 1 to 4

Source: Critical Thinking Test applied to Sample Population



Figure 3 shows the results students achieved when trying to explicate the thesis of a text. For explicating the thesis of a text, people should have the skills to state, elaborate, exemplify, and illustrate the notion of a paragraph. The results from the test show that 50% of the students—most of them—scored 0-2 points which qualifies their answers as unclear; 23.33 % attained 3-4 points which means their responses were misleading, 21.67% earned 5-6 points, indicating that their production was partially correct and partially incorrect. Finally, only 5 % achieved 7-8 points which projects they created clear answers.

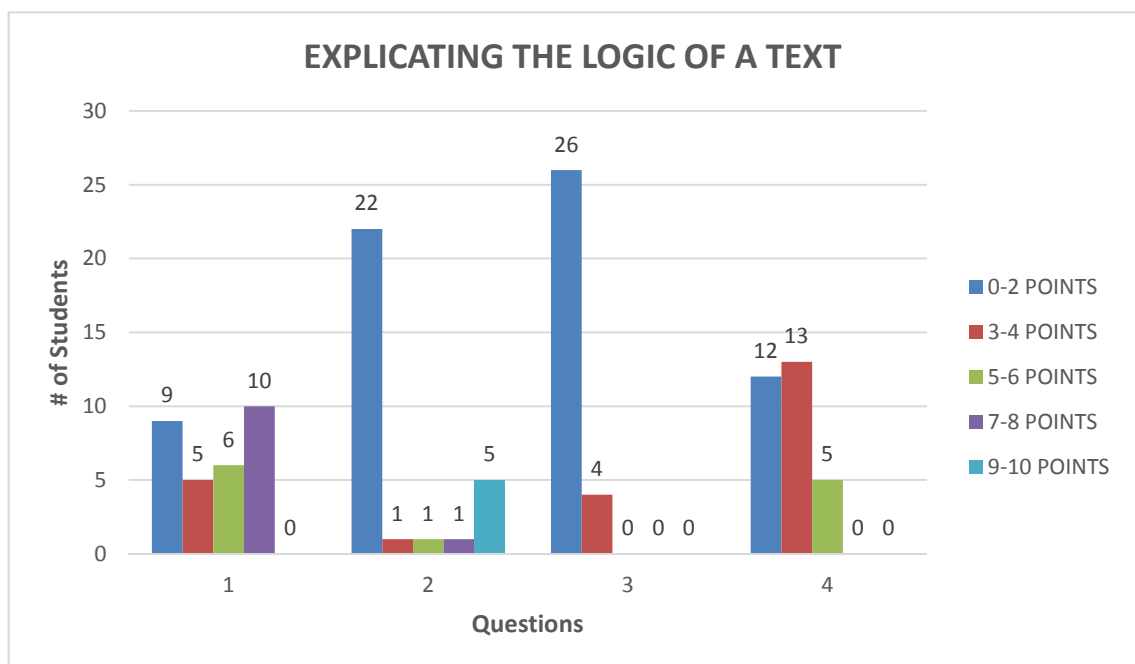


Figure 4: Explicating the logic of a text, questions 1 to 4

Source: Critical Thinking Test applied to Sample Population

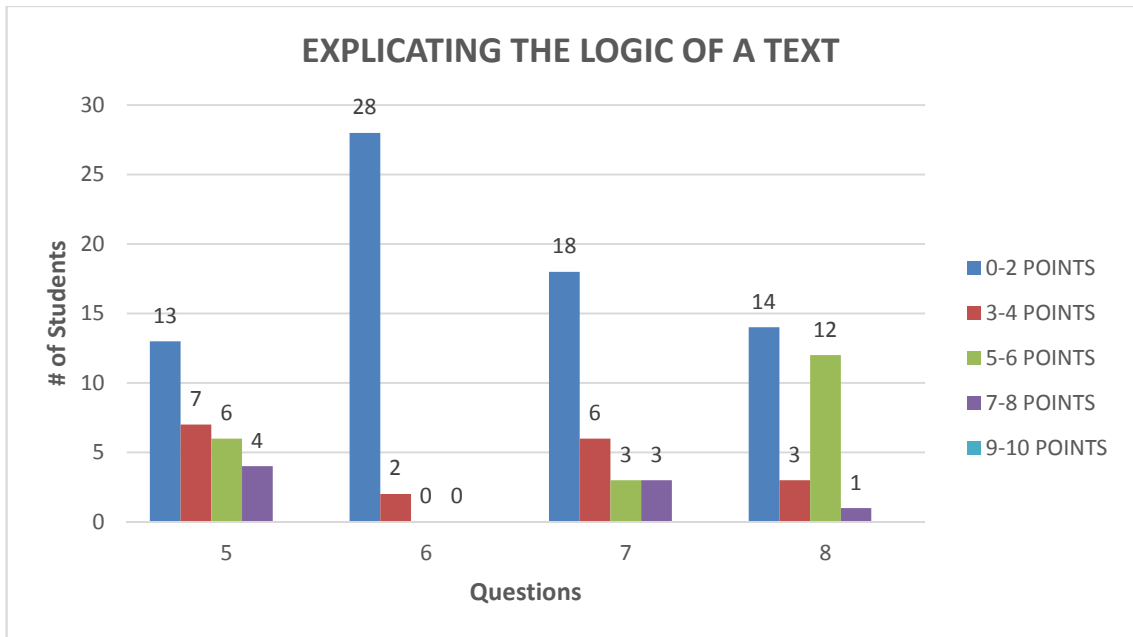


Figure 5: Explicating the logic of a text, questions 5 to 8

Source: Critical Thinking Test applied to Sample Population

Figure 4 and 5 show the results of students trying to explicate the logic of a text. For writers to be able to explicate the logic of a text, it is necessary that they identify the author's purpose in writing the text, the most important question, the most significant information, the most basic conclusion, the most basic concepts, the most fundamental assumptions, the most significant implications and the point of view in the text. The results show that once again more than 70% of the students provided poor responses in this section of the test. The sample population showed having difficulty in providing correct, accurate, and truthful answers that were not misleading.

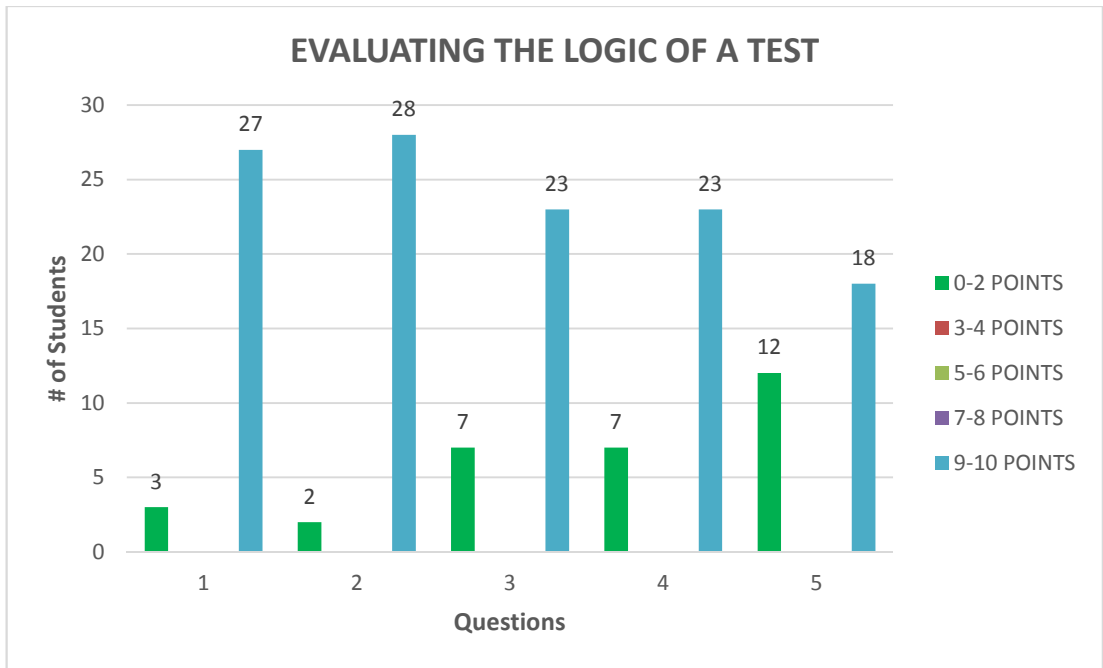


Figure 6: Evaluating the logic of a text, questions 1 to 5

Source: Critical Thinking Test applied to Sample Population

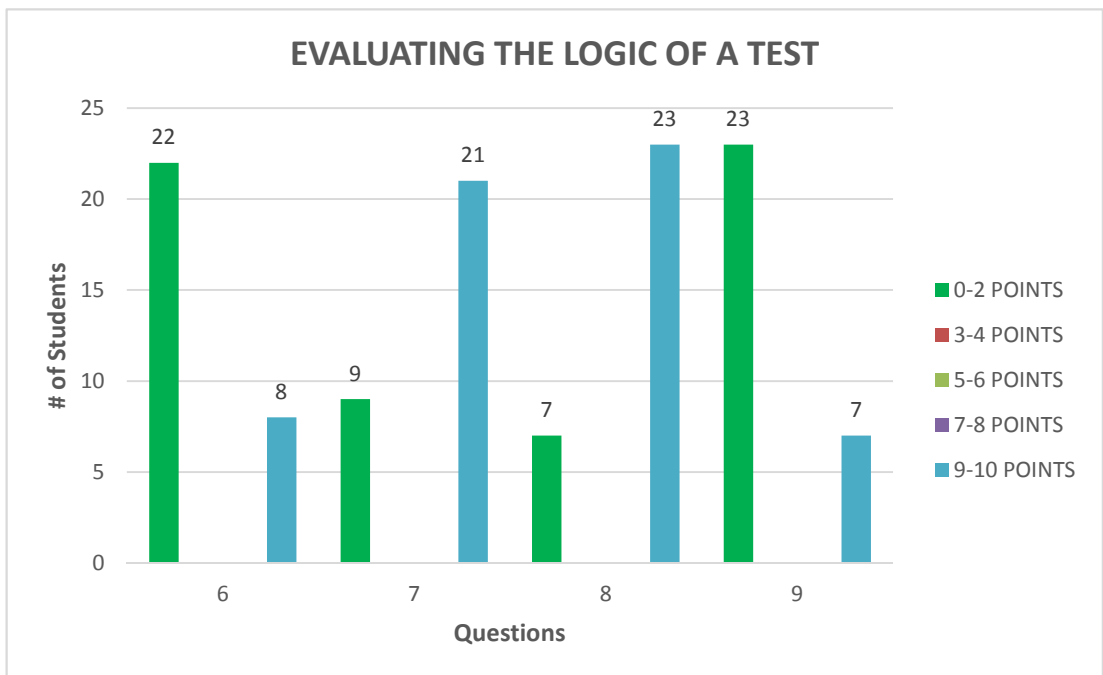


Figure 7: Evaluating the logic of a text, questions 6 to 9

Source: Critical Thinking Test applied to Sample Population

Figure 6 and 7 reflect the performance of students when evaluating the logic of the text (*The Art of Loving*). Tests results show that 34.07% of the students scored 0-2 points, and 65.93% of them achieved 9-10 points. These results imply that in this section of the test almost 70% of the students

are highly skilled evaluators of the logic of the text. They seem to understand the standards that rule on logic of texts.

## 6.2. Survey on the students' perceptions of the levels of Bloom's taxonomy applied in class by professors

Bloom's taxonomy has provided educators with a differentiation in the processes of thinking and learning. In the words of Forehand (2010) "The cumulative hierarchical framework consisting of six categories each requiring achievement of the prior skill or ability before the next, more complex, one, remains easy to understand" (p. 4). The following figures represent a summary of the percentages for the students' perceptions on how often the lower and higher order thinking skills, linked to Bloom's taxonomy levels of knowledge, comprehension, application, analysis, synthesis and evaluation are used in class.

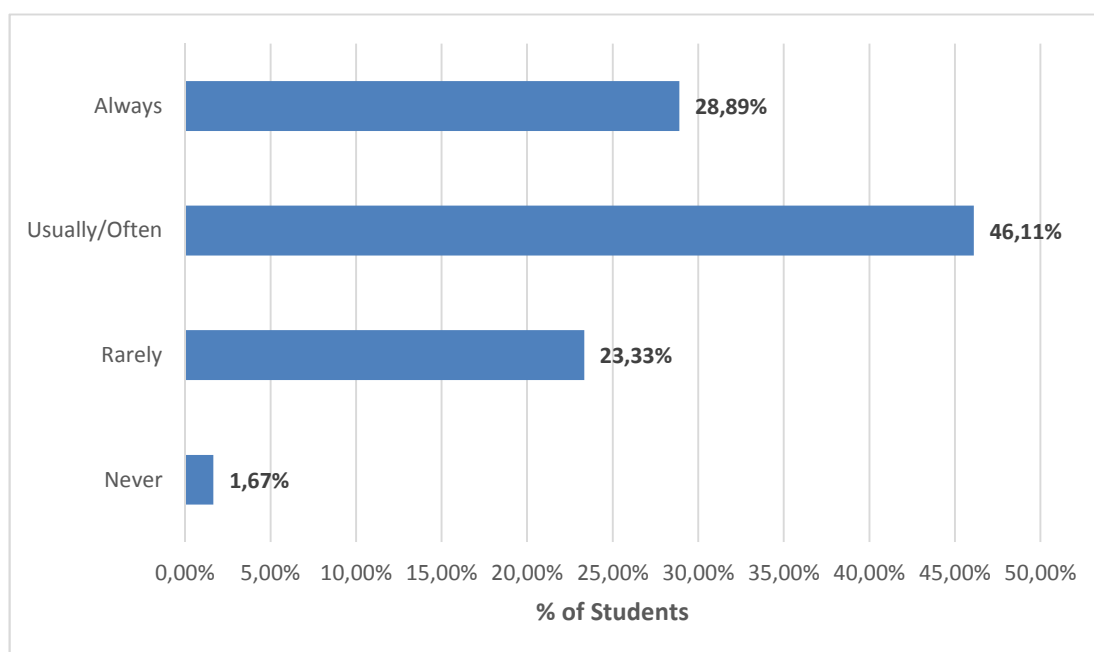


Figure 8: The First Level of Bloom's Taxonomy: Knowledge  
Source: Critical Thinking Test applied to Sample Population

Figure 8 shows the results of statements 1, 7, 13, 19, 25, and 31. These descriptions relate to the first level of Bloom's Taxonomy: *knowledge*. In the survey 75% of the students in the English School answered that their

teachers usually, often or always favor defining, memorizing, repeating, naming, recalling or labelling concepts.

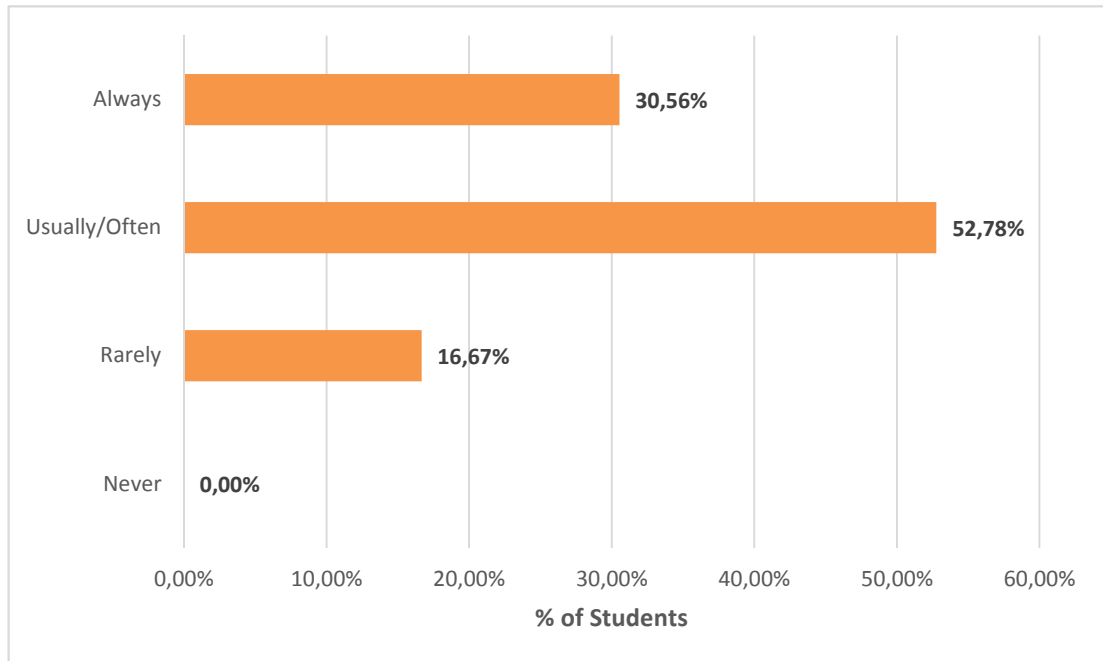


Figure 9: The Second Level of Bloom's Taxonomy: Comprehension

Source: Critical Thinking Test applied to Sample Population

Figure 9 shows the results of statements 2, 8, 14, 20, 26 and 32. These assertions relate to the second level of Bloom's Taxonomy: *comprehension*. Almost 84% of the students recognized in the survey that their teachers usually, often or always promote activities related to describing, discussing, explaining, identifying, recognizing and locating concrete concepts at this level of Bloom's taxonomy.

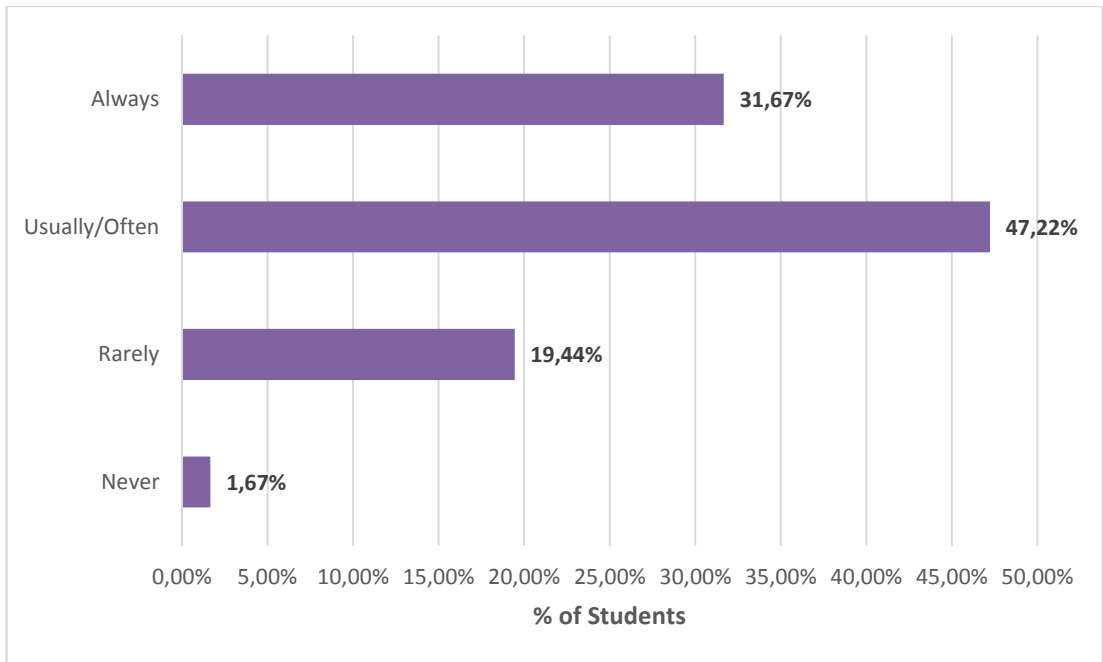


Figure 10: The Third Level of Bloom's Taxonomy: Application

Source: Critical Thinking Test applied to Sample Population

Figure 10 shows the results of statements 3, 9, 15, 21, 27 and 33. These comments relate to the third level of Bloom's Taxonomy: *application*. Nearly 80% of the students hold in the survey that their teachers facilitate applying, demonstrating, translating, manipulating, practicing and locating concrete objects at this level of the taxonomy during class instruction.

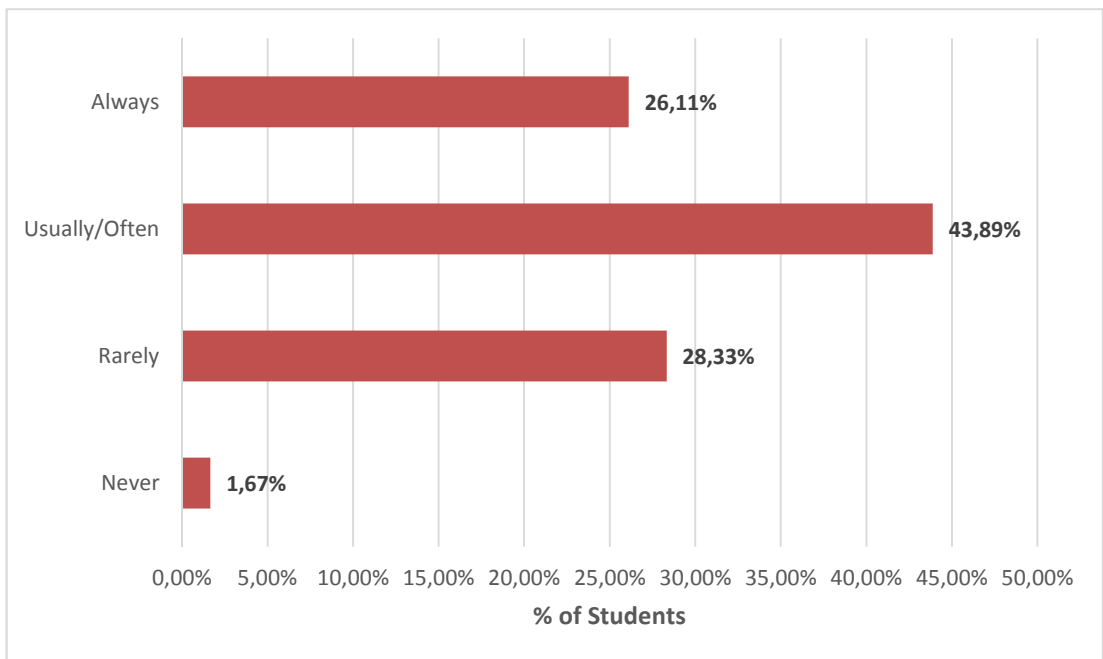


Figure 11: The Fourth Level of Bloom's Taxonomy: Analysis

Source: Critical Thinking Test applied to Sample Population

Figure 11 shows the results of statements 4, 10, 16, 22, 28, and 34. These descriptions relate to the fourth level of Bloom's Taxonomy: *analysis*. In the survey, 70% of the students agree that professors encourage activities where they have to distinguish, differentiate, compare, contrast, critique and examine rules and principles which are higher order thinking skills related to this level of Bloom's taxonomy.

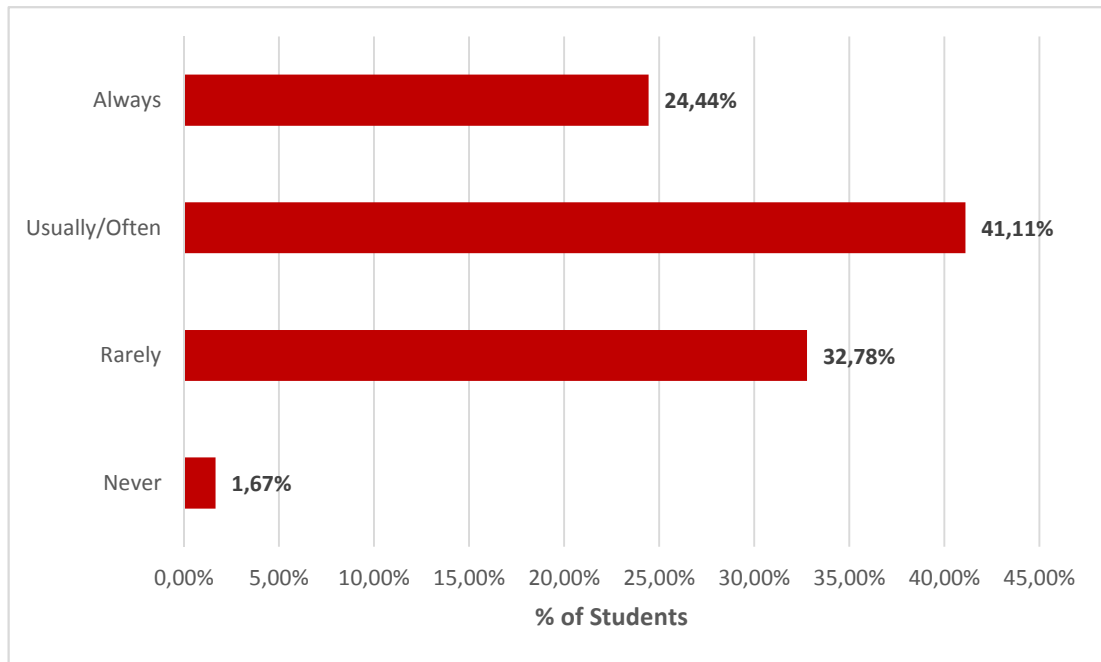


Figure 12: The Fifth Level of Bloom's Taxonomy: Synthesis  
 Source: Critical Thinking Test applied to Sample Population

Figure 12 shows the results of statements 5, 11, 17, 23, 29, and 35. These remarks relate to the fifth level of Bloom's Taxonomy: *synthesis*. In the survey, almost 66% of the students under analysis consider their teachers encourage the higher order thinking skills of planning, proposing, designing, arranging, organizing, and modifying problem solving activities at this level of Bloom's taxonomy.

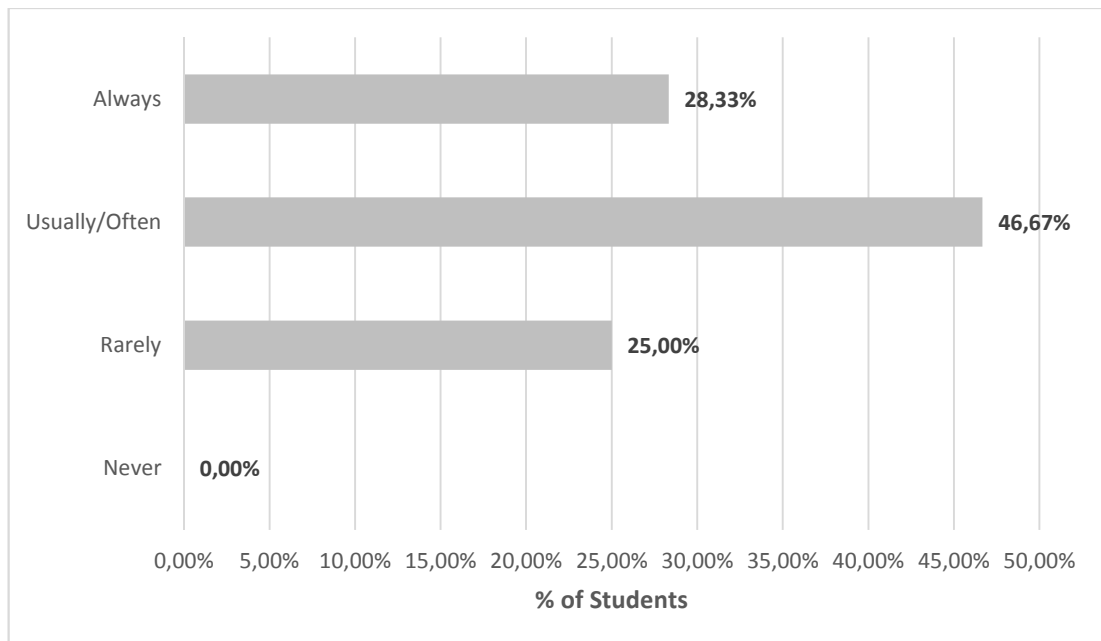


Figure 13: The Sixth Level of Bloom's Taxonomy: Evaluation

Source: Critical Thinking Test applied to Sample Population

Figure 13 shows the results of statements 6, 12, 18, 24, 30, and 36. These results relate to the sixth level of Bloom's Taxonomy: *evaluation*. In this category of the taxonomy, 75 % of the students signaled in the survey that their teachers usually, often or always create conditions within which they evaluate, rate, judge, justify, summarize and appraise their cognitive strategy at the *evaluation* level of Bloom's taxonomy.



### 6.3. Survey on the teachers' perceptions of the levels of Bloom's taxonomy they apply in class

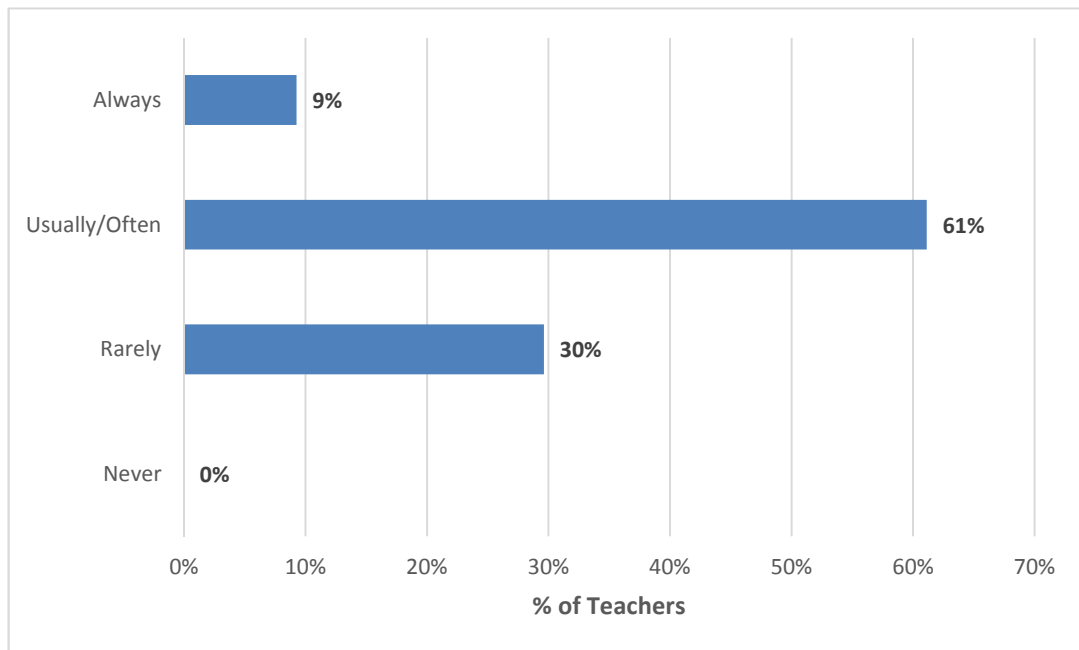


Figure 14: The First Level of Bloom's Taxonomy: Knowledge

Source: Critical Thinking Test applied to Sample Population

Figure 14 shows the results of statements 1, 7, 13, 19, 25, and 31. It reveals that most teachers promote activities in their classrooms where students have to define, memorize, repeat, name, recall, and label concepts. 30% of them acknowledged rarely asking their students to participate in these types of activities present in the first level of Bloom's taxonomy identified as *knowledge*.

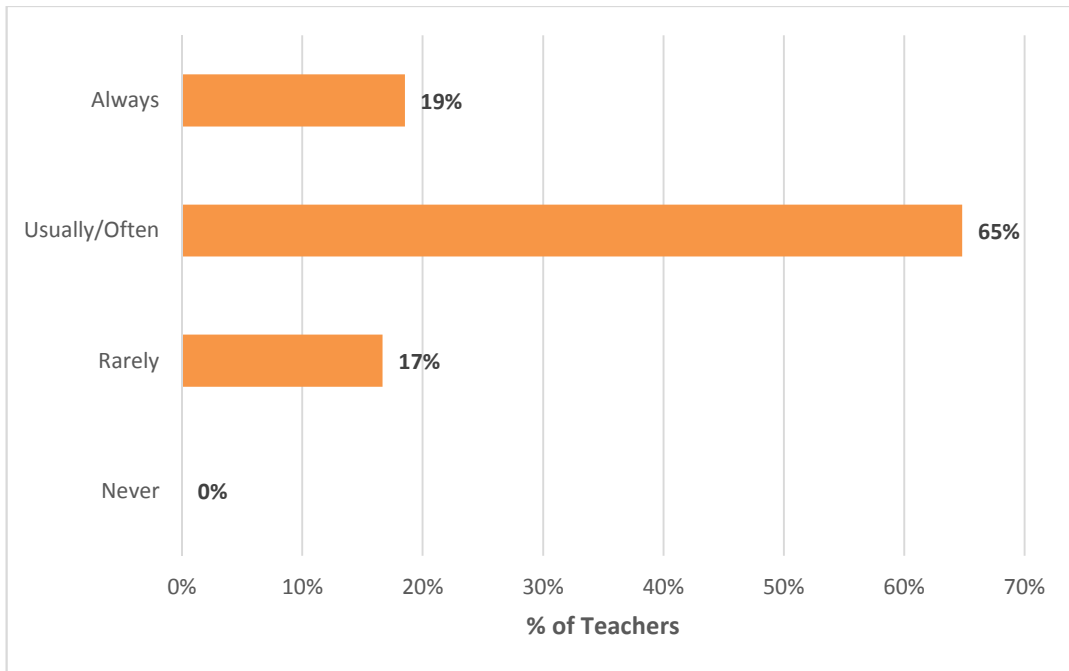


Figure 15: The Second Level of Bloom's Taxonomy: Comprehension

Source: Critical Thinking Test applied to Sample Population

Figure 15 shows the results of statements 2, 8, 14, 20, 26 and 32. It shows that the great majority of teachers plan activities in their classrooms where students have to describe, discuss, explain, identify, recognize, and locate concrete concepts. Only a 17% of them recognized rarely asking their students to get engage in working in activities that involve comprehension.

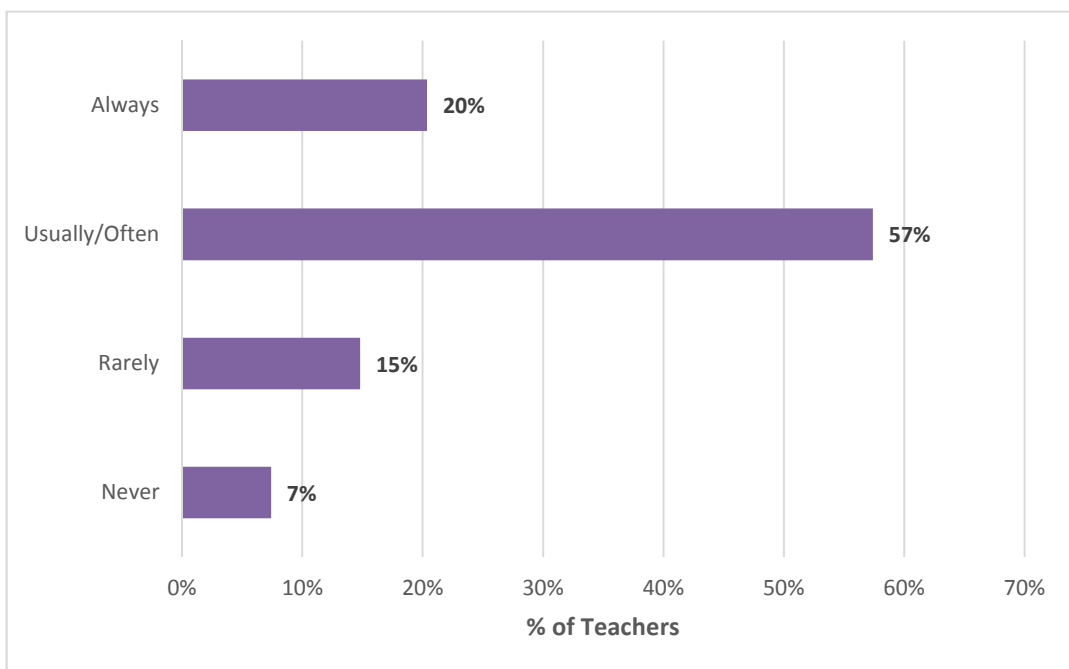


Figure 16: The Third Level of Bloom's Taxonomy: Application

Source: Critical Thinking Test applied to Sample Population

Figure 16 shows the results of statements 3, 9, 15, 21, 27 and 33. It displays that most teachers plan activities in their classrooms where students have to apply, demonstrate, translate, manipulate practice, and illustrate rules and principles. 22 % of professors declared rarely asking their students to get engaged in activities that involve application.

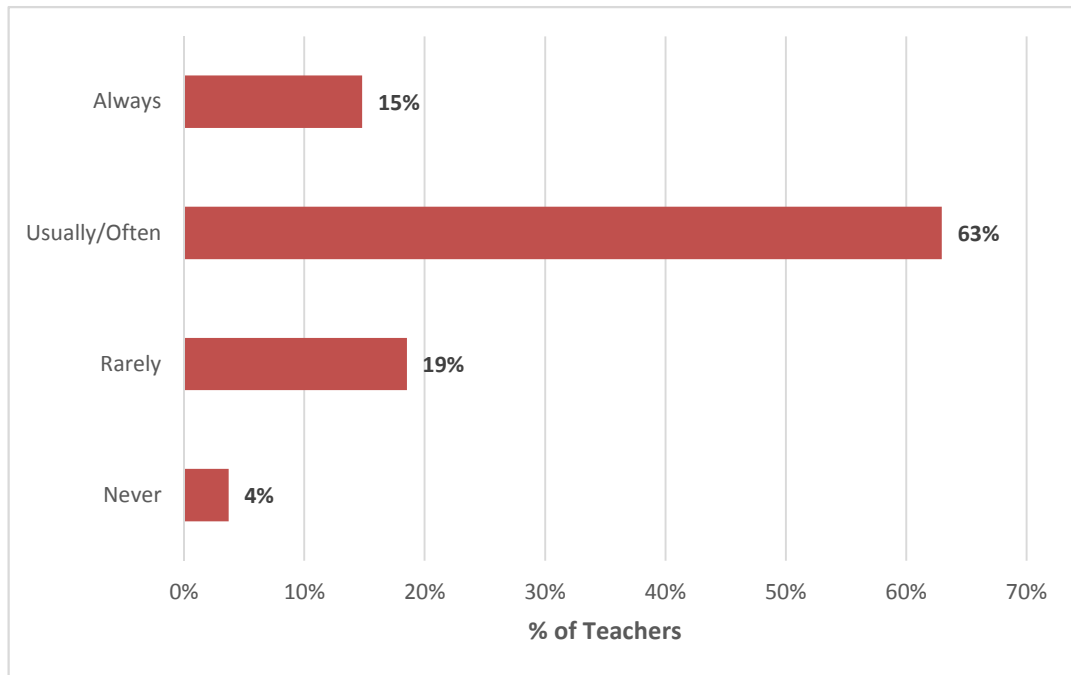


Figure 17: The Fourth Level of Bloom's Taxonomy: Analysis  
 Source: Critical Thinking Test applied to Sample Population

Figure 17 shows the results of statements 4, 10, 16, 22, 28, and 34. It demonstrates that 78% of the teachers plan activities in their classrooms where students distinguish, differentiate, compare, contrast, critique, and examine rules and principles. This indicate that higher order thinking skills are often encouraged in class. 23% of professors accepted they rarely or never require from their students to participate in tasks that are related to this level of the taxonomy known as *analysis*.

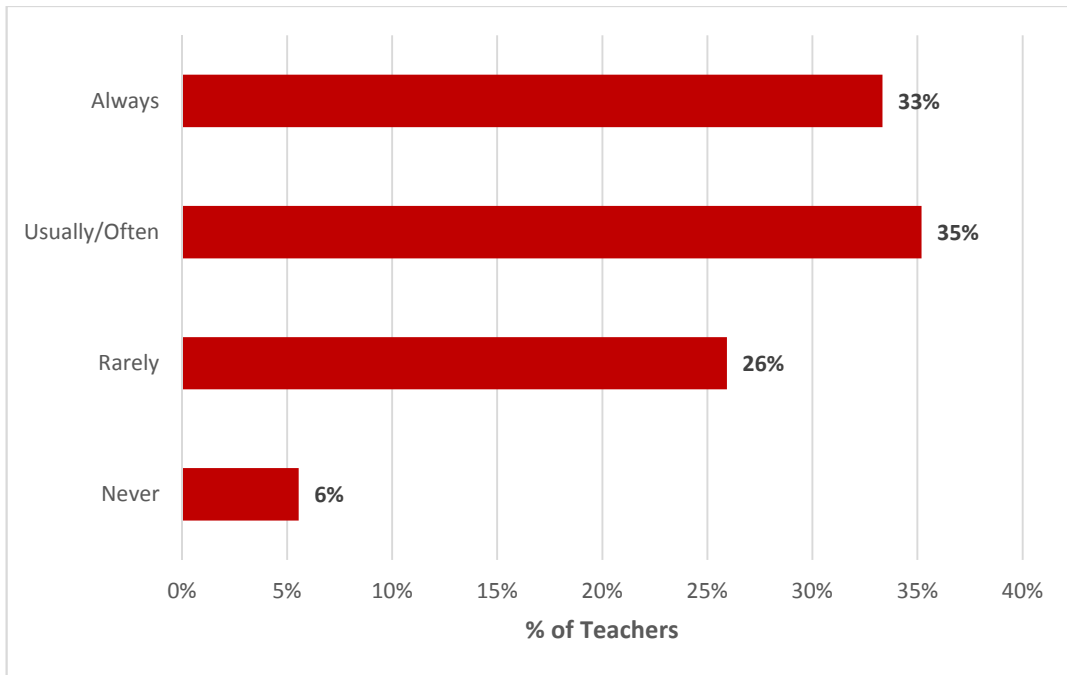


Figure 18: The Fifth Level of Bloom's Taxonomy: Synthesis  
 Source: Critical Thinking Test applied to Sample Population

Figure 18 shows the results of statements 5, 11, 17, 23, 29, and 35. It proves that 68% of the teachers encourage their students to plan, propose, design, arrange, organize, and modify problem solving. These numbers show that students participate in activities where they have to use high order thinking skills. 32% of the teachers responded that they rarely or never involve their students in these type of cognitive processes.

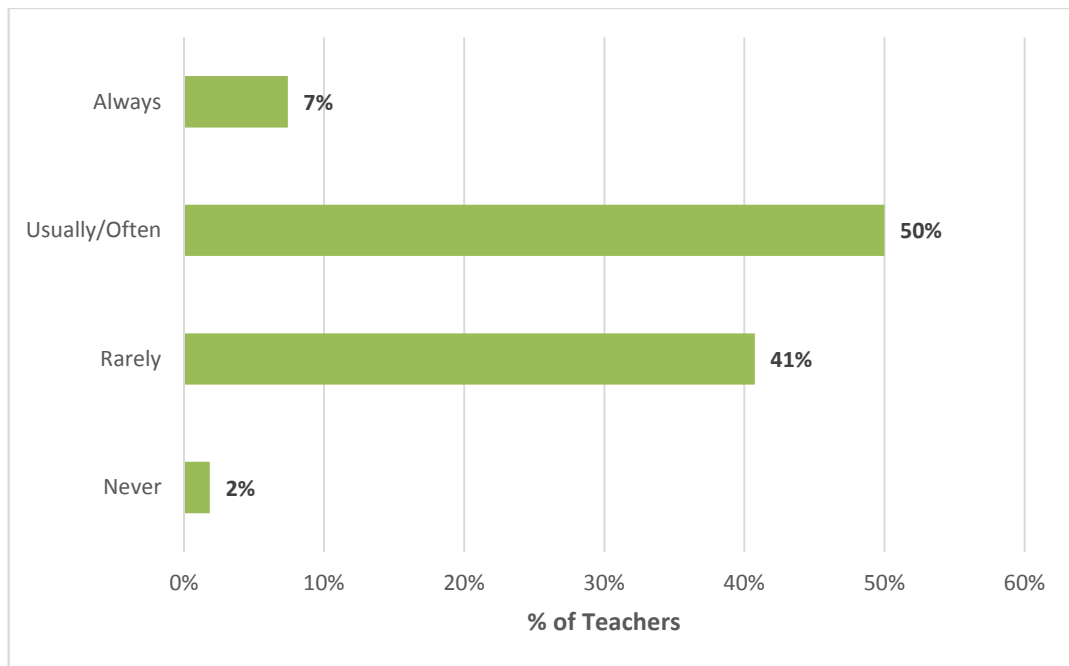


Figure 19: The Sixth Level of Bloom's Taxonomy: Evaluation

Source: Critical Thinking Test applied to Sample Population

Figure 19 shows the results of statements 6, 12, 18, 24, 30, and 36. It reveals the percentage of teachers who create conditions within which students evaluate, rate, judge, justify, summarize, and appraise their cognitive strategy. Even though the proportion of professors who encourage these type of high order thinking is higher than the proportion of professors who claimed rarely or never doing that in class, the rate difference between the two groups is smaller than in the other figures.

## VII. RESULTS

- Most of the students demonstrate low performance when paraphrasing.
- Most of them are developing writers and present difficulties explicating the thesis of a text.
- Most of the population under analysis have trouble recognizing the perceptions of the author of the text *The Art of Loving*, therefore explicating the logic of a text is not easy for them.
- The majority of students could successfully evaluate the logic of a text as they could identify clarity, accuracy, relevance, logic and fairness of texts.
- The students as well as the teachers consider they participate in activities that involve lower and higher-order thinking skills in class.

## VIII. DISCUSSION

First, in figure 1 and figure 2 (paraphrasing), the results proved that most of the students assessed provided poor responses when paraphrasing. It can be said that their reading strategies are not effective since they have difficulty connecting concepts and producing texts to reflect ideas in their own words. Students, in their attempt to paraphrase the target paragraphs, mostly adopted the same words used by the author of the text, or simply changed the order of the sentences. Sometimes, the written product contained words which were not related to the original texts which resulted in ideas that lacked coherence or transmitted an incomprehensible notion.

Keck (2006), in a study in the use of paraphrase in summary writing, remarks that variations made to texts at word-level, such as in “word choice (e.g., synonym substitution, replacement of one function word with another) or word class (e.g., changing the noun “diversity” to its adjective form, “diverse”),” only qualify as attempted paraphrase. In addition, he adds that making a variation in punctuation, grammatical number, and subject-verb agreement do not qualify a text as paraphrased.

Keck (ibid) reports that researchers such as Currie (1988), Johns & Mayes (1990), Pecorari (2003), Sherrard (1986) and Shi (2004), have investigated how developing academic writers attempt to integrate source texts into their

writing; the results of their investigations proved students are not effective when paraphrasing source texts. Among the reasons that may explain why individuals copy and paste source texts, Keck (2006) mentions: cultural mindsets towards the use of sources (Chandrasoma, Thompson, & Pennycook, 2004; Pennycook, 1996), language competence (Currie, 1998; Howard, 1996; Johns & Mayes, 1990; Shi, 2004), and the objective of the writing tasks (Barks & Watts, 2001; Campbell, 1990; Chandrasoma et al., 2004; Currie, 1998; Shi, 2004).

Actually, Chandrasoma et al. (2004), Currie (1998), Howard (1996) and Pecorari's, (2003) position is interesting when attempting to explain that "copying from source texts is a necessary phase through which developing writers must pass before they acquire more sophisticated ways of integrating sources into their writing" (Keck, 2006, p. 262). This conclusion made by the researchers may justify why students, in their attempt to paraphrase, make mistakes; moreover, the results of the investigation may be announcing that the sample group of students under analysis are 'developing writers' who have a long way to go to reach a proficient level in academic writing.

Next, it is evident (as shown in Fig. 3, explicating the thesis of a text), that almost 75% of the population are unskilled writers reassured by the fact that students need to have the information and the tools to be able to illustrate the thesis of a paragraph. According to Thonus (2002), one of the factors that determine success in academic writing is the tutors' behaviors in "helping with the definition and the construction of a thesis statement" (p. 125). Therefore, writing a thesis is a complex process that requires teachers' intervention and specific training. Several authors have published the results of their investigations about the importance of the construction of a thesis.

For instance, Irvin (2010) mentions that a text must portray a clear arguable point of view (thesis) that is supported with arguments. Bowker (2007) recommends a thesis statement be precise, explicit, brief, and meaningful; in addition, it should answer the prompt given. Connelly, Hamilton, McAfee & Miller (2008) complement by saying that the point of view of the writer, the thesis, is usually expressed in one single sentence that limits the theme of

the written paper. Furthermore, in the words of Johns (1986) “clarity of thesis statement, originality of ideas, logical supporting details, neutral academic language, and abundant use of transitional expressions are the hallmarks of the expository paragraph and essay in English” (p. 355). Finally, it is important to mention that Brandon & Brandon (2012), besides defining an effective thesis as one that is clear and restricted to the topic and one that has supporting information, remark that a thesis comes out clearly after some repeated revisions in the writing process, where writers review and edit their texts.

Most of the authors agree on the fact that the thesis statement is the sentence that contains the most essential information of an essay; additionally, they argue the need of having a well-supported thesis. What is more, Casanave (2013) mentions three controversial issues related to improvement in L2 writing. One is related to the importance of fluency and accuracy in writing, another has relation to the process-product approach to writing, and the last one is connected with error correction to help students advance in obtaining skills for writing. The author also acknowledges that the one point that is not under debate is the fact that writing improves with practice; therefore, it is necessary teachers provide the students with the required practice to improve their performance as effective writers.

On the other hand, Elder & Paul (2014) insist on the premise that “one learns to write well not by writing many things badly, but a few things well” (Chapter 1, section 8, paragraph 2). They imply that people should write paragraphs and texts to portray ideas that are the result of their learning and the internalization of other authors’ thoughts; for them, this type of thinking creates a conflict that people resolve by comparing others’ beliefs and getting theirs as a result, which will eventually be applied in their lives. “Without continually integrating new ideas into the ones already established in our thinking, our ideas become stagnant and rigid” (Elder & Paul, 2014, Chapter 1, section 8, paragraph 2). Everything mentioned should have a say in what the path to improvement represent for the sample population.



Then, the outcomes of figure 4 and 5 (explicating the logic of a text) reflect that the students under analysis are not recognizing the perceptions of the author of the text presented to them (*The Art of Loving*). Perhaps they are not considering his point of view but theirs. They are probably not used to contrasting and comparing what they know with what other people think or say about a certain topic. They are in need of asking themselves questions before synthesizing the information they are exposed to. They possibly do not recognize assumptions and have difficulty evaluating the intention of the writer that may be implicated or explicated in the texts.

Elder & Paul (2014) propose eight elements of thought and provide a checklist for reasoning. In their words: 1) "All reasoning has a purpose" (p. 4). This means people should be able to assert truthful goals and objectives. 2) "All reasoning is an attempt to figure something out, to settle some question, solve some problem." (p. 4). For reasoning, people should have the ability to distinguish subjective from objective points of view, and to recognize that sometimes one single perspective is not enough for understanding texts. 3) "All reasoning is based on assumptions" (p. 4).

Since one's premises will determine one's conclusions, the former should be reasonable for the latter to be effective. 4) "All reasoning is done from some point of view" (p. 4). One's point of view is obviously not enough; the authors imply that it is advisable to consider other points of view and estimate their value before coming to a conclusion. 5) "All reasoning is based on data, information and evidence" (p. 4). The authors suggest that critical thinking implies looking for necessary truthful and pertinent information that compared to one's point of view will support one's assertions. 6) "All reasoning is expressed through, and shaped by, concepts and ideas" (p. 4). Conclusions should be based on carefully contrasted information. 7) "All reasoning contains inferences or interpretations by which we draw conclusions and give meaning to data" (p. 4). The authors advise to base our interpretations on evidence only, so our conclusions are meaningful. 8) "All reasoning leads somewhere or has implications and consequences" (p. 4).

The outcome of our assertions will have different kinds of results. Thus, in writing, reasoning involves being able to have an individualized voice that shows how much we know, how much we understand, how many things we can infer and conclude to come to a unique point of view. Helms-Park and Stapleton (2003) and Stapleton (2002) (as cited in Widodo, 2012) mention that this unique point of view or self-voice, can be identified through the use of specific syntactic forms and rhetorical devices employed by readers and writers.

Widodo (2012) also mentions what Ivancic and Camps (2001) imply for the three types of positioning in relation to self-voice that construct the writer's uniqueness: "(1) ideational positioning—what beliefs, preferences, and values a writer holds; (2) interpersonal positioning—how the writer establishes his relationship with the reader; and (3) textual positioning—how the writer articulates ideas in a coherent and cohesive written text" (p. 90). Widodo (2012) prefers the term self-voicing to self-voice, and define it as the resources that "enable writers to take their own stances and voice their judgments along with a line of argument, reason, and evidence" (p. 90). It is obvious that the group of students under analysis are in urgent need of training on how to attain a critical thinking ability that enables them to voice their points of view and to understand the points of view of others. It is necessary that students avoid using the voices and ideas of others to expose their own ideas and avoid plagiarism.

Regarding the assignment of evaluating the logic of a text, results of figure 6 and 7 illustrate that the majority of the participants of the study are aware of the complexities involved in this type of task. Apparently, the remaining 30% of students are in need of revising their background information about clarity, accuracy, relevance, etc., necessary to understand writers' points of view. Bean & Weimer (2011) acknowledge that problems related to writing or critical thinking are connected to problems of reading. Therefore, in their view, teachers must encourage students to become powerful readers who focus on meaning and not just on facts and information; this implies students engaged in activities that involve analysis, synthesis and evaluation.

The authors paraphrase Roberts and Roberts's statement (2008): "when experts read difficult texts, they read slowly and reread often" (chapter 3, section 2, paragraph 3). In other words, readers will find themselves reading a text several times until they reach comprehension, and will ask questions about the passages to connect ideas with previous experiences; this of course will take time, time that sometimes students resist to spend; they rather reject readings that require deeper understanding.

Bean & Weimer (2011) comment on teachers who, discouraged by their students' poor performance when reading, prefer giving lectures instead of assigning texts for the students to read, analyze and create their own products. Another problem underpinned by the authors is that reading processes and time spent on them will vary according to the intention and the objective of the reader, and to the genre of the text. They then mention that students sometimes skim for the gist, and other times need to read for detail or scan for specific information. Additionally, Bean & Weimer (2011) mention that one problem students may face is the difficulty to adopt a strategy that adapts to the different genres there are. This way, diverse genres are related to diverse rhetorical and reading strategies that students fail to recognize in magazines, newspapers or books.

The authors recommend students to interact with the texts they read and understand what point of view is being transmitted by the writer and if that point of view is intending to make them change their stands. Another difficulty Bean & Weimer (2011) report is that readers lack adequate vocabulary and syntax necessary to understand messages being transmitted in texts. They acknowledge that using a dictionary is not always the best option because context affects word meaning and because technical terms require contextual awareness; on the other hand, the lack of experience in managing the syntactical structures of a language may cause confusion when trying to differentiate main ideas attached to subordinate clauses. Obviously, evaluating the logic of a text requires skills that students will only acquire with appropriate training.

In connection to the results from the surveys used to collect evidence of the students' perceptions of the level of Bloom's taxonomy applied in class, figure 8 shows that most of the students agreed on engaging on activities related to the first level of Bloom's Taxonomy: *knowledge*. Gershon (2015) calls this level the *simplest* because it involves recalling information to perform a task at a later moment. The author uses keywords such as arrange, repeat, name, memorize, order, and recognize, as cognitive processes that represent cognitive tasks related to this level of the taxonomy. Activities such as questions asking for a definition (Cox, Imrie & Miller, 2014), re-ordering a jumbled set of instructions to make any type of figure, or giving students correct instructions except for one which they would have to recognize (Waters, 2006) are recognized as activities practiced this level.

Next, figure 9 portrays that more than 80% of the students recognized participating in activities related to the second level of Bloom's Taxonomy called comprehension. For Gershon (2015) this level implies understanding material that we already know, i.e. prior knowledge; this means that, with the knowledge acquired, it is the objective that people use it in different contexts. Keywords associated with comprehension mentioned by the author are: characterize, classify, describe, explain, identify, recognize, translate, etc. In the words of Cox, et al. (2014), translating is "an important part of many tests and examinations in the foreign languages and paraphrasing is a requirement in English as well as in foreign languages" (p. 48). The type of translation implied at this level in the taxonomy is of 'information transfer' where students are requested to perform a task using certain data, or to put into words a story portrayed in pictures. "All the information is provided in one medium: the thinking occurs as a result of attempting to reconstruct it in a different one" (Waters, 2006, p. 321).

Afterward, figure 10 exposes that almost 80% of the participants of the study acknowledged being part of undertakings in connection to the third level of Bloom's Taxonomy called application. Here, students are expected to work with their knowledge and comprehension of a certain topic and use it in a situation that is new to their context in new and tangible circumstances (Gershon, 2015). Verbs associated with this cognitive level include apply,

practice, role-play, sketch, solve, suggest, etc. “The ability to apply previously learned principles to the solution of new problems is really an objective for all courses in higher education; well-designed exercises or examination questions test students’ abilities to reach this objective” (Cox, Imrie & Miller, 2014, p. 49-50). In addition, as Waters (2006) explains, “the application category is concerned with putting language knowledge, such as grammar rules and so on, into practice, by applying the ‘generalizations’ derived from earlier activities to new content” (p. 323).

Then, figure 11 permits to observe that most of the students considered their teachers provide opportunities for them to be involved in activities related to the fourth level of Bloom’s Taxonomy named *analysis*. At this level people should be able to break the parts of new material into its components, make connections, recognize reasons, purposes, to better understand concepts, work that is only possible after knowledge, comprehension and application of knowledge has taken place (Gershon, 2015). Words in this level incorporate actions such as compare, contrast, differentiate, distinguish, examine, explore, investigate, etc. Waters (2006) describe this level of the taxonomy as one where students can solve problems. Thus, rather than giving the students information to make use of it, “the ‘analysis’ category involves students in showing their ability to put knowledge into practice by getting them to use their own content” (p. 324).

Next, figure 12 shows that almost 70% of students considered they participate in tasks in connection to the fifth level of Bloom’s Taxonomy named *synthesis*. The cognitive skills of synthesis imply an analytical understanding of prior knowledge. Gershon (2015) exemplifies this level of the taxonomy with students creating an assertion about the abolition of the death penalty. For that they need *analytical understanding* of opinions to construct their own arguments. In addition, they need to put parts together to form an intelligible new concept. The role of teachers here is to encourage their students to see mistakes as necessary steps to reach success.

Keywords in this section are construct, devise, design, formulate, organize, plan, propose, etc. Cox, et al. (2014) mention the writing of essays as

examples of this level. In their view, even essays can fall in the category of knowledge or comprehension when the students only portray others' points of view or lecture notes; that is why the authors consider that teachers who want their students to perform under this category of the taxonomy should "take steps to ensure that their students are challenged to create 'unique communications' at many stages during their academic studies" (p. 52). In addition, Waters (2006) comments that at this level of thinking, students may be asked to make the instructions to construct something they are not familiar with. "They therefore have to think first of all, 'from scratch', about how such a model could be designed, and then how to devise the instructions" (p. 324).

Finally, figure 13 indicates that almost 80% of the students agreed on participating in activities related to the sixth level of Bloom's Taxonomy named *evaluation*. For Waters (2006), evaluation implies "making a judgement of good or bad, right or wrong, according to standards designated by the students" (p. 325). For the author, an example of this kind of thinking takes place when students are required to take the roles of judges in some kind of competition and explain why they made their decisions.

To be able to evaluate things correctly students need knowledge, understanding, analysis and synthesis of different tasks to construct growth. Moreover, they need to have the ability to judge and value new information for a specific purpose. This level requires making mistakes or choosing different paths until people reach acceptable results. To give judgment requires mastery of all the preceding levels of the taxonomy (Gershon, 2015). Words in this category include: argue, assess, critique, defend, evaluate, examine, judge, justify.

In terms of the teachers' perceptions of the activities connected to the levels of Bloom's Taxonomy they apply in class, the results show that around 70% of them encourage their students into building up from the basic acts of recalling information or concepts, comparing, interpreting, classifying, describing or stating main ideas, to more complex activities such as

analyzing, criticizing, differentiating, examining information, making judgements, validating ideas, defending, supporting and evaluating thoughts.

Teachers' perceptions are in connection to the previously mentioned results that come from the insights of most of the students who agree on practicing and doing all the necessary activities to be engaged in a critical thinking methodology that gives them the chance to effectively communicate.

Perceptibly, most of the students consider that they are capable of making their points of view as valuable statements. They consider that besides doing the most basic activities of defining and recalling concepts, describing, recognizing concrete concepts or illustrating rules and principles, they are also asked to plan, organize, and modify problem solving, and to evaluate, judge, and justify their cognitive strategy.

Nevertheless, the outcomes of the test applied to the students to determine their ability to read and write critically prove otherwise. In fact, the results place the students in a category of inaccurate, minimally skilled learners who are only partially accurate or slightly clear when reading and writing critically. Apparently the students are not really being asked to question assumptions, generate ideas, analyze their failures, and adapt ideas that are effective in other fields to apply them to their educational reality.

Essentially, students, as well as teachers, are not aware of how to work to develop these thinking skills. It is important to focus not only on content, but on developing skills. Are students taken from short-term goals to long-term goals, on developing skills instead of just desired outcomes? Probably, there is not a self-awareness process that can provide the students with the tools to develop their critical thinking skills. Self-awareness will include managing emotions but also being able to choose effective thinking processes.

One of the problems could be the claim of not having enough time to cope with all the material that has to be covered during a class course so teachers could simply skip teaching their students how to think critically; or simply, teachers may not be aware of what steps are required to develop cognitive thinking. Teaching quickly and superficially may turn a class into a boring

experience for the students who only have to recall concepts and prove how much they know in tests that do not require critical thinking either. Students may get the impression that everything that is said in class has no disagreement among scholars; evidently, there are other views, maybe less discussed, but also important to come to the judgement or evaluation of a theory.

Of course disagreements or controversies are not necessary part of every class or of every content, but it may be necessary that students, who may be just following a textbook, be exposed to other points of view and read other theories to be able to contrast or validate different schemes. *Learning how* is as important as *learning what*. Thinking about thinking is also paramount. Reflective thinking is part of this process.

Several commissions and boards have identified reflective thinking and inquiry as a standard towards which educators and learners must aim. Rodgers (2002) published the National Commission on Teaching and America's Future (1996) standard of what should be accomplished teaching:

“Teachers must be able to think systematically about their practice and learn from experience. They must be able to critically examine their practice, seek the advice of others, and draw on educational research to deepen their knowledge, sharpen their judgment and adapt their teaching to new findings and ideas” (p. 843).

Rodgers (2002) digs into four criteria of the work of John Dewey (*How We Think*) to posit a concept of reflection. The first criterion says that “Reflection is a meaning-making process that moves a learner from one experience into the next with deeper understanding of its relationships with and connections to other experiences and ideas” (p. 845). Thus, reflective teachers should strive to get experience and knowledge, which they must share with their students to help them construct thought and meaning.

The second criterion says, “Reflection is a systematic, rigorous, disciplined way of thinking, with its roots in scientific inquiry” (p. 845). The author recognizes six phases of reflection that are the result of Dewey's' efforts of



defining the process of reflection: having an experience, interpreting the experience, labeling the problem that emerges from the experience, producing potential descriptions for the identified problem, setting a hypothesis and trying out the designated hypothesis. This type of reflection could possibly give the students the tools to maximize their thinking processes and come up to personalized points of view that may question what is being shared in class. Rodgers cites criterion number three: "Dewey knew that merely to think without ever having to express what one thought is an incomplete act" (2002, p. 856).

In other words, reflection is effective only if it is shared with others, if teachers and students share insights with others. This is clearly an essential process that has to be encouraged in class. Without interaction there are few possibilities of testing one's ideas, of validating one's hypothesis, of reflecting about meaning. It is possible that this type of interaction is not happening so students are not effective critical readers and writers who can discern messages and understand ideas that they could contrast with theirs.

Finally, criterion number four reveals that reflection is a set of attitudes; good thinkers can render their attitudes and emotions useful. "Reflection that is guided by whole-heartedness, directness, open-mindedness, and responsibility, though more difficult, stands a much better chance of broadening one's field of knowledge and awareness" (Rodgers, 2002, p. 858).

These thoughts show the importance that is placed on being enthusiastic, responsible, and energetic and on doing reflective inquiry. Teachers and students may be in the need of acknowledging that the mind has its own points of view, values and beliefs that people may feel identified with, but that they can be challenged by others' opinions and values. It is possible that these insights about reflective thinking are not taking place during instruction, and even though the perception is the opposite, the reality is in urgent need of change.

## IX. CONCLUSIONS

The purpose of the study was to determine what skills were present among pre-professional level students of the School of English Language at Catholic University Santiago de Guayaquil when composing their academic texts so as to diagnose their academic writing needs.

- The findings indicate that the students have difficulty putting ideas in their own words and are not accustomed to using their higher order thinking skills, which shows that the sample population under study is made up by developing writers who have not yet reached a proficiency level in academic writing.
- Additionally, most of the students in the group targeted had difficulty expressing new ideas based on the internalization of the information read and the one that they already possessed, therefore, they were not successful when elaborating, illustrating and expressing the thesis of a text.
- Students were not successful when identifying the author's purpose in writing the text under analysis, the main conclusion and the main concepts in the text, which proves they need to develop an individualized voice that shows they can interpret and conclude ideas.
- The target sample of students are more effective when evaluating the logic of texts, and this reflects their ability to understand the complexities of texts that involve clarity, precision, accuracy, relevance, significance.
- Results indicate that the skills the population needs to boost its abilities to succeed in writing academic texts involve basically improving their higher-order-critical thinking skills. Not being able to use them would be detrimental for the students to build upon their own opinions, making worthwhile arguments, evaluating their own work and new information they encounter, making systematic decisions through thinking critically and possibly converging into intellectual development.
- Finally, even though the results from the test prove the students have difficulty using their higher-order thinking skills of analysis, synthesis, evaluation, their perception as well as the teachers' perceptions is that they use them in class with regularity.

## **X. RECOMMENDATIONS**

- It is recommended that students and teachers be provided with especial training on how to develop critical thinking skills. Placing emphasis on the development of these skills is necessary hence it is the teachers who play a pivotal role in fostering the type of activities that need to be included in the curriculum for getting the students to improve their grades and their performance when making decisions, and writing their academic texts.
- It is necessary that teachers be encouraged to examine their practice and adapt their teaching to include reflection in the development of tasks, providing, in their lessons, the support that allows students to engage in activities where they have to read and discern messages, understand ideas and compare them with their peers.
- It would be imperative to place emphasis on higher order thinking activities during class instruction and for that purpose flexibility should be the norm for administrators so teachers are provided enough time to make the necessary adjustments for the purpose established.
- Students would also be able to develop their critical thinking skills if they are immersed in teamwork, collaboration and problem-solving tasks. Activities that propound these practices are recommended.
- Students must also have access to second and third theories, besides the ones given by their teachers, to determine which one is best so they discover information at a deeper level as a result of intellectual inquiry.
- Finally, it is appropriate to suggest the addition of integrated reading and writing skills in the curriculum to promote language development and critical thinking and writing skills. For that, an online platform that encourages the use of lower and higher-order thinking skills is proposed.

# XI. DIDACTIC PROPOSAL

## 11.1. Literature review

### 11.1.1. Hybrid Learning

Hybrid learning has been defined as a combination of direct teaching and eLearning which is based on the use of various strategies. Hybrid learning is about providing students with an appropriate combination of different types of learning, no matter if they are offline or online. It is a learner-centered approach where students have opportunities to engage in an active type of education through the development of skills such as collaboration, critical thinking, creativity, self-management, self-study, problem solving, etc. Therefore, hybrid learning focuses on finding an effective way to deliver knowledge, but it is not necessarily focused on technology; nevertheless, technology is definitely an important element in this type of learning.

The classroom of educators with intellectual backgrounds favors text-based learning and grounds education on giving students competences for critical reading and critical writing; somehow they have showed some resistance to including technology in education for considering it a disruption in educational objectives as stated by Snart (2010). The author justifies this view by saying that “technology in the form of the Web functions rather more effectively when it is deployed in ways that reconfigure the basic premises of linear, textual argument” (p. 2). It is understood then that to get the best from technology students should search the web to find different theories, different opinions, make associations, evaluate concepts; in other words, use the web for ‘nonlinear-thinking.’

Besides, the author also comments that technology should be seen as a resource that can “become an educational enhancement (an addition to something) rather than an alternative (a replacement for something) (Snart, 2010, p. 3). Therefore, agreeing on adopting a new idea or trend, even when it has proved to be effective in several educational settings, is challenging for some educators; even though technology has been widely adopted in education, teachers still show resilient to making innovations in their

classrooms and use technology. Rogers (2003) mentions that diffusion of an innovation can face some common difficulties. She defines diffusion as “the process in which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas” (Rogers, 2003, p. 5). The author elaborates on the concept of each element that is part of the concept of diffusion.

1) The innovation is defined as the idea that is conceived as new and needs to be adopted, even if it does not involve new *knowledge*. “A technological innovation usually has at least some degree of benefit for its potential adopters, but this advantage is not always clear cut to those intended adopters” (Rogers, 2003, p. 13-14). Consequently, an innovation is not necessarily considered a better alternative to preceding practices; only with a clear intention of learning about the innovation, negative expected outcomes could be overcome, compatibility to current methodology could be found, and implementation can take place.

2) The second element in the diffusion process are the communication channels. Rogers define a communication channel as “the means by which messages get from one individual to another” (2003, p. 18).

Examples of communication channels are: a) mass media channels such as newspapers, radio, television which transmit information more rapidly and reach a wider audience; b) interpersonal channels which involve face-to-face contact with individuals and are more effective when influencing an individual to adopt a new technology; c) interactive communication via the Internet for individuals to communicate with each other from all around the world instantaneously.

3) The third element in the diffusion process is time. “Knowledge is gained when an individual (or other decision-making unit) learns of the innovation’s existence and gains some understanding of how it functions.” (Rogers, 2003, p. 20). This concept includes the time dimension involved in the diffusion of the new technology. That is, success will depend on a) how much time passes from the time an individual knows about the technology to the time of

its adoption or rejection, b) how early or how late a new technology is incorporated in the teaching process, and c) the rate of adoption of the innovation which is calculated by the number of practitioners involved in its implementation in a given time period. 4) The social system constitutes the last element in the diffusion process. "A social system is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal." (Rogers, 2003, p. 23). The units are the individuals of a social system who seek to solve a problem that is common to the whole organization.

Chen, Lambert & Guidry (2010) published an article about the impact of Web-based learning technology on college student engagement who took the 2008 National Survey of Student Engagement (NSSE) created and administered by the Indiana University Center for Postsecondary Research in the United States. The authors acknowledged the benefits of the use of computers and the Internet technology in higher education system.

The study showed that students who are engaged in this type of education have more positive learning outcomes and are more likely to engage in higher order thinking, reflective learning, integrative learning and personal and social development.

In another study made by Saadé, Morin & Thomas (2012) made with 40 participants taking a first year university course in Montreal, Canada, the authors present the results of critical thinking in a virtual learning environment gotten from the student's perceptions of the critical thinking skills they may have attained. Outcomes indicate that interactive components of a course are seen as a contribution to critical thinking more than any other type of content or activity.

In addition, it is the students' perception that lesson contents contribute to higher order thinking and acquisition of knowledge if they are presented in an interactive environment. Moreover, it was found in another investigation made by Richardson & Ice (2010) to determine the level of critical thinking across instructional strategies in online discussions of students who enrolled in an undergraduate educational technology course at a large Midwestern

university in the United States, that the majority of students preferred open-ended discussions even though they scored lower than with other class strategies such as debate and case-based. It was suggested that this could be the result of the students' lack of reflection on their meta-cognitive strengths. In response, Richardson and Ice (2010) report that Shea and Bidjerano (2009) advise that higher-order thinking skills will transfer to students through online discussions only if they feel comfortable and feel assisted when engaged in online discussion format.

### **11.1.2. Technology in Language teaching**

Celce-Murcia, Brinton & Snow (2014, p. 409) published the definition of technology as stated in the TESOL Technology Standards Framework (2009):

The term technology... refers to the use of systems that rely on computer chips, digital applications, and networks in all of their forms. These systems are not limited to the commonly recognized desktop and laptop computers: Almost all electronic devices these days include an embedded computer chip of some sort (DVD players, data projectors, interactive whiteboards, etc.). Mobile devices that employ a computer at their core (cell phones, personal digital assistants [PDAs], MP3 players, etc.) will undoubtedly occupy a more central role in language teaching and learning in the years to come. (p. 3).

What seemed to be a distant promise is now part of everybody's life not only because technology becomes cheaper and easy to have access to, but because it is very useful for learners, educators, housewives, etc. Therefore, technology does not only refer to the use of computers, but to all type of devices that are digital —software programs, databases, or webpages to which users have access through applications.

Celce-Murcia, Brinton & Snow (2014) explain the conceptual underpinnings of technology by putting events in chronological order. They mention the 1980s as the time when email became popular. The 1990s saw the growth of

programs that were available in rooms or laboratories for individual learning, and the creation of test-creation software such as *Test Master*, and games meant for English learners like *Oregon Trail* or *Escape from Planet Arizona*. The implementation of these computer-assisted language learning (CALL) programs represented a huge step into the application of technology in the classroom even though network connections represented a challenge because prices were high and speed was slow. With time technology became available for curious users who learned how to write programs or to create webpages. Celce-Murcia, Brinton & Snow (2014) include web 2.0, social media, and expanding mobility as the trends in the 2000s and now with a huge impact on educational practices and policies. The authors quote:

Web 2.0 technologies have facilitated the growth of blogs, wikis, video sties like Vimeo and YouTube, social networking sites such as Facebook and LinkedIn, eBooks (both “print” and audio versions), and a host of other applications that have enabled direct communication between users, either asynchronously (at different times; e.g., a telephone conversation is synchronous) via text, voice, and video chats. These tools have given students and instructors more control than ever over classroom materials and, as a result, have caused turmoil in the print publishing world. The availability of a wide range of media, often freely available, has pushed traditional textbook publishers to change their own publishing practices and adapt to how students and teachers use materials (p. 411-412).

Beatty (2010) highlights that in a CALL program, it becomes necessary to structure information in a way that readers can function at various levels within Bloom’s taxonomy; he mentions that if students are using a program for learning vocabulary for example, they should move from the remembering stage of the taxonomy to a deeper stage where they can learn more complex phrases, expressions, etc. “Such a program might also ask learners to recall information and to apply what they have learned to new situations and generate their own rules about the grammatical rules that are involved” (p. 153). For doing so, it would be necessary that teachers organize activities



based on Bloom's levels of critical thinking, but also considering age, gender and English proficiency level.

The use of technology in language teaching is not endorsed by any second language acquisition theory; nevertheless, it is a source of motivation for teachers and students. The Teachers of English to Speakers of Other Languages (2009, p.15) are cited by Celce-Murcia, Brinton & Snow (2014): "The use of technology in English language teaching and learning can also encourage the development of strategies necessary for modern survival: communication, collaboration, and information gathering and retrieval" (p. 412).

New technology can be exploited to help students develop their language skills. For example, to encourage listening and speaking learning, Scrivener (2011) suggests the use of podcasts, video conferencing, and instant language labs; Celce-Murcia, Brinton & Snow (2014) recommend the use of lectures, talk radio broadcasts, interviews, audiobooks, and so on. For writing Scrivener recommends practicing writing emails and Celce-Murcia et al. propose the use of real-time chats that are synchronous ways of establishing communication.

Furthermore, Scrivener endorses the use of wikis as wonderful tools for practicing writing since they are co-created dictionaries built by learners; for the author blogs work well too because they can be used as journals that students can share with their peers. In addition, Boas (2011) endorses *Ning* as an alternative to blogs. She defines *Ning* as an initially free-form platform that hosts open-source social applications where users can create their own social networks and share information, chat, share pictures, etc. *Ning* social network websites can be used for discussion forums for teachers to post prompts and links to articles to discuss topics, as Boas (2011) did with her writing class.

In the process, the author led her students through the drafting process, collaborative work, drafting and revising of final drafts to finally publishing their paragraphs on the *Ning* network. She concluded: "In addition to developing important writing and other skills in English and learning to work

collaboratively on projects, using the Internet for ESL/EFL instruction also advances students' digital literacy" (p. 32). Platforms such as social media are used to establish connections with people and share interests, backgrounds and experiences; moreover, they have become creative tools for sharing pictures, opinions, resources, etc. as Celce-Murcia, Brinton & Snow (2014) mention.

Scrivener (2011) also reference popular websites as forums and online noticeboards and walls to publish written material, and text and voice messaging to get in touch with relatives, co-workers, friends, etc. The author indicate that the use of treasure hunts and web puzzles will encourage students to surf the web to find information that keep students away from textbooks for a change. For practicing grammar and vocabulary skills Celce-Murcia, Brinton & Snow (2014) mention the use of grammar checkers, but recommend adopting one's judgment to determine if the suggested corrections are not misleading or simply incorrect; moreover, the authors include the use of computers for practicing drills in pronunciation, intonation patterns, listening, grammar, and vocabulary "because they are tireless in their delivery" (p. 417). In addition, Celce-Murcia et al. favor the use of corpora and concordances:

"A concordance is a type of index that searches for occurrences of a word or combinations of words, parts of words, punctuation, affixes, phrases, or structures within a corpus (a large collection of text) and can show the immediate context of the search item. The output from a concordance search can be used in the preparation of teaching materials such as grammar and vocabulary activities." (p. 417).

The use of online and electronic dictionaries is a fantastic digital way of having access to meaning, pronunciation, part of speech, conjugations, etc. of new words, as suggested by Celce-Murcia, Brinton & Snow (2014).

Virtual Learning Environments (VLE), also known as Learning Management Systems (LMS), are especially useful for running a course. Scrivener (2011)

mentions Moodle as the best known free VLE. He adds that it is essential to have a server and a host computer constantly connected and contactable by other computers to work. Among the most important features of a Moodle the author mentions:

- forums for students and teachers to send and read messages;
- the ability to attach text documents, videos, audios, presentations, etc. that students can download;
- a facility for students to post their work, have it marked and collate the marks in a mark book;
- automated exercises, activities and tests;
- add-ons such as wikis (e.g. allowing online co-created encyclopedias) and blogs (e.g. for class diaries) (p. 343).

Despite all the advantages, research results have proved students as well as teachers are still reluctant to using the Moodle for various reasons. Wu & Hua (2008) in a study made on the application of Moodle on an EFL collegiate writing environment at Chung Hua University in Taiwan, it was found that because Moodle is not designed specifically for English writing courses, and because the installation of Moodle requires technical support, teachers do not use it. It was revealed that instructors, teaching materials and curriculum play more significant roles in technology-enhanced classrooms.

Also, Deng, L., & Tavares, N. J. (2013) presented the results of a study that examined the motivating and inhibiting factors that influenced students' engagement in online discussions via Moodle and Facebook in a University in Hong Kong. Facebook attested to be more effective for engaging them in activities such as casual conversations and formal academic issues added to the sense of ownership they experiment when using Facebook with fellow students in their online community. In contrast, the use of the Moodle was seen as a more formal academic environment that students would only use for class discussions. For giving the Moodle more academic and social presence, students think that a user friendly interface could give learners a good initial impression of the system; in addition, they suggested giving

discussion forums a more central position, and publishing new activities on the homepage.

In another study carried out at the University of Aveiro in Portugal by Costa, Alvelos & Teixeira (2012) with 278 students about the use of Moodle e-learning platform, it was found that even though Moodle is seen as an effective technology that promotes the success of the teaching/learning process, it is mainly used to download materials, deliver assignments, texts, slides, in other words mainly as repository of materials. The authors suggest teachers have knowledge about the tools and use the Moodle more effectively.

Anyhow, the widespread use of computers and the internet applied to language teaching, specifically to writing, have changed the way teachers approach their classes. Warschauer (2000) mentions some of the skills that are required for improving writing:

- Integrating texts, graphics, and audiovisual material into a multimedia presentation
- Writing effectively in hypertext genres
- Using internal and external links to communicate a message well
- Writing for a particular audience when the audience is unknown readers on the World Wide Web
- Using effective pragmatic strategies in various circumstances of computer-mediated communication (including one-to-one e-mail, e-mail discussion lists, and various forms of synchronous [real time] communication) (p. 522-523).

The way education is seen now is focused on learners and the way they acquire knowledge, and it encourages the use of creativity inquiry and critical thinking. Several studies suggest the importance of integrating the teaching of critical thinking with the teaching of written composition. For example, Hatcher (1999) reports about a study made at Baker University in the United States with senior students, of why critical thinking should be combined with written composition: "It appears that one-semester courses in either critical thinking or written composition make very little difference in students' abilities

to think critically or understand the fundamentals of good English prose” (p. 182). Instead the University asked selected faculty from the humanities to implement a two-semester sequence that integrated reasoning and writing. Hatcher explains that the success of the approach may rely on the repeated application of critical thinking skills so students can develop abilities such as analysis and evaluation to write sustained points of view or strong argumentations of their stances.

When technology is included in a course syllable as a complementary element to improve students’ performance and outcomes, the results have also proven to be effective. Shraradgah (2014) developed an internet-based writing program (IBWP) for helping first semester students at a University in Saudi Arabia improve their critical thinking skills. The researcher had an experimental group who was taught using the IBWP, and a control group which was taught through traditional methods. After a holistic evaluation of the results, it was proven that the development of the critical thinking skills of the control group was not as good as the one of the experimental group; performance of the latter was better because they were immersed in class activities where they had to look for information, work collaboratively and write “as a process of doing and thinking” (p. 176).

### **11.1.3. Web Platforms**

A platform is a series of software packages that emulate physical work processes in a computer. According to Smith & Nair (2005), the main function of a platform is to create a virtual environment through the Internet without the need of having a deep knowledge in programming or in the use of technological tools; this way users feel comfortable working in an environment created especially for them.

As said by Jean-Charles, Heraud, & Carron (2007), an Educational platform must have certain elements to fulfill its function: a) learning content management system that allows the management and publication of the content used in the platform; b) learning management system, which is where the online platform administrators can follow up the students (users) that use the platform to see their progress; c) administration tools that

manage user access and control permissions; and, d) communication tools for the exchange of information that can be done through email, chats or social networks.

There are three major types of educational platforms, free software platforms, platforms with license fees and Open Source platforms. Butcher (2015) mentions that those of the first group are created non-profit, and among their main characteristics their distribution is access free, users can have as many copies as they want and the updates are also free; notwithstanding the fact that they can serve several different purposes (not only educational). The second group: licensed platforms; are platforms that require payment for the license which is something similar to a 'key' or a permission to use them. For the use of these platforms, users pay for plans, which can generally vary from one month to one year of unlimited or restricted access. When a license is purchased, this can include the use of the platform for a limited number of computers or users, and they can design, develop and offer as many courses as needed or required. Within the licensed platforms, the best known and most popularly used is BlackBoard, but there are others such as: eDucativa, FirstClass, Saba or NEO LMS.

Butcher (2015) also mentions the Platforms of Own Development or Open Source Code are not created to yield profit, or to be distributed massively, but they have been thought and developed for a specific project. This type of platforms will always be fully customizable and respond better to the needs for which they were created. Among the most popular Open Source Code platforms in our environment are Moodle, Kahoot, Socrative, Classcraft, ClassDojo, Edmodo, GoConqr, among others.

The platform designed and developed for this project possesses all the aforementioned characteristics and it is part of the latter group because it was created to fulfill a specific requirement which is to support the enhancement of critical thinking and writing skills of the English Language students at UCSG.

The reading material was analyzed with a profile in mind, which included the fact that it had to be appealing to young adults in the rank of university

students. The interface used was also designed with the simplicity and accessibility that these students need, indeed employing a sober interface in which they do not have distractors or things that may interrupt the development of the exercises, without neglecting a youthful and organized aspect that portrays the layout of the approach selected.

The platform was designed to provide students tools that can support the development of their critical writing and critical reading; its use is suggested as either supplementary or complementary material, considering the implications within each choice. Nevertheless, most of the pages, especially the template, would be maintained in the same way, which makes it a static website, made up by HTML pages; with a view of the need to change or update the reading material every semester insofar as the administrators decide to use the proposal put forward as a complement for the planning of the writing classes.

The platform developed for this proposal is the first of its kind for the English Language School; therefore, many adaptations were required regarding how to apply paper-based activities. The ultimate choice was the development of Google forms, whose collaborative possibilities allowed for changes and improvements and will not impede future updates. The use of Google forms also implies that teachers in charge of the subjects linked to the use of the platform will be able to achieve immediate access to students' answers and to provide prompt and personalized feedback.

## **11.2. Justification**

Thorough analysis of the information gathered concerning the development of critical writing skills among the English Language School students led to the realization of the fact that a major hindrance to proper development of said writing abilities is the lack of sustained and substantial reinforcement of critical reading. It was also evidenced that the former generations of the English Language School have encountered plenty of difficulties when developing their written academic projects due to their uncertainty in demonstrating an argument, insufficient subject knowledge, and problematic

issues surrounding the essay genre, such as authorial voice and assessment demands.

It could be argued that students struggle in the implementation of a critical dimension in their writing because they are used to descriptive writing which is applied to represent a situation as it stands without presenting any analysis or discussion. A much higher level of skill is clearly needed for critical writing than for descriptive writing since the requisite demands a stage of proposing, creating or developing an alternative solution to the reality under study.

As posited by Zhao, Pandian, & Mehar Singh (2016), one of the strategies to help students boost their thinking hence academic writing processes is questioning. They claim that questioning stimulates thinking critically, especially when the questions go beyond mere information recalling to the higher order thinking levels of Bloom's Taxonomy. Nevertheless, students will not simply enhance their writing skills by commanding them to answer higher order questions; this is rather a process of consistent training that requires conscious decision and feedback.

While academic writing training material concentrates on telling students how to write in terms of grammatical correctness, discursive cohesion, and types of writings, they do not provide much information about what makes a sensible argument or what rhetorical elements shall be imported in a particular case; in other words, they do not help students to provide felicitous answers for questions like *how would you improve....? What might be a solution to...? What evidence is there to argue that....?*, which are posited at the levels of analysis, evaluating and creating of Bloom's Taxonomy. It is then apparent that academic writing sessions must be complemented or enhanced through strategies or schemes that lead students to shape their analytical, critical and creative skills.



### **11.3. General and specific objectives**

#### **11.3.1. General:**

- Develop an online critical reading platform aimed at strengthening the English Language School students' writing skills through the use of thinking questions triggered by thought-provoking reading input.

#### **11.3.2. Specific:**

- Analyze the acceptability of an on-line complementary tool through a survey aimed at the English Language School students.
- Structure design components of a critical writing skills development program on an open online platform.

### **11.4. Students' perception regarding the use of a Virtual Platform for learning**

For the sake of this proposal, it was necessary to poll students about their views regarding the potential implementation of a skill enhancement on-line platform. The survey was made up by ten questions and was modelled on a study conducted by Keller and Cernerud (2002) on students' perceptions on E-learning in university education.

The first 5 questions were aimed at the identification of students' attitude towards technology usage possibilities for virtual access. Out of the 30 students interviewed, 19 responded that they feel very confident with the idea of using an on-line platform for their studies, while 10 claimed that they would enjoy the challenge; and almost the 100% of them agreed that the use of the internet would be very helpful for their studies.

On the other hand, when surveyed about access, 24 of those students responded that they possess their own computer and 28 said they have an internet connection in the place where they carry out their tasks. Nevertheless, a bit more than 50% of them claimed that they had, at some

point, experienced problems when attempting to submit some work through a virtual platform.

The second part of the survey included 5 more questions arranged within a five-level Likert rating scale that specifically enquired about students' preferences between traditional settings and virtual platforms, ease of learning and operation of virtual platforms, inclinations towards the choice of virtual platforms and likelihood of enjoyment while learning or improving writing skills through the use of virtual platforms. The answered were summarized as follows:

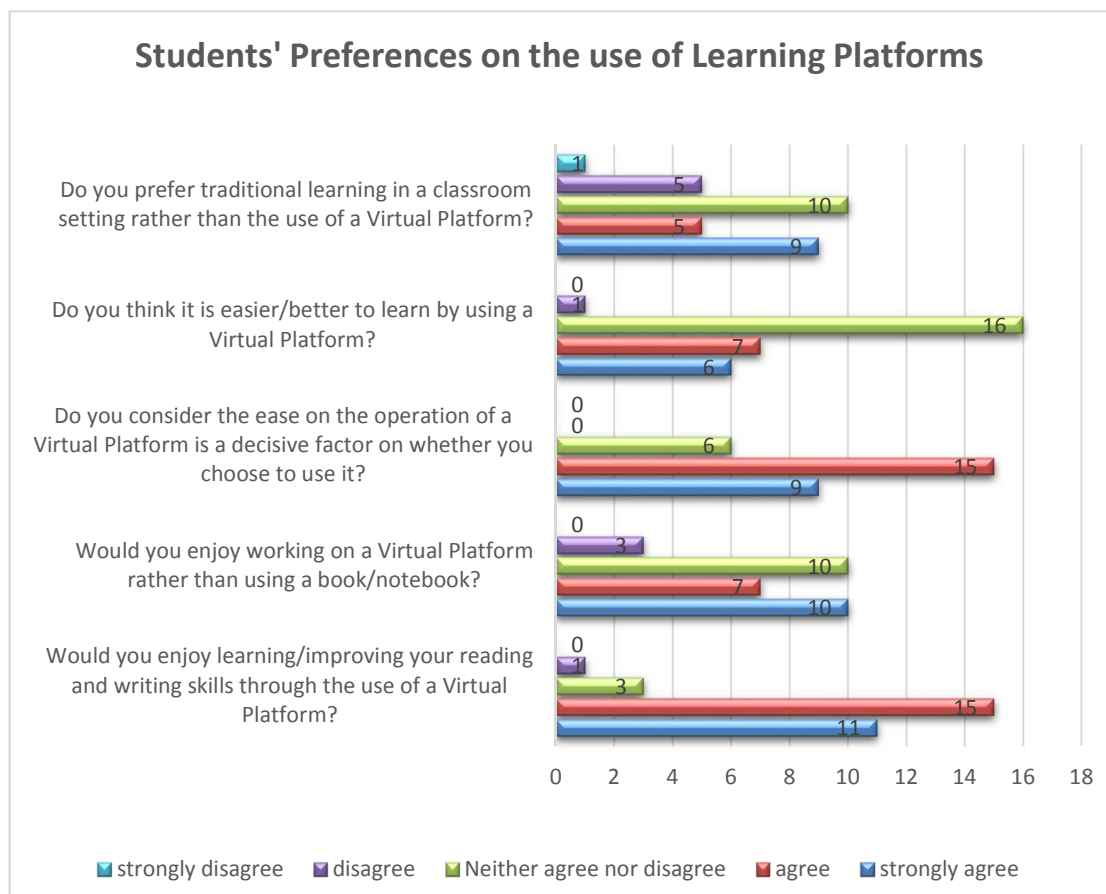


Figure 20: Students' Preferences on the Use of Learning Platforms

Source: Students' Perceptions Survey

The results retrieved from the second part of the survey made it clear that, although students were between neutral to reluctant to granting favours to virtual platforms when it comes to learning, they do consider it is the way in which a platform operates that will encourage them to give it a try and even

to replace their notebooks or workbooks by such a technological tool. Finally, almost 90% of the students agreed and strongly agreed with the idea of using a virtual platform to learn or improve their reading and writing skills, which confers the researchers enough backing for their proposal.

## 11.5. The Open Online Platform

The proposed On-line Platform was then conceived and designed to directly enhance students' abilities on critical thinking and critical reading, and indirectly boost students' academic writing skills. For the established purpose, a web-based platform hosted at [www.wix.com](http://www.wix.com) was developed. Wix is a popular cloud-based web that allows users to create HTML5 web sites by using drag and drop tools among others to add more functionality such as plug-ins for different purposes. These web pages can be visualized on a computer as well as on any smartphone with an Internet connection («Wix.com», 2018).

The simplicity and ease of use of the web platform is the key for the students to get engaged and start working. To keep the simplicity and a very structured and organized layout, the pyramid of Bloom's Taxonomy was used (as shown below), to arrange a series of reading comprehension activities that focus on enhancing students' thinking competence and academic writing skills.

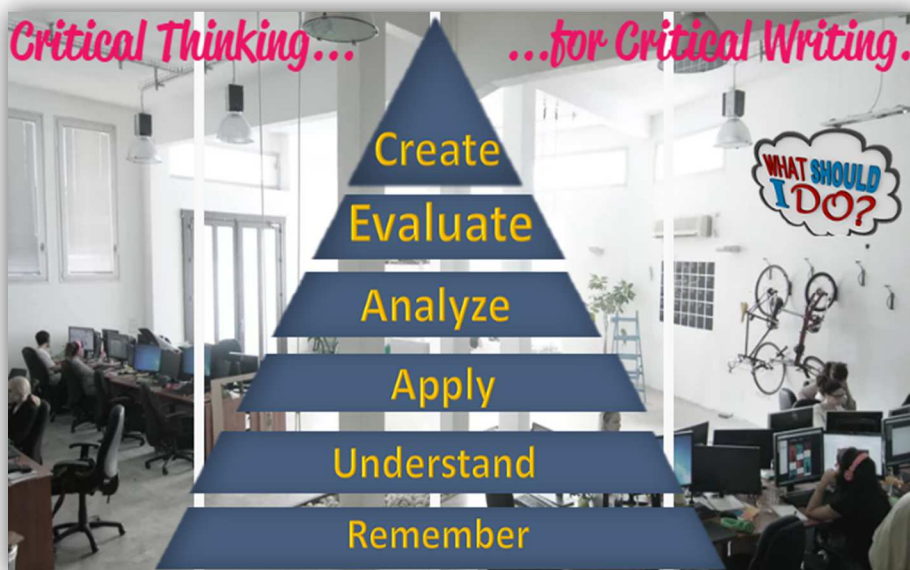
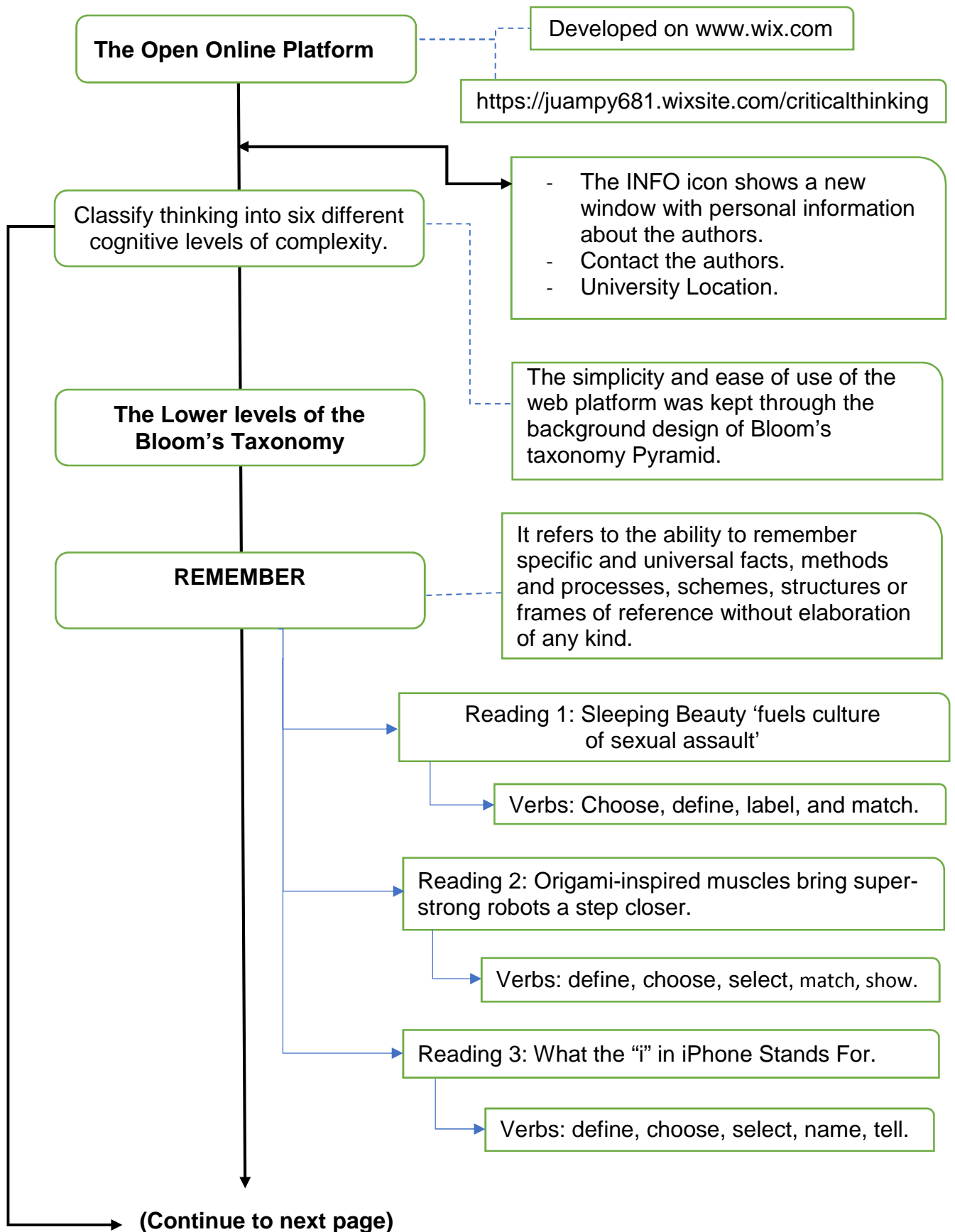
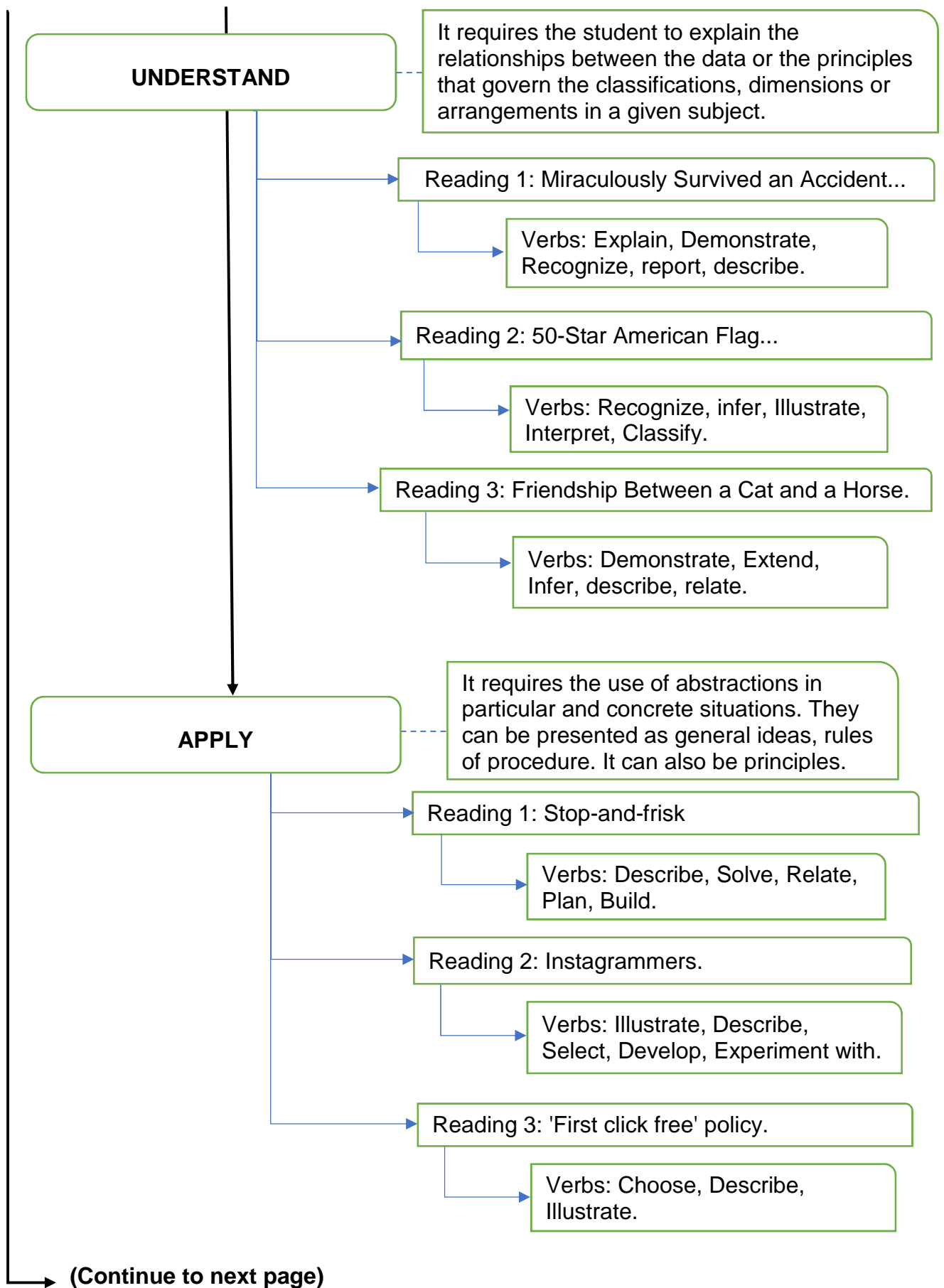


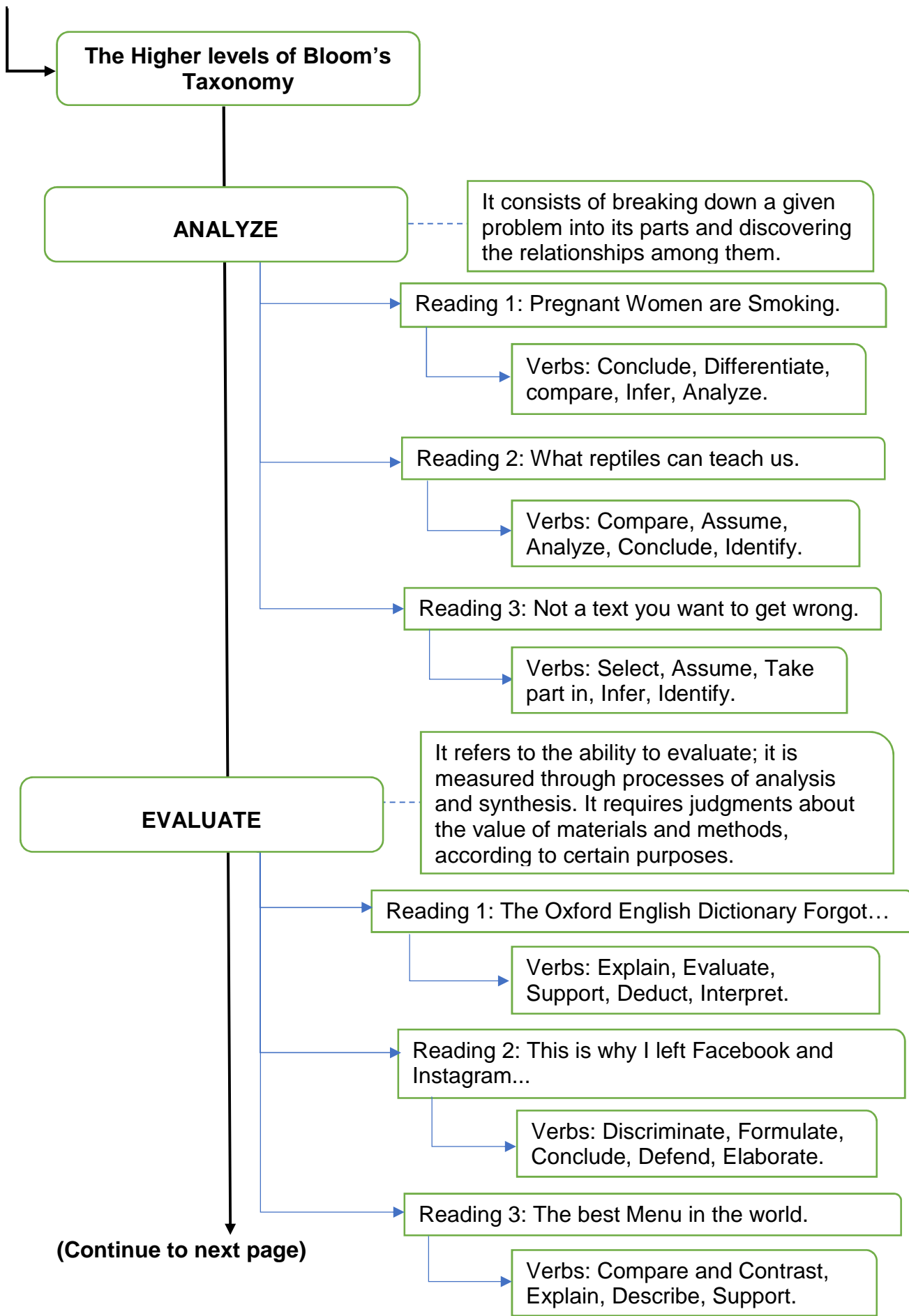
Illustration 1: Web Homepage

Source: <https://juampy681.wixsite.com/criticalthinking>

### 11.5.1. Product Design







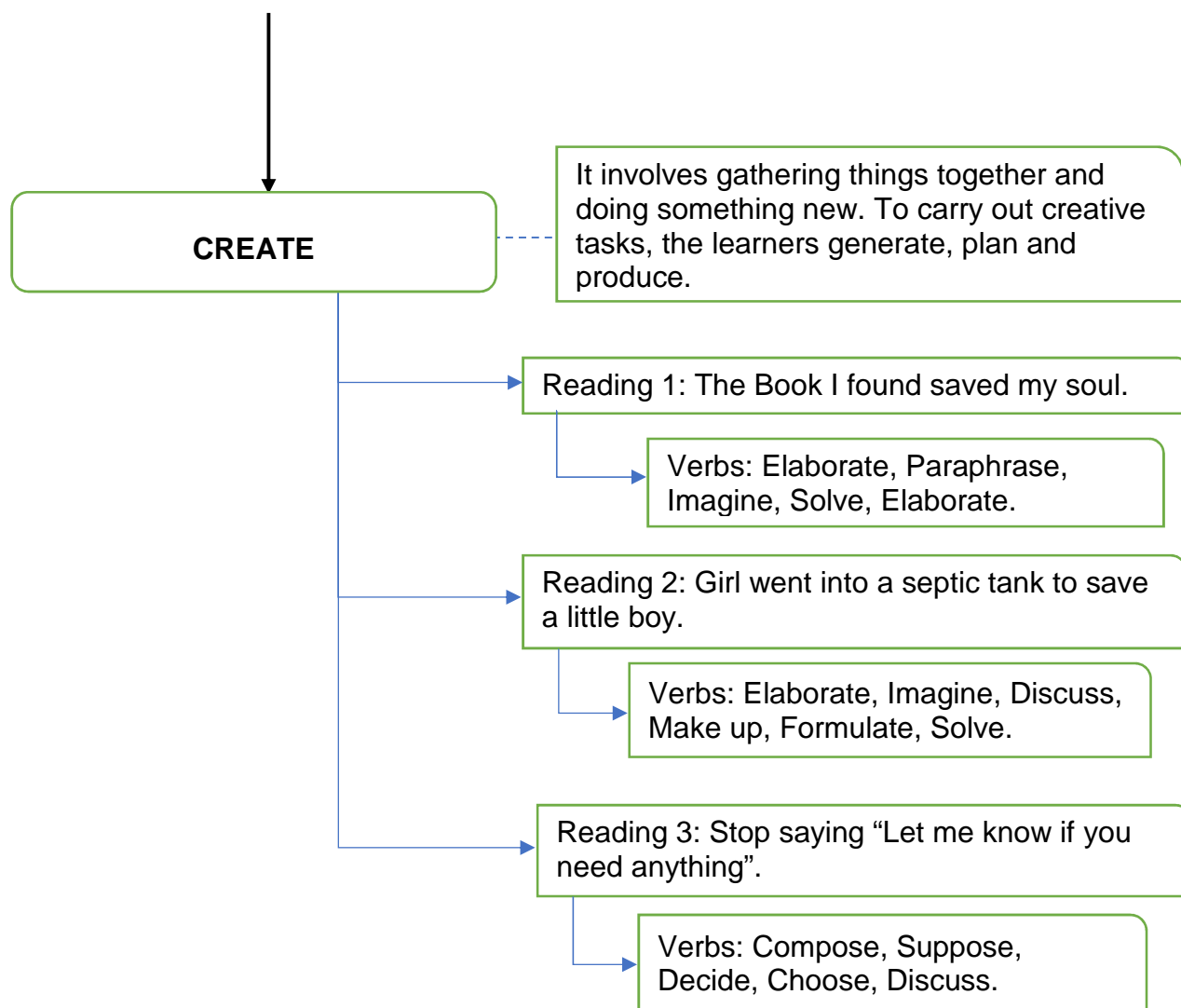


Illustration 2: Flowchart of Critical Thinking Platform  
 Source: Authors' own design

Each of the levels in the pyramid of the web platform contains three different readings inputs, which are articles selected out of the most viewed articles from well-known electronic newspapers from the US. Trendy topics for young adults were selected and included on the web platform; they range from titles like *“Non-consensual Kiss”*, *The i in the i-phone*, *“Origami-inspired muscles bring super-strong robots a step closer”*, *“The largest McDonald’s in the United States”*, to a little more serious names like *“The truth about stop-and-frisk is still elusive”*, *“Google to ditch controversial ‘first click free’ policy”*. They are illustrated and presented in in a friendly template and font size 12 so the readers are engaged and feel at ease when they undertake the task of going through the material offered.

### Origami-inspired muscles bring super-strong robots a step closer




The artificial muscles scientists created proved about six times stronger than human or mammal muscle and very lightweight  
GETTY IMAGES

Artificial muscles inspired by origami have proved capable of lifting up to a thousand times their own weight and could give a new generation of robots superhuman strength, according to researchers at Harvard and the Massachusetts Institute of Technology.

The scientists, leaders in the fast-expanding field of soft robotics, were pursuing one of the grand challenges in engineering: the development of "actuators", or

### This Is What the "I" in iPhone Stands For

No, it's not "I" as in "Me, myself and..."  
BY MEGHAN JONES



If you're an iPhone user who recently had to deal with that annoying "i" glitch, it may not have escaped your notice that a gadget called the iPhone was unable to type the letter I. But, irony aside, do you even know what that now-iconic letter I is short for?

Your first guess might be "Internet" since the iPhone's claim to fame is its ability

#### Illustration 3: Sample Reading Inputs

Source: <https://juampy681.wixsite.com/criticalthinking>

Students would always enjoy learning about some interesting facts they can share with their friends. On the other hand, once they have read the interesting facts presented to them as inputs, they will be "working" on a series of activities depending on the hierarchy chosen ranging from matching meaning, true-false statements, defining words and phrases, to providing impressions, paraphrasing, suggesting course of action, recreating possible outcomes, reformulating effects, etc., which have been developed on Google forms, hence providing teachers the possibility to follow-up on students' progress by reading their answers to thought-provoking questions aligned to Bloom's Taxonomy pyramid levels of thinking.



**Origami as Artificial Muscles**

\* Required

Email address \*

Your email \_\_\_\_\_

What muscles did the scientist design to be flexed?

Your answer \_\_\_\_\_

What are "actuators"?

Your answer \_\_\_\_\_

Scientists use \_\_\_\_\_ to make the muscles work.

Oil

Illustration 4: Sample Remember Level Questions

Source: <https://juampy681.wixsite.com/criticalthinking>

**The Book I found saved my soul.**

\* Required

Email address \*

Your email \_\_\_\_\_

Interpret the following text in your own words. "Back up the stairs I dashed, but my siblings almost knocked me back down as they ran right by me. When Mama, who had heard me through a floor vent, opened the door and stuck her head in, she simply said, "Chile, that's insulation. Now put it all back."

Your answer \_\_\_\_\_

What information from the passage would you use to support the fact that the girl from the story took the book for herself?

Your answer \_\_\_\_\_

Illustration 5: Sample Create Level Questions

Source: <https://juampy681.wixsite.com/criticalthinking>

When the students access the internet platform hosted in the Wix free service at <https://juampy681.wixsite.com/criticalthinking> they will see the pyramid with the six levels mentioned before. They can start immediately by clicking level 1 (REMEMBER) and a new window will appear with the three articles for that level. The students can read them in any order; they would probably choose the most appealing frames first.

Critical Thinking

**REMEMBER**

Exhibits memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.

EXERCISES

The image shows a digital interface for 'Critical Thinking'. At the top, there's a title 'Critical Thinking' and two icons: a house and a star. Below this is a large section titled 'REMEMBER'. Underneath, there's a description: 'Exhibits memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.' To the right of this text is a pyramid diagram with six levels, labeled from top to bottom: 'Create', 'Evaluate', 'Analyze', 'Apply', 'Understand', and 'Remember'. Below the pyramid, there are three images: a Disney-style illustration of a prince and princess, a mechanical device, and a hand holding a smartphone. The text 'EXERCISES' is positioned above the images.

Illustration 6: Remember Level Start

Source: <https://juampy681.wixsite.com/criticalthinking>

Students will be presented with a screen containing the file of the reading material corresponding to the level chosen and the access to the activities or exercises developed based on the vocabulary and the contents of the specific article. These activities are meant to help students go beyond the true-false and multiple-choice exercises to restating, creating, proposing, paraphrasing, etc.

Sample exercises at the *Analyze level*, from “Pregnant Women are Smoking Marijuana.” Reading are as follows.

- Compare and contrast the use of marijuana as a drug and the use of marijuana for medical purposes.
- Write a short paragraph about the conclusions that you can draw from this Article.
- Analyze whether pregnant women would smoke marijuana if it was illegal in California?

- Differentiate the advantages and disadvantages of using marijuana among pregnant women.
- What can you infer out of the following text: "The American Congress of Obstetricians and Gynecologists makes a valid point; it's hard to directly measure the effects of marijuana on fetal development due to lack of research and a variety of misleading factors that often accompany marijuana use in the research that does exist."

Sample exercises at the *Evaluate level*, from "This is why I left Facebook and Instagram..." Reading are as follows.

- What conclusions can you draw from this Article?
- Discriminate the things you can do in "real-life" and the things you do "online" with friends and family?
- Propose a possible solution for the FOMO (Fear Of Missing Out) syndrome.
- Elaborate a list of 6 things we could do to not feel "FOMO" (Fear Of Missing Out).
- Formulate a theory to explain why social networks are considered a disease?

Sample exercises at the *Create level*, from "Stop saying "Let me know if you need anything." Reading are as follows.

- Decide if this is a real-life story and justify the reasons for your decision.
- How did Emerson King Influence Madge Harrah's life at that moment?
- Judge whether or not Emerson King should have acted in this particular way and why?
- How could you decide what is and what is not important in a moment like the one described in the Article?
- Discuss which character in the Article you would most like to spend a day with and why.

Critical Thinking

**REMEMBER**

Exhibits memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.

READING EXERCISES

The image shows a digital interface for a 'Remember' level work page. At the top, it says 'Critical Thinking' with a home icon and a star icon. The main heading is 'REMEMBER' in bold. Below it is a descriptive sentence: 'Exhibits memory of previously learned material by recalling fundamental facts, terms, basic concepts and answers about the selection.' There are two buttons: 'READING' with an envelope icon and 'EXERCISES' with a pencil icon. On the right is a pyramid diagram with six levels: 'Create' (top, blue), 'Evaluate' (blue), 'Analyze' (blue), 'Apply' (blue), 'Understand' (blue), and 'Remember' (bottom, brown).

Illustration 7: Remember Level Work Page

Source: <https://juampy681.wixsite.com/criticalthinking>

Critical Thinking

**ANALYZE**

Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.

READING EXERCISES

The image shows a digital interface for an 'Analyze' level work page. At the top, it says 'Critical Thinking' with a home icon and a star icon. The main heading is 'ANALYZE' in bold. Below it is a descriptive sentence: 'Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.' There are two buttons: 'READING' with an envelope icon and 'EXERCISES' with a pencil icon. On the right is a pyramid diagram with six levels: 'Create' (top, blue), 'Evaluate' (blue), 'Analyze' (brown), 'Apply' (blue), 'Understand' (blue), and 'Remember' (bottom, blue).

Illustration 8: Analyze Level Work Page

Source: <https://juampy681.wixsite.com/criticalthinking>

In case teachers as well as students need some introduction to how they are expected to proceed, the section “*What should I do*” has been included in an attempt to make the offer clear-cut. By clicking on the link, they will access a brief description of the whole platform.



Illustration 9: What Should I do route

Source: <https://juampy681.wixsite.com/criticalthinking>

The students must not forget to include their e-mail address in the form, so the answers can reach their teacher’s inbox.

The procedure described will be followed with all the levels within the pyramid.

Sample answers have also been developed for the users (teachers) to have an idea of how to grade their students’ performance. It is important to emphasize that this platform has been adapted to the specific needs of the English Language Program offered at the UCSG and that updates regarding the reading topics are expected to happen at least twice a year.

## 11.6. Criteria for Assessment of Activities

To assess the exercises on the platform, a sample rubric from the internet (sp.pbl-online.org) was customized and adapted for the purpose.

LEVEL	EMPHASIS	GOAL	GRADE			
			A	B	C	D
<b>1 REMEMBER</b>	Recognition and memory, the ability to remember data in the way they were originally presented to you.	Students show that they can remember.	A	B	C	D
<b>2 UNDERSTAND</b>	Understand the meaning and intent of information -ability to explain or translate it into your own words.	Students show that they can understand.	A	B	C	D
<b>3 APPLY</b>	Use of information - ability to apply what has been learned to new situations and real-life circumstances.	Students show that they can use what they have learnt.	A	B	C	D
<b>4 ANALYZE</b>	Reasoning, -ability to simplify information in its basic components and to identify relationships between the parties and the entire unit.	Students show that they perceive and can select the most important information presented in a text.	A	B	C	D
<b>5 EVALUATE</b>	Critical evaluation - being able to use the criteria to judge and evaluate.	Students show that they can judge and evaluate ideas, information, methods and solutions	A	B	C	D
<b>6 CREATE</b>	Originality and creativity - being able to put together the complete idea of its parts.	Students show that they can combine concepts to create an original or new idea.	A	B	C	D

Chart 1: Rubric for Critical reading and writing assessment.

Source: Authors' adaptation form

sp.pbl-online.org/PlanTheAssessment/assessmentTools/worddocs/bloomsRubric.doc

## **11.7. Conclusions and recommendations**

The development of an on-line educational platform involved a thorough decision-making process demanding not only teaching, but also technological knowledge; thus, raising awareness of the fact that the teaching career is currently demanding skilful professionals willing to act upon and face academic challenges providing innovative solutions.

Having used contemporary topics for reading inputs on the platform, it would be advisable to consider updating the material available within a time frame of three to six months. Furthermore, it would be desirable that the teachers involved in developing academic writing skills suggest some more topics to be included on the academic platform.

Finally, it is essential to keep in mind that the amount of practice required by students to develop comprehensive writing skills will depend on several factors such as the initial level, the hours devoted to practicing and the follow-up provided by the teacher. In addition, it is the teacher's responsibility to assign the amount of critical reading practice that can be coped with, not only by the students but also by the teachers when it comes to checking the answers to the platform activities.

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# APPENDICES

## Appendix 1 Students' Survey

Please, take the following survey about processes that take place in your class sessions with your professors. Tick (✓) the box that best fits your perception in each case. Survey scale: 4=always, 3=usually/often, 2= rarely, 1= never.

STATEMENTS	4 Always	3 Usually/ Often	2 Rarely	1 Never
1. Professors allow students to define concepts.				
2. Professors encourage students to describe concrete concepts.				
3. Professors provide ways for students to apply rules and principles learnt in class.				
4. Professors let students distinguish rules and principles.				
5. Professors plan activities that will encourage students to plan problem solving strategies.				
6. Professors create conditions within which students evaluate their cognitive strategies.				
7. Professors allow students to memorize concepts.				
8. Professors encourage students to discuss concrete concepts.				
9. Professors help students demonstrate rules and principles.				
10. Professors let students differentiate rules and principles.				
11. Professors plan activities that will encourage students to propose problem solving strategies.				
12. Professors create conditions within which students rate their cognitive strategies.				
13. Professors allow students to repeat concepts.				
14. Professors encourage students to explain concrete concepts.				
15. Professors help students translate rules and principles.				
16. Professors let students compare rules and principles.				
17. Professors plan activities that will encourage students to design problem solving strategies.				
18. Professors create conditions within which students judge their cognitive strategies.				
19. Professors allow students to name concepts.				

20. Professors encourage students to identify concrete concepts.				
21. Professors help students manipulate (use) rules and principles.				
22. Professors let students contrast rules and principles.				
23. Professors plan activities that will encourage students to arrange problem solving strategies.				
24. Professors create conditions within which students justify their cognitive strategies.				
25. Professors allow students to recall concepts.				
26. Professors encourage students to recognize concrete.				
27. Professors help students practice rules and principles.				
28. Professors let students critique rules and principles.				
29. Professors plan activities that will encourage students to organize problem solving strategies.				
30. Professors create conditions within which students summarize their cognitive strategies.				
31. Professors allow students to label/name concepts.				
32. Professors encourage students to locate concrete concepts.				
33. Professors help students illustrate rules and principles.				
34. Professors let students examine rules and principles.				
35. Professors plan activities that will encourage students to modify problem solving strategies.				
36. Professors create conditions within which students appraise their cognitive strategies.				

## Appendix 2

### Teachers' Survey

Please, take the following survey about cognitive process practiced with your students in class. Tick (✓) the box that best fits your perception in each case. Survey scale: 4=always, 3=usually/often, 2= rarely, 1= never.

QUESTIONS	4 Always	3 Usually/ Often	2 Rarely	1 Never
1. I allow students to define concepts.				
2. I encourage students to describe concrete concepts.				
3. I help students apply rules and principles.				
4. I let students distinguish rules and principles.				
5. I plan activities that will encourage students to plan problem solving.				
6. I create conditions within which students evaluate their cognitive strategy.				
7. I allow students to memorize concepts.				
8. I encourage students to discuss concrete concepts.				
9. I help students demonstrate rules and principles.				
10. I let students differentiate rules and principles.				
11. I plan activities that will encourage students to propose problem solving.				
12. I create conditions within which students rate their cognitive strategy.				
13. I allow students to repeat concepts.				
14. I encourage students to explain concrete concepts.				
15. I help students translate rules and principles.				
16. I let students compare rules and principles.				
17. I plan activities that will encourage students to design problem solving.				
18. I create conditions within which students judge their cognitive strategy.				
19. I allow students to name concepts.				
20. I encourage students to identify concrete concepts.				
21. I help students manipulate rules and principles.				

22. I let students contrast rules and principles.				
23. I plan activities that will encourage students to arrange problem solving.				
24. I create conditions within which students justify their cognitive strategy.				
25. I allow students to recall concepts.				
26. I encourage students to recognize concrete concepts.				
27. I help students practice rules and principles.				
28. I let students critique rules and principles.				
29. I plan activities that will encourage students to organize problem solving.				
30. I create conditions within which students summarize their cognitive strategy.				
31. I allow students to label concepts.				
32. I encourage students to locate concrete concepts.				
33. I help students illustrate rules and principles.				
34. I let students examine rules and principles.				
35. I plan activities that will encourage students to modify problem solving.				
36. I create conditions within which students appraise their cognitive strategy.				

### Appendix 3

#### Survey on students' perception regarding the use of a Virtual Platform for learning

Please, take some time to respond to this Learning Experience survey. Tick (✓) what best applies to you in each case

1. How confident do you feel on using a Virtual Platform for your university studies?
  - a.) \_\_\_ very confident
  - b.) \_\_\_ enjoy the challenge
  - c.) \_\_\_ a little apprehensive
  - d.) \_\_\_ very apprehensive
2. How helpful do you think computers and the use of the Internet are for your studies?
  - a.) \_\_\_ very helpful
  - b.) \_\_\_ helpful
  - c.) \_\_\_ not helpful
  - d.) \_\_\_ hindrance
3. Do you have exclusive access to a computer for your studies?
  - a.) \_\_\_ Yes
  - b.) \_\_\_ No
4. Do you have an internet connection in the place where you normally do your tasks?
  - a.) \_\_\_ Yes
  - b.) \_\_\_ No
5. Have you faced any problems when submitting your work through a Virtual Platform?
  - a.) \_\_\_ Yes
  - b.) \_\_\_ No

#	Question	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
6	Would you enjoy learning/improving your reading and writing skills through the use of a Virtual Platform?					
7	Would you enjoy working on a Virtual Platform rather than using a book/notebook?					
8	Do you consider the ease on the operation of a Virtual Platform is a decisive factor on whether you choose to use it?					
9	Do you think it is easier/better to learn by using a Virtual Platform?					
10	Do you prefer traditional learning in a classroom setting rather than the use of a Virtual Platform?					



## DECLARACIÓN Y AUTORIZACIÓN

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## REPOSITORIO NACIONAL EN CIENCIA Y TECNOLOGÍA

### FICHA DE REGISTRO DE TESIS/TRABAJO DE TITULACIÓN

<b>TÍTULO Y SUBTÍTULO:</b>	Enhancing Critical Writing Skills of UCSG's Pre-Professional Level Students of the School of English Language towards Successful Development of Written Academic Texts		
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<b>PALABRAS CLAVES/KEYWORDS:</b>	Critical Thinking, Critical Reading, Critical Writing, Bloom's Taxonomy, Complementary Tool, Supplementary tool.		
<b>RESUMEN/ABSTRACT (150-250 palabras):</b>			
<p>This research report presents the results of a quantitative study carried out at the English Language School of the Catholic University of Santiago de Guayaquil. The first part of the report portrays the data gathered through the Critical Thinking and Writing Test, which was applied to the 30 students of the pre-professional level of the English Program. The second part shows the product of the application of two surveys used for determining the application in class of Bloom's Taxonomy higher order levels of thinking given to the target population and to the faculty. Results show students have not extended their knowledge to internalize and analyze thoughts and put them into their own words. Their language is most of the times inaccurate, partially correct and sometimes misleading. It is complicated for the group to interpret and conclude ideas. It was also proved the population's higher-order-critical thinking skills are underdeveloped Nevertheless, the data that comes from the surveys related to the use of Bloom's higher order thinking skills in class revealed that the perception of the target population and of the faculty is that both groups use those thinking skills with consistency. The design of a proposal based on technology and access to internet is offered as a complementary or supplementary tool to improve the writing skills of the students of the English Language School.</p>			
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