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Maestría en Lengua Inglesa y Lingüística Aplicada

**The Effect of Moodle in the Learning Process of the Reading
Comprehension Subject, School of English Language and Literature,
University of Cuenca.**

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Resumen

En la presente investigación, se ha aplicado el método hipotético-deductivo, el cual conlleva una hipótesis planteada en relación al problema en cuestión. Su principal propósito es definir el efecto del uso de la plataforma *Moodle*; también conocida como, Ambiente de Aprendizaje Virtual, en el proceso de enseñanza de la asignatura de Lectura Comprensiva en la carrera de Lengua y Literatura Inglesa, Universidad de Cuenca, durante el semestre Marzo–Julio.

La teoría socio constructivista y la combinación de diversos recursos tecnológicos en la plataforma fueron los pilares fundamentales de este estudio en el diseño de actividades para el desarrollo y dominio de estrategias de lecto-escritura. Después de cuatro meses de intervención a un grupo intacto de 36 estudiantes, quienes tomaban la materia en cuarto nivel, los resultados demuestran, a través de un análisis cuantitativo-cualitativo, la eficacia de este recurso virtual en el desarrollo de destrezas de lectura por parte de los estudiantes, a la vez que los motiva en el proceso y fomenta un aprendizaje cooperativo.

Palabras Claves: Plataforma Moodle, aprendizaje virtual, teoría socio constructivista, estrategias de lectura, motivación, análisis cualitativo-cuantitativo.



Abstract

Moodle as an e-learning virtual learning environment promotes substantial and progressive outcomes by fostering a social constructivist approach in the learning process. Studies suggest this platform has become a valuable tool in the development of knowledge through the interaction and active participation of its participants. A considerable amount of research has been extensively conducted on its creation and structure. However, less attention has been paid to its effect in the mastering of reading strategies. Hence, it is of interest to carry out a hypothetical-deductive investigation by comparing pre- and post- data, regarding this need. Thus, the study is administered to a non-random sample group of 36 students, taking the subject of Reading Comprehension at a regular fourth level class, for four months. These learners developed reading tasks by means of the combination of interactive activities and resources Moodle provides and the material designed and uploaded on the platform by the researcher. Interestingly, the results demonstrated the effectiveness of this e-learning resource, as it shows a significant enhancement in learners' reading skills. Consequently, it is conceivable to state that the use of Moodle gives learners the opportunity of developing their reading skills at the time it motivates them to build a collaborative community of learning.

Keywords: Moodle, e-learning, social constructivist approach, reading strategies, motivation, activities, collaborative community.



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Dedication

To the Lord, God, who has been my strength, to my beloved husband, Pablo, who has always been my outright support, to my dear parents, Nazareno and Cecilia, who struggled really hard to give me the opportunity to succeed in life, to my cherished sister, Daniela, and my gorgeous niece, Shelly, and especially to my precious children, Nohelia and Thiago, who have been noble enough to share our time together with the sole idea of encouraging my aspirations.

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Introduction

The use of technology in education has revealed several benefits as time has gone by. It has provided both learners and educators with certain effective tools for the acquisition of knowledge and the improvement of learning procedures. One example is the use of the Internet, being considered not just a source of information, but also an e-learning provider of diverse and specific web-based applications like *Moodle*; thus, encouraging students to use and combine assorted kinds of material, at the time, they interact to one another in real-time situations (Martin and Serrano 1).

Based on previous and current research, the use of Moodle as a Course Management System (CMS) or also known as a Learning Management System (LMS), has triggered positive effects and meaningful results in education, as it fosters the construction of an independent but at the same time constructivist knowledge in the learning process.

Through this platform, the reading process becomes more attractive and effective, as it allows the integration of different and useful e-learning devices for the creation of activities, which encourage a collaborative practice among its participants.

Nowadays, this resource is being studied by many researchers at diverse areas, consolidating and validating its use. According to Ana Paula Lopes, in her article, *Teaching with Moodle in Higher Education*, Moodle gives the opportunity to merge both face-to-face instruction with computer-mediated instruction, being known as *blended learning*. Additionally, she states, " Moodle tools can provide interesting alternatives to promote a more significant learning and contribute to the development of flexible and customized models of an evaluation which we want to be more efficient" (1).

Considering all of these aspects, a complete analysis and synthesis are executed in order to accept or reject the hypothesis of this research work, dealing with the impact of using Moodle in the development of reading strategies.

This paper presents a description and purpose of the study, as Moodle is found as a fascinating courseware tool in the acquisition of knowledge. In fact, this paper encompasses relevant information regarding Moodle social



constructionist pedagogy, where interpretation plays an important role rather than just transmitting or absorbing information, as it leads learners to construct something for others to experience called *collaborative learning*, being mentioned by Vygotsky and other authors.

Additionally, it includes five basic categories which have been selected with the purpose of guiding the crucial stages of this investigation, such as the Role of Technology in Education, the Internet as a classroom tool, Moodle as a Managing Learning System, Social Constructivism and Teaching Reading Comprehension to EFL Learners. During its development, remarkable authors are quoted as well as their concepts and ideas with the purpose of making this study reliable.

The methodology and its treatment are described in an effort to support or disprove the hypothesis and the dependent and independent variables of the research. Moreover, it addresses outstanding information with respect to the sample and data collection techniques with the purpose of keeping students' observations, perceptions and insights. In addition, some surveys were administered to the participants to verify and triangulate data. A deep reflection is done on each one, as they show learners' views.

Lastly, this study comprises data collected during the process and a report of the results by means of descriptive and inferential statistics, which could lead to some conclusions and recommendations for further research.



Chapter I

The Problem

1.1. Topic

The Effect of Moodle in the Learning Process of the Reading Comprehension Subject, School of English Language and Literature, University of Cuenca.

1.2. Description of the Problem

The School of English Language and Literature at the University of Cuenca, teaches writing, speaking and reading skills as individual subjects. In the case of reading, the subject is called *Reading Comprehension*. Based on the previous grades students have got and my teaching experience in this subject (five years), it is seen that students are not achieving a quality-level performance. A possible cause could be that the learning process of this skill is based on a textbook which lacks both a suitable methodology and a varied amount of activities to foster the development of the reading skill.

1.2.1. Prognosis

The implementation of technology, in terms of a virtual platform, in the learning process of the Reading Comprehension subject must be sorted out immediately; otherwise, the results will continue being deficient, in the sense students will not develop their reading skills to the expected level. Consequently, learners will not be able to do well on upper subjects whose level of difficulty increases along the major. In fact, students will not read and understand textbooks and passages to the level required by the school.

1.2.2. Problem Set Up

Towards the solution of the problem, the following research question has been raised, to what extent does the application of interactive activities, through Moodle, help students develop their reading strategies?

1.2.3. Defining the Object of Investigation

1.2.3.1. Spatial Defining

The development and application of this research will be carried out at the School of English Language and Literature in the School of Philosophy, University of Cuenca, which is a state university in the city of Cuenca, Ecuador.

1.2.3.2. Temporal Defining

The estimated period of time for the application of the treatment, to a sample group of 36 middle class second semester young-adult and adult learners whose ages range from 19 to 30 years old, will be four months from March to July 2013, seven hours per week.

1.3. Justification

Due to the fact that the material used to teach the Reading Comprehension subject has shown some drawbacks, as seen in the problem; opens up a door to the initiative of providing both teachers and students with updated and interactive reading material through the application of a virtual platform, Moodle.

Star Iglesias in his online article, “The use of technology in second language acquisition”, mentions that both computers and the Internet have come to play an important role in the acquisition of a foreign language and are considered effective resources in the promotion of the learning of English. Nowadays, teachers have access to new and more innovative technologies, which offer students the opportunity to enhance their reading strategies through the use of different tools and activities such as forums, chat-rooms, guided – tasks and readings linked to web sites.

Therefore, designing, integrating and implementing well-oriented reading activities on Moodle in the developing of reading strategies, would be of great contribution to learners as it could help them develop and enhance their reading skill.



1.4. Objectives

1.4.1 General Objective

- To determine the effect Moodle has over the development of reading strategies in the Reading Comprehension subject, School of English Language and Literature, University of Cuenca.

1.4.2 Specific Objectives

- To entirely create and develop three virtual units based on the textbook “*Strategic Reading 1*”.
- To train students on the use of Moodle.
- To foster the development of effective reading strategies through the use of Moodle.
- To determine the effectiveness of using interactive activities on Moodle to develop reading strategies.

Chapter II

Literature Review

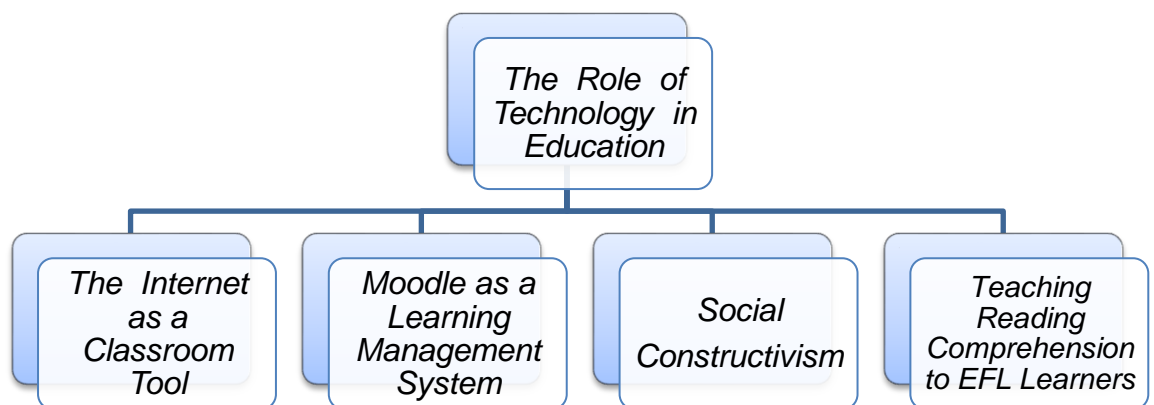
In the writing of the literature review to endorse the research work, some journals, articles and textbooks were read and analyzed in order to attain relevant and useful information to be included in it. Additionally, the literature review matrix, suggested by Professors DeVillar and Jiang (see Appendix 23), was used to organize and store major elements coming from relevant articles related to the topic. This matrix was useful in the sense that it provided the researcher with a guide and support for the development of the literature review.

2.1 Research History

After delving into the topic, it was realized there had been a few case studies and an aforementioned research regarding the effects of using the virtual platform, Moodle, to enhance reading comprehension and develop reading strategies with EFL learners.

2.2 Basic Categories

The following are the basic categories which have been designated with the purpose of guiding the essential aspects of this investigation.



Figures 1 - Basic Categories - Conceptual Inclusion



2.2.1 The Role of Technology in Education

The role of Information and Communication Technology (ICT), specifically the Internet, in the education scope has been important; especially in the process of introducing technology into educational activities. According to Saverinus Kaka in his online article, *The role of ICT in Education Sector*, “ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process.”

Paul Steinberg, in his online article *The Role of Technology in Education*, states that technology has also become part of the syllabus. Students create their own presentations, visual aids and investigations by means of the Internet. On the other hand, he says that the increasing emphasis and promotion of autonomous learning of foreign languages and the broadening role of online technologies have developed the major features in language teaching.

Nowadays, educators are required to contribute to society with positive changes and meaningful challenges in education. In fact, they have as their duty to form learners as the future leaders mankind needs. Therefore, educators must eagerly take in new methodologies and modern technologies which will allow students to achieve their current learning goals and their future contribution to society in any context.

The article, *Why Use Computer Technology in Education?*, states that technology and digital media have the power to aid students in meeting their learning objectives when they are used properly. Indeed, they can provide real and effective opportunities embracing problem solving issues and decision making, skill-building practice, discovery learning and interactive and social constructionist education and culture (Shelly et al.11).

Besides, the use of technology can support communication and interaction beyond classroom walls as the acquisition and sharing of knowledge does not conclude in a class period (Shelly et al.11). Students are encouraged to contribute to each other’s learning construction by analyzing, judging, solving, consolidating and socializing ideas as a whole.

Lastly, according to a broad education research, the use of technology in the classroom can be motivational. Educators have ascertained that technological resources such as computers, the Internet, virtual learning



environments and digital media can capture and maintain students' attention; thus, facilitating authentic learning experiences (Shelly et al.11).

2.2.2 The Internet as a Classroom Tool

By the mid-1990s, the Internet initiated a remarkable impact on most aspects of professional life, including Computer Applications in Second Language Acquisition - CASLA. In fact, the Internet hosted worldwide access to CASLA materials; thus, fostering the creation of discussion groups on the Internet (Chapelle 23).

This technological resource provided fascinating opportunities for independent learning and self-assessment. It was available for everybody with no restrictions different from the past when it used to be just for specific purposes and for selected institutions. Through the use of CALL, Computer Assisted Language Learning, universal communication among learners emerged, either among students from particular classes elected by their instructors or autonomous learners who decided to participate in computer-mediated communication for language learning (Chapelle 23).

In addition, Carol Chapelle, in her book, *Computer Applications in Second Language Acquisition*, quotes Cummins and Sayers (1995), mentioning what they think in relation to the latent advantages of Internet collaboration for second language acquisition in terms of distance and asynchronicity (24).

According to these authors, distance allows the opportunity of teamwork with unidentified but knowable addressees, primarily through written communication. Regarding asynchronicity, they state, "it permits second language learners the extra time they need to elaborate and polish written texts based on models of native speakers of the target language while seeking and relying heavily upon their local language and cultural resources" (1995: 32-33). It is worth mentioning that Cummins and Sayers refer to educators, peers and community participants as the cultural resources (24).

As time went by, the Internet became a powerful tool in the classroom. Indeed, it gave way to a new type of education breaking the barriers of the traditional schoolroom provoking the beginning of a new pedagogy encompassing interaction, cross-cultural communication and social constructivism (Chapelle 24-25). The following examples quoted in Chapelle's



book by other writers provide meaningful information which confirm the effectiveness of this pedagogy.

First, Sanaoui and Lapkin (1992) found out that “ electronic communication among English and French learners in grade 12 provided them with good language practice and increased their appreciation for the target language” (25). Second, Warschauer and Lepeintre (1997) found that “ discussion groups on the Internet take place in many different languages providing learners with convenient access to native and proficient speakers of the target language” (25).

According to Scott Windeatt, David Hardisty and David Eastment, in their book, *The Internet*, this is a powerful tool which not only provides information of any topic, but also presents challenges and amazing experiences to both the educator and the apprentice, including problem solving, analyzing, inferring and collaborating in the searching and construction of knowledge. Indeed, the task of searching for information and data requires teachers’ and students’ abilities and judgments as the diversity of material is so huge that it is necessary to know how to take advantage of it (5).

2.2.2.1 Why use the Internet for language learning?

Windeatt et al. mention that the Internet has become an interesting and useful resource for language learning as it provides a wide range of meaningful information, images and videos which are being used in the learning process of any subject and especially in the acquisition of a target language. Moreover, they state that it also serves as a means of communication which allows students to converse and interrelate with people from their own society and worldwide in a cheap, quick and reliable manner (6).

Additionally, it is stated that this tool has permitted the exposure of the student to the real world which was really difficult some time ago when the book and the board were the only resources the teacher possessed to teach. In fact, this has motivated learners to perform more interesting tasks by means of all the resources it provides. Notwithstanding, it is important to keep in mind that each activity or task must have a language-learning purpose and should never be designed only to display the technology (Windeatt et al.7).



Regarding *copyright*, Windeatt, Hardisty and Eastment recommend not to avoid access to inappropriate information on the Web. Instead, it is convenient to enable learners to select by themselves which type of content is useful and which not. This decision making permits and encourages the students to develop their critical abilities and their responsibility at the time of dealing with content (7).

2.2.2.2 How can the Internet be used for language learning?

In the same book, *the Internet*, it is mentioned that this device can be considered an effective tool in class only if it is really exploited by the teacher and the students when using it, taking into account the methodology to be applied in the process (Windeatt et al. 8).

At this point, how to arrange the computer rooms goes hand in hand with the methodology to be used. It is ideal to provide a computer to each student if conditions and equipment are accessible; however, if this is not the situation, a computer for every two or three learners would be favorable. A perfect scenario would be to place the computers around the walls, or in groups; thus, having sufficient space to move all over the place (Windeatt et al. 8).

The use of the Internet in a classroom has an advantage. This is the Internet which does not require students to learn how to use a huge number of programs. As a matter of fact, it needs merely a *browser*, “to allow access to the pages of the Web”, and an *email program* (Windeatt et al. 8).

When training students in its use, it is advisable to recognize foremost what kind of skills trainees need to get linked and to perform activities on the Internet. The authors of *the Internet* emphasize the importance of having a clear idea of these skills, since educators often assume that their learners have these skills, which sometimes hinders a worthy development of the learning process (Windeatt et al. 9).

As a contribution, there is a suitable checklist given by Windeatt et al., which can be administered to students in order to know in advance what skills they have concerning the use of the Internet. It can be marked by the learner or verified by the professor in practice (9).



	<i>I can:</i>
	Start a browser
	Type in a URL
	Scroll around a page
	Identify a graphic
	Find a word in a long Web page
	Open a new window in the browser

Chart 1 - A sample checklist

Once the students are ready to search on the net, they turn aside their attention from the teacher, as the center of the class, to their task and the opportunity to choose the content they want to investigate at their own level and at their own pace. For instance, “ if students have to visit newspaper sites in order to produce their own newspaper, they can be given a choice of Websites, of the kind of news they select, and of the task they are to carry out with the news they find” (Windeatt et al.10).

The teacher meanwhile has the chance to work around the class with individuals and clusters. This situation helps to maximize the time and afford personalized education that normally does not frequently happen in regular classes (Windeatt et al. 10).

According to Windeatt et al., there should always be a follow-up activity to be performed in the classroom after using the Internet in order to consolidate knowledge (11). It is also important to make sure that students can share or save the material they have produced in the lab for subsequent feedback (11).

Moreover, self-study activities should be included in the syllabus of any subject in the way of preparatory or follow-up activities like individual or group projects (Windeatt et al.12). Indeed, according to these authors, “some schools provide self-study pathways, for students to follow, like *Web bookmarks* for specific learning tasks” (12). These resources can enable students to organize

their information and data by topic or level of difficulty, but they are time-consuming to generate.

Lastly, Windeatt et al. bring up the fact that there are six effective rules for using the Internet for language teaching, which in their opinion, should be considered by educators, as follows (13-14):

1. *Be prepared:* Revise the material in advance, especially Web page which have been used in former classes, as they may have changed. It is also appropriate to prepare extra activities in case of technical problems.
2. *Be patient:* It is advisable to be patient when the Internet runs slowly or there is no access to certain Websites. This is a phenomenon which commonly occurs.
3. *Be organized:* The use of *Bookmarks* and *Favorites* can facilitate the organization of sites and data. "Get into the habit of keeping a record of pages you visit which you think might be useful in the future". (14)
4. *Be exploratory:* The Internet is permanently showing up new material and including new web sites for language learning. "Use your imagination, try things out, and take the occasional risk!" (14)
5. *Be co-operative:* There are plenty of websites and a large amount of information and materials that cannot be found by a single person. Share these with other educators and learners. A sharing experience might be more meaningful and enriching.
6. *Be realistic:* It is essential to realize that the Internet is a *tool* or a *resource* which can be really useful if we can understand its strengths and weaknesses.



2.2.3 Moodle as a Learning Management System

According to Mohamed Sanoulla, in his online article, *Moodle-Web based Virtual Learning environment*, Moodle is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a free web application that educators can use to create effective online learning sites. Its purpose is to give educators the best tools to manage and promote learning.

Sanoulla emphasizes on the fact that there are many ways to use it. Firstly, it is useful for many institutions as their platform to conduct fully online courses. Secondly, it can be used to build collaborative communities of learning around a certain topic or subject by applying databases and wikis. Thirdly, it is used to deliver content to students and assess learning through assignments or quizzes.

Complusoft, an international Information Technology and Communications company, in its online manual, states that Moodle, whose creator was Martin Dougiamas, an administrator of WebCT at Curtin University of Technology, was designed to promote a social constructionist pedagogy, including collaboration, activities and critical reflection.

According to this manual, the heart of Moodle is the platform itself which provides facilitators with the opportunity to create activities and resources. There is a wide range of available resources and activities such as file, label, URL, assignment, chat, choice, database, forum, glossary, quiz, wiki, workshop, timetable, among others. There are also certain other external resources that complement Moodle, which permit the building of communities of learners like blogs, messaging, participant lists and reports (Complusoft). In this frame, Rice and Smith present the instructional principles and activities mapped to Moodle features (19-20):



<i>Moodle feature</i>	<i>Instructional function</i>	<i>Learning theory</i>
<i>Assignment</i>	Organization: The instructor defines a task that must be completed by the learner. It often links back to study materials	Conditions of learning
<i>Chat</i>	Interactive, collaborative learning, comprehension, and evaluation	Social learning, communities of practice, and Emulatory learning
<i>Choice</i>	Classification, application, analysis, and comprehension. It permits creation of multiple choice questions for polls, reviews or assessment.	Schemata
<i>Database</i>	Analysis and collaborative learning. It allows students to share resources and to evaluate the reliability of online sources found in the process.	Experiential learning and social practice
<i>Forum</i>	Collaborative learning, analysis, and synthesis. It is possible to develop discussion boards, peer review areas, and group project spaces.	Social practice, communities of practice and experiential behaviorism
<i>Glossary</i>	Comprehension and schemata-building Comprehension and analysis. This tool is great for students to master, create and maintain a list of definitions like a dictionary.	Schemata and conditions of learning
<i>Quiz</i>	Comprehension and analysis	Schemata, emulatory learning, and behaviorism/ operant conditioning
<i>Wiki</i>	Collaborative learning, application, synthesis, and	Social learning, social practice, and



	evaluation	communities of practice
Workshop	Application and evaluation	Social practice and experiential learning
Timetable	Organization: It is an excellent tool for assuring student success.	Conditions of learning

Chart 2 – Moodle Instructional Principles (Rice and Smith)

Another relevant aspect this manual presents is related to the essential characteristics of a virtual learning environment, flexibility and adaptability, so it can answer to the needs of the participants using it. In fact, it is important for a learning facilitator to provide opportunities to his/her students to come up and share ideas, ask questions and express their knowledge (Complusoft).

According to Guillermo Pacheco, in his research work, *B-Learning: Its Influence in a Communicative-Approach, EFL Classroom*, Moodle is a free web application which can be used by teachers in order to create effective virtual learning environments. In fact, everyone who is part of it by studying or teaching an online course is considered to be a *Moodler* (30).

As time has gone by, the University of Cuenca has promoted the participation and interest of many teachers and students towards the development and performance of these virtual environments. Every semester, professors create new online courses to facilitate and improve the learning process. Moodle has become an essential resource, thus promoting successfully electronic learning – e-learning.

Understanding the term *e-learning* is not a difficult task once you get right down to it. According to Guillermo Bautista, et al., in the book *E-learning: Del docente presencial al docente virtual*, e-learning is any electronic means of distribution and support learning, generally, through the use of the Internet and electronic media related services like computer learning, virtual classrooms and digital collaboration. This often requires effective collaboration among diverse authors, and it is used for a wide range of activities and objectives (13).

Based on this definition, Moodle has become fairly significant for this research work, as an e-learning resource, to develop reading strategies in the acquisition of the target language, English, as it promotes a social constructivist

learning. Thereby, some important steps have to be considered when creating online courses on Moodle.

First of all, students are required to sign in by giving them a username and a password to become part of the virtual group. Once, they are able to log in, learners have to be taught step by step how to use the platform. Additionally, it is advisable to ask students to answer a short survey, found on the platform itself, concerning the use and knowledge of Moodle. At this stage, it is proper for the facilitator to spend some time with the students to teach them how to use it, which will allow the teacher to start with its application immediately.

2.2.3.1 Creating the material

As Guillermo Pacheco states in his research paper, “this might be the most overwhelming part of working with a blended approach due to the fact that the material to be taught has to be uploaded in advance” (32). Indeed, creating the material does take time as there are key elements that need to be taken into account in order to suit both the teacher’s and students’ objectives.

First of all, the aim of each unit must be clear enough for both educators and learners. So the material has a learning purpose.

Second, the content embraced in each activity has to be updated and needs to go in coherence with students’ level and interest.

Third, the material has to be revised and edited. Once the material of the units have been carefully chosen and elaborated, everything has to be cautiously connected, as it is a guide for students to be followed step by step. It is not possible to assume that students understand what to do if every single activity or resource does not contain specific instructions. As a matter of fact, William Rice and Susan Smith, in their book, *Moodle 1.9 Teaching Techniques*, suggest it is important to organize the courses chronologically for two reasons: First, because it is practical. Second, because the tools permit a sequential presentation of material (18).



2.2.3.2 Moodle –Principles

Moodle in its website states that it has been designed as an e-learning resource to facilitate the teaching and learning process under a social constructivist theory and practice, as it can be seen in its five principles:

1. *We are all potential teachers as well as potential learners.*

Through Moodle, learners can change their roles as moderators and take managing roles in learning. Some of the activities this platform offers for this effect are the following: forums, wikis, glossaries and data bases. In fact, it is stated in *Moodle* that this platform, “allows learners to control common content; thus, encouraging students to add to the total course experience for others”.

2. *We learn well by creating and expressing for others.*

This is another valuable principle presented by Moodle, which encourages students to create their own material at the same time that they share it and support one another cooperatively (Moodle). As Guillermo Pacheco mentions in his research work, through this principle, “students are creating at the time they are expressing new ideas to others” (34). An example of this can be a wiki made by all the actors as a group responding a complex question (Moodle).

3. *We learn a lot by watching others.*

This principle is really meaningful, as it is a perfect sample of constructivism, allowing students to learn basically by constructing knowledge by themselves. Students are stimulated to analyze, criticize, consult, associate, develop and come up with their own ideas and reveal their understanding at the time they are enriching each other. For instance, forum posting (Moodle).

4. *Understanding others transforms us.*

In a regular class, it is known that not all of the students take part in it in the same way. As a matter of fact, there are always those students who are



really dynamic and are not afraid of expressing their ideas in front of their classmates and those who are too shy to express their thoughts, comments or opinions.

Through Moodle, educators have the opportunity to access these students. This is a phenomenon which does not occur in a face- to- face environment (Pacheco 34). *Chatting* is a good activity to solve this problem. It helps teachers to make some methodological modifications and give the support students need during the process, as it reveals students' insights (Moodle).

5. We learn well when the learning environment is flexible and adaptable to suit our needs.

This platform facilitates the teaching-learning process in the way it is open change during its creation and performance. Indeed, through Moodle, to students become more independent and capable of constructing their own learning and overcome any difficulty.

It allows its users to add, drag or drop information, to include external systems which can be incorporated effortlessly to keep authentication and to mirror any activity or resource at any time. An example can be the *gradebook* (Moodle).

2.2.4 Social Constructivism on Moodle

2.2.4.1 Moodle-Philosophy

Moodle is a Course Management System (CMS) which entails in its design and development a *social constructivist pedagogy*, encompassing four transcendental notions. These are constructivism, constructionism, social constructivism and connected and separate (Rice and Smith 10).

Constructivism: Students are immersed in a free and comfortable environment where they attain new knowledge, as they interact simultaneously with others in the development of course activities (Rice and Smith 10).



Constructionism: It refers to the advantage Moodle presents of constructing learning experiences for others. This concept can be understood by exemplifying the use of the *learning pyramid*, being a remarkable strategy to develop learning effectively, as it states, “learners retain 90% of what they teach others” (Rice and Smith 10).

Social Constructivism: The paramount characteristic of this concept is learning through the direct contact of a culture. Learners learn more by interacting with one another rather than just reading textbooks or watching videos of diverse topics. According to Rice and Smith, this interaction would enhance and hasten the learning process (10).

In other words, “knowledge is strengthened if you can use it successfully in your wider environment” (Moodle). When stating this phrase, it is meant to say that an individual can learn, of course, by receiving information (watching videos and reading); notwithstanding, there is more than just receiving or transmitting information. An individual has a successful learning when he or she is capable of interpreting, judging, assimilating and using facts, ideas, truths and principles in his or her own social context (Moodle).

At this point, it is outstanding to quote a phrase found in the web site *Moodle*, “When one is immersed within a culture, one is learning all the time about how to be a part of that culture, on many levels”. This is what happens when working with a well-designed virtual environment.

Connected and separate: An advantage of Moodle is it permits students to select which approach is more suitable at a certain situation (Rice and Smith10). Indeed, it implies some classes of behaviors.

One of them is known as *Separate behavior* when the student defends his or her own ideas by being objective. Logic plays an important role in this approach. Another one is known as *Connected behavior* when the student makes an effort to understand his or her classmates’ points of view by asking questions and listening carefully to their declarations. A third one is called *Constructed behavior* when the learner is sensitive to both behaviors and is



able to choose the most adequate one according to the existing situation (Moodle).



2.2.4.2 Social Learning and Cultural Constructivism

“According to many psychologists, our culture constructs us and we learn from the environment and from each other” (Rice and Smith 14). The experience of working with Moodle on this research has opened doors to further meaningful applications, as this platform allows educators and learners to develop their knowledge by collaborating with each other in the sense that they share their experiences, ideas, concepts, judgments and opinions in a cultural context, being everyone part of the whole. In this environment, students are the main actors of the study.

As stated by the Russian theorist Vygotsky, quoted in Rice and Smith, “knowledge is transmitted (or created) by the culture and the group”(14). Regarding this conception, learners can make their own decisions by determining what is considered knowledge for them and what is not. For instance, the use of *wikis* on Moodle is a remarkable sample of this social learning (14).

As said by Rice and Smith, this platform must be a real guide with clear instructions for the participants, so they can become independent actors in the process. Interaction takes place at every step which leads to the foundation of a community in permanent collaboration. These aspects of collaboration and interaction can be of two types (49).

On one hand, *asynchronous interaction* entails discussions related to instructional materials (videos, audio, among others) with the purpose of sharing participants’ perceptions and projects. Also, sharing work and observing samples are part of this type as students learn by means of imitation and illustration (Rice and Smith 49). On the other hand, *synchronous interaction* enables participants, “to communicate with each other in real time” (50). Actually, chat or text messaging is perfect for this purpose, as it gives the space for sharing notions and beliefs by the actors. Through the use of chat, students are able to, “send each other files, post presentations, revise, emend and expand the work of others” (Rice and Smith 50).



As well, *scaffolding* is another concept to be considered when evolving communities of collaboration, as it gradually provides the support students need before they can become independent learners. This concept (quoted in Rice and Smith 95) was settled by Bruner in 1975, stating that to have a model, referring to a teacher, is a valuable resource, as he or she executes the activity, which later is accomplished by the student in a free and autonomous manner.

2.2.4.3 Constructivist Conceptual Foundation

As said by Randy Garrison and Norman Vaughan in their book, *Blended Learning in Higher Education: Framework, Principles, and Guidelines*, the constructivist learning theory fundamentally deals with personages making sense of their experience (13). This theory does not work effectively if the meaning is built in an isolated way. In effect, social interaction and collaboration do not aim to cover a great amount of content concerning any subject. Instead, they give emphasis to research processes which make sure primary concepts are built and embraced in a deep and significant way (Garrison and Vaughan 14).

As Garrison and Vaughan state, “an inquiry community is shaped by purposeful, open, and disciplined critical discourse and reflection” (14). This community is basically considered the core of a higher education experience, being embodied in Moodle as it draws on the foundation and pedagogy base of this platform.

Based on studies performed by notable researchers and authors, a wide range of interpretations have emerged with respect to constructivism in the CALL background. A chart to summarize these interpretations is given below by citing literally each author’s versions (quoted in Levy and Stockwell 123).

<i>Shin and Wastell 2001</i>	<i>Vannatta and Beyerback 2000</i>	<i>Dalgarno 2001</i>
<ul style="list-style-type: none"> • "The essence of constructivism is to motivate learning by leading students to experience the individual and subjective satisfaction inherent in solving a problem that is seen and chosen as one's own". 	<ul style="list-style-type: none"> • "Constructivism encloses an assortment of technologies and applications which are used to enhance the creation of products, facilitate problem-solving, and assist exploration". 	<ul style="list-style-type: none"> • "Direct instruction while still allowing students to actively construct their own knowledge using guided hypermedia, cognitive tools, and tutorial systems". • "Social interaction in the learner's knowledge construction process with peers and teachers and the use of computer-supported collaborative learning".

Chart 3 – Interpretations of constructivism in the CALL context (Levy and Stockwell)

To sum up, as seen in the chart, these authors agree that constructivism comprises the creation of learners' own knowledge by constructing it collaboratively; in this sense, they share their beliefs and concepts with each other, thus, being able to solve problems by means of the integration of technology systems. Nevertheless, it is worth mentioning that even though learners sometimes work alone when constructing their acquaintance, they do it through collective tasks and the support of technology to ensure task accomplishment.

2.2.5 Teaching Reading Comprehension to EFL Learners

Reading comprehension is the ability to understand a written passage of text. Indeed, it is what allows the reader to interact with the text in a meaningful way. According to Carrel et al., for many students, reading is the most important of the four skills of English as a foreign or second language, as it is not considered a passive, but an active and interactive process (1).

At present, ICT plays an increasing role in the lives of EFL learners. In fact, "with the increasing use of the internet, online reading has become a major

source of input. It has entered the classrooms faster than books, television, computers or any other technology for information and communication, and more and more EFL/ESL learners are engaged in online learning tasks” (Aly Amer et al. 103).

Thus, the reading process is not merely a matter of extracting information from the text; instead, it is one in which the reading activates an assortment of knowledge in the reader’s mind that is used by the EFL learner, and that, in turn, can be refined and extended by the new information supplied by the text (Grabe 56).

Additionally, Lisa Parris in her online article, *How to Improve Adult Reading Comprehension*, states, “the fundamental framework of reading comprehension lies in the reader’s ability to derive value from the material, not in the number of words read per minute”. An adult’s reading comprehension can be improved by learning and applying strategies that help understanding. Some learners apply these strategies naturally while others acquire them through practice while reading.

According to a research on *Reading Comprehension Strategies*, it is important for an adult EFL learner to develop and improve their reading comprehension by using the following strategies: identifying the main idea, summarizing, drawing inferences, generating questions, creating visual images and paraphrasing (Hock 7-8).

2.2.5.1 The Reading Process

As it was mentioned before, reading is not a passive but an active and interactive process which entails noteworthy aspects. According to Kenneth Goodman, a writer quoted in the book, *Interactive Approaches to Second Language Reading*, by Patricia Carrel, et al., reading is placed, “within the broader context of communicative, meaning-seeking, information processing” (9).

In effect, the author stands out the importance of the interaction triggered between language and thought when reading as well as the value of using the language in a social setting comprising writers along with readers.

In addition, Goodman highlights the importance of becoming both efficient and effective readers. On one hand, he states that readers are considered to be *efficient* when they construct the meaning by avoiding turning aside from the most direct meaning and use strategies to help themselves lessen ambiguity (12). On the other hand, readers are considered to be *effective* when they are capable of constructing a meaning they can comprehend; at the same time, they are able to keep the original idea of the writer (12).

A recommendation given by this author in Carrel's book states it is vital to keep in mind the fundamental source of information for the understanding of the reading development. This is "observation of oral reading" (12). He states, "Oral miscue analysis is the tool I've found most useful in the depth analysis of reading behavior as I've sought to understand the reading process" (13). This analysis allows educators to size up what readers do and what they are estimated to do, as the notion is readers do not do anything casually, but it is the result of a reading process in their minds.

Therefore, as educators, our task is to help students reduce their reading hitches and get the most out of comprehension by giving them culturally significant data (Goodman, quoted in Carrel et al.85).

2.2.5.2 Exploring research in reading

As it is revealed in the book, *Teaching and Researching Reading*, by William Grabe and Fredricka L.Soller, "every research study, in essence, represents a story" (98). As time has gone by, reading has become a powerful skill in the acquisition of knowledge, as it permits the reader to receive and transmit information from generation to generation. There have been some studies regarding its concept and features, its strategies to lower readers' difficulties and limitations and the process itself it involves in the human brain.

Besides this valuable information, which helps us understand its implications and strengths, it is essential to mention some researches and case studies that often emerge in the classroom.

Byrne and Fielding-Barnsley's story, cited in Grabe and Soller's book, presents a follow-up study which is held with children who have been exposed to a phonemic awareness treatment in preschool. These children are compared

with a group of kids who have not received the intervention. The result is that the experimental ones are evidently superior in reading comprehension (103).

As regards researchers' conclusions, they find the experimental children improve their reading abilities, as they benefit from, "phoneme-identification skills and letter-sound correspondences" (104). These investigators also have the chance to demonstrate that applying a program of 6 hours with this treatment is beneficial for fluency in reading.

Likewise, as it was mentioned before, there have also been some case studies regarding the use of technology to improve reading comprehension, which have become a valuable source as a guide in the designing and development of current researches. Two of these studies related to the topic of this investigation are detailed below:

First, *Teaching Reading Comprehension in English in a Distance Web-Based Course: New Roles for Teachers*, by Jorge Muñoz and Adriana González. This case study provides information concerning the effects of using distance web-based learning and classroom-instruction in the development of reading comprehension at the University of Antioquia in Colombia. Similarly to this study, students were able to improve their reading skills by being immersed in a Moodle course.

The methodology used in that study was exploratory with 38 students under a permanent treatment. This feature concerning the number of participants is pretty similar to the number of students in this current research, as it is 36. During the process, diverse instruments were similarly used in both studies to collect participants' data and additional records from the platform. Besides, a teacher's journal was used in both cases in order to record thoughts and perceptions during the process.

Contrarily to this research, in-depth interviews were administered as useful instruments to collect data. Furthermore, there were some limitations during the process of the case study, such as "novice experience" in teaching reading comprehension through Moodle and absence of "deeper feedback" to students (Muñoz and González). The last one was also evidenced in the current research because of the large number of students.

Second, certain findings were also found as regards another case study performed in Colombia. This is called *Interaction in an EFL Reading*

Comprehension Distance Web-Based Course, by Jaime Osorno and Sergio Lopera. In the same way, there are some similarities between my recent research work and this case study, as students improved their reading skills by using Moodle. Moreover, codification played an important role in both researches. Participants signed a consent form in order to demonstrate that their participation was voluntary and their identity was safe. There were 38 participants in the case study, being a similar number as in the present one with a total of 36 students.

Moreover, data collection techniques were pretty similar, as both investigations administered questionnaires to the participants and kept a teacher's journal to record insights and observations. With respect to time concerns, the results were quite different, as it was not a problem in my present study. In fact, Osorno and Lopera state, "they validated this negative issue from different sources: student's self-evaluation, the platform forums, chats, the teacher's diary and e-mail, being a constant in all these instruments" (53).

As a final point, Osorno and Lopera mention the importance of having tutorials in order to lead participants through the use of this virtual learning environment, as it reduces students' anxiety (56). Besides, these authors ask educators to recall a basic feature of this platform, "when the teacher calls on students to participate among themselves, the feeling of isolation lessens and the sense of community arises" (56).

Chapter III

Research Methodology

3.1 Type of Research

This research was designed according to Thesis *Type two*, and comes under the category *Theoretical-Applied*. The method was *hypothetical-deductive*, which entailed a hypothesis that was made about the phenomena related to the given research problem. The data were collected in a systematic way and analyzed quantitatively and qualitatively in order to support or disprove the hypothesis (Embleton 18).

The paradigm used in this investigation was Nunan's *Paradigm two: analytical-nomological* requiring an experimental design which included a pre-test and a post-test that were both applied to an intact group.

3.1.1 Hypothesis

The use of interactive activities through the virtual platform known as Moodle will improve the students' performance while studying the subject "Reading Comprehension".

Independent variable – The use of interactive activities through the virtual platform Moodle.

Dependent variable - The improvement of the students' reading strategies, such as identifying the main idea, summarizing, drawing inferences, generating questions, skimming to get meaning from context and paraphrasing to develop reading comprehension effectively towards the acquisition of a B1 level according to the CEFR.

The *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*, abbreviated as *CEFR*, is a guideline used to describe language proficiency levels and interpret language qualifications. The CEFR determines language ability on a scale of levels from A1 for beginners up to C2 for those who have become proficient at a language. This allows those involved in language teaching and testing to describe the students' proficiency levels as well as map out their progress. It also makes it possible to compare diverse qualifications (Cambridge English Language Assessment).

3.2 Population and Sample

The treatment was administered to a non-random convenient sample group of 36 second-semester young adult and adult learners whose ages ranged from 19 to 30 years attending a regular 4th Level course in the mornings at the English Language School, University of Cuenca and taking the Reading Comprehension subject.

- *Scope:* University of Cuenca
- *Time:* March to July 2013, seven hours per week, corresponding to two hours at home and five hours in one of the language laboratories of the Faculty of Philosophy
- *Element:* A regular 4th Level course at the English Language School, Reading Comprehension subject
- *Sample:* All of the students taking the 4th Level regular course, Group one in the mornings, 36 students (*Non-random sample group*).

<i>Sample</i>	<i>Number</i>	<i>Total</i>	<i>Percentage</i>
Students	Male: 12 Female: 24	36	100%

Chart 4: Research sample

Source: English Language School.
By: María Verónica León Vélez.

3.2.1 Students' Informed Consent

An informed consent (see Appendix 1) was designed for the participants written in their native language to avoid any misunderstanding. It contained information concerning the procedure and implications of the treatment and the researcher's personal data and phone number. It was clearly stated that the students' participation would be voluntary and the outcomes of this treatment

would not affect their grades in the given subject since all the data gathered would be used for the purposes of the research project only.

As all of the students were adults, they agreed to participate in the experiment and signed the document. Therefore, it was not necessary to ask for their parents' permission.

3.3 Data-Gathering Techniques and Instruments

The data were gathered by six surveys, a parallel pre- and a post-test, a pre- and a post-proficiency test predicated on the CEFR criteria, as well as journals kept by both the researcher and the students.

3.4 Data-Collection Planning

3.4.1 Mixed Methods

3.4.1.1 Quantitative:

Pre-test, post-test and assignments during the process through pair work, individual work and group work.

The pre-test was designed at B1 level according to the CEFR with different types of items. The post-test was designed in the same way as the pre-test with multiple choice, matching, true/false, and fill-in the blanks exercises. The purpose of the pre-test was to have a reference point for making a comparison at the end of the treatment and thus to be able to see whether or not there was any improvement in reading skills.

Furthermore, it is important to mention that both tests were designed in exactly the same way; only the content was different. The pre- and post-tests were piloted and validated before being administered. A code number was assigned to each student. All participants randomly chose a piece of paper with a number on it. Then they were asked to write this number on the upper-front side of the test as advised by some researchers in the article titled "Guidelines for Pre- and Post-Testing" (I-TECH 1).

Additionally, a pre- and a post- proficiency test were administered in order to find out the learners' proficiency level of English from A1 to C2 according to the CEFR.

3.4.1.2 Qualitative:

The researcher as well as the students kept daily journals in order to record valuable information. In addition, several questionnaires were administered to the students: a demographic questionnaire, one related to the Moodle application, one concerning the forum application, one about the use of technology (to see its strengths and limitations) and one regarding the participants' reading habits.

3.5 Data-Processing Planning

To determine whether Moodle influenced the developing of the reading strategies or not, the intact group received a treatment for a period of 60 hours by means of interactive activities on Moodle. Additionally, they had extra individual assignments throughout the semester March-July 2013.

The outcomes were analyzed quantitatively and qualitatively. The data were tabulated by means of the different techniques applied during the course of this investigation, and there was an in-depth statistical analysis performed by the researcher and a statistician, Nardo Tenesaca, to arrive at the final results displayed with the help of graphic representations.

As part of the research project, a wide range of interactive activities were loaded onto the virtual platform, Moodle: forums, assigned tasks, guided tasks, quizzes, videos and power point presentations for reference and practice. Access to this platform was possible for both the students and the researcher from any computer with an Internet connection.

As it was mentioned before, six surveys with structured questions were given to a sample group of 36 respondents under the treatment to collect data regarding their feelings, attitudes, perceptions and suggestions about the use of Moodle for the enhancement of reading comprehension strategies. This allowed the comparison of answers from different participants as well as the investigation into phenomena such as feelings and motivation which was not directly observable.

Additionally, as it was mentioned before, the researcher as well as the respondents held onto daily journals in order to record information related to their impressions, insights and prompts. There were special templates (see Appendix 2) designed by the researcher to facilitate data-collection. The

obtained results were classified into patterns of *highs* and *lows* to be represented by means of graphics; thus having valid and reliable information for the analysis and synthesis.

As regards the evaluation of the data, the pre- and post-tests (see Appendixes 3, 4) provided quantitative results which were evaluated and interpreted in order to confirm or refute the hypothesis formulated at the outset as well as arrive at some general conclusions.

The tests were designed at B1 level according to the CEFR - students with a B1 level of proficiency can express themselves in a limited way in familiar situations and are able to deal in a general way with nonroutine information (Cambridge English Language Assessment).

As both tests required to be validated, three professors (who taught the subject) and six students (who belonged to a different group but were taking the same subject) were asked to take the tests to end up with a reliable one.

It was mandatory to administer these kinds of tests due to previous studies, which state that these are used to measure knowledge gained from participating in a training course; that is, they are tools to measure change. In fact, some researchers mention that these examinations help to come upon implausible data regarding concepts or competencies, which were well taught and other ones which needed additional training, extra time or to be exposed by other teaching methods (I-TECH 1).

Additionally, prior studies suggest some tips to be taken into account when designing these tests like using a variety of question types like open-ended questions, true/false, multiple-choice, fill-in the blanks and case-based, among others, making a test more demanding and interesting (I-TECH 2).

With respect to the use of a coding system, both tests were administered by using a special code, S which stands for student, for instance student 1= S1. This was required in the pre- and post-tests to assess the strengths and weaknesses of the treatment. The participants were reminded of the fact that their names would be omitted because of ethical issues.

Indeed, it is revealed by I-TECH that the findings by means of these examinations help to provide meaningful feedback on areas that are not clear enough to participants and help identify areas of the curriculum demanding amendment (I-TECH 7).Something remarkable through the use of these tests

according to Greg La Barge in his journal, “ Pre- and Post-Testing with More Impact”, is that their application “provide instructor feedback to improve the workshop content and allow him or her to better gauge the time needed for program components, measure confidence in answers, and identify where incorrect answers are actually thought to be correct by participants” (1).

Lastly, it is important to state that this research project was not aimed at writing a manual on how to create a virtual platform. Nor did it result in the designing of a booklet of general interactive activities to be used for any topic. Instead, it evaluated the effectiveness of interactive activities within Moodle as a more appropriate methodology to help students improve their reading skills. The level of English language proficiency of these students, according to the official syllabus, was A2 of the CEFR. Therefore, an online validated CEFR pre- and post- proficiency test (see Appendix 5) was administered in relation to the reading skill to find out whether the participants improved or not regarding their reading strategies.

3.6 Treatment Description

Even though the original thesis proposal envisaged the use of three units from the textbook *Strategic Reading*, in the end five units were adapted for the treatment. The aim was to develop reading strategies, such as paraphrasing, summarizing, scanning, skimming, getting main ideas, getting details, guessing meaning from context, predicting and making inferences.

All of the units included *before you read* and *after you read* activities. Some assignments and tasks were required during the process, which were uploaded onto the platform. In addition, a students’ roster was set up so that students could contact other classmates if they needed help, especially if they were absent. Likewise, the official syllabus of the subject was added in order to follow progress.

Besides the activities mentioned above, the resources and activities that Moodle had like the forum, questionnaires, a survey, interactive games, glossaries, readings like tales and articles were also used in class. Regular classes were held in a language laboratory (see Appendix 6) that the university



provided for the researcher during the treatment with 25 computers and a projector.

Before the start of the treatment, the students answered a survey about their level of knowledge on Moodle, so they could be trained on it. It is worth mentioning that most of the students who answered this survey had already had previous experience using this platform, so it was fairly easy for them to work on it.

Furthermore, a daily journal was kept and collected at the end of each unit in order to gather information about learners' insights, as well as limitations, advantages and disadvantages of the process. The journals were filled in daily by the researcher and the participants. As it was referred to above, a special template was given to the learners at the beginning of the treatment to organize data effectively. In the same way, the researcher used a template concerning pros and cons that were observed during the classes (see Appendix 7).

To conclude, it is worth remarking that these templates were revised by the director of this study and a research connoisseur, Robert DeVillar, who advised me to use them in order to detect specific patterns, which would help to classify, analyze and represent obtained qualitative data.

Chapter IV

Results

Analysis and Interpretation

4.1 Results- Analysis and Interpretation

The present investigation, concerning the impact of using the Moodle platform in the development of reading strategies, was applied to an experimental treatment group for four months, from which qualitative and quantitative data were collected. These were analyzed by means of descriptive and inferential statistics on the use of *Minitab* statistical software, which is used in the areas of social sciences.

Descriptive Statistics, for the most part, analyzes studies and describes all individuals in a sample, and in a population. Its purpose is to gather information, analyze it, work it, and simplify it, so as to be performed easily and quickly. Contrarily, Inferential Statistics works with samples, subsets formed by some individuals in the population. Study of the sample results is used to infer relevant aspects of the whole population (Jimenez 1).

In addition, Inferential Statistics refers to the process of making generalizations about the properties of the whole, starting from the sample results, which implicitly carries certain possible risks and errors. Therefore, it is mandatory to specify the risk or probability that can be made with these errors (Jimenez 1). Hence, it was paramount the support and guidance of an expert on statistics, who led the analysis of data for drawing conclusions.

It is essential to indicate that the *Minitab* statistical program has several advantages, as specified in the document, "The Minitab program: brief introduction to operation" by the University of Pompeu Fabra. First, it is software especially designed for statistical calculations. Second, its use is extremely simple and easily assimilated by the reader while in their usual environment, because it is a *Windows* program that runs in dialogue boxes. Finally, it is a very useful program for Inferential Statistics data (1).



4.2. Tests

4.2.1 T-test

T- test was used in this research with paired populations (comparison of two means with dependent samples). Its purpose was observing if the mean score of the pre-test was meaningfully different from the mean score of the post-test.

Paired samples: Those in which the data of both samples can be viewed as pairs because they have something in common and are not independent. In other words, these are “students’ scores on the first quiz versus the same students’ scores on the second quiz”, explained by R.A. DeVillar and B. Jiang (2).

In this research work, the pre-test and post-test were prepared under the same evaluation parameters, and were applied to the same sample of students. For this purpose, the following hypotheses to be accepted or rejected were taken into account:

$H_0: \mu_1 = \mu_2$	<i>Null hypothesis:</i> It tries to demonstrate that the average (Mean) of the pre-test is equal to the post-test.
$H_a: \mu_1 \neq \mu_2$	<i>Alternative hypothesis:</i> It tries to demonstrate that the average (Mean) of the pre-test is different from the post-test.
$H_0: \mu_D = 0$	$\mu_D = \mu$ (μ is the estimated mean of the pre-test (1) - μ_2 (estimated mean of the post-test (2)). If μ_D is equal to 0, then the estimated means are equal.
$H_a: \mu_D \neq 0$ $t_0 > t_c$	If μ_D is different from 0, then the estimated means are different. <i>This is confirmed in the present investigation:</i> pre-test (13/20) / post-test (15/20) If the <i>Calculated t</i> (t_0) is greater than the <i>Critical t</i> (t_c), the H_0 is rejected, which means that the population means are not statistically equal and checked again: pre-test = 13 and post-test = 15 (T means the descriptive statistic for the <i>Student</i> distribution, which is a curve used in statistics).

Chart 5: Hypotheses (Means)

Source: Hypotheses applied to be rejected, or accepted, regarding the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

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Conclusion: When applying the methodological intervention to a population of students with the same academic level training for pre-test and post-test, the means of the results will be different showing an improvement in performance and ensuring increase.

$t_0 = (\text{calculated } t)$	5,35
$t_c = (\text{critical } t)$	2,03

Analysis and Interpretation: The results obtained demonstrated that calculated t (t_0) was greater than ($>$) critical t (t_c). As a result, the null hypothesis (H_0) was rejected, revealing statistically that the sample means were not equal= *Alternative Hypothesis accepted*. The mean of the pre-test was 13 points out of 20 and the mean of the post-test was 15 points out of 20. As a consequence, the population mean of the post-test would demonstrate a greater contribution in the implementation of the Moodle platform in a subsequent study. This confirms what is mentioned by Rice and Smith that this platform is a valuable resource as it gradually provides the support students need before they can become independent learners, involving an important concept known as scaffolding, which evolves communities of collaboration in the acquisition of knowledge.

4.2.1.1 Confidence interval to estimate the difference between Means with Standard Population Deviations

Standard Deviation: Refers to the mean of the differences of data variation between pre-test (before the treatment) and post-test (after the treatment).

According to the website, *Ditutor*, standard deviation is defined as the square root of the variance and is represented by the following symbol: σ or s . In other words, the standard deviation is simply the "mean" or "expected variation" in regard to the arithmetic mean.



Testing

- μd = Mean Difference.
- μx = Population Average Pre-test.
- μy = Average Population Post-test.
- From the sample, the researcher can infer what will occur in the population that is the universe. The confidence interval in this research was 95% saving 5% error, which was used to estimate the difference between paired means. As a result of the study, the values μy were greater than μx with a maximum difference of 2.82 and a minimum difference of 1.17, so it is estimated that the implementation of Moodle to develop reading skills will impact improvement of this range in a subsequent application as well.

$$\mu_d = \bar{d} \pm t_{n-1} \frac{S_d}{\sqrt{n}}$$

- This formula represents what is known as I.C, confidence interval to estimate μd , the mean difference, which was used in the study.
- \bar{d} = Mean of the distribution of differences of sample observations. (This is the average of the differences of the samples).
- t_{n-1} = Statistical distribution with one degree of freedom; in this case 35. ("T" value of "t" Student distribution with "n-1" degrees of freedom).
- n = Number of pairs of observations = 36 participants.
- S_d = Standard deviation of the distribution of the differences of the sample means.
- \sqrt{n} = Square root of the number of participants, sample size.

Conclusion of the results of hypothesis testing: Expected population means in implementing Moodle treatment population will not be equal, according to the formula, in a successive treatment, based on research conducted in the study sample. This result is in line with what is mentioned by Aly Amer about the remarkable role technology is having in Education currently. Indeed, this author states online reading is becoming a major source of input thanks to the use of technological tools inside and outside the classroom.

4.2.1.2 Observations Concerning Standard Deviation

The standard deviation, as the mean and the variance, is very sensitive to extreme scores (Ditutor). Therefore, a formula was used in order to obtain essential data for this study.

$$Sd = \sqrt{\frac{\sum (di - \bar{d})^2}{n - 1}}$$

- Sd = Standard Deviation.
- $Sd = \sum$ Sum of the squares of the differences between di (mean differences) and \bar{d} (average differences, being the result -2), squared of each participant.

The sum of all the differences of the participants (see Appendix 8); for example, Student 1 (-3), Student 2 (0), Student 3 (-2), etc., got the result of 211,63. This value was divided by 35, which was n-1, sample size. Then a square root of this result was found. This final value attained in the study was what the researchers call *Standard Deviation*, resulting 2,45 of differences of means, which means that although this study had a mean of -2, there was a variation in each participant to the square of 0,64 for the first student, 4,8 for the second, etc., verifying that there were variations, but not extreme from participant to participant.

It is important to indicate that if we raise the standard deviation squared, we will obtain the variance analysis which serves to see whether the variation



among students remains constant or equal. This is evidenced by the *Fisher test*, which is a parametric test with frequencies.

4.2.2 Fisher Test

The *Fisher test* also known as *F test* is named after its creator, R. A. Fisher, who was the first to use it for the analysis of variance or standard deviation. In other words, it is a test to demonstrate variances. It is an analysis of variances or standard deviations. From the sample, the researcher can infer whether the variance ratio $x = \text{pre-test}$ divided by the variance $y = \text{post-test}$ is equal to 1, the H_0 , null hypothesis, represented by the following formula:

$$H_0 : \frac{\sigma_x^2}{\sigma_y^2} = 1$$

gl Number of participants 36-1=35
gl Denominator 36-1=35

It was found that 35 were the degrees of freedom for the statistical analysis of the studies in this research.

4.2.2.1 Formulae to Accept or Reject the Null and Alternative Hypotheses

F TEST	
$H_0 : \sigma_x^2 = \sigma_y^2$	Null Hypothesis
$H_A : \sigma_x^2 \neq \sigma_y^2$	Alternative Hypothesis
$H_0 : \frac{\sigma_x^2}{\sigma_y^2} = 1$	
$H_A : \frac{\sigma_x^2}{\sigma_y^2} \neq 1$	
$F_0 = \frac{s_x^2}{s_y^2}$	
RECHAZO. H_0	
$F_0 > F_{\alpha / 2, n_x - 1, n_y - 1. \text{cola.derecha}}$	
o. si	
$F_0 < F_{1 - \alpha / 2, n_x - 1, n_y - 1. \text{cola.izquierda}}$	

X= Pre-test
Y= Post-test

Chart 6: Fisher Test Formulae

Source: Fisher Test hypotheses based on data collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

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Testing: If either formula listed below is met, the null hypothesis is rejected.

- *Null Hypothesis:* Equal population variances of Pre-and Post-test in the subsequent application of this methodology.
- *Alternative Hypothesis:* Difference of population variances of Pre-and Post-test in the subsequent application of this methodology.

$F_0 > F_a$ RIGHT
$F_0 < F_1$ LEFT

$F_0=$	1.1		<i>Results</i>	<i>Conclusion</i>
$FC=$	1.9	Right	$F_0 < FC$ right $1.1 < 1.9$	H0 was not rejected
			<i>Results</i>	<i>Conclusion</i>
$FC=$	0.5	Left	$F_0 > FC$ left $1.1 > 0.5$	H0 was not rejected

$F_0=$	1.1	Calculated Factor
$F_a=$	1.9	Right Critical Factor
$F_1=$	0.5	Left Critical Factor

Chart 7: Fisher Test Calculations and Results

Source: F Test calculations and results regarding data collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca

$$F_0 = \frac{s_x^2}{s_y^2}$$

- *Calculation:* The division between the two standard deviations.

(9.6 from the pre-test divided by 8.5 from the post-test = 1.1)
- $F_0 =$ calculated factor 1.1
- $s_x^2 =$ variance of the pre-squared test

- s_p^2 = variance of the post-squared test

Conclusion

Right Side: The calculated factor having a 1.1 result (see Appendix 9), was not greater than 1.9, right side critical factor, so *H0, null hypothesis, was not rejected*; that is, the population variance of the pre-test was equal to the population variance of the post-test. This guaranteed a uniform increase in yield of the course. In other words, the success of the intervention to an individual student was not with an extreme datum. Consequently, the variations were the same as having equal population variations, no extreme scores that distinguished them.

Left Side: The calculated factor having a 1.1 result, was greater than 0.5, left side critical factor, so the *H0 was not rejected* once more. Calculated factor and critical factor were used to test results.

- *Calculated Factor:* This is used to test and is calculated based on the data. It is obtained by getting the high standard deviation squared of the pre-test divided by the high standard deviation squared of the post-test.
- *Critical Factor:* A factor in decision to accept or reject a hypothesis, can be mean or variance.

These outcomes revealed that the variation in students' ratings of the sample was neither different in the post-test 8,5 nor in the pre-test 9,6 as the total difference was 1,1, which is normally considered an insignificant statistical minimum range. So this value helped the examiner to envision that the application in the population will be optimal in a continual application.

4.2.3 Quartiles and Percentiles Study

Quartile: It refers to the amount 100% dividing data into 4 parts. Therefore, there are 4 quartiles in a 100% percent. Quartile position 2 corresponds to the median position. In this research, the third quartile, regarding 75% which means position 27 out of 36, was analyzed to identify where the success of the operation arose, since 75% onwards, grades were reflected to the maximum score of 20 points. According to the results acquired, the pre-test represented a mean of 15 points out of 20 and the post-test a mean

of 17 points in position 27. A 25% of the sample got grades over 15 in the post-test, confirming the success of the implementation and improvement of learning at two points.

Conclusion: The grade 16/20 was the challenge to consider the use of the Moodle platform effective and useful to develop reading skills. Consequently, 75% of students would not reach the level to fulfill the learning without Moodle in a continual application and 75% would do it with Moodle based on the outcomes of this study, being the mean of the post-test 17 out of 20.

It is worth stating that in order to find the location of the percentile, which refers to the division of the 36 data on 100 parts grouped into 4 quartiles, the following formula was applied:

$$Lp = (n + 1) \frac{P}{100}$$

Lp = position locator for percentiles. (36 data divided into 100 parts).









n = number of data, in this case 36.









P = position that we want to calculate, in this case 75% X 25/100. The result is position 27.









In addition, quantitative data were included concerning the results obtained, being grouped by intervals of both the pre-test and post-test. As well as data achieved from the evaluation of reading skills of both assessments administered to 36 students and represented by the following symbols:

✓	Correct answers without errors
✗	Fully Incorrect answers
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">+</div> <div style="margin-bottom: 5px;">-</div> </div>	Partially incorrect answers

4.2.3.1 Reading Strategies: Intervals and Graph Representations

<i>Pre-test</i>	<i>Post-test</i>	<i>Pre-test</i>	<i>Post-test</i>
<i>Skimming</i>	<i>Skimming</i>	<i>Scanning</i>	<i>Scanning</i>
✓ 25	✓ 20	✓ 20	✓ 19
 5 	 7 	 9 	 10 
✗ 6	✗ 9	✗ 7	✗ 7
<i>Total=</i> 36	36	<i>Total=</i> 36	36

<i>Pre-test</i>	<i>Post-test</i>	<i>Pre-test</i>	<i>Post-test</i>
<i>Guessing meaning from context</i>	<i>Guessing meaning from context</i>	<i>Understanding details</i>	<i>Understanding details</i>
✓ 10	✓ 19	✓ 2	✓ 12
 12 	 14 	 14 	 19 
✗ 14	✗ 3	✗ 20	✗ 5
<i>Total=</i> 36	36	<i>Total=</i> 36	36

<i>Pre-test</i>	<i>Post-test</i>	<i>Pre-test</i>	<i>Post-test</i>
<i>Understanding Main Ideas</i>	<i>Understanding Main Ideas</i>	<i>Making Inferences</i>	<i>Making Inferences</i>
✓ 29	✓ 31	✓ 5	✓ 19
 0 	 3 	 25 	 10 
✗ 7	✗ 2	✗ 6	✗ 7
<i>Total=</i> 36	36	<i>Total=</i> 36	36



<i>Pre-test</i>	<i>Post-test</i>	<i>Pre-test</i>	<i>Post-test</i>
<i>Paraphrasing</i>	<i>Paraphrasing</i>	<i>Summarizing</i>	<i>Summarizing</i>
✓ 8	✓ 17	✓ 5	✓ 21
 21	 18	 21	 5
✗ 7	✗ 1	✗ 10	✗ 10
<i>Total=</i> 36	36	<i>Total=</i> 36	36

Chart 8: Intervals and Graphic Representations

Source: Intervals regarding reading strategies application collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez

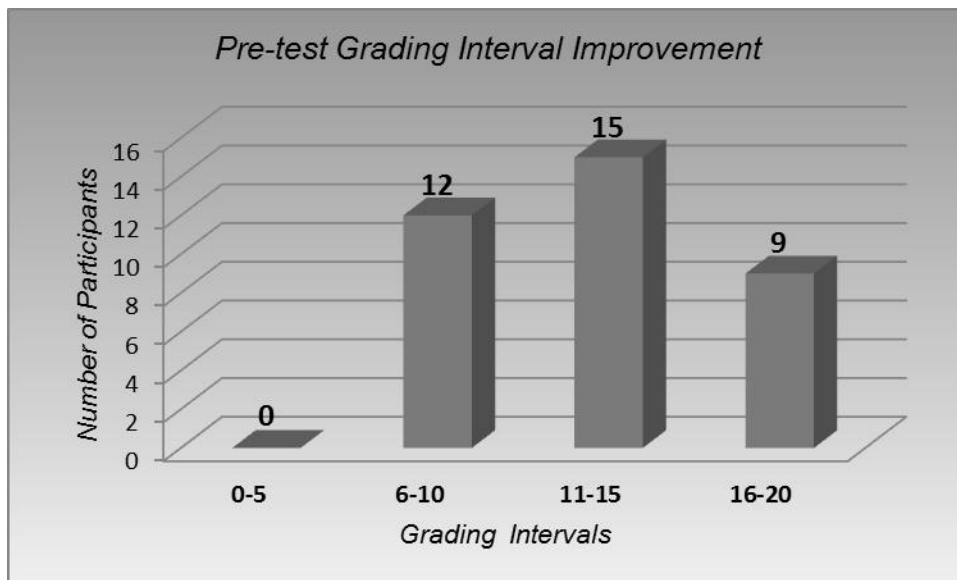
Analysis and Interpretation: Regarding the data presented, it is important to highlight the strategies with higher and lower performance, which were subject to intervention and evaluation. In the case of the skill of *Understanding Main Ideas*, which shows the highest performance, 29 students responded correctly in the pre-test; and in the post-test, the number increased to 31.

Referring to the lowest in performance, the result was the skill of *Understanding Details* with 12 students who correctly answered the questions and statements in relation to the other skills with a higher number of students; however, it is noteworthy to indicate that there was also an improvement in this skill as in the pre-test only 2 students responded well and in the post-test 12 did. Even though the score was low, with reference to the total number of participants being 36, there was a 27.7% improvement.

Additionally, *Summarizing* was another interesting case because there was a great improvement of students who correctly solved the statements. This means 5 students did well in the pre-test and 21 in the post-test. As result, there was an improvement of 44%.

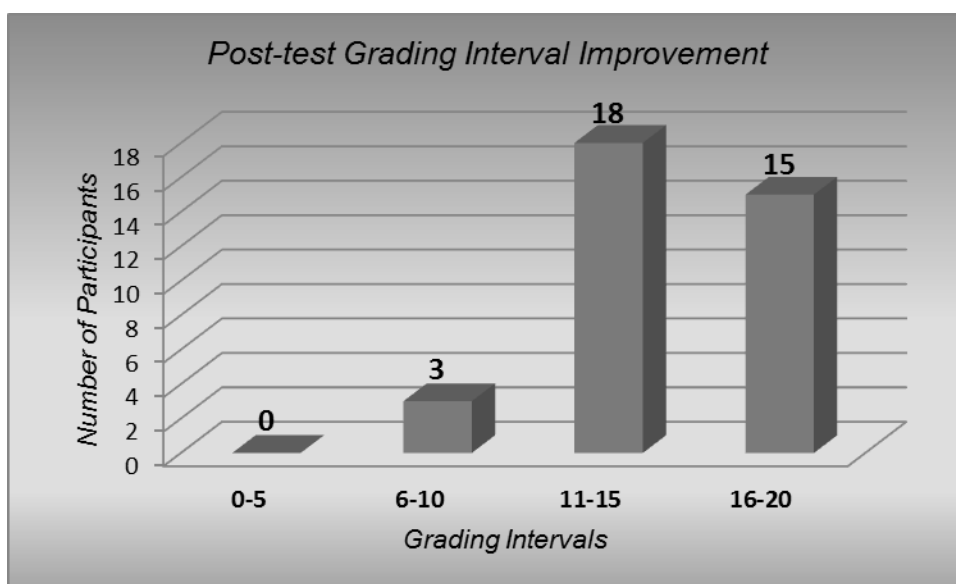
These outcomes show a significant number of students who have become successful readers as they identify main ideas, monitor comprehension and anticipate content through the development of these strategies. According to Block (1986) quoted in Muñoz and González’s case study, successful readers focus on main ideas and do not inquire the meaning of individual words

and sentences. Therefore, these results demonstrate the effective development of these strategies by means of Moodle in reading comprehension at the time they suggest its application as an educational alternative for further interventions.



Figures 2 - Pre-test

The graph represents the data collected from a pre-test (over 20 points) before treatment, in the form of grouped grading intervals with the following results: 0 students got from 0 to 5 points, 12 students got from 6 to 10 points, 15 students got from 11 to 15 points, and 9 students got from 16 to 20. As a result, the 11 to 15 interval displays a higher level of improvement, meaning a 42%.



Figures 3 - Post- test



In the post-test, after the intervention, an improvement was evidenced by the following results: from 0 to 5, 0 students; from 6 to 10, 3 students; from 11 to 15, 18 students and from 16 to 20, 15 students, showing an increase of 42 % who achieved a score between 16 and 20 points (see Appendix 10).

Analysis and Interpretation:

In the same way as in the two case studies presented in this research, with a similar sample of participants, students were able to improve their reading skills by being immersed in a Moodle course under a permanent treatment. Notwithstanding, contrarily to this study, Muñoz and González stated they had to deal with a couple of limitations, such as “ novice experience” and absence of “deeper feedback” which were not factors that really affected this research.

In fact, the regular use of the platform by the researcher and the students, not just in the subject of reading comprehension, but also in other ones, facilitated the intervention. Additionally, there was enough time and plenty of opportunities to provide participants with feedback during the process as they interacted all of the time with the researcher onto the platform.

Additionally, a precise study of the sample of five reading strategies with their respective activities, developed by students during the experiment was performed regarding scanning and skimming, guessing meaning from context, paraphrasing, making inferences, and summarizing. The study of quartiles and percentiles (see Appendix 11) was applied by determining the position 27, obtained by the application of the formula detailed in previous studies, taking into account the 75% as a reference, thus obtaining the following results:

READING STRATEGIES	RESULTS
Scanning and Skimming	75% of students reached values between 7 and 8 over 10. (Overall Score= 9)
Guessing meaning from context	75% of students reached values between 4 and 8. (Overall Score= 9)
Paraphrasing	75% of students reached values between 5 and 8.



	(Overall Score= 9)
<i>Making Inferences</i>	75% of students reached values between 5 and 9. (This strategy achieved the highest performance) (Overall Score= 10)
<i>Summarizing</i>	75% of students reached values between 5 and 7. (Overall Score = 8)

Chart 9: Reading Strategies Analysis

Source: Values regarding reading strategies analysis collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez

Analysis and Interpretation: At the 27th position with 75%, skimming and scanning were located with the score of 9, guessing meaning from context with 9, paraphrasing with 9, making inferences with 10, (being the highest score), and summarizing with 8, the lowest score. These results indicated that students significantly developed their reading strategy of inferring through the use of Moodle and activities used for this project. Nevertheless, it was made evident students still needed more reinforcement and improvement in the development of the summarizing strategy. It was also evidenced in the intervals of comparison between the pre- and post-tests for strategies, demonstrating that despite there was improvement, there was still a number of ten students who needed to strengthen this strategy.

As a result, the influence of the Moodle platform for the development of reading strategies in the subject of Reading Comprehension was positive, having an increase of percentile value, defined by the position from 0 to 100 of the data. The most critical strategy was summarizing with a score of 8 and the best was making inferences with 10 as detailed on chart 9.

These results confirm the effectiveness of using a combination of interactive activities on the platform and the Internet for the development of reading strategies. In fact, this data endorses the positive effect of these technological tools as they “offer a lot of options to students to learn because they have access to courses, methods of communication such as asynchronous discussions, academic resources, among others” according to Kiriakidis, quoted in Osorno and Lopera.



4.2.4 Common European Framework Reference (CEFR) Proficiency Tests

As it was necessary to determine the students' level of language in relation to the ability of reading and knowledge of grammar and vocabulary, two assessment tests were administered. These tests were predicated on the CEFR and both tests come from official websites www.itests.com and www.altissia.com. Lastly, they were piloted with a group of eight students from another course.

At the end of each test, students received a qualitative assessment indicating the level achieved with the equivalence and the percentage as shown below:

<i>CEFR LEVELS</i>	<i>INTERVALS</i>	<i>DENOMINATION</i>	<i>AVERAGE</i>	<i>EQUIVALENCE (20 POINTS)</i>
C2: Mastery	100%	Professional	100%	20 (cross multiplication 100x20/100)
C1: Effective Operational Proficiency	80-95%	Advanced	87.5%	17,5
B2: Vantage	60-75%	Upperintermediate	67.5%	13.5
B1: Threshold	40-55%	Intermediate	47.5%	9,5
A2: Waystage	30-35%	Elementary/ Pre-Intermediate	32.5%	6,5
A1: Breakthrough	15-19%	Easystart /Beginner	17%	3,4

Chart 10: CEFR Levels and Equivalence

Source: CEFR Levels= www.Examenglish.com

By: María Verónica León Vélez and Eng. Nardo Tenesaca

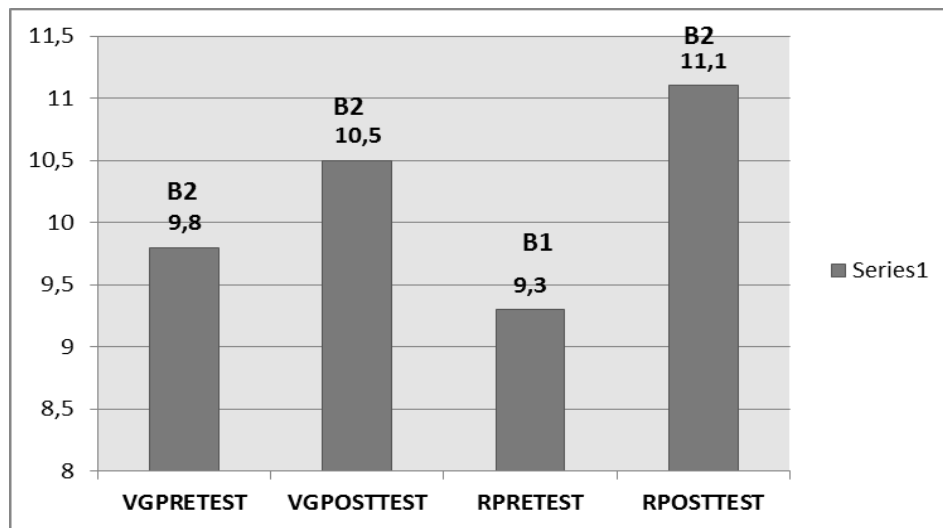
It is worth stating that other percentages were extracted from the main percentages defined in the CEFR, being the middle points of each interval which were transformed to values of 20 points by a cross multiplication in order to ease the analysis as indicated in the chart above.

4.2.4.1 CEFR Proficiency Tests - Quantitative and Qualitative Results

To be able to understand whether or not the levels improved in both the pre- and post-tests, it was necessary to represent data quantitatively as well as qualitatively which are shown in two different charts (see Appendixes 12 and

13). Therefore, appendix 12 shows information in the shape of numbers and appendix 13 does it in the shape of levels according to the CEFR. Lastly, a set of codes was created and used for the sake of both the analysis and the interpretation of the results.

V	Vocabulary
G	Grammar
A	Before the Treatment
B	After the Treatment
R	Reading



Figures 4 - CEFR Means

Mean changes concerning levels according to the CEFR were represented by descriptive statistics in the form of a table of observed frequencies, indirectly indicating that there was improvement in vocabulary and grammar from 9.8 to 10.5, although not directly involved in these variables; however, the level remained with *B2* in the pre and post-tests.

For Reading itself, there was an evident improvement from 9.3 to 11.1 level, which qualitatively means from *B1* to a *B2* level. This means, according to the CEFR, participants went from the Intermediate level *B1* to the Upper Intermediate *B2*, specified as follows:



B1	Threshold	Intermediate	The ability to express oneself in a limited way in familiar situations and to deal in a general way with nonroutine information. <i>Example:</i> CAN ask to open an account at a bank, provided that the procedure is straightforward.
B2	Vantage	Upper Intermediate	The capacity to achieve most goals and express oneself on a range of topics. <i>Example:</i> CAN show visitors around and give a detailed description of a place.

Chart 11: CEFR Level Description

Source: CEFR Levels= www.examenglish.com/CEFR/cefr.php and data regarding English Levels collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez

As mentioned by Shelly et al., the use of technology and digital media provides students with real and effective opportunities embracing problem solving issues and decision making. These resources allowed participants in this study to improve their level of reading as they were encouraged to contribute to each other’s learning construction by means of a permanent interaction among one another.

To support the results, this interaction in a social constructionist education was also evidenced in the investigation held by Osorno and Lopera who state, “interaction in web-distance education may lead students to be more reflective, participative and critical”. However, there are some authors like Harasim and Bonk, quoted in Osorno and Lopera, who think asynchronous interaction has some disadvantages like “delay to receive a reply, lack of spontaneity and nonverbal features” which can affect the learning process. These factors were not found in this research based on results obtained and students’ comments; notwithstanding, it is an important issue to be analyzed in further studies.

4.2.4.2 Percentile Levels Study

$$L_p = (n + 1) \frac{P}{100}$$



For this purpose, a percentile levels study (see Appendix 14) was made. In the one hand, regarding the vocabulary and grammar pre- and post-tests, students placed at position 27. It represents a 75%, reaching a score of 13.5 out of 20. The behaviors were replicated; notwithstanding, there was an evidenced improvement in overall averages. On the other hand, the Reading test results showed a significant change. In position 27, representing 75%, students achieved 9.5 in the pre-test and 13.5 in the post-test, proving once again that the intervention favored the performance of the Reading strategies. The two charts below show the number of students for each level in the two categories for the pre-test and post-test respectively.

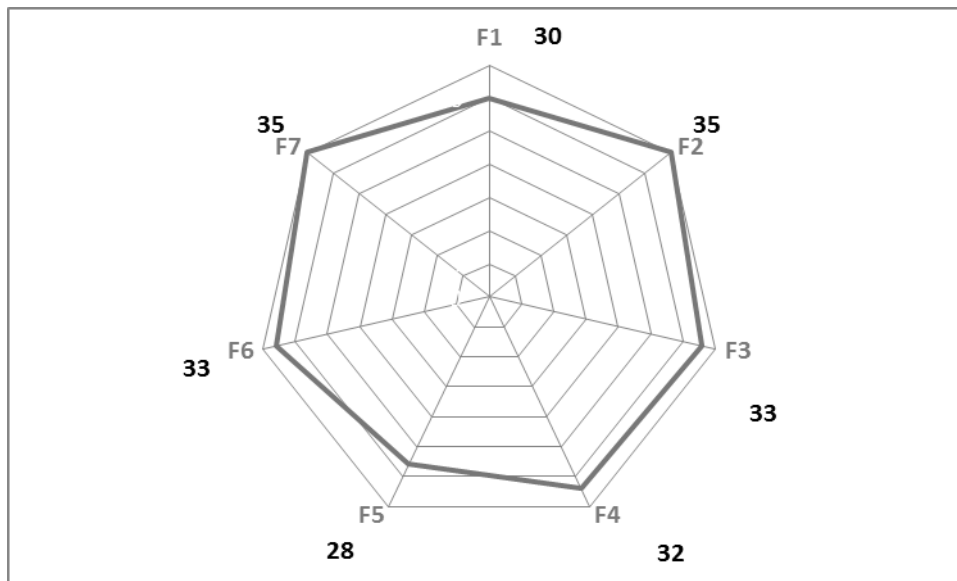
<i>Reading</i>			<i>Vocabulary and Grammar</i>		
CEFR LEVEL	TEST 1 PRE-TEST	TEST 2 POST-TEST	CEFR LEVEL	TEST 1 PRE-TEST	TEST 2 POST-TEST
<i>A1</i>	0	0	<i>A1</i>	1	0
<i>A2</i>	13	2	<i>A2</i>	13	8
<i>B1</i>	16	20	<i>B1</i>	11	17
<i>B2</i>	6	11	<i>B2</i>	9	7
<i>C1</i>	1	3	<i>C1</i>	2	4
Total	36	36	Total	36	36

Chart 12: Group Report

Source: CEFR qualitative and quantitative data for analysis regarding CEFR Levels collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez

4.2.5 Forums – Students´ Participation

During this study the participants were part of 7 forums based on the readings planned for this school period. The data collected from these forums intend to determine how significant their involvement was based on their participation. The data analysis was held by means of a survey which was conducted on the effectiveness, use and reception for the development of reading skills. For data representation, number 1 is used to indicate that the student did participate in the forum and number 0 to indicate that he or she did not. Furthermore, letter *F* accompanied by a number indicates the number of forum held by each student.



Figures 5 - Forum Participation Analysis

Source: Data regarding Forum application participation collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: Eng. Nardo Tenesaca

Analysis and Interpretation: Table of observed frequencies according to study data showed that the forums with more participation were numbers 2 and 7 with 35 interactions and the one with the least number of participations was forum 5 with 28 interactions. Participants in forums 2 and 7 showed positive results as they were able to build up on cooperative knowledge.

These participations show how interested students were when working with and on this educational virtual environment through social practice, communities of practice and experiential behaviorism. Indeed, Rice and Smith confirm the results obtained in this study by stating that the use of forums leads students to be part of a collaborative learning process by developing discussion boards, providing peer review areas, and group project spaces.

4.2.5.1 Probability for another forum

The chance of participation in another forum to be held with the same 36 people will be 92.6% and 8.4% non-participation in a subsequent intervention, equivalent to 3.6 people, according to statistical calculations and data obtained by the researcher and the statistician, Eng. Nardo Tenesaca (see Appendix 15).



4.2.6 Survey: *The effect of Moodle to Enhance Reading Comprehension*

Chi-Square is a statistical calculation that is applied to the samples, allowing us to infer some property of the population. It is considered another hypothesis test that analyzes data based on the observed frequencies and responds with the expected frequencies. It is represented in statistics with the symbol (χ^2), and it is applied when Calculated Chi-Square is less than the Critical Chi-Square. In other words, Chi-Square is a non-parametric study, which means that it works with frequencies, as explained by the expert, Eng. Nardo Tenesaca.

In this survey (see Appendix 16 - Questionnaire), the Chi-Square test was necessary to be applied in order to check the validity of the hypothesis. This was proposed based on the treatment done on the use of the platform for the purpose of developing reading strategies in reading comprehension. Additionally, it is essential to mention that this questionnaire was administered to 33 students from a total of 36 due to the fact that three students were absent in class the day it was applied.

Hypothesis: The use of forums on Moodle allows students to improve their reading skills. For analysis, the following questionnaire was taken into account:

Question 1	How useful were forums for your learning experience?
Question 2	Do you agree forums allow equal posting opportunity for sharing comments among all students, thus encouraging original and independent thinking?
Question 3	Forums on Moodle can equalize participation for students who may be shy in face-to-face setting.
Question 4	Forums and guided activities on Moodle can increase self-confidence for those afraid of making mistakes.
Question 5	Forums and guided activities on Moodle can increase self-confidence for those afraid of making mistakes.

Source: Rob Hirschel, Sojo University and Online Survey Templates



	<i>Degrees of Freedom (df) : 16</i>				
	<i>ALPHA 0.01 (α): That means the probability of accepting the null hypothesis as true. (The margin of error)</i>				
	<i>Strongly disagree</i> 1	<i>Disagree</i> 2	<i>Neutral</i> 3	<i>Agree</i> 4	<i>Strongly Agree</i> 5
Q1	1	0	6	20	6
Q2	3	0	5	17	8
Q3	2	0	7	15	9
Q4	4	4	8	12	5
Q5	2	0	7	15	9

Chart 13: Chi-Square Test about Forums

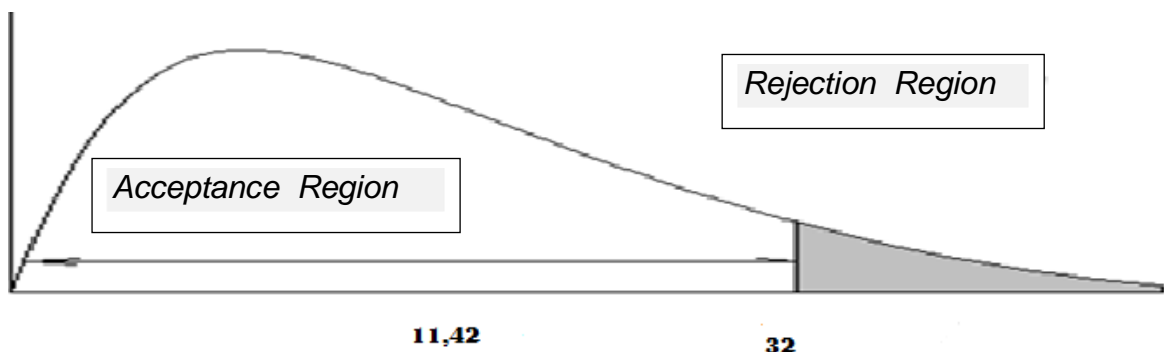
Source: Data regarding probability of accepting the null hypothesis as true collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca

Data for Chi-Square test was obtained through the Minitab statistical program. Importantly, the null hypothesis is basically rejected when Critical Chi-Square is less than Calculated Chi-Square. Therefore, this assumption regarding the use of forums on the platform to improve the Reading skill was accepted.

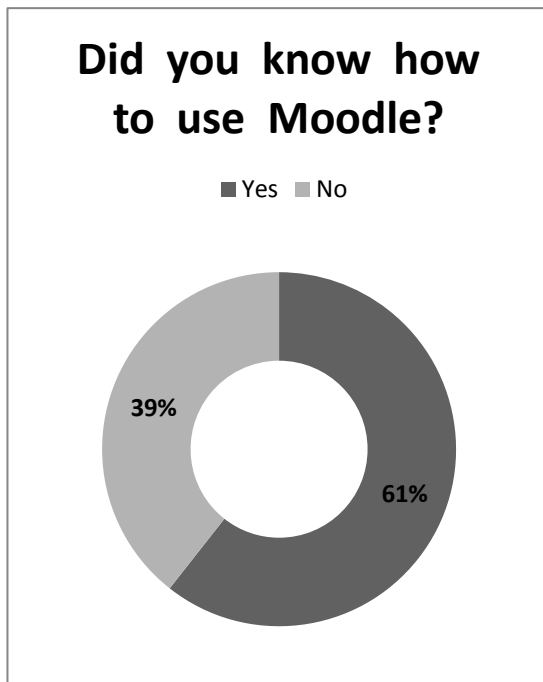
<i>Critical Chi-Square= Rejection Region</i>	32
<i>Calculated Chi-Square= Acceptance Region</i>	11,42

Formula: Degrees of freedom (df) (number of rows x number of columns-1), calculated automatically in the Minitab program.

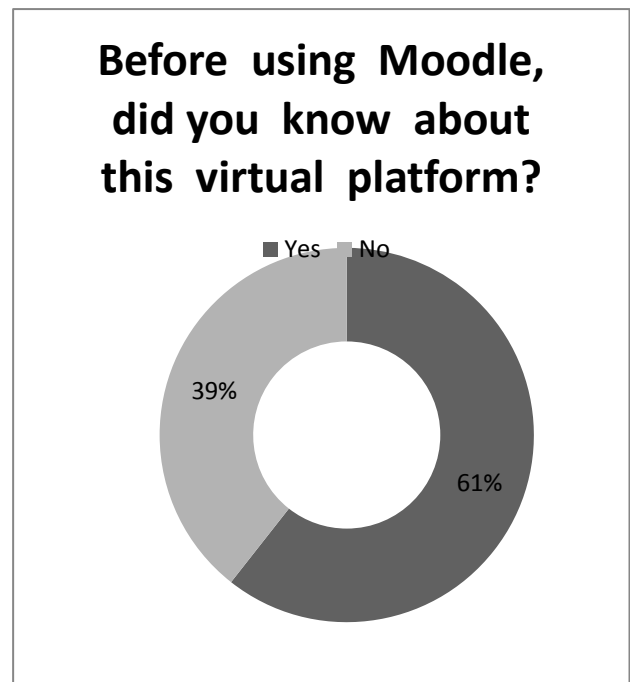


Figures 6 - Chi-Square Test

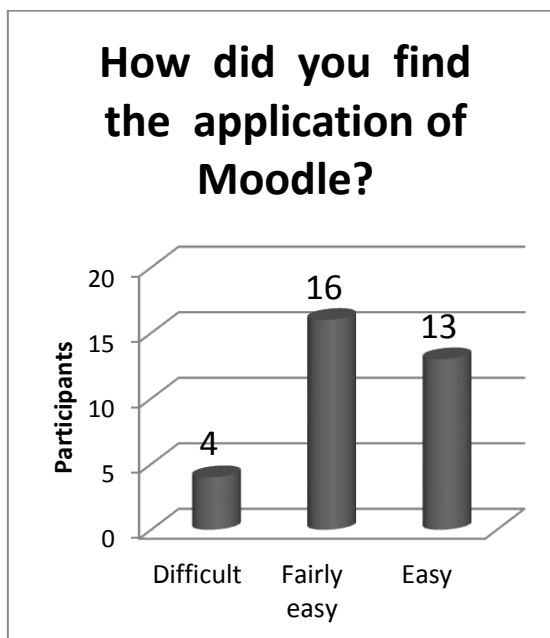
4.2.6.1 Graphic Representation of Observed Frequencies administered to 33 respondents



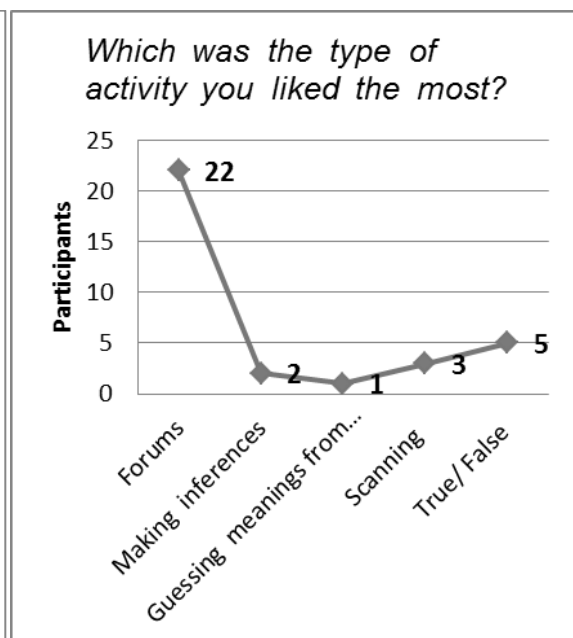
Figures 7 - Student Survey



Figures 8 - Student Survey

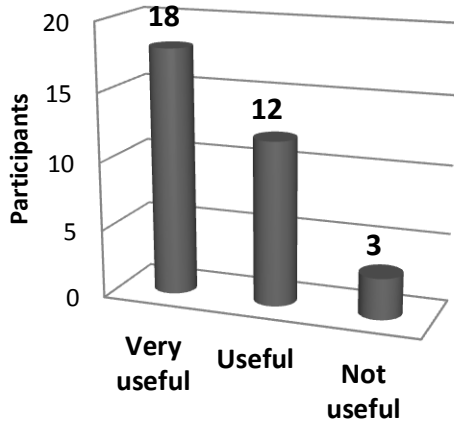


Figures 9 – Student Survey



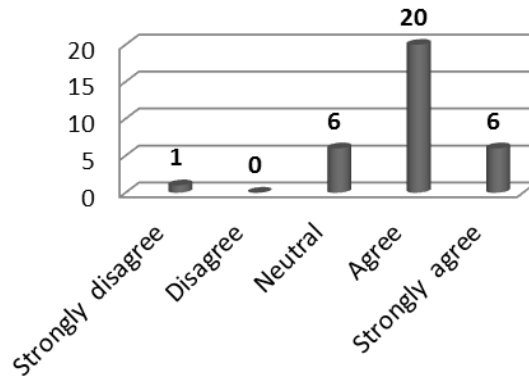
Figures 10 – Student Survey

How useful were forums for your learning experience?



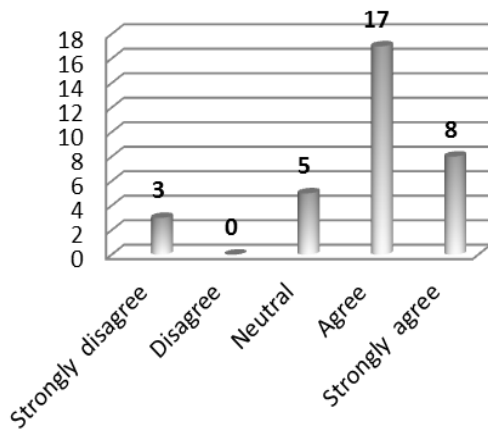
Figures 11 – Student Survey

Do you agree “forums” allow equal posting opportunity for sharing comments among all students, thus encouraging original and independent thinking?



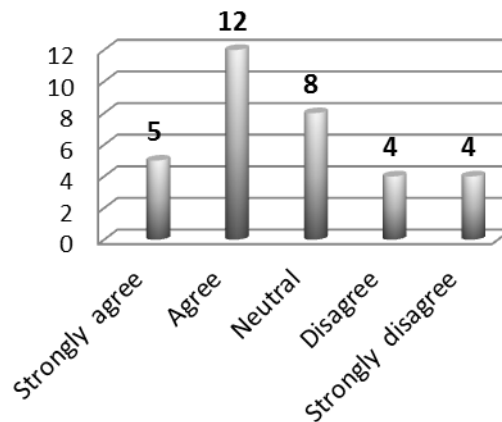
Figures 12 – Student Survey

Forum on Moodle can “equalize” participation for students who may be shy in face-to-face settEng.



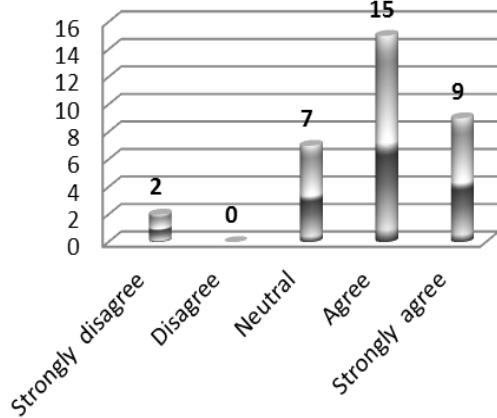
Figures 13 – Student Survey

The use of forums by means of Moodle provides students with the freedom to work at their own pace.



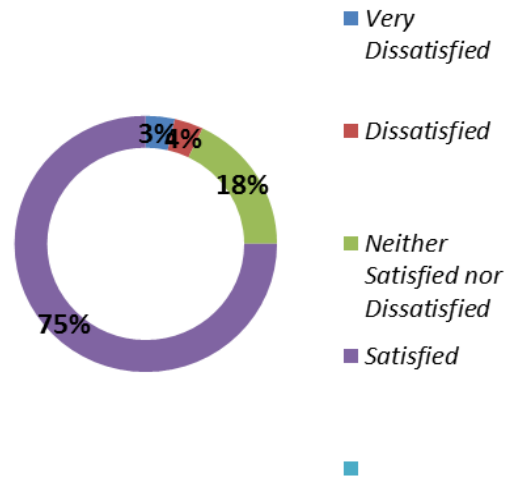
Figures 14 – Student Survey

Forums and guided activities on Moodle can increase self-confidence for those afraid of making mistakes.



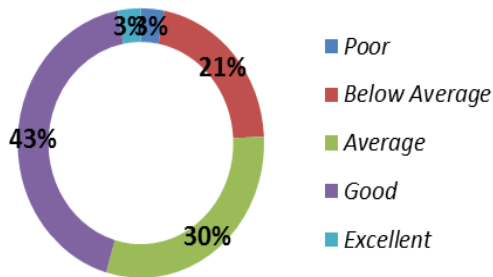
Figures 15 – Student Survey

How satisfied are you with this online educational experience?



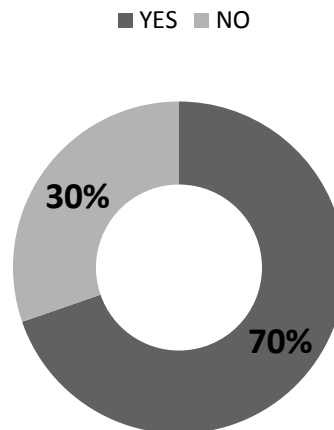
Figures 16 – Student Survey

How would you rate the labs and Internet connection the University of Cuenca has to apply virtual classes?

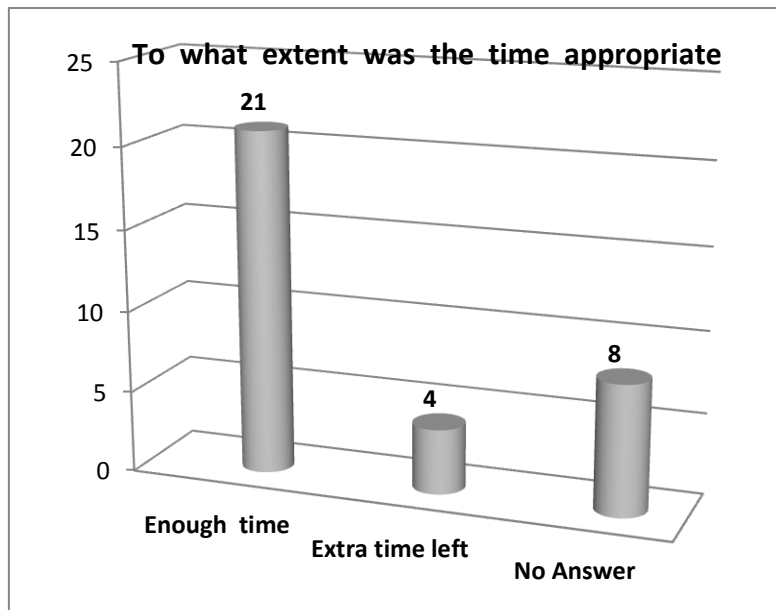


Figures 17 – Student Survey

Was the time for forums and guided activities on Moodle appropriate?



Figures 18 – Student Survey



Figures 19 – Student Survey

Source: Data concerning a questionnaire about the use of the virtual platform, Moodle, and forums in class developed by Rob Hirschel, Sojo University. The data on the tables were collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez

Analysis and Interpretation: It can be seen as data obtained from the frequency tables and pie charts that 61% of participants knew how to use the Moodle platform from prior course experience, which facilitated learning as only 39% needed an introduction and training in use. In fact, 16 students found the application of the platform pretty easy, 13 found it easy, and only four considered it difficult.

This is an aspect which was considered before the treatment as students are the main actors of the study. As stated by Windeatt et al., it is advisable to recognize in advance the kind of skills trainees need to get linked and to perform activities on the Internet and on the platform itself. Therefore, it was important to have a clear idea of these skills in order to know in time the students who already had them rather than making assumptions.

With respect to the activities, what they liked best was the participation in forums with 22 participants; the following was True or False activities with 5 students; Scanning and Skimming with 3; Making Inferences with 2, and Guessing meaning from context with 1. It was evident that the forums were well received with 18 participants who rated them as very useful in their learning

experience; 12 voters considered forums useful, and 3 felt they were not so useful.

As it is shown in the results, forums were really helpful as they allowed the participants to build collaborative communities of learning around a certain topic or subject. In fact, it is stated in Moodle that forums are perfect samples of constructivism as learners are stimulated to analyze, criticize, consult, associate, develop and come up with their own ideas and reveal their understanding at the time they are enriching each other.

Nonetheless, it is essential to keep in mind, according to Guillermo Pacheco, that activities have to suit both the teacher's and students' learning outcomes. Therefore, the aim of each unit was clear enough for both, so the material had a learning purpose. This is what was made in this research when choosing and creating material, which was cautiously connected, as it was a guide for students to be followed step by step.

Moreover, the frequencies attained demonstrated the acceptance of Moodle due to 20 participants who agreed that the forums allowed equal opportunity to share comments and ideas among all participants, encouraging critical and original thinking. Furthermore, the use of forums in Moodle gave students the freedom to work at their own pace. In fact, 17 participants fully agreed with that hypothesis, 8 were neutral and 8 disagreed. As a result, 25 participants expressed feeling that the use of forums gave them the chance to equally participate, especially those who were quite shy, allowing them to share their ideas and approaches in public, only 3 disagreed with this statement, and 5 were in neutral position.

The data obtained is in line with one of the principles of Moodle, "understanding others transforms us" and Pacheco's point of view, "through the use of forums, educators have the opportunity to access this kind of students, shy ones". Indeed, this is a phenomenon which does not occur in a face-to-face environment. Consequently, forums reduce students' anxiety letting them work independently at their own pace.

In summary, the application of forums and guided reading activities on Moodle could increase self-confidence to those who were fearful of making mistakes, according to surveys conducted with 24 students in favor, 7 respondents in neutral position, and 2 who disagreed.

On the subject of the overall process of implementing Moodle for developing reading skills, 75% of the participants were satisfied with their experience, 18% were neutral, and 7% were not satisfied- indicating that at times they had problems with slow Internet connection and some lab computers did not work appropriately. The participants rated the Internet laboratories and the Internet as excellent with a percentage of 3%; 43% as good; 30% average; 21% below average, and 3% poor.

Even though some students reported not being satisfied with their experience, it was important to know that it was not the platform itself, but because of some computers which were not in good condition, and slow Internet connection. Although they were indispensable in this research work, they were not directly related to the platform application itself as many students said they enjoyed the platform pretty much at home as they could easily access and develop activities and readings at their own pace, which indicated that if the technological resources of the laboratories and the Internet speed were improved, learning would be optimal in a subsequent treatment.

Regarding this topic, Windeatt et al. advise to be patient when the Internet runs slowly or there is no access to certain websites as this is a phenomenon which commonly occurs. Hence, as it can be seen in the results, this issue did not affect the process itself.

On the other hand, time was another factor that was taken into account considerably in this application. According to survey results, 70% found the distribution of adequate time to implement forums and guided activities, while 30% did not, demonstrating that although the majority agreed with the time taken for each activity, there were some who needed more time in the learning process. This finding must be taken into account when planning activities on Moodle, especially when it is about developing reading strategies as it is nothing new that not everybody learns at the same pace. As a case study, the application of forums was selected figuring that 21 students reported having had enough time to participate, 4 demonstrated that even had extra time and 8 did not answer the question.

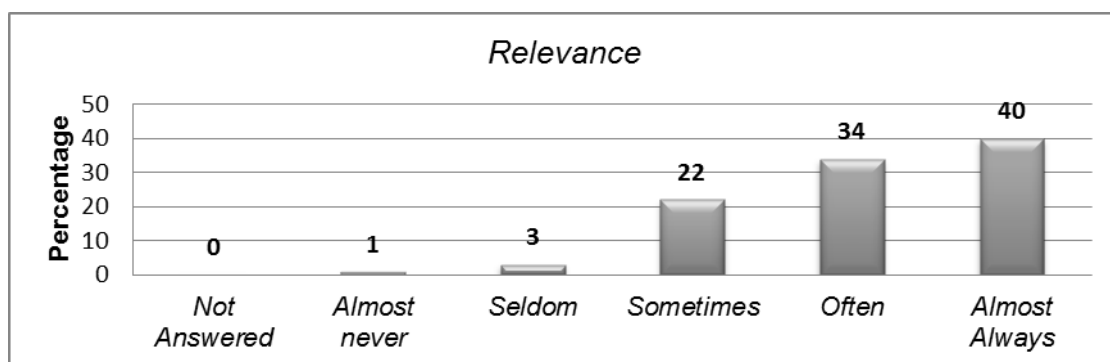
In relation to the application of guided activities and the distribution of time held by Osorno and Lopera in their study, plenty of the participants agreed *working from home* allowed them to devote enough time to their academic

activities without leaving their home responsibilities aside. Similarly, most of the participants in this research agreed distribution of time was enough for them and even in some cases, there was extra time to perform tasks and cooperate on the construction of knowledge, which shows that this platform strongly allows students to work at their own pace in an autonomous and independent manner.

4.2.7 Constructivist On-Line Learning Environment Survey (COLLES)

The survey was conducted in order to find out students' views about the use of the Moodle platform to develop reading strategies. It was developed by Peter Charles Taylor and Dorit Maor, "to help assess the extent to which web teaching enriches distance students' ways of knowing".

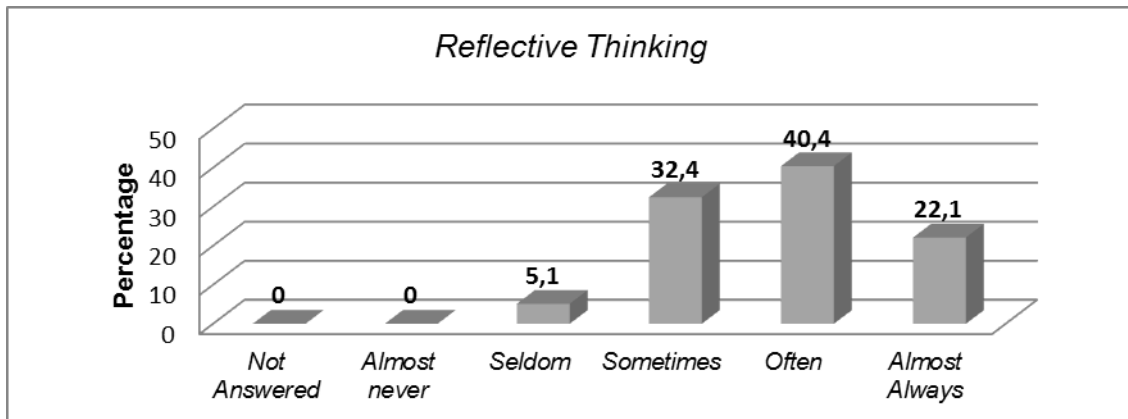
This poll was divided into several themes to show better understanding and accuracy. Additionally, the questionnaire (see Appendix 17) which has been previously generated and validated by the University of Cuenca on its virtual platform was answered by 34 participants from a total of 36 because two students were absent in class the day it was administered. It is worth stating that I did not make any changes because this survey aimed the same objectives of the study. For this purpose, statistical graphics were used with observed frequencies illustrated below:



Figures 20 – Student Survey

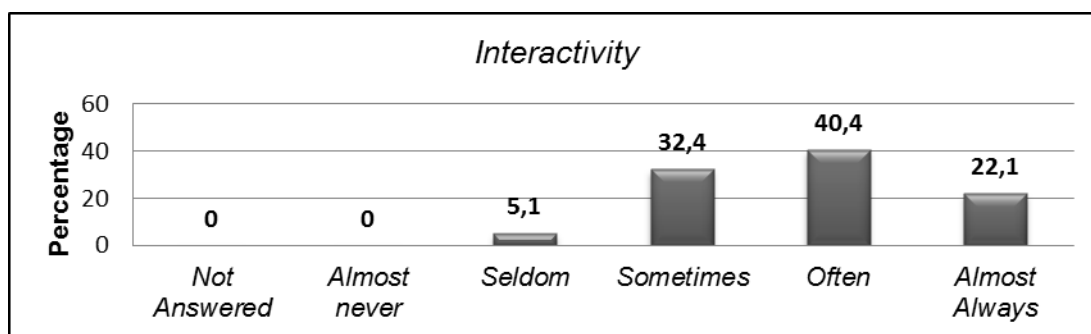
Analysis and Interpretation: It was seen that a 40% of the sample agreed that the activities and the use of the platform, for the purposes of this research, were almost always relevant; 34% agreed they were often relevant; 22% stated they were sometimes relevant; 3% rarely and 1% almost never. This data ratifies learners' remarks regarding the content of each topic as it was considered relevant enough during the process. Based on the results, the

content involved in each activity was updated and was in coherence with students' level and interest. Indeed, it was advised by Guillermo Pacheco in his research work, which really worked in this study.



Figures 21- Student Survey

Analysis and Interpretation: A 40.4% of the sample stated they often developed *reflective thinking* activities during the development of their reading skills; 32.4% sometimes did; 22.1% almost always and 5.1% rarely. According to Scott Windeatt et al., these data fit in positively with their findings in previous studies, regarding learners' active participation as they are exposed to new challenges, problem solving exercises, data analysis and inferences in the construction of knowledge, which require reflective thinking.

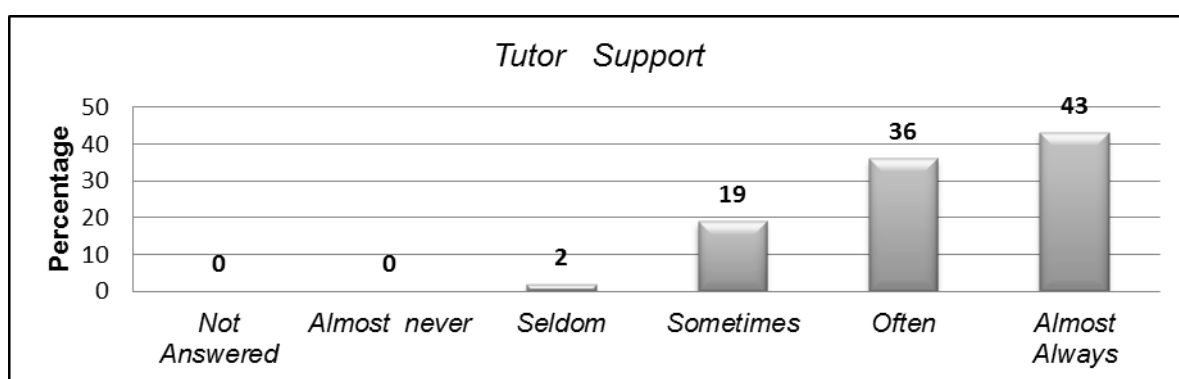


Figures 22 - Student Survey

Analysis and Interpretation: The Moodle platform allowed more *interactivity* among participants which was evidenced in the table above, resulting in a 40.4% often; 22.1% almost always; 32.4% sometimes and only 5.1% rarely.

This is a factor which influenced this study and has also shown surprising results in other investigations. For instance, Muñoz and González, in their case

study, stated the use of the platform limited researchers' interaction with their participants. They think they did not have the possibility to interact with their learners as they used to because of the following reasons: first, learners did not know how to use the platform, and second, they did not believe teacher's guidance was necessary. Therefore, these researchers consider educators have to be available for students in an advisory session. Notwithstanding, this phenomenon did not happen in the present study, having a positive and adequate interaction among the facilitator and her participants and of course among users.

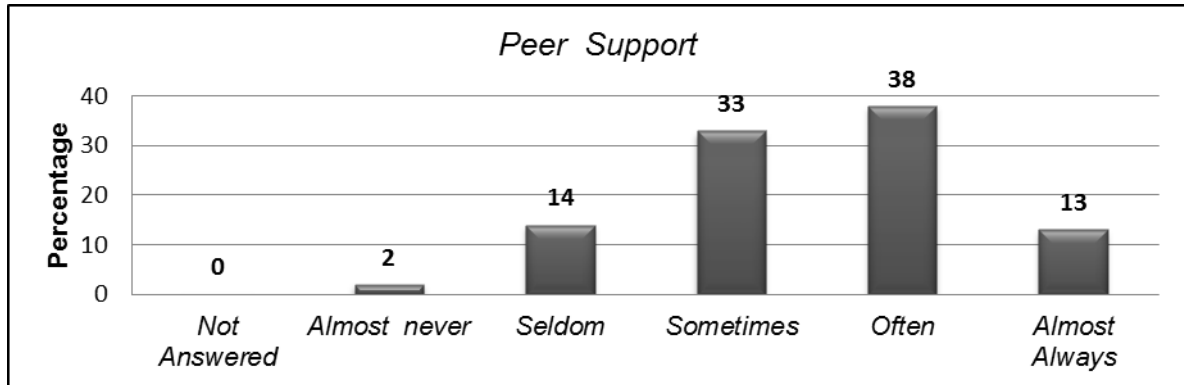


Figures 23 - Student Survey

Analysis and Interpretation: During the learning process through the platform, *tutor support* was vital to achieve good results and it was shown in the table above with 43% of participants who considered good monitoring and tutor support; 36% often; 19% sometimes and 2% seldom. These data match Osorno's and Lopera's comments about the importance of having tutorials with the purpose of leading participants through the use of this virtual learning environment. In fact, they state, "the teacher not only needs to be able to help students through content and grade their activities, but also be able to provide technical support to students on the different issues concerning the platform" (53).

Another worth-mentioning coincidence between this study and Osorno and Lopera's study is the role of the teacher as a facilitator, as students felt being accompanied by the teacher because he/ she was always there answering their questions. Likewise, in both studies, although the teacher was

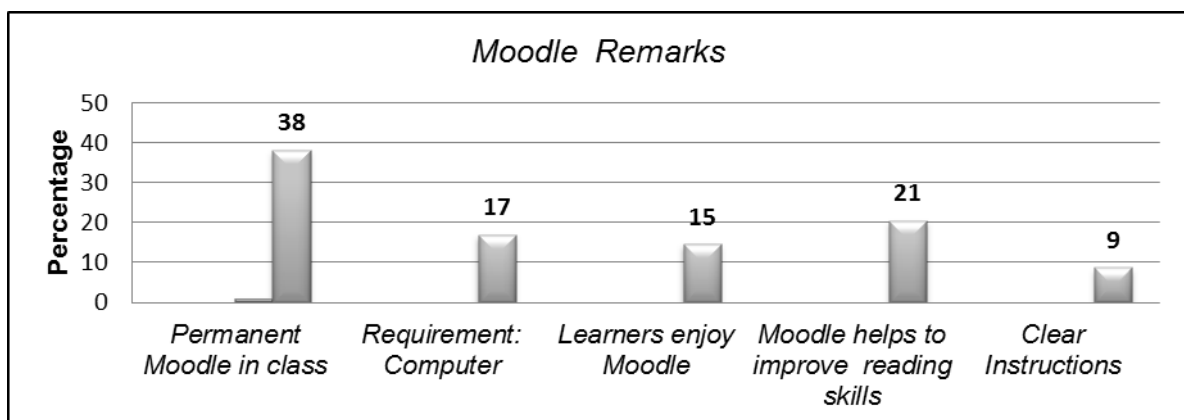
not available online 24/7; he/she would help students to work out technical and academic inquiries and concerns whenever needed.



Figures 24 - Student Survey

Analysis and Interpretation: Similarly, support among fellow students was vital to the process and knowledge sharing. Therefore, in this study 38% often had support from their peers; 33% sometimes; 13% almost always; 14% rarely and only 2% almost never through cooperative learning.

As seen in the results, students supported each other in the process. There were just a few who felt they almost never had support from their peers. Certainly, this result shows *peer support* is really significant in the development and acquisition of knowledge as students do not feel alone in this virtual environment. Muirhead (2005) quoted in Osorno and Lopera’s study, supports that online teachers have to involve students in an interaction level that fosters the instruction for individuals and student groups (54), thus allowing peer support during the process.



Figures 25 – Student Survey

Analysis and Interpretation: Question 26 of the survey asked students for information related to their assessment on the use of *Moodle* for the development of reading strategies, finding several comments that according to the frequencies in the responses were transformed into patterns for graphic representation and examination. Answers found that 38% of the students thought that Moodle had to be used permanently in the Reading Comprehension subject, as it facilitated learning, encouraged participation, allowed work at each student's pace, and had more current content than the text. However, learners mentioned that the platform had to be merged with the book.

This information confirms what is mentioned by Windeatt et al. about the importance of this platform as it motivates learners to perform more interesting tasks by means of all the resources Moodle provides. However, each activity or task must have a language-learning purpose for getting good results and should never be designed only to display technology. Additionally, these authors suggest not avoid access to inappropriate information on the Web. Instead, it is convenient to enable learners to select by themselves which type of content is useful and which is not.

A 17% said it was imperative to have a computer at home even though the university gave them access to laboratories since they did not always have enough time to work in college and would rather do it at home. Nevertheless, other students thought otherwise, indicating that there were sufficient computers and university labs. That was why they did not necessarily require a computer. In addition, they could work in any cyber net, which was an advantage of using Moodle as it allowed participants to work everywhere, anytime.

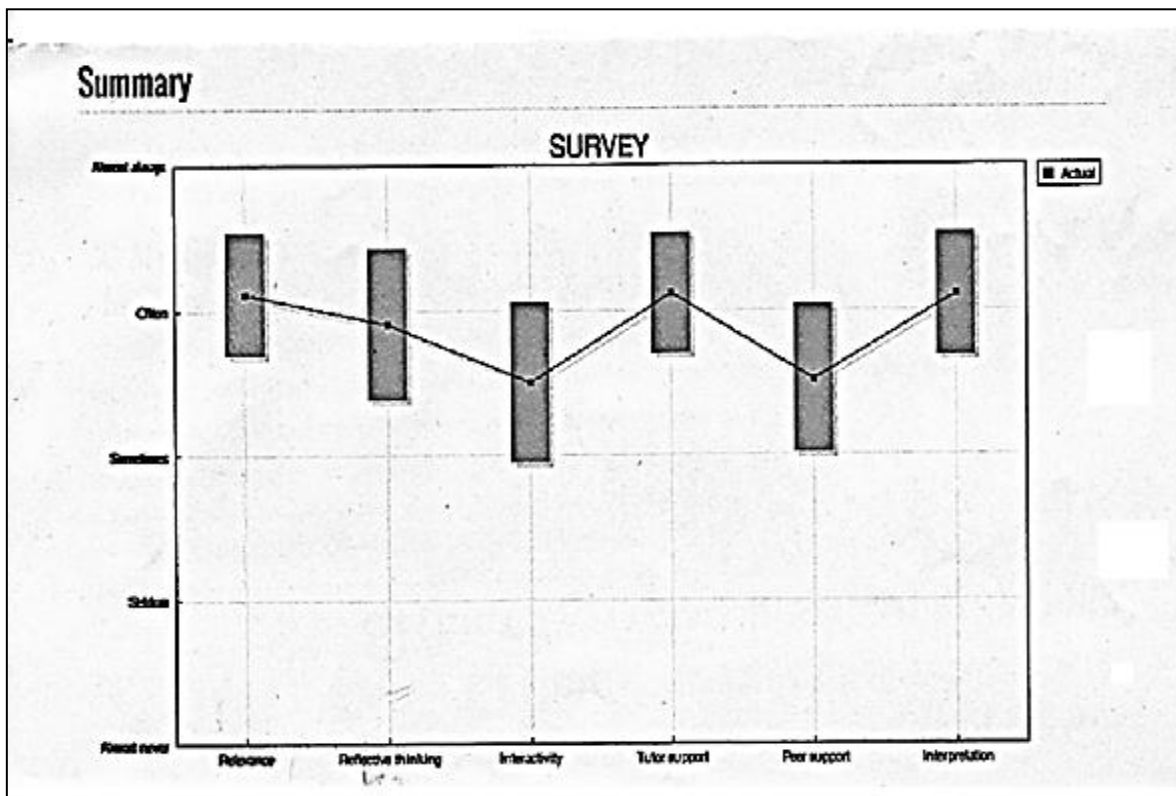
These results are in coherence with a study held in Colombia by Osorno and Lopera as they also found a positive effect about the platform, its availability. They mention that Moodle was always available for students and they could work at any time or place leading them to save time and money, handle family, work and study at the same time (55). This finding shows in both researches how effective the application of this technological resource can be outside the classroom.

Furthermore, 15% mentioned they enjoyed their participation and learning using the platform; inclusive, 21% of participants claimed to have

developed their reading skills effectively and 9% said all instructions were clear enough during the process.

4.2.7.1 Survey Report Summary

Box Plot Chart



Figures 26 - Student Survey

Source: Data concerning a questionnaire about the use of the virtual platform in class collected from the intervention administered to the students of the fourth-level regular course, EnglishLanguage School, University of Cuenca.

By: E-virtual Platform, University of Cuenca.

Analysis and Interpretation: The table in relation to the analysis of each criterion of the survey indicated satisfaction of the participants in the implementation of Moodle. Their answers were basically between *often* and *almost always*. Highlighting the *relevance* of the platform and *Tutor support* mainly.

These findings support Osorno and Lopera’s study as they also found good results in the application of the platform regarding its relevance and effective tutor support. In fact, their students argued that they felt motivated due to the different resources and activities the platform would offer. One of the



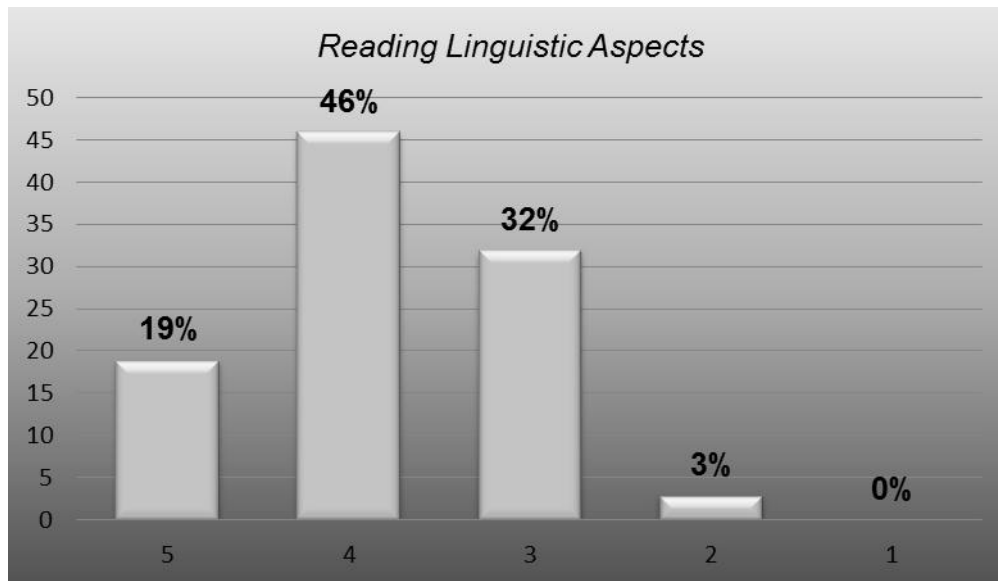
students supported this by saying, “Something that motivates me is that this course is updated with many tools to take advantage of” (54).

In addition, it is demonstrated in Osorno and Lopera’s study that tutor’s support plays an important role as students have an individualized interaction with the teacher through direct and personalized communication (53).

Nevertheless, there are antagonist criteria regarding students’ interaction with the instructor. For instance, Moore (1980) quoted in Osorno and Lopera’s study, states that, “ there is a psychological and communicational gap between the students and the teacher due to the physical distance they both face in this modality. However, if participants maintain a constant dialogue between them, this may bridge that gap” (48).

4.2.8 Linguistic Aspects Survey

This survey (see Appendix 18) aimed to find out how effective were participants’ reading skills developed during the treatment of Moodle. The statements were related to linguistic aspects of the reading element of the target language. This questionnaire was developed and validated by Sergio Lopera, a Ph.D student in Linguistics at Universidad de Antioquia. He investigated a similar phenomenon, “Interaction in an EFL Reading Comprehension Distance Web-Based Course”. I did not make any changes because it aimed the same objectives. The survey was administered to 34 students from a total of 36 because two students were absent in class the day it was applied, with the following results:



Figures 27 – Student Survey

Source: Data concerning a questionnaire about reading linguistic aspects of the target language collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez

Analysis and Interpretation: Nine questions regarding reading linguistic aspects were administered, categorizing responses among parameters from high to low range (score of 5 = highest and 1 = lowest score). The results indicated that 19% of the participants rated their reading skills development with the highest score; 46% with average 4; 32% with 3; 3% with score 2 and 0% with score 1.

These data go in line with the positive effect Osorno and Lopera had in their study concerning the development of reading strategies through Moodle for reading comprehension. Indeed, they agree with Leu and Kinzer, quoted in their study, who state that “reading in web-based environments should be seen as a new literacy. The new virtual environments offer richer and more complex information. Teachers will find a lot of changes in the way they guide their students because they are in the transition from printed material to the World Wide Web full of content “(49).

Additionally, in this survey, a Chi-Square Test was applied in order to verify the validity of the hypothesis that was proposed, based on the treatment done on the development of reading strategies through the use of the platform, detailed below:

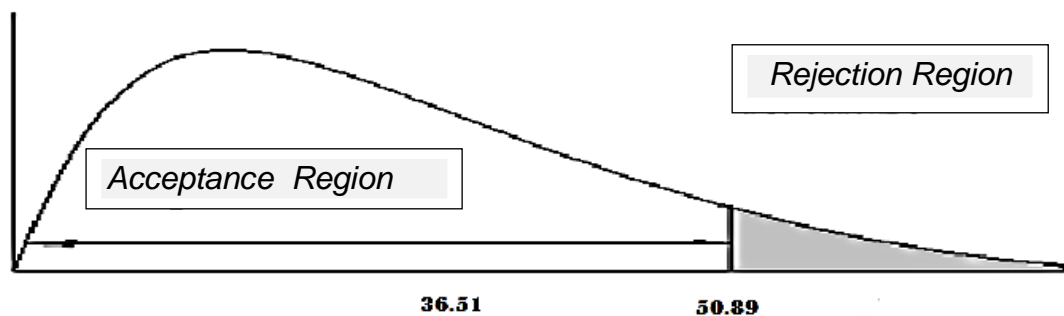
Null Hypothesis: The application of Moodle helps to improve the students' reading skills.

Alternative Hypothesis: The application of Moodle does not improve the students' reading skills.

For analysis, nine questions were taken into consideration, which were included in the Appendix. The decision condition (as it is known statistically) *null hypothesis* was rejected if calculated chi-square was greater than critical chi-square. In this study, the results were critical Chi-Square 50.89 and calculated Chi-Square 36.51. Therefore, the null hypothesis was not rejected; that is, it was accepted. It is important to remember that Chi-Square test was used to accept or reject a hypothesis regarding frequencies (see Appendix 19).

<i>Critical Chi-Square=</i> Rejection Region	50.89
<i>Calculated Chi-Square=</i> Acceptance Region	36.51
<i>Significance:</i> 0.01 (significance is the probability of rejecting the null hypothesis, being true or acceptable, "possibility of error").	<i>Degrees of freedom:</i> 32
<i>Chi- Square test=</i> 0.01	<i>Statistics=</i> 0.05

Formula: Degrees of freedom (df) (number of rows x number of columns- 1), calculated automatically in the Minitab program.

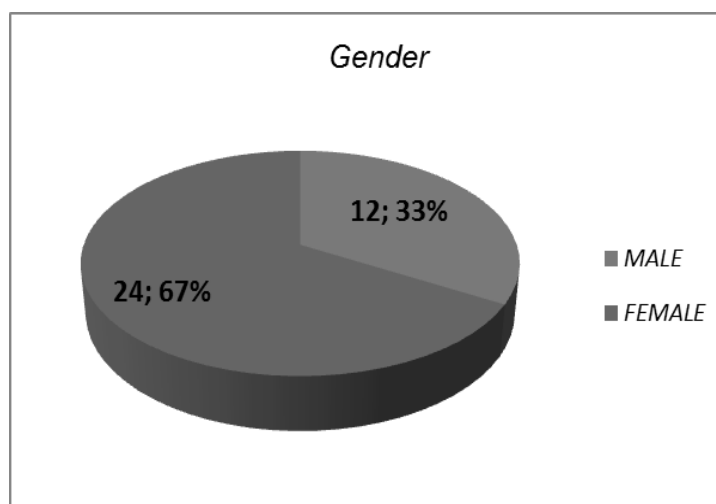


Figures 28 - Chi-Square Test

4.2.9 Socio-Demographic Survey

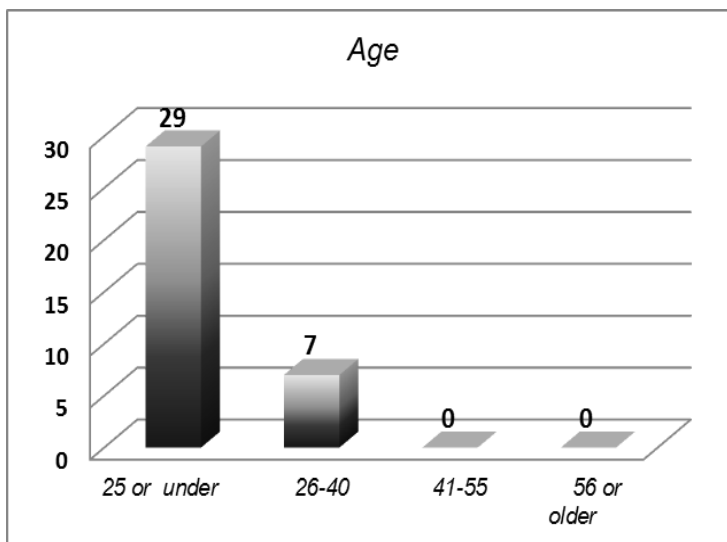
This questionnaire (see Appendix 20) was administered before starting the treatment with the purpose of getting to know some characteristics of the study group such as skills, habits, and certain personal data, to enable better targeting of the research. In fact, this survey was adapted from an online research survey template, Question Pro, which provides researchers with validated and useful polls to be administered.

According to Didier Dierckx, in his article, "The Importance of Socio-Demographics in Online Surveys", the use of this type of surveys is transcendental to find out whether or not the respondents will help determine how close the sample to the population replicates. To do this, one must consider factors such as age, gender, education, and income level, among other data, in order to collect meaningful survey data.



Figures 29 – Student Survey

The pie indicates that the treatment was administered to 12 men, representing 33% and 24 women representing 67%, a total of 36 participants comprising as sample population. It is important to mention that the students who attend the English language major are mostly women. It has always been like it.

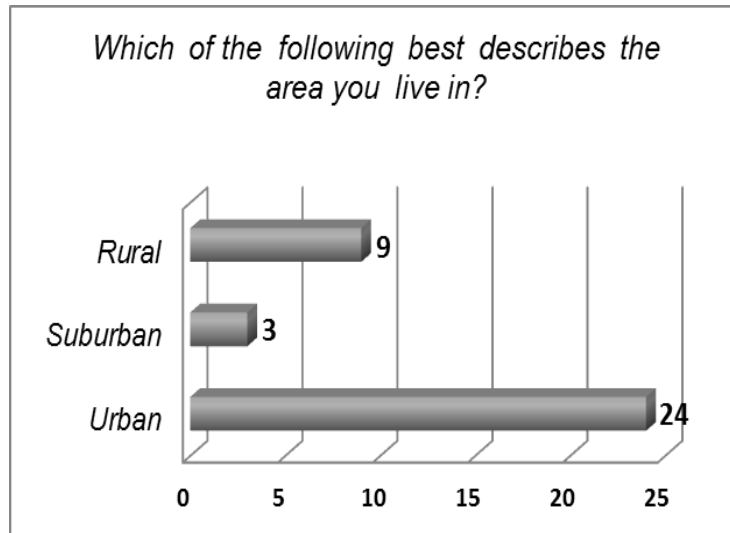


Figures 30 – Student Survey

The age range of participants was 29 students aged 25 or under; 7 between 26 and 40; 0 between 41 and 55 and 0 between 56 or older. This indicated that the researcher worked with a young group of students knowledgeable of new technological resources used today which somehow facilitated the implementation of the platform.

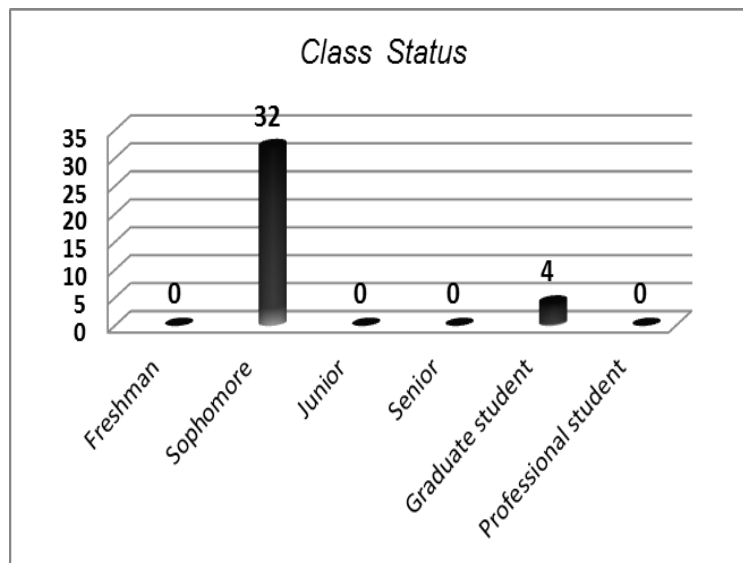
In contrast to Muñoz and González’s case study, age was not a problem in the present research as most of the students were young adults, and they knew how to work on the platform. Indeed, these researchers state they faced problems with their older students, regarding time-consuming as they spent a considerable amount of time helping them with, “ basic questions about computer configuration, how to navigate the Web, and how to access the learning platform”. Furthermore, they mention the problems with the platform use resurged even after having an introductory training course on the use of Moodle.

This phenomenon did not happen in the current study as a technology self-assessment questionnaire, recommended and validated by Professor Dennis Maloney from ESPOL University, was administered to participants before the treatment in order to know if they had the necessary skills to accomplish the objectives proposed.



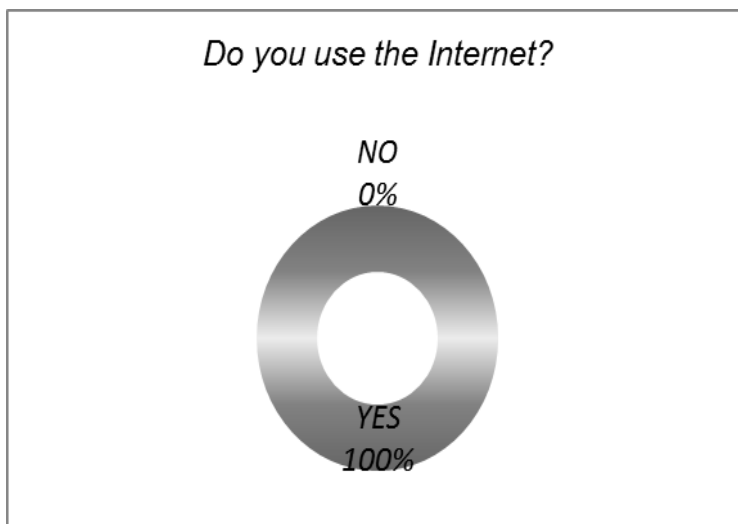
Figures 31 – Student Survey

Similarly, the data obtained showed that 24 out of 36 students lived in urban areas. This information could suggest individuals in the urban areas are more digital users and knowers of technology than in the rural and suburban areas. Notwithstanding, related studies were found to support this phenomenon; therefore, this inquire is advisable to be taken into account in further studies.



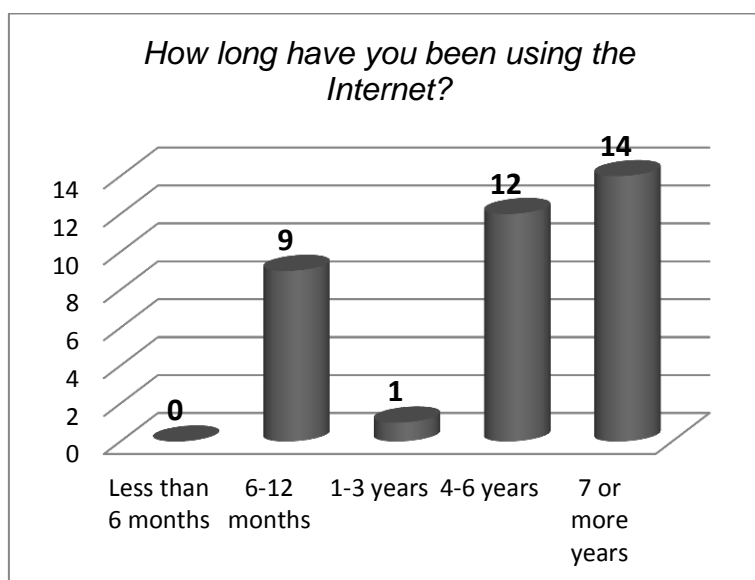
Figures 32 – Student Survey

As the table indicates, there was a total of 32 participants under the experiment who were sophomores and 4 who have already gotten a degree in a different field.



Figures 33 – Student Survey

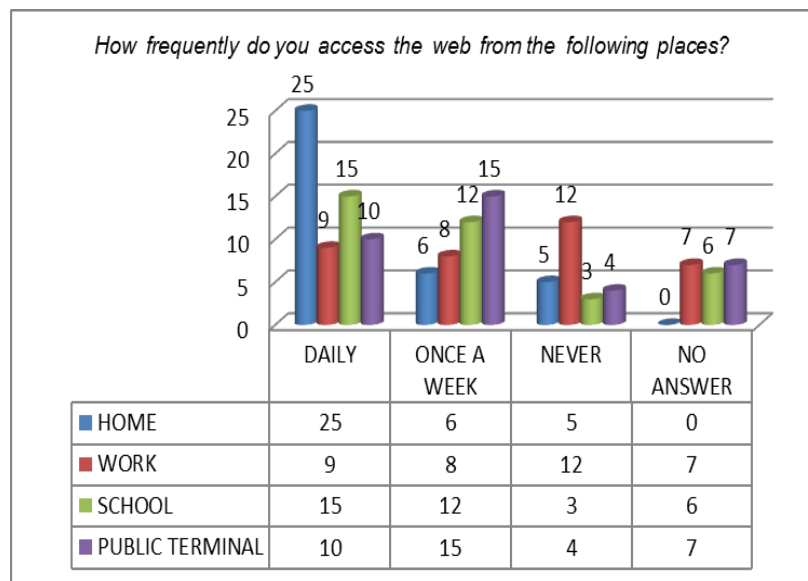
This graph shows that 100% of the participants use the Internet. This result had a positive effect in the development of the study as it facilitated the application of Moodle. According to Chapelle, the Internet has become a powerful tool in the classroom. Indeed, it gave way to a new type of education breaking the barriers of the traditional schoolroom provoking the beginning of a new pedagogy encompassing interaction, cross-cultural communication and social constructivism.



Figures 34 – Student Survey

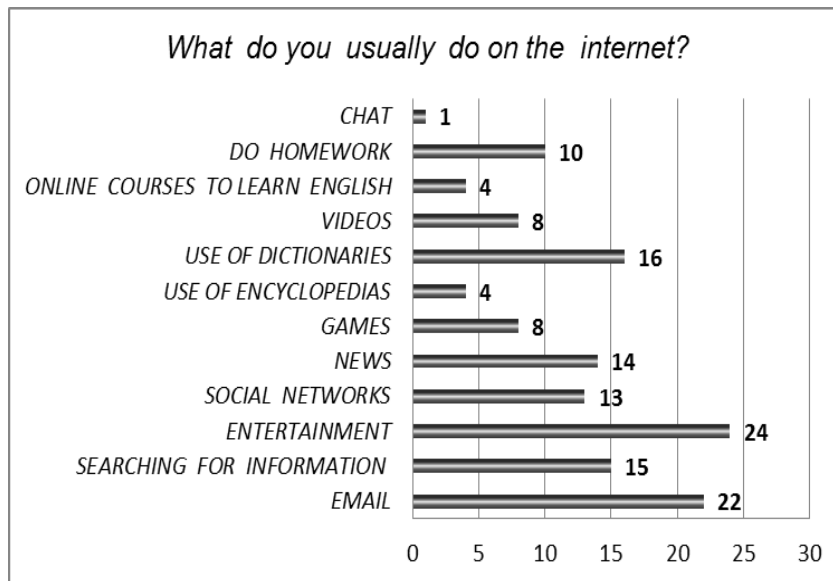
The data showed that participants frequently used the Internet for college tasks before the application. Accordingly, 14 students replied they had been

using the Internet 7 years or more; 12 had used it from 4 to 6 years; 1 participant from one to 3 years; 9 from 6 to 12 months and 0 participants less than six months or never used it. The fact that all of the students usually used the Internet for educational purposes before the intervention, facilitated and enhanced the learning process at any way. This is substantiated by Windeatt, Hardisty and Eastment, who mention that, “the Internet is a powerful tool which does not only provide information of any topic, but also presents challenges and amazing experiences to both the educator and the apprentice”.



Figures 35 – Student Survey

As it is clearly shown in the table, access to the web by the students was common from home, work, school, and public terminals before the treatment. Daily, 25 participants accessed from home, 9 from work, 15 from school, and 10 from public terminals; that is, from the library, cybercafés, among others. This showed that students had the facilities to access the system from anywhere, especially from home.



Figures 36 – Student Survey

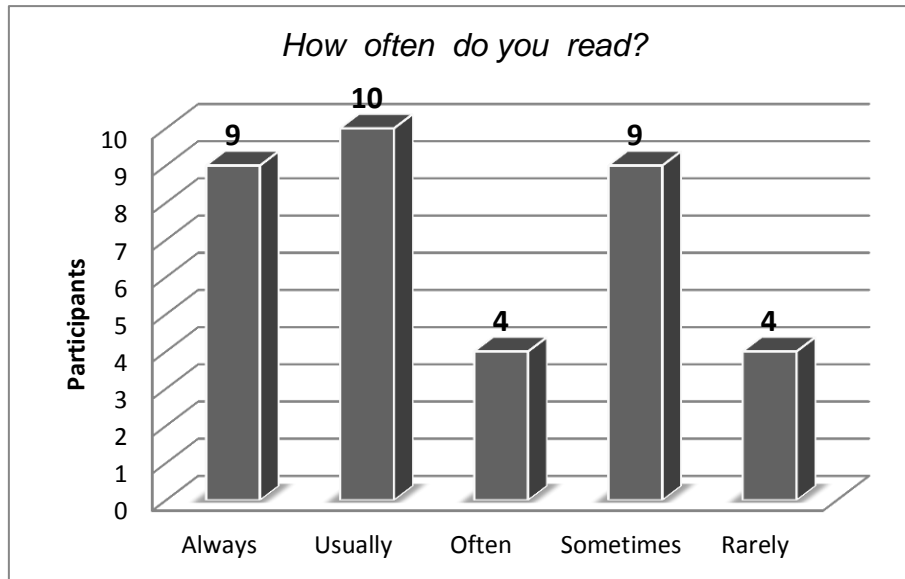
Additionally, it was worth analyzing in what activities students used the Internet primarily for designing activities on the platform, taking into consideration from the highest to the lowest scores. Hence, 24 respondents used it for entertainment, 22 to receive or send emails, 16 for inquiries in dictionaries, 14 for getting news, 10 for doing homework, 8 for playing games or watching videos, and others for reference and taking online courses to learn the target language. Again, the respondents were allowed to choose more than one option.

These data helped the teacher to choose the most suitable content, tasks and resources to be applied and developed in each topic on the platform. Certainly, as it was mentioned before, this is confirmed by Guillermo Pacheco in his research work, as he states it is important for the teacher to be aware of the kind of content comprised in each activity, as it has to be updated and needs to go in coherence with students' level and interest.

4.2.9.1 Reading Habits Survey

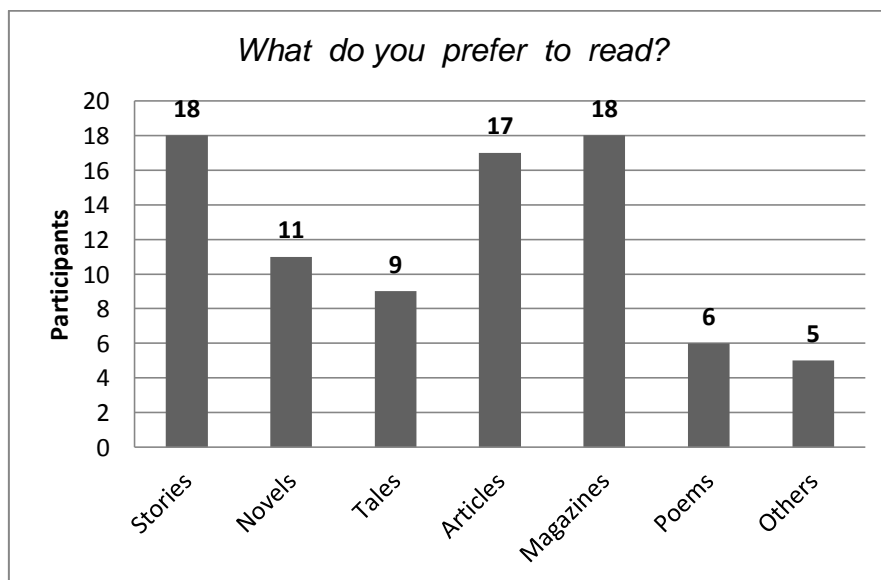
This questionnaire (see Appendix 20) belongs to the *Demographic survey*, starting with question 17; notwithstanding, it was analyzed in an isolated way in order to observe in detail students' common reading habits. Some of the questions included in this survey were taken from an online *Reading*

Comprehension Questionnaire, which has been validated and updated by a group of teachers who wanted to help their students become better readers.



Figures 37 – Student Survey

One thing that drew my attention was that only 9 out of 36 participants stated they always read, 10 usually did, 4 students often did, 9 sometimes, and 4 rarely, which showed that reading was not a habit for them.



Figures 38 – Student Survey

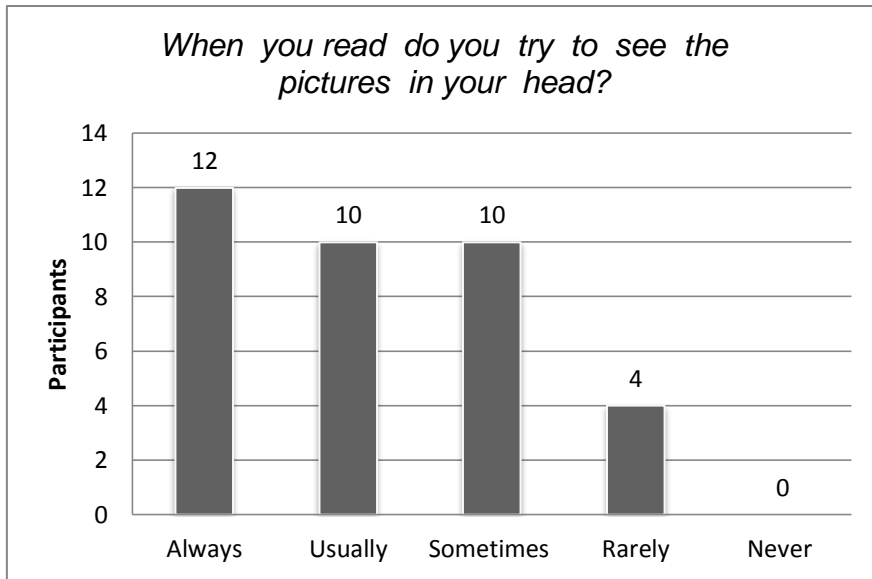
Based on their comments, 18 students preferred magazines since they contained interesting and updated topics for them to read. To confirm it, 17 students preferred articles for the same reason; others chose stories and novels

to acquire new vocabulary, and some were interested in reading tales and poems.

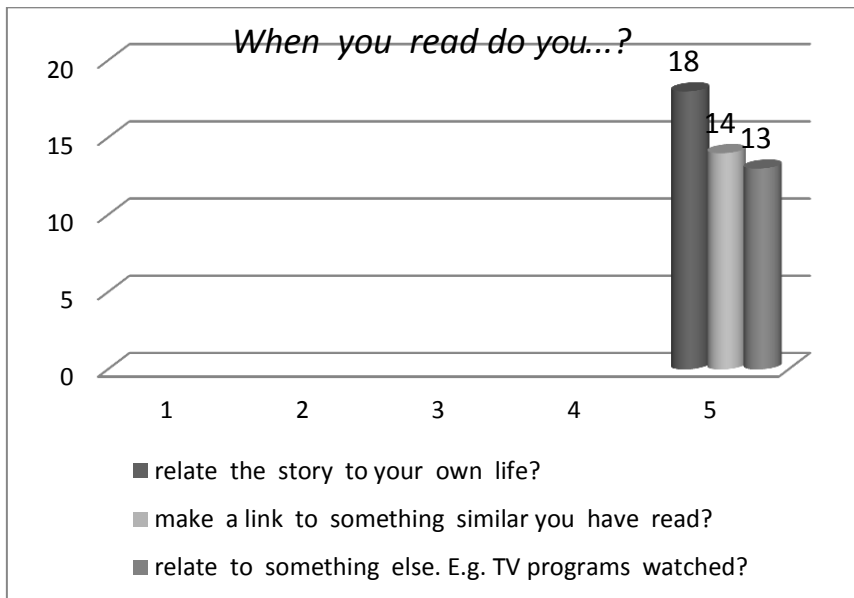
This question was really valuable because it helped me to see there was a wide range of literary genre that could be used to plan and prepare activities for the students. As it is mentioned by Kenneth Goodman, reading is placed, “within the broader context of communicative, meaning-seeking and information processing”; therefore, it is essential to select appropriate material according to students’ level and interest.

The questions below, represented on tables, had the objective of observing the way the participants read and their reading preferences. This data was meaningful as a guide toward planning and designing reading activities in order to develop reading skills onto Moodle. According to Lisa Parris, a learner’s reading comprehension can be improved by learning and applying strategies that help understanding. Some learners apply these strategies naturally while others acquire them through practice while reading. That is why, it is important for an EFL learner to develop and improve their reading comprehension by using strategies like identifying the main idea, summarizing, drawing inferences, among others, which permit reading can be an active and interactive process entailing noteworthy aspects.

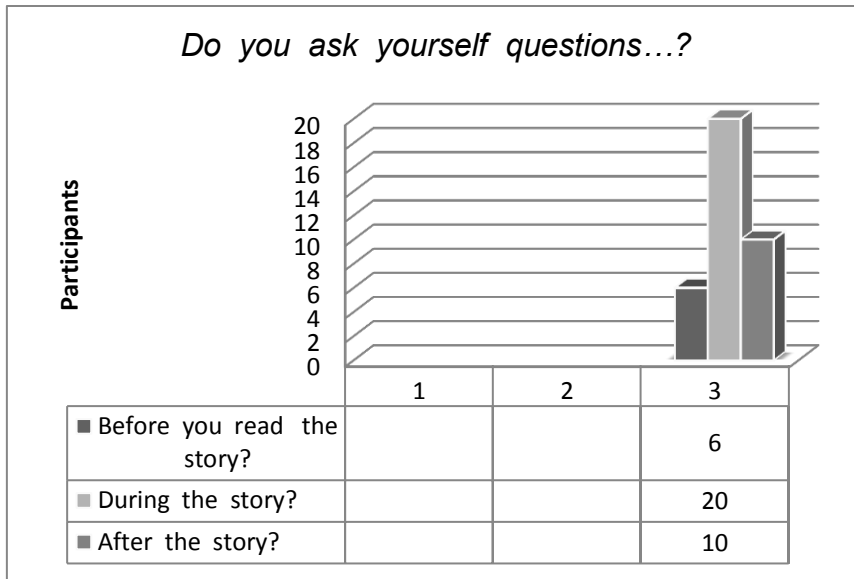
It is important to mention that in a couple of questions, participants were allowed to choose more than one option. This information revealed that not all of the students were aware of the reading strategies they used when reading.



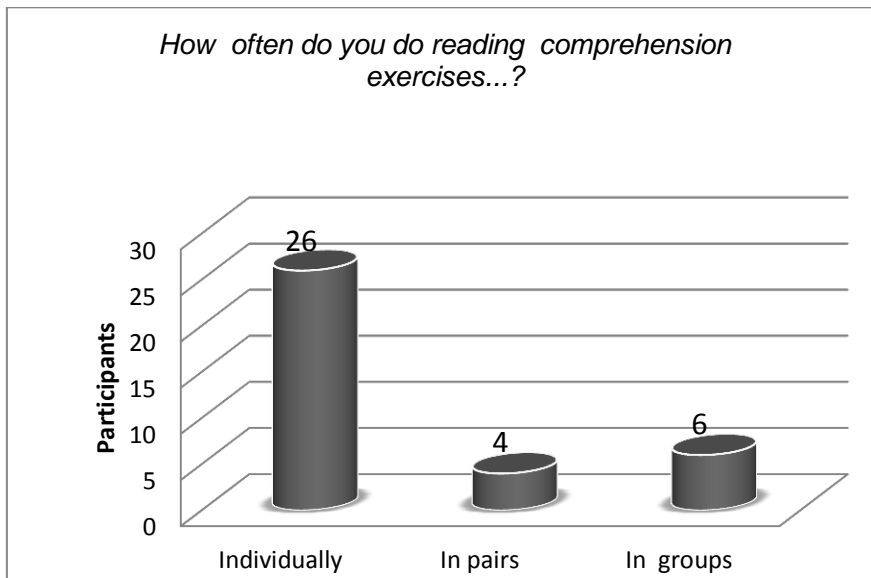
Figures 39 – Student Survey



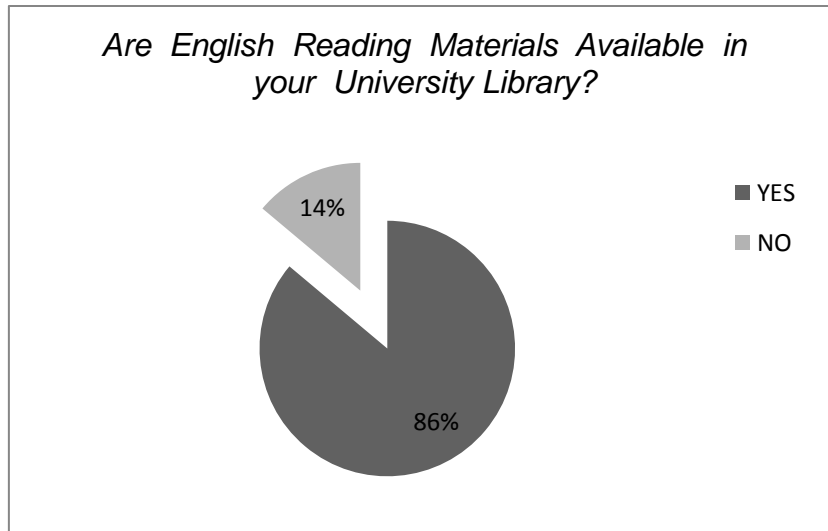
Figures 40 – Student Survey



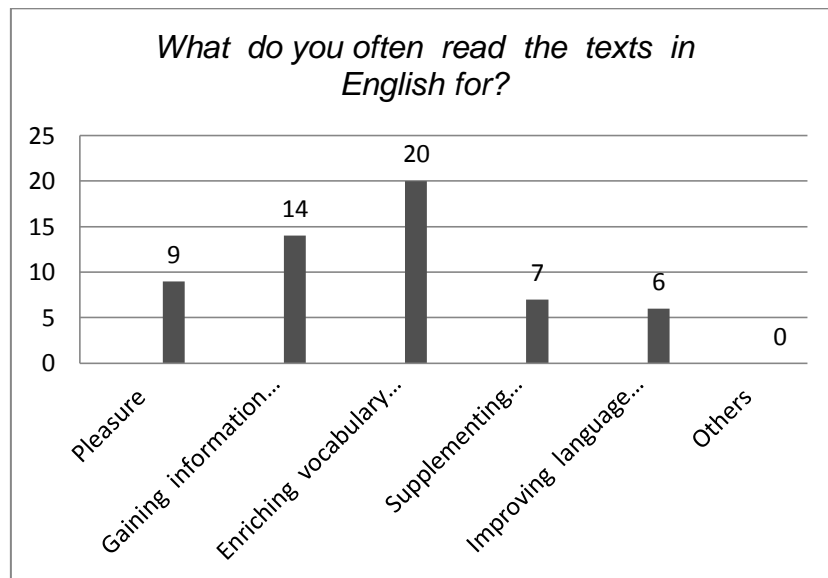
Figures 41 – Student Survey



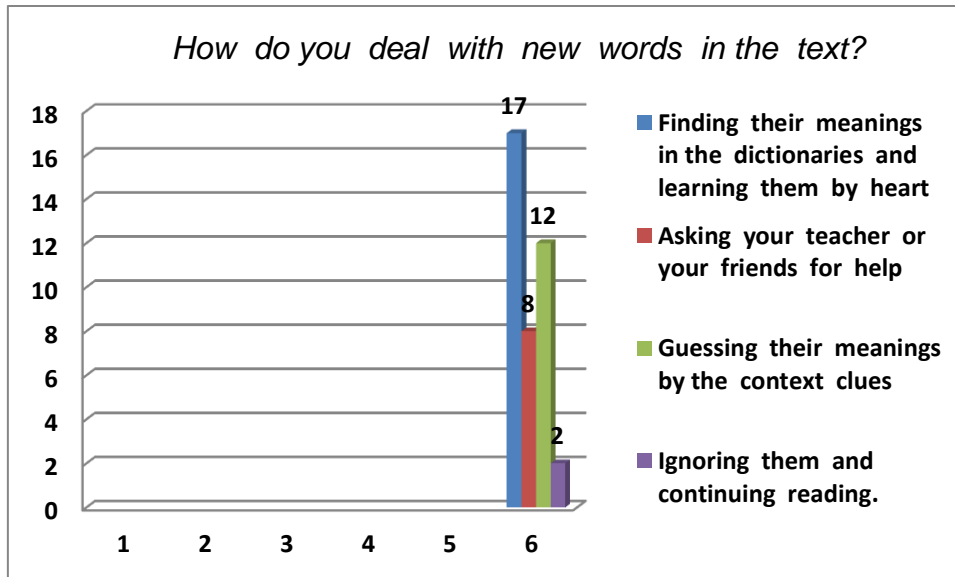
Figures 42 – Student Survey



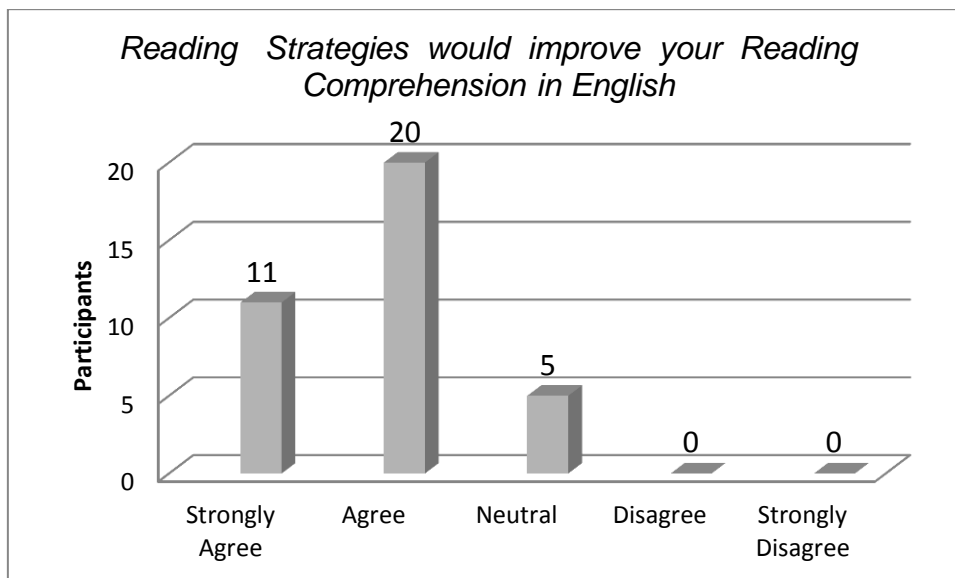
Figures 43 – Student Survey



Figures 44 – Student Survey



Figures 45 - Student Survey



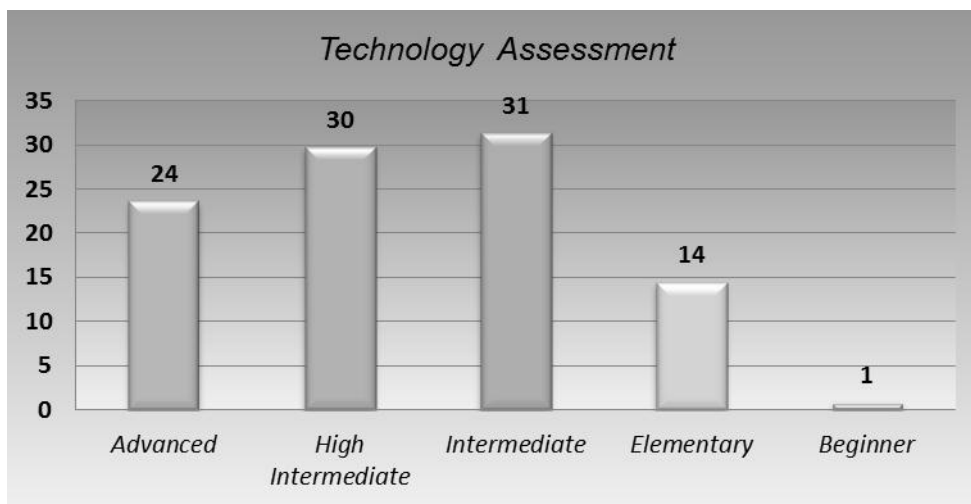
Figures 46 – Student Survey

Source: Data concerning the demographic questionnaire including reading habit aspects collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez

4.2.10 Technology Self-Assessment Questionnaire

This survey (see Appendix 21), developed and validated by Professor Dennis Maloney from the ESPOL University, was administered to the total group of 36 participants, which revealed how much they knew about the use of technological resources before the treatment. It was an essential step to be taken at the beginning of the study, as it was important to determine their

level of computing knowledge. Notwithstanding, it was clearly seen that just a few of them needed a special guide and instructions on its use. Ten questions were formulated with 5 levels of knowledge each one, such as advanced, high intermediate, intermediate, elementary, and beginner. It is worth mentioning that I did not make any changes because this questionnaire aimed the same objectives.



Figures 47 - Student Survey

Analysis and Interpretation: It is clearly seen that a 31% of the participants sorted themselves in an intermediate level predicated on the questions of the survey; 30% stated to be in a high intermediate level; 24% in an advanced level; 14% in elementary, and only 1% was beginner in the use of technological resources, which was an advantage since most of the students knew how to deal with the Internet, the platform, and other technological issues. However, as a 14% of students were considered elementary learners and 1% beginners, it was necessary to teach them how these resources worked, so they could be ready for the treatment.

These results are in line with Windeatt’s suggestions regarding the importance of recognizing the kind of skills trainees need to handle computers and to perform activities on the Internet and the platform itself. As a contribution, Windeatt provides a suitable checklist which can be administered to students in order to know in advance what skills they have.



Questions	Advanced	High Intermediate	Intermediate	Elementary	Beginner	Total
1	10	12	7	7	0	36 students
2	8	12	12	4	0	
3	3	8	15	9	1	
4	8	10	8	10	0	
5	8	8	12	6	2	
6	12	15	8	1	0	
7	11	9	14	2	0	
8	8	12	12	4	0	
9	6	11	13	6	0	
10	11	10	12	3	0	

Chart 14: Values per level

Source: Data concerning the technology self-assessment questionnaire collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca

In this survey, the Chi-Square test was applied to verify the validity of a hypothesis that arises in relation to the use and knowledge of technological resources necessary for the implementation of Moodle, as follows:

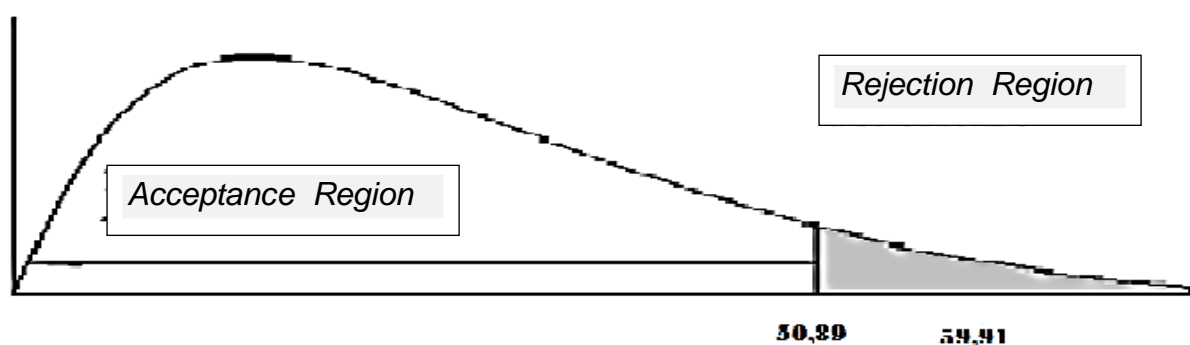
Null Hypothesis: Participants have a good knowledge and use of technological tools required for the intervention.

For analysis, ten questions were considered which were included in the appendix as a reference.

The decision condition was null hypothesis was rejected if calculated Chi-Square was greater than critical Chi-Square. In this study, the results were critical Chi-Square 50.89 and calculated Chi-Square 59.91 with 45 degrees of freedom. Therefore, the null hypothesis was rejected. It is important to remark that Chi-Square test was used to accept or reject the hypothesis regarding frequencies, using the Minitab statistical program.

According to the results, it is necessary to train students primarily on the management of the Moodle platform before starting the treatment because not everyone has a good knowledge about its use, making it difficult for the learning process. Similarly to this study, Muñoz and González agree with the idea that, “the teacher not only needs to be able to help students through content and grade activities, but also be able to provide technical support to students’ on the different issues concerning the platform”.

Formula: Degrees of freedom (df) (number of rows x number of columns-1), calculated automatically in the Minitab program.



Figures 48 – Chi-Square Test

4.3 Journals

During the research process, each participant from a total of 36, filled a journal that was given to the researcher with their findings, suggestions and opinions in order to collect daily information. For purposes of organization, a special format where students ranked the highs and lows of the implementation of the study was developed.

This application goes in line with Muñoz and González’s study as they also state the importance of using journals to record the teacher’s thoughts and reflections along the course with the purpose of constructing an academic view of his or her practice. In fact, they state they used this technique, “to understand the instructor’s point of view, the challenges, and roles he



experienced in teaching reading comprehension under this learning environment”.

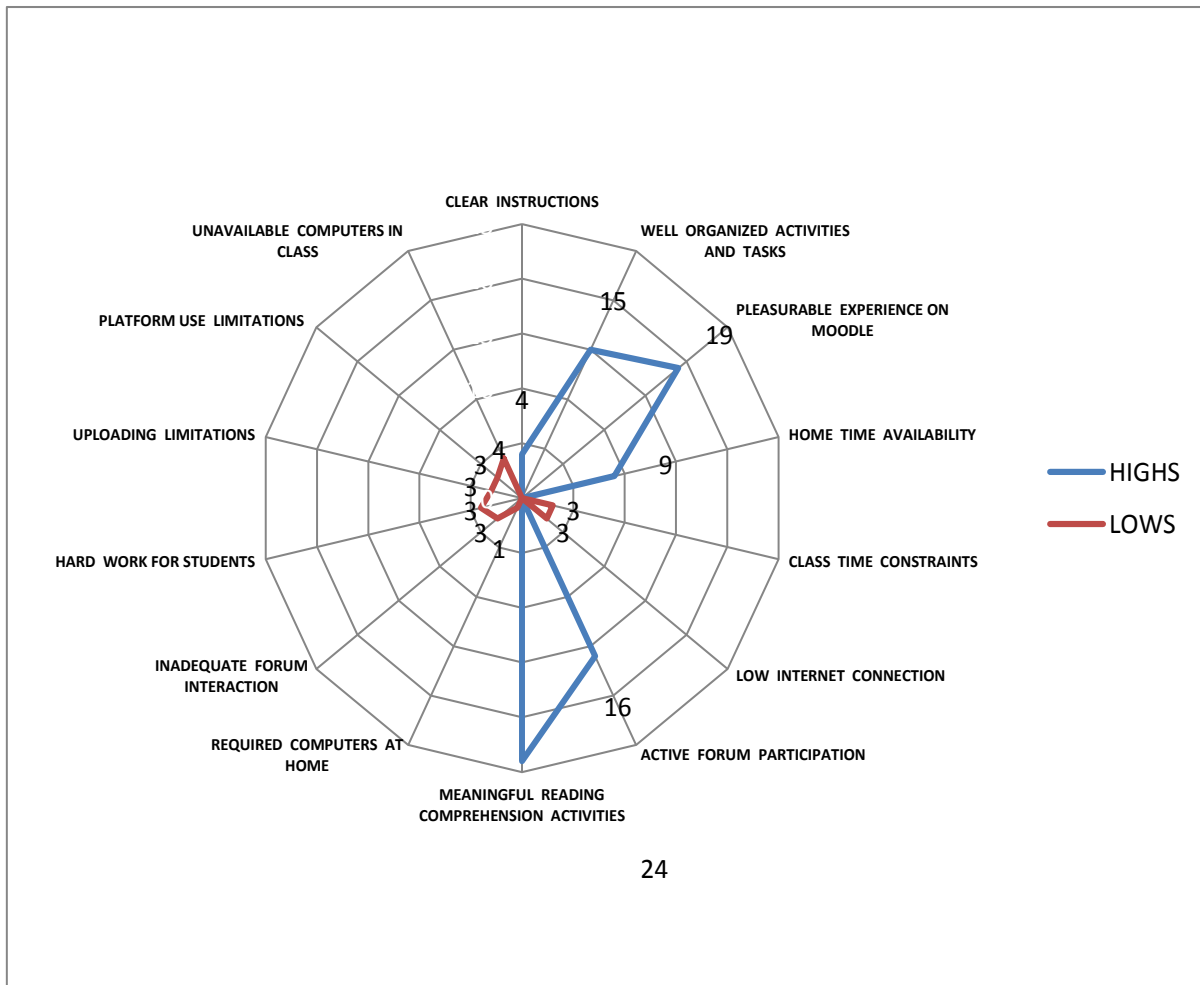
To analyze the results, responses were tabulated according to the statements claimed in the notes of the participants (see Appendix 22). For this, a reading of each journal was performed meticulously. Once data were tabulated, the information was classified into 14 patterns, which served to represent the observed frequencies in a statistical graph, having the following results:



	<i>PATTERNS</i>	<i>HIGHS</i>	<i>LOWS</i>
1	<i>Clear Instructions</i>	4	0
2	<i>Well organized activities and tasks</i>	15	0
3	<i>Pleasurable experience on Moodle</i>	19	0
4	<i>Home time availability</i>	9	0
5	<i>Class time constraints</i>	0	3
6	<i>Low Internet connection</i>	0	3
7	<i>Active forum participation</i>	16	0
8	<i>Meaningful reading comprehension activities</i>	24	0
9	<i>Required computers at home</i>	0	1
10	<i>Inadequate forum interaction</i>	0	3
11	<i>Hard work for students</i>	0	4
12	<i>Uploading limitations</i>	0	3
13	<i>Platform use limitations</i>	0	3
14	<i>Unavailable computers in class</i>	0	4
	Total	87	24

Chart 15: Journal patterns

Source: Data concerning journal patterns classifying participants' remarks collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez and Eng. Nardo Tenesaca



Figures 49 – Quantitative Journal Representation through patterns

Analysis and Interpretation: The patterns in red represent the low ones and the ones in blue exemplify the high ones. According to the data obtained, first there was a *meaningful reading development* (meaningful reading comprehension activities) with a value of 24, being the most commented by the participants in the journals. Second, *pleasurable experience* on Moodle with 19 comments. Third, *active participation forum* with 16. Fourth, *well organized activities and tasks* with 15. Fifth, *clear instructions* with 4, which imply the highest values.

It is clearly seen that the majority of the students enjoyed the platform and found it an outstanding way to develop reading strategies. Additionally, they participated actively in forums, which particularly helped those shy students to express their ideas freely. This result is confirmed by Rice and Smith, who state forums are important tools for collaborative learning, analysis, and synthesis. Therefore, they advise the facilitator to provide opportunities to his/her students,

so they can come up and share ideas, ask questions and express their knowledge by means of forums.

Moreover, most of the participants indicated that there were well organized activities and tasks uploaded onto the platform, making the learning process more meaningful and challenging. Nevertheless, there were some who found the instructions not clear enough so that this interfered with the accurate development of tasks. Even though, there were only 4 remarks concerning this pattern, instructions should always be taken into account on virtual environments.

This result concerning instructions goes along with Rice and Smith's ideas. As a matter of fact, it is advised by these authors to present instructions clearly stated and organize the courses chronologically for two reasons: first, because it is practical, and second, because the tools permit a sequential presentation of material.

Lastly, it is specified in the present study that time for doing tasks was not a problem for the participants. In fact, there were only three statements uttering their appraisals regarding time constraints. The majority thought they could manage their time more flexibly, being able to do their tasks and readings anywhere.

In contrast to this result, time concern was a constant in Osorno and Lopera's research. Indeed, handling time was troublesome for students. "Most of them usually left exercises for the last day of each unit. Some students even asked for more days to complete exercises" (53).

Chapter V

Conclusions and Recommendations

5.1 Conclusions

After the completion of this study, it is fundamental to set up conclusions and recommendations, which may be of such contribution to further studies within this field.

- The use and incorporation of diverse interactive activities through Moodle became a useful and motivating e-learning resource for students, as they actively participated and naturally expressed their positive comments on this experience, as it can be seen in the results concerning Quantitative Journal representation through patterns (figure 49). This conclusion goes along when Complusoft, an international Information Technology and Communications company, in its online manual, mentions that a virtual learning environment features flexibility and adaptability which in time answers users' needs.
- The materials and activities the book *Strategic Reading* presents were adapted and redesigned onto the platform. As a result, more complementary updated information, visuals and audios came up, making students' performance, during the intervention, one of a higher level. This is demonstrated in a case study held by Osorno and Lopera in Colombia which showed how students improved their reading skills by means of different activities in Moodle.
- The reading process on the platform was a useful experience for the participants, as many of them said they enjoyed the platform pretty much at home since they could easily access and develop activities and readings at their own pace; which can be reflected in the major characteristics of a virtual environment that encompasses flexibility, adaptability, and autonomous learning according to Windeatt et al. and Complusoft. This indicates that if the technological resources of the laboratories and the Internet speed were improved, learning would be optimal in a subsequent treatment.

- The use of the Internet and the lab was adequate, but not completely efficient. There were just a few computers which sometimes did not work; nevertheless, this situation did not interrupt the process, as students could make up stations when necessary. Even though some students reported not being satisfied with their experience, it is important to mention that it was not due to the platform itself but rather the lab facilities. According to Windeatt et al., it is advisable to be patient when the Internet runs slowly or there is no access to certain Websites as this is a phenomenon which commonly occurs.
- The training in the use of the platform itself was not a drawback for the project concerning time constraints, as was thought before the application. Indeed, results showed most of the students knew how to work with it, and it was only necessary to teach it to a few students. This information goes in line with what is mentioned by Windeatt et al., who state the training in the use of Moodle before the intervention, helps to maximize the time and afford personalized education that normally does not frequently happen in regular classes.
- The application of forums and guided reading activities on Moodle could increase self-confidence in those who were shy students or were fearful of making mistakes. Furthermore, it was demonstrated that forums allowed equal posting opportunities for sharing comments; thus, constructing knowledge in a collaborative manner. These results match with what is mentioned by Guillermo Pacheco in his study, “through the use of forums in Moodle, educators have the opportunity to access those students who are too shy to express their thoughts, comments or opinions”. Additionally, he states this is a phenomenon which does not occur in a face- to- face environment, being also chatting another useful activity, which gives the support students need during the process, as it reveals students’ insights.



- The instructions were clear enough for students, so activities were developed without any problem. Moreover, students could go over any task as often as they needed. This conclusion goes along with Rice and Smith's remarks about the effectiveness of this platform as a real guide for the participants. Indeed, they state that when instructions are clear enough, participants can become independent actors in the process where interaction takes place at every step, leading to the foundation of a community in permanent collaboration.

- For Reading itself, there was an evident improvement predicated on the CEFR, as most of the participants went from the Intermediate level *B1* to the Upper Intermediate *B2*, which shows the benefits of the intervention. As it is mentioned by Bruner, quoted in Rice and Smith, *scaffolding*, which is considered a meaningful assistance and support in Moodle, plays a significant role in the acquisition of knowledge and development of any skill, as it gradually provides the support students need before they can become independent learners. This valuable resource helped students in this study to accomplish their goal, improving their reading level, in a free and autonomous manner.

- The influence of the Moodle platform for the development of reading strategies in the subject of Reading Comprehension was positive. Results indicated that the highest performance was in the reading skill of *Getting Main Ideas*. In addition, students significantly developed their reading strategy of *Inferring* through the use of Moodle, and activities used for this project. Nevertheless, it was evident that students still needed more reinforcement and improvement in the development of the *summarizing* strategy. This conclusion goes in line with Aly Amer et al., who think online reading has become a major source of input. Additionally, Lisa Parris confirms this by stating, " the fundamental framework of reading comprehension lies in the reader's ability to derive value from the material, not in the number of words read per minute". Thus, a learner's reading comprehension can be improved by learning and applying strategies that help understanding. Furthermore, Block,

quoted in Osorno and Lopera's research, indicate that, "reading strategies help learners conceive a task, identify what textual cues they have to pay attention to, make sense of what they read, and decide what to do when they have troubles understanding the text" (49).

- The success of the intervention with an individual student was not with an extreme datum. In fact, the variations were the same as having equal population variations; no extreme scores distinguished them. No statistical information concerning this issue was found in both defined case studies; notwithstanding, it is paramount to present these results as all students developed their reading skill in an autonomous manner, but at the same time, they were able to build collaborative communities of learning to accomplish their goal as a whole. This is a phenomenon that according to Sanaulla results from the creation of effective online learning sites.
- A few students complained about the large number of activities in each unit, it being necessary to have more time to solve them. On the contrary, most of the students said they needed more exercises and activities. This was a phenomenon that drew my attention. As a matter of fact, this situation was also evidenced in Muñoz and González's study as students reported that, "the number of exercises they had to do was overwhelming". Indeed, this is a singularity which happens in these kinds of studies and must be deeply investigated.
- Regarding time constraints and feedback, time was not enough for giving assessment and feedback because of the large number of students. These results go in line with Osorno and Lopera's research as they also found time constraints had a negative effect at the time students performed their tasks. Furthermore, these researchers mention, "when correcting or grading students' exercises, the teacher did not give deep feedback in the platform, as there were 38 participants, leading to limited feedback".



- The students' journals analysis showed a remark which stated the importance of Moodle, due to the fact that by means of using this platform, educators and students may save some money on didactic materials and sheets of paper which, to date, are excessively being wasted. This finding is confirmed by Chapelle, who stands out the importance of the Internet and the platform itself as powerful tools in the classroom. In addition, this author mentions these e-learning resources have given way to a new type of education breaking the barriers of the traditional schoolroom; thus, provoking the beginning of a new pedagogy.
- The access to Moodle has been rated as a strength, as it would grant both teachers and students access to it, anywhere, anytime. This confirms that it is not necessary to have computers at home for doing school tasks. This particularity is demonstrated in a case study held by Osorno and Lopera in Colombia, stating that a positive effect about the platform was its *availability*. They mention that Moodle was always available for students, so they could work at any time or place.
- The class time was optimized, thanks to Moodle, as students were required to read in advance and previously perform certain activities, which were later socialized and checked in the classroom. According to Cummins and Sayers, uploading materials and tasks in advance provides second language learners the extra time they need to comprehend, elaborate and polish their texts.
- Moodle helps teachers and students to keep up with academic pace due to its main feature of assisting blended learning. Therefore, holidays or institutional issues did not get on the way as far classes refer. This conclusion goes along with Cummins and Sayers' s notions, as they state *distance* is a valuable factor which allows the opportunity of teamwork with unidentified but knowable addressees; thus, permitting interaction, cross-cultural communication and social constructivism outside the classroom. This facilitates the adequate performance of the learning process with any interruptions during the intervention. Additionally, Rice

and Smith support this by mentioning *synchronous interaction*, “enables participants to communicate with each other in real time”, giving the space for sharing notions and beliefs by the actors.

5.2 Recommendations

Predicated on the analysis of the results and the conclusions, it is necessary to provide some recommendations, which might boost the optimal implementation and application of Moodle in the developing of reading skills for further studies.

- Educators must be aware of the increasing use of technology in educational fields, especially in the creation of virtual courses. Therefore, it is convenient to be frequently updated by means of workshops, conferences and overall training, as it will allow both educators and learners to keep pace and catch up with technological approaches.
- It is indispensable to train students in the use of Moodle before starting the treatment, as it is known not everyone has good knowledge of its use, thus it might turn into a disadvantage for the learning process.
- Educational institutions have as a priority to support educators with the necessary resources in order to increase the level of education. Thence, it is essential to acquire equipment and software to achieve this objective. It also implies the necessity to provide an adequate Internet connection in order to ease and enhance the learning process.
- A technology self-assessment questionnaire was administered to my students. The results demonstrated that all of them knew how to work accurately with technological resources. Notwithstanding, it was not clear if this phenomenon was because all of the students lived in the urban area where they have more access to technology.
- Some students are too shy to share their ideas or opinions in public. So it is recommended to incorporate the use of MOODLE to promote activities in which students may feel self-confident and free to participate. For

instance, collaborative tasks such as forums or wikis might help them cope with this situation.

- Another aspect to be considered in class is students' lack of interest. Teacher's creativity plays a significant role when creating online courses, as they have to be dynamic and engaging enough for the students. For this effect, it is paramount to have a blend of diverse e-learning resources, lively colors, and visuals in order to have an effective educative atmosphere.
- Not all of the treatments have the same outcomes; therefore, I consider researchers should carry out further investigations about this topic with the purpose of conveying results and defining the effectiveness of using Moodle to develop reading skills.
- Being able to deal with technical problems is another must to be considered. Therefore, it is important that schools have experts in the use of e-learning sources to assist both teachers and students when necessary.
- Time is an important factor to keep in mind when working on Moodle. It is basic to plan activities wisely by paying attention students' needs. As a matter of fact, it took me around six hours to prepare every unit. This could be a disadvantage if we think in terms of time, but it is important to remember we are creating online courses which will be used for further applications with different groups at any time.
- The use of *forums* as demonstrated in the results obtained, had a positive effect; however, the use of *chat* might have been of great contribution. Moodle needs to make some changes to the chat itself as it is neither friendly-user nor appealing.
- A suggestion for future research would be to analyze to what extent the use of *chats* on Moodle may facilitate the learning process, as communication and interaction among the members of the group might be more synchronous and spontaneous.



- The role of the teacher in the classroom is another key issue. Based on my own experience, it was quite difficult to perform both roles, that of the teacher and of the researcher. Truthfully, it was a limitation that might be taken into consideration for further studies.

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APPENDICES



Appendix 1. - STUDENT'S INFORMED CONSENT

MAESTRIA EN LENGUA INGLESA Y LINGÜÍSTICA APLICADA

CONSENTIMIENTO INFORMADO DE PARTICIPACIÓN



Título de la investigación: "The Effect of Moodle in the Learning Process of the Reading Comprehension Subject, School of English Language and Literature, University of Cuenca."

Investigador: Lcda. Verónica León Vélez.

Estimado participante:

En mi calidad de estudiante del programa de maestría en "Lengua Inglesa y Lingüística Aplicada", de la Universidad de Cuenca, previo a la obtención del título de Magister, como parte de los requisitos del Programa debo llevar a cabo un proyecto de investigación. El mismo trata sobre el efecto que podría tener el uso de la plataforma Moodle en el proceso de aprendizaje de la asignatura de Reading Comprehension con estudiantes del cuarto ciclo, grupo 1.

Esta intervención tiene como objetivo demostrar el impacto de este recurso tecnológico en el desarrollo de las destrezas lectoras al tiempo que asisten a clases regulares.

Esta investigación ha sido previamente autorizada por el Consejo Directivo de la Facultad de Filosofía de la Universidad de Cuenca. Es importante mencionar que el proceso y la información obtenido a través de este estudio será mantenido bajo estricta confidencialidad. Su nombre no será utilizado en ningún informe cuando los resultados de la investigación sean publicados. Además, el estudio no conlleva ningún riesgo ni se verá afectado ningún tipo de evaluación a lo largo de la investigación. De igual manera está en pleno derecho de escoger ser participe o no de esta investigación.

Si tiene alguna pregunta sobre esta investigación, se puede comunicar conmigo al 0994341053.

AUTORIZACIÓN


Yo, _____, estudiante del cuarto ciclo de la materia de Reading Comprehension, he leído esta información y estoy de acuerdo con participar en la investigación.


Firma _____ (del participante) Cédula de Identidad: _____

Fecha: _____

Firma _____ (investigador) Fecha: _____

Appendix 2.- JOURNAL TEMPLATES

JOURNAL 	
NAME: _____ COURSE: _____	SUBJECT: <i>Reading Comprehension</i> CODE NUMBER: _____
DATE	

JOURNAL 	
LCDA. VERÓNICA LEÓN Reading Comprehension Fourth (1) Date: April - July	
HIGHS	LOWS



Appendix 3. - PRE-TEST

Course: _____ Date: _____ Code number: _____

Read the text and complete the exercises.

1 *Are you interested in learning more about human nature? If so, you should stand on the sidelines and watch the way a group of people interacts when they're playing a game. I guarantee that the players' actions will reveal some unexpected things about their personalities.*

2 *For instance, you might be surprised to find out that behind one player's passive exterior lies a strongly competitive spirit. This individual will do anything to move into the lead. Another apparently reasonable individual might astonish you with his irrational insistence on starting the game over if he thinks he's going to lose. Someone you've always thought was relaxed and easygoing might be the first person to say, "That's against the rules!" The biggest shock might come when you discover that the person whose fairness you've always admired is really the biggest cheater of all.*

3 *Want another suggestion? The next time you play a game, pay attention to your own behavior. You might even end up learning something about yourself!*

A) Skimming: Skim the text and check the statement that best expresses the writer's opinion.

- _____ 1. *Playing games is a good way to develop your personality.*
- _____ 2. *Playing games teaches us the difference between right and wrong.*
- _____ 3. *People show their true personalities when they play games.*
- _____ 4. *People play games to learn more about human nature.*

B) Scanning: Scan the text and complete the sentences with the personality qualities in the box.

Unreasonable	Dishonest	Competitive
---------------------	------------------	--------------------

- 1. _____ *players do anything to win.*
- 2. _____ *players cheat to win.*
- 3. _____ *players try to stop the game if he's losing.*

C) Guessing meaning from context: Find the words in italics in the text. Then match each word with its meaning.

- | | |
|-------------------------------------|--------------------|
| _____ 1. <i>guarantee</i> (par. 1) | a. <i>surprise</i> |
| _____ 2. <i>reveal</i> (par. 1) | b. <i>promise</i> |
| _____ 3. <i>passive</i> (par. 2) | c. <i>sensible</i> |
| _____ 4. <i>reasonable</i> (par. 2) | d. <i>show</i> |



_____ 5. *astonish* (par. 2)

e. *unthinking*

_____ 6. *irrational* (par. 2)

f. *not competitive*

Read the text and complete the exercises.

1 While most people form numerous friendships during their lifetime, the kinds of friendships that women develop are unlike those of their male counterparts.

2 The differences probably begin in early childhood. Starting at a young age, little girls usually spend most of their time with one “best friend.” When they squabble, it is upsetting for both of them. Little boys, on the other hand, often have a large circle of friends. They tend to play sports together, and do most things as a group. Although they might feel closer to certain members of the group, they don’t necessarily seek out one special “best friend.”

3 This early relationship pattern continues into adulthood. Women tend to have a few very close friends. They take a deep interest in each other’s personal lives. In contrast, men normally get together for a group activity. They may discuss their work or interests, but they are less likely to disclose personal details.

4 A recent survey of married men and women supports this argument. When asked to identify their best friend, married women almost always named other women. When faced with the same question, men named their wives.

D. Understanding details: What do these words refer to?

1. *those* (par. 1, line 2) _____

2. *their* (par. 1, line 2) _____

3. *each other’s* (par. 3, line 2) _____

4. *their* (par. 4, line 2) _____

E. Understanding main ideas: Check the statement that best expresses the main idea of the text.

_____ 1. Women usually have fewer friends than men do.

_____ 2. Women have better relationships with their friends than men do.

_____ 3. Women and men form different kinds of friendship.

Read the text and complete the exercises.

The inventions of the videocassette recorder (VCR) and later the digital video disc (DVD) made it possible to watch movies in the comfort of your own home. Admittedly, this is a wonderful convenience. You can just put a movie into your VCR or DVD player whenever you like, without having to wait in a long ticket line. For the price of one ticket to the latest hit, you can enjoy three movies at home. Despite all this, I still prefer watching movies on the big screen.



One very simple reason is the atmosphere of the theater. Part of the enjoyment of a movie is losing yourself in the world of the film. The darkened theater, with its large screen and surround-sound system, blocks out the real world. At home, distractions from the real world can intrude on your movie-viewing pleasure.

Another reason is the social aspect of the theater. Even though my fellow viewers and I don't talk during the movie, I still feel that we are sharing the experience. In contrast, watching a film at home can be isolating. Finally, many of the big-name films feature vivid special effects, amazing stunts, and scenes with expansive views. The excitement of these shots does not translate well onto a television screen.

F. Making Inferences: Circle the statements you think the writer would agree with.

1. Watching a movie at home is easier than going to a theater.
2. You should spend a lot of money on a home theater with a big TV screen.
3. Watching movies is a good way to escape from the stress of everyday life.
4. People should talk to each other when they watch a movie.
5. Watching a movie alone is less fun than watching it with someone else.
6. An action movie is more exciting when viewed in a theater.

G. Restating/ Paraphrasing: Compare the meaning of each pair of sentences. Write same (S) or different (D).

- _____ 1. Most people are unaware of the darker side of ballet dancers' lives.
Most people have no idea that the life of a ballet dancer can be difficult.
- _____ 2. Ballerinas develop eating disorders as a way to maintain their weight.
Ballerinas have unhealthy eating habits to avoid gaining weight.
- _____ 3. Dancers live in fear of losing their positions in the company.
When dancers are afraid during a performance, they might lose their jobs.
- _____ 4. Ballet dancers have spoken out about the shameful secrets of ballet.
Ballet dancers have publicly revealed the darker side of ballet.

H. Summarizing: Read the following texts. Then read the headlines a-j. Decide which headline best summarizes and goes with each passage.

<i>a. Free furniture for Christmas</i>	<i>e. Largest number of passengers</i>	<i>i. Shopping center accident avoided</i>
<i>b. Full stores all over Britain</i>	<i>f. Plans to increase road safety</i>	<i>j. Tired drivers a danger on the road</i>
<i>c. Help a homeless person—and yourself</i>	<i>g. Police arrest bus driver</i>	



<i>d. Meals for the homeless</i>	<i>h. School dinner causes serious illness</i>	
----------------------------------	--	--

1.

At least 100 Sussex children and staff are thought to be suffering from food poisoning after a Christmas meal. A third of all pupils—aged between nine and 13 – and 10 teachers were struck down after eating a turkey lunch on Wednesday. No one is thought to have been hospitalized.

2.

Travelers flocked to Heathrow Airport yesterday at the start of its busiest ever fortnight. Two million people are expected to travel through the airport between this weekend and 5 January, thanks to the start of the ski season and the traditional Christmas holiday period.

3.

Southend police used patrol cars to block the path of a runaway double-decker bus yesterday as it careered driverless towards a shopping area. Two men had just jumped from the vehicle which had been reported stolen. Two men in their thirties were arrested.

4.

A London furniture company is putting a \$1, 500 sofa up for sale in return for a promise from the buyer to take someone in need into their home at Christmas. Whoever wins the prize will have to nominate someone who is homeless, or living on their own, or is otherwise not going to have much of a Christmas.

5.

More road accidents are caused by drivers who fall asleep at the wheel than is generally recognized, an MP claimed yesterday. He has called for Government action to help solve the problem.

Pre-test sources: *Strategic Reading Building Effective Reading Skills, Teacher’s Manual* by Lynn Bonesteel and *Reading Comprehension Part 1, Written Examination 6, Eng(B1)-Mock Examination (1)*.



Appendix 4. - POST-TEST

Course: _____ Date: _____ Code number: _____

A) Skimming: Skim the text and check the answer which you think fits best according to the text.

Are you setting up a small business? Worried about the costs of renting office space and employing the right people? Rebus Virtual Office World can help you. With our Basic Office Deal, we can set up a virtual office for you practically overnight. We will give your business a professional image and our polite, friendly staff will handle your calls and present your business in the best possible way. We can provide you with: a professional business address, a local phone number and we will also handle mail. For a more personal approach, with the option of forwarding mail and messages to your home address, don't hesitate to ask us about our Premier Office Deals.

1. Where is the text from?

- _____ 1. A message from a business to a current client.
- _____ 2. An advertisement for a new business service.
- _____ 3. An email from one business worker to another.
- _____ 4. A newspaper article about a new business's success.

2. What does the service provide?

- _____ 1. Off-site staff to perform general office duties.
- _____ 2. A site where several businesses can locate their offices.
- _____ 3. Advice on how to make your business more professional.
- _____ 4. Temporary staff for local businesses.

3. Which of the following is not included in the Basic Office deal?

- _____ 1. A polite receptionist.
- _____ 2. A mail-forwarding service.
- _____ 3. A professional address
- _____ 4. A telephone-answering service.

B) Inferencing: Scan the text and for each question, choose the answer which you think fits best according to the text.

Dear Helen,

I would like to congratulate you on organizing such an excellent and informative workshop. I know a lot of people learnt a great deal from it. Can you pass on my thanks to Doctor Friedman for his fascinating talk on Staff Motivation? I realize how lucky we were that he was able to find the time for us. The feedback from the staff was very positive. Let's hope we actually see an improvement in staff motivation as a result!

By the way, I'm missing my list of addresses of the delegates who attended. Did I happen to leave it in your office? It's just that I haven't seen it since our meeting on Friday.

Thanks again for a great day,

Anne

1. What is the main objective of the message?

- 1. _____ to inform
- 2. _____ to accuse
- 3. _____ to make a request
- 4. _____ to praise

2. What can be implied about the workshop?

- 1. _____ All the delegates were staff from the same office.



2. ____ It included several talks.
 3. ____ It lasted one day.
 4. ____ Motivation was the only topic discussed.
3. *What can be implied about Dr. Friedman?*
1. ____ He works in the same office as Anne.
 2. ____ He has a very busy schedule.
 3. ____ He is a leading expert on staff motivation.
 4. ____ Anne knows him better than Helen does.
4. *What has happened to the address list?*
1. ____ Anne has lost it.
 2. ____ Anne has found it.
 3. ____ Anne has sent it to Helen.
 4. ____ Anne has completed it.

C) Guessing meaning from context: Read the passage and circle the word which best completes the meaning of each statement.

Easter Island is a small triangle of rock situated in the Pacific Ocean. It's about 2,000 miles 1. ____ the nearest city. *Easter Island* is 2. ____ for its statues. Hundreds of these huge, stone faces can be 3. ____ all over the island. Who made them? How 4. ____ they move these giant pieces of rock? What happened

5. ____ the people who lived there? Studies show that people 6. ____ arrived on the island about 1600 years ago. They had a very advanced culture. They made many objects and they had their 7. ____ written language. However, the number of people on the island grew and grew 8. ____ it reached about 10,000 people. Soon there were too many people and there wasn't 9. ____ food to eat. A terrible war started and 10. ____ of the statues were broken. When western explorers 11. ____ the island on Easter Day in 1722, the huge rock statues were the only sign that a great society had once lived there.

- | | | | |
|--------------|-------------|----------|-------------|
| 1. for | from | on | by |
| 2. important | interesting | famous | fascinating |
| 3. looked | located | found | situated |
| 4. have | were | had | did |
| 5. to | with | about | for |
| 6. once | first | just | already |
| 7. only | own | clever | self |
| 8. so | until | although | because |
| 9. many | some | too | enough |
| 10. many | few | lot | enough |
| 11. invented | discovered | sailed | came |

D) Understanding details: Read the text about some English villages. Then look at the sentences and decide if each sentence is True (T) or False (F).

Explore the Villages around Hartbridge

Many visitors come to Hartbridge to see the wonderful art galleries and museums, the beautiful buildings and the fantastic parks. Few people go outside the city, and so they miss out on experiencing the scenery and the fascinating history of this beautiful area. This brochure will tell you what you can see if you take a short bus ride out of the city.

Camberwell

The historic village of Camberwell was once the home of the wealthy Hugo family. They lived in a huge country house, Camberwell Court, and owned all the land in the area. The family sold their house in the 1940s, and it is now open to the public. You can spend a whole day walking around the house and gardens. There is a small exhibition about the family, a children's play area, a gift shop and a restaurant.

But the village of Camberwell is also worth a visit. There are some beautiful cottages with well kept gardens, and there is a small church which dates back to the eleventh century. To get to Camberwell, take Bus 46 from the Bus station. Buses leave every two hours.

Hidcot

Hidcot is an attractive village situated on the River Owell. Wildlife lovers should visit the Nature Park to the south of the village, where there are large numbers of rare birds and flowers. However, you will probably see plenty of wildlife from the bridge in the village centre! In Hidcot, you can take a two-hour river cruise - a great way to see the countryside and learn about the local wildlife from a guide. If you prefer to explore the river by yourself, it's well worth walking one and a half miles along the river to the pub 'The Boat' which cannot be reached by road. Here, you can hire small boats and explore the river at your leisure. To get to Hidcot, take Bus 7A to Reeford. Hidcot is half way between Hartbridge and Reeford.

Tatterbridge

The beautiful village of Tatterbridge was home to the children's writer Jane Potter, whose stories of Benjamin Bear are loved by adults and children around the world. Jane Potter's home is now a museum and tea shop, and is well worth a visit just for its wonderful gardens. It also has a gift shop where you can buy souvenirs and books. Tatterbridge has a number of interesting shops including an excellent cake shop, and 'Wendy's Giftshop' where you can find lots of unusual gifts made by hand by local artists. Lovers of Jane Potter's books should also walk to the Green Valley woods, which have not changed since Jane Potter wrote her stories there one hundred years ago.

To get to Tatterbridge, take Bus 4 from outside the cinema. It takes about 40 minutes to get there.

Moordale

This old industrial village is the highest village in the area. Here in the hills, coal was found in the late eighteenth century, and people came here in great numbers to take it out of the ground and transport it to the nearby towns. Many industries grew up in the area, including a paper factory and a cotton factory. The industries all closed down in the nineteenth century, and since then Moordale has gone back to being a quiet farming village. However, if you walk from the village centre up the steep hill to the north, you can still see the paths where horses used to carry the coal. There is a four mile walk around the village which has some amazing views, but walkers are must be careful as the path is steep in places and they could slip. To get to Moordale, take Bus 7A to Reeford, and then take the number 38 bus to Moordale.

1. _____ It is unusual for visitors to visit the villages near Hartbridge.
2. _____ The Hugo family allows people to visit their current home.
3. _____ The leaflet advises visitors not to spend all day at Camberwell Court.
4. _____ You can hire small boats from the bridge in Hidcot.
5. _____ You can take the bus directly to 'The Boat' pub near Hidcot.
6. _____ The leaflet says that the gardens are the best part of Jane Potter's home.
7. _____ Jane Potter wrote her books in the Green Valley woods.
8. _____ You can visit the paper factory and the cotton factory in Moordale.
9. _____ You will see horses on farms as you walk around Moordale.
10. _____ You can get to all four villages directly from Hartbridge.

E) Understanding Main Ideas: Read the text and answer questions 1-5.

Different Colours can affect us in many different ways; that's according to Verity Allen. In her new series 'Colour me Healthy', Verity looks at the ways that colours can influence how hard we work and the choices we make. They can even change our emotions and even influence how healthy we are.

'Have you ever noticed how people always use the same colours for the same things?' says Verity. 'Our toothpaste is always white or blue or maybe red. It's never green. Why not? For some reason we think that blue and white is clean, while we think of green products as being a bit disgusting. It's the same for businesses. We respect a company which writes its name in blue or black, but we don't respect one that uses pink or orange. People who design new products can use these ideas to influence what we buy.'

During this four-part series, Verity studies eight different colours, two colours in each programme. She meets people who work in all aspects of the colour industry, from people who design

food packets, to people who name the colours of lipsticks. Some of the people she meets clearly have very little scientific knowledge to support their ideas, such as the American 'Colour Doctor' who believes that serious diseases can be cured by the use of coloured lights. However, she also interviews real scientists who are studying the effects of green and red lights on mice, with some surprising results.

Overall, it's an interesting show, and anyone who watches it will probably find out something new. But because Verity is goes out of her way to be polite to everyone she meets on the series, it's up to the viewers to make their own decisions about how much they should believe.

1) *What is the writer doing in this text?*

- giving information about how colours influence us
- reporting what happens in a new television series
- giving information about a television presenter
- giving his opinion of a recent television show

2) *Which of the following shows the probable content of the four shows?*

- Part 1 – Health; Part 2 – Products and Industry; Part 3 – Emotions; Part 4 – Decisions
- Part 1 – Blue and Black; Part 2 – Red and Orange; Part 3 – White and Grey; Part 4 – Green and Yellow
- Part 1 – Meeting Designers; Part 2 – Meeting People who Name Colours; Part 3 – Meeting Doctors; part 4 – Meeting Scientists
- Part 1 – Cleaning Products; Part 2 – Make-up; Part 3 – Clothes; Part 4 – Food

3) *According to Verity, why is a knowledge of colour important?*

- It can help you to choose the best products.
- It can give you new ideas.
- It can help you to change people's minds.
- It can help you to sell products.

4) *Who does the writer respect least?*

- Verity Allen
- The people who name lipsticks
- The 'Colour Doctor'
- The scientists who work with mice

5) *Which of the following would make a good title for the text?*

- Enjoy it, but don't believe everything.
- Another great show from Verity Allen! Five Stars!
- Don't miss this if you work in Business!
- Watch this programme! It will make you healthy!



F) Restating/ Paraphrasing: Compare the meaning of each pair of sentences. Write same (S) or different (D).

- _____ 1. Most people are unaware of the darker side of boxers' lives.
Most people have no idea that the life of a boxer can be hard.
- _____ 2. A fifteen-year-old teen develops eating disorders as a way to maintain her weight.
A fifteen-year-old teen has unhealthy eating habits to avoid gaining weight.
- _____ 3. Actors live in fear of losing their positions in the company.
When actors are afraid during a performance, they might lose their jobs.
- _____ 4. Stunt performers have spoken out about the shameful secrets of action films
Stunt dancers have publicly revealed the darker side of action films.

G) Summarizing: Underline the best summary of the text, "Living with mother".

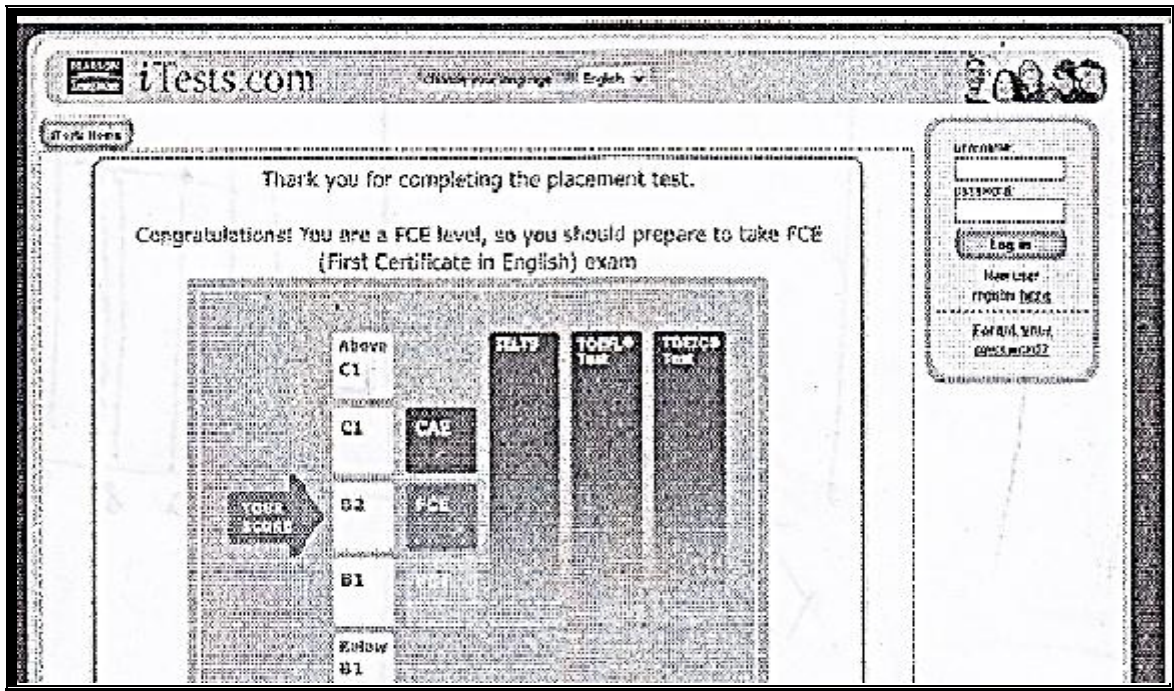
1. The Mosuo get married when they are 17 or 18.
2. The article is about Tseta Dashi and his family.
3. This article is about the Mosuo, who live in southwest China.
4. The Mosuo live with their mothers after they marry.

H) Guessing meaning from context: Find the words in italics in the reading, "The incredible shrinking family" and circle the meaning of each word.

- | | |
|---------------------------------------|--------------------------------------|
| 1. <i>shrinking</i> (title and par.4) | 3. <i>Pursuing interests</i> (par.2) |
| a. getting smaller | a. participating in activities |
| b. getting bigger | b. making money |
| c. staying the same | c. getting jobs |
| 2. <i>hold this view</i> (par. 1) | 4. <i>Delaying</i> (par. 3) |
| a. look at a picture | a. thinking about something |
| b. have the opinion | b. changing one's mind |
| c. keep something in the hand | c. waiting |

Post-test sources: *Strategic Reading Building Effective Reading Skills* by Jack C. Richards and *Samuela Eckstut-Didier and Exam English, free practice tests for learners of English.*

Appendix 5. - CEFR TESTS-WEBSITES



iTests - International English Language Test

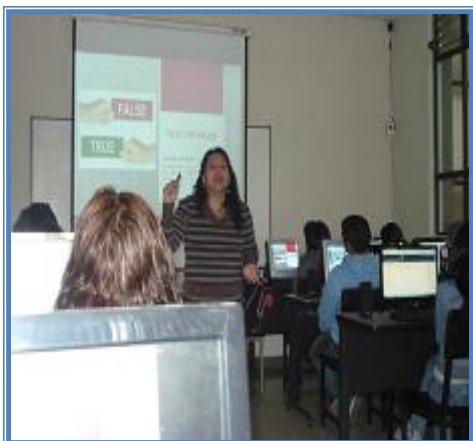
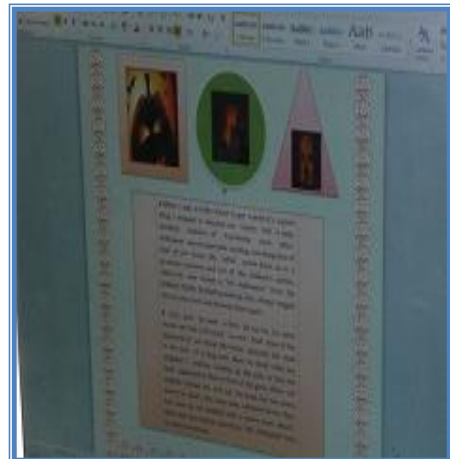


Altissia International English Language Test

Appendix 6. - MOODLE TREATMENT PHOTOS

Moodle Treatment






Appendix 7. - JOURNAL PLANNING AND PROCEDURE TEMPLATE

JOURNAL

PLANNING AND PROCEDURE



LCDA. VERÓNICA LEÓN **SUBJECT: *READING COMPREHENSION***

FOURTH (1)

ACTIVITIES	DATE	TIME	OBSERVATIONS	
			PROS	CONS



Appendix 8.- STANDARD DEVIATION DATA

STANDARD DEVIATION DATA

CODES	PRE-TEST (20)	POST-TEST (20)	$DI=XI-YI$	STANDARD DEVIATION $(DI-DBAR)^2$
S1	14	17	-3	0,64891975
S2	9	9	0	4,81558642
S3	16	18	-2	0,03780864
S4	16	19	-3	0,64891975
S5	16	18	-2	0,03780864
S6	14	16	-2	0,03780864
S7	11	15	-4	3,26003086
S8	10	16	-6	14,4822531
S9	10	15	-5	7,87114198
S10	7	14	-7	23,0933642
S11	19	20	-1	1,42669753
S12	7	14	-7	23,0933642
S13	11	10	1	10,2044753
S14	14	17	-3	0,64891975
S15	14	17	-3	0,64891975
S16	10	14	-4	3,26003086
S17	16	15	1	10,2044753
S18	16	15	1	10,2044753
S19	9	11	-2	0,03780864
S20	13	16	-3	0,64891975
S21	14	17	-3	0,64891975
S22	11	14	-3	0,64891975
S23	14	12	2	17,5933642
S24	16	18	-2	0,03780864
S25	14	15	-1	1,42669753



S26	14	12	2	17,5933642
S27	10	8	2	17,5933642
S28	11	15	-4	3,26003086
S29	10	14	-4	3,26003086
S30	8	11	-3	0,64891975
S31	17	19	-2	0,03780864
S32	16	18	-2	0,03780864
S33	10	14	-4	3,26003086
S34	14	11	3	26,9822531
S35	10	14	-4	3,26003086
S36	15	17	-2	0,03780864
	<i>Mean</i>	<i>d bar</i> <i>Sum of Differences</i>	-2	211,6388
		<i>Differences of Means</i>	2	2,45902884

Source: Standard deviation data acquired from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca



Appendix 9. - FISHER TEST TREATMENT DATA

CODES	PRE-TEST (20)	(Xi-Xbar)2	POST-TEST (20)	(Yi-Ybar)2
S1	14	1	17	4
S2	9	16	9	36
S3	16	9	18	9
S4	16	9	19	16
S5	16	9	18	9
S6	14	1	16	1
S7	11	4	15	0
S8	10	9	16	1
S9	10	9	15	0
S10	7	36	14	1
S11	19	36	20	25
S12	7	36	14	1
S13	11	4	10	25
S14	14	1	17	4
S15	14	1	17	4
S16	10	9	14	1
S17	16	9	15	0
S18	16	9	15	0
S19	9	16	11	16
S20	13	0	16	1
S21	14	1	17	4
S22	11	4	14	1
S23	14	1	12	9
S24	16	9	18	9
S25	14	1	15	0
S26	14	1	12	9
S27	10	9	8	49



S28	11	4	15	0
S29	10	9	14	1
S30	8	25	11	16
S31	17	16	19	16
S32	16	9	18	9
S33	10	9	14	1
S34	14	1	11	16
S35	10	9	14	1
S36	15	4	17	4
<i>RESULTS=</i>	3,079888681	336	2,91942047	299
	Sx		Sy	
	Xbar	13 <i>PRE-TEST MEAN</i>	15 <i>POST-TEST MEAN</i>	
	<i>VARIANCE CALCULATED FACTOR</i>	9,6 PRE-TEST		8,5 POST-TEST
		F0=	1,11295279	1,11295279

Source: Fisher Test data and overall results regarding data collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca



Appendix 10. - READING STRATEGIES DATA

ENGLISH LANGUAGE MAJOR
 READING COMPREHENSION
 III 8562
 TOTAL STUDENTS: 36
 MEN= 12 / WOMEN= 24
 LEVEL: FOURTH
 GROUP: 1
 LCDA. VERÓNICA LEÓN

$$Lp = (n + 1) \frac{P}{100}$$

	CODES	PRE-TEST (20)	POST-TEST (20)	Scanning	Skimming	Guessing	Paraphrasing	Inferencing	Summarizing	TOTAL	Activities Average	Post-test Average
	S1	14	17	9	6	9	10	8	10	9	17	17
	S2	9	9	8	9	7	10	6	10	8	17	13
	S3	16	18	9	8	8	9	5	10	8	16	17
	S4	16	19	8	9	10	10	8	10	9	18	19
	S5	16	18	9	9	9	8	6	8	8	16	17
	S6	14	16	8	7	8	9	6	10	8	16	16
	S7	11	15	8	6	8	7	7	5	7	14	14
	S8	10	16	9	8	8	10	10	10	9	18	17
	S9	10	15	7	4	8	10	6	10	8	15	15
	S10	7	14	9	6	9	8	6	8	8	15	15
	S11	19	20	8	9	8	9	10	6	8	17	18
	S12	7	14	8	7	8	10	7	8	8	16	15
	S13	11	10	9	8	7	7	7	8	8	15	13
	S14	14	17	8	7	7	9	7	8	8	15	16
	S15	14	17	8	6	7	7	8	8	7	15	16
	S16	10	14	8	8	9	10	7	6	8	16	15
	S17	16	15	8	10	10	9	6	8	9	17	16
	S18	16	15	8	8	9	5	7	7	7	15	15
	S19	9	11	7	8	8	6	6	8	7	14	13
	S20	13	16	7	9	9	10	6	6	8	16	16
	S21	14	17	8	8	5	10	8	2	7	14	15
	S22	11	14	7	8	6	6	6	3	6	12	13
	S23	14	12	7	8	7	10	8	7	8	16	14
	S24	16	18	9	7	7	10	8	6	8	16	17
	S25	14	15	8	9	7	7	6	3	7	13	14
	S26	14	12	8	8	9	8	9	7	8	16	14
	S27	10	8	8	9	8	7	5	5	7	14	11
	S28	11	15	9	5	9	10	6	10	8	16	16



S29	10	14	9	8	6	10	7	6	8	15	15
S30	8	11	7	7	5	10	6	10	8	15	13
S31	17	19	9	8	8	10	10	10	9	18	19
S32	16	18	8	9	8	5	10	7	8	16	17
S33	10	14	9	9	8	10	7	7	8	17	15
S34	14	11	9	8	9	10	6	10	9	17	14
S35	10	14	7	7	8	8	6	8	7	15	14
S36	15	17	8	9	9	7	7	6	8	15	16
Average	13										15

Source: Data and activities regarding reading strategies collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez and Eng. Nardo Tenesaca



Appendix 11. - THIRD QUARTILE GRADING ANALYSIS CONCERNING READING SKILLS

PRE-TEST (20)	7	7	8	9	9	10	10	10	10	10	10	10	11	11	11	11	13	14	14	14	14	14	14	14	14	14	15
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26	L27
POST-TEST (20)	8	9	10	11	11	11	12	12	14	14	14	14	14	14	14	15	15	15	15	15	15	16	15	16	17	17	17
Scanning & Skimming	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9
Guessing meaning from	4	5	6	6	6	6	/	/	/	/	/	/	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9
Paraphrasing	5	5	6	6	/	/	/	/	/	/	/	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9
Inferencing	5	5	6	6	7	7	7	7	7	7	8	8	8	8	9	9	9	9	9	9	10	10	10	10	10	10	10
Summarizing	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	8	8

Source: Quantitative data for the analysis of the Third Quartile Grading of the Reading Skills collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez and Eng. Nardo Tenesaca

Appendix 12. - CEFR QUANTITATIVE DATA PER LEVELS

ENGLISH LANGUAGE MAJOR READING COMPREHENSION III 8562 TOTAL STUDENTS: 36 (MEN= 12 / WOMEN= 24) LEVEL: FOURTH GROUP: 1 VERÓNICA L.				
CODES	Vocabulary and Grammar (A)	Vocabulary and Grammar (B)	Reading (A)	Reading (B)
S1	9,5	9,5	6,5	9,5
S2	9,5	9,5	6,5	9,5
S3	13,5	13,5	6,5	9,5
S4	9,5	9,5	9,5	13,5
S5	6,5	6,5	13,5	13,5
S6	13,5	9,5	9,5	13,5
S7	9,5	9,5	9,5	9,5
S8	9,5	9,5	9,5	9,5
S9	9,5	9,5	13,5	13,5
S10	6,5	9,5	9,5	9,5
S11	17,5	17,5	13,5	17,5
S12	6,5	6,5	9,5	13,5
S13	9,5	13,5	9,5	9,5
S14	6,5	9,5	9,5	13,5
S15	9,5	9,5	6,5	9,5
S16	13,5	13,5	6,5	9,5
S17	6,5	9,5	6,5	6,5
S18	9,5	13,5	6,5	9,5
S19	6,5	9,5	9,5	9,5
S20	3,4	6,5	6,5	9,5
S21	17,5	17,5	13,5	13,5
S22	6,5	9,5	9,5	9,5
S23	6,5	9,5	6,5	9,5
S24	9,5	9,5	9,5	13,5
S25	6,5	6,5	6,5	9,5
S26	13,5	13,5	6,5	9,5
S27	6,5	6,5	9,5	9,5



S28	13,5	9,5	6,5	9,5
S29	9,5	6,5	9,5	13,5
S30	6,5	6,5	9,5	9,5
S31	13,5	17,5	13,5	17,5
S32	13,5	17,5	17,5	17,5
S33	13,5	9,5	13,5	13,5
S34	13,5	13,5	6,5	6,5
S35	9,5	13,5	9,5	9,5
S36	6,5	6,5	9,5	9,5
MEANS	9,8	10,5	9,3	11,1

Source: CEFR quantitative data regarding English Levels collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: María Verónica León Vélez and Eng. Nardo Tenesaca

Appendix 13. - CEFR QUALITATIVE DATA PER LEVELS

ENGLISH LANGUAGE MAJOR READING COMPREHENSION III 8562 TOTAL STUDENTS: 36 MEN= 12 / WOMEN: 24 LEVEL: FOURTH GROUP: 1 LCDA. VERÓNICA LEÓN V.				
CODES	V/G (A)	V/G (B)	R (A)	R (B)
S1	B1	B1	A2	B1
S2	B1	B1	A2	B1
S3	B2	B2	A2	B1
S4	B1	B1	B1	B2
S5	A2	A2	B2	B2
S6	B2	B1	B1	B2
S7	B1	B1	B1	B1
S8	B1	B1	B2	B2
S9	A2	B1	B1	B1
S10	A2	B1	B1	B1
S11	C1	C1	B2	C1
S12	A2	A2	B1	B2
S13	B1	B2	B1	B1
S14	A2	B1	B1	B2
S15	B1	B1	A2	B1
S16	B2	B2	A2	B1
S17	A2	B1	A2	A2
S18	B1	B2	A2	B1
S19	A2	B1	B1	B1
S20	A1	A2	A2	B1
S21	C1	C1	B2	B2
S22	A2	B1	B1	B1
S23	A2	B1	A2	B1
S24	B1	B1	B1	B2
S25	A2	A2	A2	B1
S26	B2	B2	A2	B1
S27	A2	A2	B1	B1
S28	B2	B1	A2	B1
S29	B1	A2	B1	B2
S30	A2	A2	B1	B1
S31	B2	C1	B2	C1
S32	B2	C1	C1	C1
S33	B2	B1	B2	B2



S34	B2	B2	A2	A2
S35	B1	B2	B1	B1
S36	A2	A2	B1	B1

Source: CEFR qualitative data regarding English Levels collected from the treatment administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

By: María Verónica León Vélez



Appendix 15. - PROBABILITY FOR ANOTHER FORUM

Source: Data regarding probability for another forum collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.

FORUMS								
CODES	F 1	F 2	F 3	F 4	F 5	F 6	F 7	TOTAL
S1	0	1	0	1	1	1	1	5
S2	1	1	1	1	1	1	1	7
S3	1	1	1	1	1	1	1	7
S4	1	1	1	1	1	1	1	7
S5	1	1	1	1	0	1	1	6
S6	1	1	1	1	1	1	1	7
S7	0	1	1	1	1	1	1	6
S8	1	1	1	1	1	1	1	7
S9	1	1	1	1	1	1	1	7
S10	1	1	1	1	0	1	1	6
S11	1	1	1	1	1	1	1	7
S12	1	1	1	1	1	1	1	7
S13	1	1	1	1	0	1	1	6
S14	1	1	1	1	1	1	1	7
S15	1	1	0	0	1	1	1	5
S16	1	1	1	1	1	1	1	7
S17	1	1	1	1	1	1	1	7
S18	1	1	1	1	1	1	1	7
S19	1	1	1	1	1	1	1	7
S20	1	1	1	1	1	1	1	7
S21	0	1	1	0	1	1	1	5
S22	1	1	1	1	0	1	1	6
S23	1	1	1	1	1	1	1	7
S24	1	1	1	1	1	0	0	5
S25	1	0	1	1	1	0	1	5
S26	1	1	1	1	0	1	1	6
S27	0	1	1	1	0	1	1	5
S28	0	1	0	0	1	1	1	4
S29	1	1	1	1	1	1	1	7
S30	1	1	1	1	1	1	1	7
S31	1	1	1	1	1	1	1	7
S32	1	1	1	1	1	0	1	6
S33	1	1	1	1	0	1	1	6
S34	1	1	1	1	1	1	1	7
S35	0	1	1	0	0	1	1	4
S36	1	1	1	1	1	1	1	7
Total	30	35	33	32	28	33	35	6

By: María Verónica León Vélez

Appendix 16. - SURVEY-THE EFFECT OF MOODLE THROUGH FORUMS TO ENHANCE READING COMPREHENSION

This survey to students who are currently taking Reading Comprehension as a subject at the English Language and Literature School, University of Cuenca, endeavors to analyze student perceptions on how they are using Moodle, what challenges they face and possible training they would like to have to improve their reading skills by using this technological resource.

Instructions: Think about your experience of using Moodle through forums and guided reading tasks. Please tick and, if appropriate, explain your answer.

No names are required in this questionnaire, so answer the questions as freely as you can.

1. Before using Moodle, did you know about this virtual platform?

Yes No

2. If your answer is "Yes", did you know how to use it?

Yes No

3. How did you find the application of Moodle?

1= difficult 2= fairly easy 3= easy

4. Please circle ONE number that best reflects your answer.
Which was the type of activity you liked the least?

1. Forums
2. Making inferences
3. Guessing meanings from context
4. Scanning
5. True/ False

5. Circle ONE number that best reflects your answer.

Which was the type of activity you liked the most?

1. Forums
2. Making inferences



- 3. Guessing meanings from context
- 4. Scanning
- 5. True/ False

6. If you chose “forums”, how useful were they for your learning experience?

1= very useful 2= useful 3= not useful

7. Do you consider your teacher can improve the Moodle forum exercises so that they better match your needs? If yes, please explain how.

8. Do you agree “forums” allow equal posting opportunity for sharing comments among all students, thus encouraging original and independent thinking?

Mark the ONE number which best reflects your point of view.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

9. Please circle your view about the following statement.

(1= strongly agree; 2= agree; 3= neutral/neither agree nor disagree; 4= disagree; 5= strongly disagree).

The use of forums by means of Moodle provides students with the freedom to work at their own pace.

1 2 3 4 5

10. For each statement below mark the ONE number which best reflects your view.



	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Forums on Moodle can “equalize” participation for students who may be shy in face-to-face setting.	1	2	3	4	5
2. Forums and guided activities on Moodle can increase self-confidence for those afraid of making mistakes.	1	2	3	4	5

11. Do you consider Moodle forums and guided activities helped you somehow?

YES NO

12. If YES, how?

13. Please mark your opinion with an **X**.

How satisfied are you with this online educational experience ?

Very Dissatisfied _____: Dissatisfied _____: Neither Satisfied nor Dissatisfied _____:
Satisfied _____: Very Satisfied _____

14. Please explain the reason for your overall satisfaction rating.

Poor <input type="checkbox"/>	Below Average <input type="checkbox"/>	Average <input type="checkbox"/>	Good <input type="checkbox"/>	Excellent <input type="checkbox"/>
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16. Do you consider the time for forums and guided activities on Moodle was appropriate? Circle your answer.



YES

NO

17. If “Yes”, to what extent? Please place a cross (x) in your answer.

I had enough time I had extra time left

18. What would you change if you did it again?

19. Any additional comments:

Thank you very much for taking the time to fill in this questionnaire.

Source: Rob Hirschel, Sojo University and Online Survey Templates

By: María Verónica León Vélez (Adaptations)



Appendix 17.- COLLES SURVEY

Relevance

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
1 my learning focuses on issues that interest me.	<input type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
2 what I learn is important for my professional practice.	<input type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
3 I learn how to improve my professional practice.	<input type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
4 what I learn connects well with my professional practice.	<input type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always

Reflective thinking

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
5 I think critically about how I learn.	<input type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
6 I think critically about my own ideas.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
7 I think critically about other students' ideas.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
8 I think critically about ideas in the readings.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always



Interactivity

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
9 I explain my ideas to other students.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
10 I ask other students to explain their ideas.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
11 other students ask me to explain my ideas.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
12 other students respond to my ideas.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always

Tutor support

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
13 the tutor stimulates my thinking.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
14 the tutor encourages me to participate.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
15 the tutor models good discourse.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
16 the tutor models critical self-reflection.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always



Peer support

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
17 other students encourage my participation.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
18 other students praise my contribution.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
19 other students value my contribution.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
20 other students empathise with my struggle to learn.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always

Interpretation

Responses	Not yet answered	Almost never	Seldom	Sometimes	Often	Almost always
In this online unit...						
21 I make good sense of other students' messages.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
22 other students make good sense of my messages.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
23 I make good sense of the tutor's messages.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always
24 the tutor makes good sense of my messages.	<input checked="" type="radio"/> Not yet answered	<input type="radio"/> Almost never	<input type="radio"/> Seldom	<input type="radio"/> Sometimes	<input type="radio"/> Often	<input type="radio"/> Almost always

25 How long did this survey take you to complete?

Under 1 minute	1-2 minutes	3-4 minutes	4-5 minutes	5-10 minutes	More than 10

26 Do you have any other comments?



Appendix 18. - LINGUISTIC ASPECTS QUESTIONNAIRE

QUESTIONNAIRE

	LINGUISTIC ASPECTS	5	4	3	2	1
1	I recognize contextual clues to infer the meaning of a word.					
2	I correctly answer comprehension questions for specific information.					
3	I properly identify the implied main idea in a reading.					
4	I infer information that is not explicit in a reading.					
5	I identify the purpose and tone of the author of a reading.					
6	I distinguish among facts and opinions.					
7	I adequately summarize a Reading.					
8	I distinguish relations of comparison, contrast, cause and effect, and chronological sequence between sentences that compose a reading.					
9	I properly restate statements of a similar or different meaning.					



Appendix 19.- CHI-SQUARE TEST

Chi-Square contributions are printed below (expected counts)

	Level 5	Level 4	Level 3	Level 2	Level 1	Total
1	4	22	8	0	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.996	2.560	0.716	0.889	0.111	
2	6	16	12	0	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.047	0.007	0.139	0.889	0.111	
3	6	15	13	0	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.047	0.028	0.458	0.889	0.111	
4	2	15	13	3	1	34
	6.56	15.67	10.78	0.89	0.11	
	3.166	0.028	0.458	5.014	7.111	
5	9	15	8	2	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.911	0.028	0.716	1.389	0.111	
6	10	14	10	0	0	34
	6.56	15.67	10.78	0.89	0.11	
	1.810	0.177	0.056	0.889	0.111	
7	7	16	11	0	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.030	0.007	0.005	0.889	0.111	
8	10	11	12	1	0	34
	6.56	15.67	10.78	0.89	0.11	
	1.810	1.390	0.139	0.014	0.111	
9	5	17	10	2	0	34
	6.56	15.67	10.78	0.89	0.11	
	0.369	0.113	0.056	1.389	0.111	
Total	59	141	97	8	1	306

Chi-Sq = 36.519 DF = 12

Source: Data concerning a questionnaire about the reading linguistic aspects developed in class collected from the intervention administered to the students of the fourth-level regular course, English Language School, University of Cuenca.
By: Eng. Nardo Tenesaca



Appendix 20. - DEMOGRAPHIC QUESTIONNAIRE

<p>CODE NUMBER: _____</p>	<p><i>You can be sure that this questionnaire is for research only and that you will not be identified in any discussion of the data.</i></p> <p>Please tick <input checked="" type="checkbox"/> , circle and write the answer where necessary.</p>
<p>1) SEX/ GENDER:</p> <p>____ Female ____ Male</p>	<p>2) RACE/ ETHNICITY:</p> <p>____ Black ____ Asian ____ Hispanic / Latino ____ Native American ____ White / Caucasian ____ Indigenous or Aboriginal ____ Not listed (please specify) ____ Prefer not to respond</p>
<p>3) AGE:</p> <p><input type="checkbox"/> 25 or under <input type="checkbox"/> 26-40 <input type="checkbox"/> 41-55 <input type="checkbox"/> 56 or older</p>	<p>4) PRIMARY LANGUAGE:</p> <p><input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Other: _____</p>
<p>5) CURRENT MARITAL STATUS:</p> <p>____ Divorced ____ Married ____ Separated ____ Single ____ Widowed ____ Would rather not say</p>	<p>6) WHICH OF THE FOLLOWING BEST DESCRIBES THE AREA YOU LIVE IN?</p> <p>____ Urban ____ Suburban ____ Rural</p>
<p>7) HOW LONG HAVE YOU BEEN LIVING THERE?</p> <p>____ Less than 9 years ____ 10-19 years ____ 20-29 years ____ All my life</p>	<p>8) WHICH OF THE FOLLOWING ARE APPLICABLE TO YOUR LIVING SITUATION? <i>(Check all that apply)</i></p> <p>____ I live alone ____ I live with other students ____ I live with roommates who are not students ____ I live with parent (s) or relative (s) ____ I live with a husband/wife ____ I live with friend (s) ____ I live with my child / children</p>
<p>9) EMPLOYMENT STATUS: <i>Are you currently...?</i></p> <p><input type="radio"/> Employed for wages <input type="radio"/> Self-employed <input type="radio"/> Out of work and looking for work <input type="radio"/> Out of work but not currently looking for work <input type="radio"/> A homemaker</p>	<p>10) THE ORGANIZATION YOU WORK FOR IS IN WHICH OF THE FOLLOWING:</p> <p>____ Public Sector ____ Private Sector ____ Non-for-profit ____ Do not know</p>



<p>11) CLASS STATUS:</p> <p>___ Freshman</p> <p>___ Sophomore</p> <p>___ Junior</p> <p>___ Senior</p> <p>___ Graduate student</p> <p>___ Professional student</p>	<p>12) WHAT IS THE HIGHEST LEVEL OF EDUCATION YOU HAVE COMPLETED?</p> <p><input type="radio"/> some high school</p> <p><input type="radio"/> high school graduate</p> <p><input type="radio"/> some college</p> <p><input type="radio"/> trade/technical/vocational training</p> <p><input type="radio"/> college graduate</p> <p><input type="radio"/> some postgraduate work</p> <p><input type="radio"/> post graduate degree</p>
<p>13) DO YOU USE THE INTERNET?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>	<p>14) HOW LONG HAVE YOU BEEN USING THE INTERNET?</p> <p>___ Never used it</p> <p>___ Less than 6 months</p> <p>___ 6 to 12 months</p> <p>___ 1 to 3 years</p> <p>___ 4 to 6 years</p> <p>___ 7 years or more</p>

15. HOW FREQUENTLY DO YOU ACCESS THE WEB FROM THE FOLLOWING PLACES?

	Daily	Weekly	Monthly	Less than once a month	Never
From home (including a home office)					
From work					
From school					
From a public terminal (e.g. library, cybercafe, etc.)					

16. WHAT DO YOU USUALLY DO ON THE INTERNET? (e.g., email, use reference materials such as encyclopedias and dictionaries, read news, curriculum activities, games, entertainment etc.)



<p><u>Reading Habits</u></p> <p>17) HOW OFTEN DO YOU READ? <i>Circle your answer.</i></p> <p>Always Usually Often Sometimes</p> <p>Rarely Almost never Never</p>	<p>18) WHAT DO YOU PREFER TO READ?</p> <p>___ Stories ___ Novels ___ Tales ___ Articles ___ Magazines ___ Poems ___ Others: _____</p>
<p>19) WHAT DO YOU OFTEN READ THE TEXTS IN ENGLISH FOR?</p> <p>a. ___ pleasure</p> <p>b. ___ gaining information and improving knowledge</p> <p>c. ___ enriching vocabulary and improving pronunciation</p> <p>d. ___ supplementing grammar</p> <p>e. ___ improving language skill</p> <p>f. ___ others: _____</p>	<p>20) HOW DO YOU DEAL WITH NEW WORDS IN THE TEXT?</p> <p>a. ___ Finding their meanings in the dictionaries and learning them by heart</p> <p>b. ___ Asking your teacher or your friends for help</p> <p>c. ___ Guessing their meanings by the context clues</p> <p>d. ___ Ignoring them and continuing reading.</p>
<p>21) WHEN YOU READ DO YOU TRY TO SEE THE PICTURES IN YOUR HEAD?</p> <p><input type="checkbox"/> Always</p> <p><input type="checkbox"/> Usually</p> <p><input type="checkbox"/> Sometimes</p> <p><input type="checkbox"/> Rarely</p> <p><input type="checkbox"/> Never</p>	<p>22) DO YOU ASK YOURSELF QUESTIONS...</p> <p>Before you read the story? ___</p> <p>During the story? ___</p> <p>After the story? ___</p>
<p>23) WHEN YOU READ DO YOU... <i>(Check all that apply)</i></p> <p>___ relate the story to your own life?</p> <p>___ make a link to something similar you have read?</p> <p>___ relate to something else. e.g. TV programs watched?</p>	<p>24) READING STRATEGIES WOULD IMPROVE READING COMPREHENSION IN ENGLISH. <i>(Circle your answer)</i></p> <p>Strongly Agree</p> <p>Agree</p> <p>Neutral</p> <p>Disagree</p> <p>Strongly Disagree</p>
<p>25) HOW OFTEN DO YOU DO READING COMPREHENSION EXERCISES?</p> <p>___ individually ___ in pairs ___ in groups</p>	<p>26) ARE ENGLISH READING MATERIALS AVAILABLE IN YOUR UNIVERSITY LIBRARY?</p> <p>Yes <input type="radio"/> No <input type="radio"/></p>



Appendix 21. - TECHNOLOGY SELF-ASSESSMENT QUESTIONNAIRE

Code: _____

- 1.** I know how to start up and shut down a computer system and peripherals; open and close files; navigate with scroll bars, mouse, and special keys.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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- 2.** I know how to manage files: save, locate, and organize files on a local computer and remote network spaces.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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- 3.** I know how to resolve commonly occurring technology problems (e.g. printer jam, ink cartridge replacement, and frozen computer screen).

Advanced	High Intermediate	Intermediate	Elementary	Beginner
----------	-------------------	--------------	------------	----------

- 4.** I know how to use the editing and formatting features of a word processing program (e.g., centering, spacing, fonts, margins, copy and paste, spell check).

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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- 5.** I know how to create a simple multimedia presentation using a design template.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
----------	-------------------	--------------	------------	----------

- 6.** I know how to create and send email messages: open, save, print, and delete messages.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
----------	-------------------	--------------	------------	----------

- 7.** I know how to send, receive, open, and save files attached to email



messages. Understand the risks associated with opening attachments from unknown sources.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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8. I know how to access the Internet and use search strategies to locate information.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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9. I know how to conduct research on the web.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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10. I know how to use email to communicate with students, staff, parents, and the community.

Advanced	High Intermediate	Intermediate	Elementary	Beginner
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Appendix 22. - PARTICIPANTS' JOURNAL REMARKS (SAMPLE)

HIGHS		LOWS	
I enjoyed group and pair work reading activities.	8	The Internet is sometimes slow.	6
It is easy to follow all of the activities given by the teacher onto the platform.	1	Some comments given by classmates in the forum are not complete enough than others'.	10
Active participation in class through forums.	7	Some students just upload their answer in the forum, but they don't comment on others'.	10
I like to participate in forums.	7	Some of the reading activities to do on the platform were complicated for me.	11
There is an adequate and available platform to perform activities.	3	I needed more time to do the activities onto the platform when performing them in class.	5
If we don't finish the tasks in class, we have the chance to finish at home.	4	Sometimes, Power Point presentations were too heavy to be uploaded onto the platform.	12
The activities are well organized.	2	Some activities were kind of difficult to be performed.	
Interactive activities.	8	The platform was a little complicated to use since I am not good at using computers.	13
Use of different resources and activities.	2	Sometimes, there were not enough computers for all students.	14
Moodle gives the chance to use diverse programs.	2	It was difficult for me to finish activities or read a text on time in class.	5
Moodle provides discussion sections.	2	I don't like taking tests or doing exercises on the platform. I prefer taking tests on a paper.	11
Moodle allows the learners to know their progress at any time in its grading sheet.	3	There were too many activities to be performed onto the platform.	13
Moodle has a student's roster with informative data for students to keep in touch with one another.	3	I had problems to upload my homework.	12
The use of forums allows shy students to express their opinions and ideas freely.	7	Some of the activities were difficult and extensive.	11

Source: Participants' Comments during the treatment.

By: María Verónica León Vélez



Appendix 23.- LITERATURE REVIEW MATRIX

<i>Master's Program</i>	Name:
<i>Literature Review Matrix</i>	Working Title of Project:

<i>Topic Category</i>	<i>Complete MLA Citation</i>	<i>Key Findings</i>	<i>Research Design</i>	<i>Number of Subjects</i>	<i>Instruments</i>	<i>Limitations</i>

Source: Literature Review findings.

By: Professors DeVillar and Jiang