

ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL

Facultad de Ciencias Sociales y Humanísticas



**“EFFECTS OF SELF-DIRECTED READING TASKS IN AN A2 ESP
COURSE AT THE AGRICULTURE SCHOOL OF AN ECUADORIAN
HIGHER EDUCATION INSTITUTION”**

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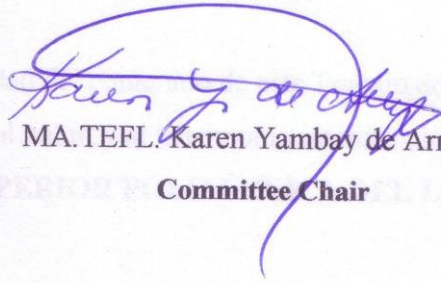
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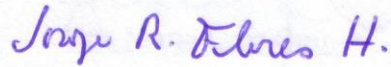
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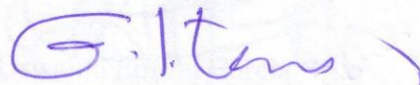
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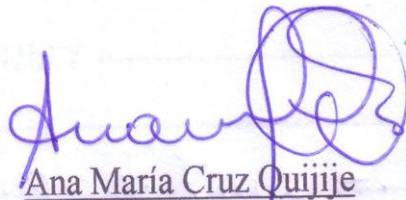


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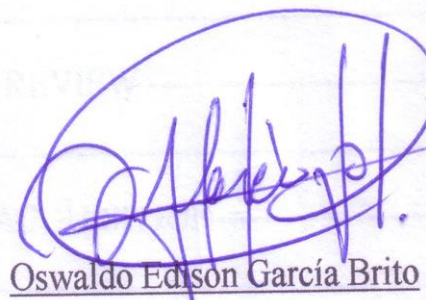
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Abstract

Mastery of a second or foreign language, such as English, focusing on specific areas is an essential determinant of the professional future of university students nowadays. Thus, the need to promote the development of communicative skills such as reading, writing, listening, and speaking is key to ensuring their success in this demanding global world.

The present quantitative action-research study posits the importance of developing reading comprehension skills through the use of self-directed reading tasks in an A2 ESP group of voluntary students who belong to the fifth semester of the agricultural sciences school of a public higher education institution in the city of Guayaquil, Ecuador.

The participants were required to take a pre-test focused on agriculture to see how familiarized they were with technical terms. They had to solve 16 agriculture readings which were uploaded to a platform to promote self-directed learning during one month, and finally, they took a post-test to measure their reading comprehension progress at the end of this self-directed learning process.

Key findings determined that these learners showed significant progress regarding the development of their reading comprehension skills with the use of self-directed reading tasks, which means that the institution can certainly promote future ESP courses to comply

with the curriculum by using reading as an essential element to attain the setting academic goals.

KEYWORDS: Self-directed learning, ESP, Reading comprehension, Agriculture

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CHAPTER 1

1.1 INTRODUCTION

English is considered nowadays one of the most spoken languages all over the world. Thus, the Law of Higher Education in Ecuador (Ley Orgánica de Educación Superior) establishes that all students need to have a B2 level according to the Common European Framework (CEFR) as a requirement to finish their tertiary education. According to Gorard and Smith (2004), Education is a government's responsibility provided for their citizens and should ensure an equitable education for all.

Therefore, it is necessary that institutions of higher learning offer a learning environment that provides the development of the four English communicative skills (reading, writing, listening and speaking). Undoubtedly, reading is one of the skills that should be promoted since early stages of education due to its significant role at the time of gaining new knowledge. Consequently, it is necessary the application of reading strategies such as skimming and scanning to make reading comprehension more efficient.

Moreover, it is also believed that the design, adaptation, and use of reading tasks focus on English for specific purposes (ESP) as the case of Agriculture English can have a positive effect on the improvement of the learners' reading comprehension skills within their professional field. Students will feel more motivated to learn a foreign language that is mainly applied to their academic interests.

Finally, the use of online and digital resources is another element that can contribute to the development of the students' reading abilities due to the sympathy they feel for these technological devices. The purpose of the present research study is to posit how the combination of selected reading tasks focused on learners' professional field and

the use of technology can develop reading comprehension within a self-directed learning environment.

1.2 AIMS AND RATIONALE

The general objective of this study is to determine to what extent the use of self-directed learning enhances reading comprehension in an A2 ESP course at the Agriculture School of an Ecuadorian Higher Education Institution.

As specific objectives, this study aims to:

Determine how students, teachers, and authorities perceive the effects of self-directed reading tasks on reading comprehension in this context.

Determine if future ESP courses can be proposed with A2 students at the Agriculture School of an Ecuadorian Higher Education Institution based on the learners' level of satisfaction and progress at the end of the study.

Design and develop a platform with self-directed reading tasks focus on the field of agriculture.

1.3 RESEARCH QUESTIONS

This study intends to answer the following research questions:

To what extent does the use of self-directed learning enhance reading comprehension in an A2 ESP course at the Agriculture School of an Ecuadorian Higher Education Institution?

Sub-Research Questions:

How do students, teachers, and authorities perceive the effects of self-directed reading tasks on reading comprehension in this context?

Can future ESP courses be proposed with A2 students at the Agriculture school of a Higher Education Institution based on the findings resulting from this self-directed learning process?

1.4 OVERVIEW OF THE ENQUIRY

Chapter one provides an introduction of self- directed reading tasks, a presentation of the aim of the study and the research questions of the study.

Chapter two provides an overview of the institution and the participants. It also explains the needs of the investigation.

Chapter three describes the relevant sources that support the different topics of the research.

Chapter four explains the research methodology and describes the epistemological, ontological and axiological stances of the study.

Chapter five presents an illustration of the findings of the data collection process.

Chapter six provides a discussion of the results obtained through the data collection process.

Chapter seven is a conclusion of the research with the recommendations and limitations of the study

CHAPTER 2

2.1 INTRODUCTION

Reading is one of the English skills highly promoted in most Ecuadorian higher education institutions because of the multiple benefits that are developing this foreign language ability offer to current professionals. The present research work was carried out with the approval of the Agriculture Sciences School authorities of an Ecuadorian public university located in the city of Guayaquil. Due to the necessity of developing students' English reading comprehension skills focused on the field of agriculture to meet the academic demands of the curriculum, and hence the learners' professional competencies.

For the conduction of this study, the participants were required to take an English proficiency test to demonstrate their A2 English level according to the Common European Framework (CEFR). Besides, a Pre and Post reading test focused on agriculture to see their progress after the treatment of 16 reading tasks that lasted one month approximately. Therefore, the collection of all this information will be useful to design new ESP programs for upcoming courses and thus maximize the profits that learning agriculture English can offer to future professionals within this particular field.

2.2 THE INSTITUTION, ITS STUDENTS, AND INSTRUCTORS

The present study was carried out in the Agriculture Sciences School of a public Higher Education Institution located to the north of the city of Guayaquil-Ecuador. In this university, English is one of the subjects that learners of the 18 faculties have to pass as a requirement for graduation. The participants considered for this study are students of the fifth semester because they have already passed two previous general English (EGP) modules which are one of the requirements since they need to have at least the A2 English proficiency level according to the Common European Framework (CEFR).

The researchers of this study are two English teachers from different schools of the same institution. They both are highly interested in discovering how feasible and practical could be the use of properly designed agriculture reading tasks to promote self-directed learning, increase reading motivation and, above all, to improve reading comprehension skills in this group of ESP learners.

2.3 THE NEED FOR THIS RESEARCH PROJECT

The conduction of the present research project is well justified since it will contribute to improving reading comprehension skills in this group of learners. Besides, it will be so helpful to enhance the design of future ESP courses according to the curriculum demands by using reading and digital resources as the clues to engage students with the self-directed learning process.

Also, the knowledge of issues related to agriculture through the use of reading tasks specially designed according to the learners' needs in a foreign language like English, will have a positive impact on all the students of this faculty. It is because a large number of advantages resulting from the development of specific English competencies to face this globalized and professionally demanding world.

2.4 CONCLUSION

The design of future ESP courses based on the findings of this research work will make students feel more motivated to read English texts related to their professional field, which is relevant to improve their reading comprehension, expand their knowledge, and thus enhance their professional competencies.

The use of online resources and selected reading tasks designed according to the learners' profiles, and needs are essential to develop their self-directed learning abilities due to the sympathy that current students feel about these kinds of devices.

CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter makes a thorough analysis of the topic under study based on existing literature written by recognized authors in the past. It is essential to reinforce statements, ideas, theories, perceptions, findings, and other points related to the effects of self-directed learning on the development of reading skills and the improvement of reading comprehension mainly focused on specific fields as the case of Agriculture.

Therefore, relevant aspects of the influence of self-directed learning on the attainment of the expecting academic goals as well as the necessity of promoting reading among higher education students, and the need for implementing self-directed reading tasks to enhance reading comprehension will be analyzed, discussed, and supported during the different stages of this chapter.

Finally, to complement this research work, it was also found necessary to address the importance of motivation during the reading process. The advantages of promoting English for Specific Purposes (ESP) with learners involved in specific professional areas like Agriculture, the role of digital tools in self-directed learning, among other factors that will be explained, discussed and supported to meet the principal purpose of the present study.

3.2 ENGLISH LANGUAGE ACQUISITION

Without a doubt, English is one of the most spoken languages all over the world, and thus the necessity to learn it, is not a matter of vanity anymore, but rather a matter of communication among the different members of society. According to Popescu (2010), it is time to recognize the importance of English in our everyday lives due to the guarantees

it offers to develop high-quality communicative skills among the different actors of society. Also, most of the literature all over the world has been transcribed in English. Thus the acquisition of English as a foreign language is an urgent necessity in higher education nowadays.

Hence, it is imperative to foster English learning from the first stages of the human being development because that is believed by many researchers as the best moment to grasp new information efficiently and so, the acquisition of a second language is much easier. “Children can develop linguistics abilities naturally during a short period, without the help of analytical thinking or grammatical rules” (Sakai, 2005, p.815). Without a doubt, the period of two to five years of age could be considered as the best time concerning applying activities and techniques to attain a better language acquisition in children.

This theory is supported by Lenneberg (1967), and Scovel (1969), who state that adults do not have the same probabilities for acquiring a second language since after automatic puberty acquisition of second languages from mere exposure seems to disappear. Therefore, based on all the points previously mentioned, it is necessary to analyze the different learning ways to acquire such an important language, as well as the critical role of reading as a tool to engage adult learners with this process. Thus, attain the desired results at the time of acquiring English as a foreign language.

3.3 WHAT IS LEARNING?

It is necessary to reinforce what exactly the term learning means and implies, but unfortunately, even the experts have had problems to agree on an overwhelming response when they are asked about it. De Houwer, Barnes-Holmes, and Moors (2013) indicate that the word learning, as well as other extensive terms, is a bit difficult to be defined satisfactorily due to their length and complexity. However, information collected from

different authors describes learning as the combination of the human being experiences with the new data entered, stored, analyzed, and internalized by the brain.

For Sweller et al. (1998) cited in Bednall and Kehoe (2011), learning is the building and arrangement of information within long memory periods, which is well known as thinking models. Based on this view, it might be said that learning has to do with all the cognitive processes or models that have been encoded in long-term memories after passing a filter. De Houwer, Barnes-Holmes, and Moors (2013) also state that learning is the result of the influence of past experiences on the current behavior of people, which is continually subject to changes, where the environment plays an essential role.

Therefore, due to the multiple applications that can be suggested for this term by the context and the aim of the study, it is comprehensible just not to adopt one position about it. Nevertheless, what is indeed necessary to know is that learning has more than one way to be conducted since it is not a process that must be directed held from the teacher to the learners in a mandatory classroom. It can also be carried out in a more independent scenery for the learners without the continuous guidance of their tutors which is known as **Self-Regulated Learning or Self-Directed Learning** (emphasis added).

Traditional learning system where teachers continuously guide and monitor their pupils' academic progress to finally assign them some homework to reinforce previous explanation taught in the classroom. It has been and maybe will be one of the most efficient ways to help students succeed in the achievement of the expecting learning outcomes. Dolmans and Wilkerson (2011) support the positive influence that teachers' methodological skills have upon their learners' comfort and confidence at the time of making any enquiries in the classroom. Therefore, this opinion supports the relevant role of traditional learning during the teaching-learning process especially with those learners who are not yet capable enough to work independently.

However, nowadays independent learning has been stated as another effective way to enhance learners' knowledge using self-directed activities specially designed for them according to their profile and academic needs, with the primary purpose of getting pupils proficient enough to deal with any academic drawback during their student lives. Washbourne (2014) claims that independent learning makes students feel sufficiently prepared to decide what to learn and face any problem appropriately.

As a matter of fact, the expectations regarding autonomous learners' performance and behavior inside or even outside their educational institutions are higher than the performance of students regulated by their teachers who are mostly used to receiving and following instructions in mandatory education institutions. Bouchard (2012) believes that unfortunately, traditional learning promoted in compulsory schooling does not allow students to choose what to learn, when, and how.

On the other hand, it has been widely discussed by different authors about which one of these two teaching methods (the traditional or the experimental one) could be the most appropriate to achieve the best educational aims. For Bouchard (2012) the only difference between them lies regarding acknowledgment and institutional accreditation, yet both are equally effective in the attainment of learning goals.

3.4 SELF-REGULATED LEARNING AND SELF-DIRECTED LEARNING

It has been quite hard to set significant differences between Self-Regulated Learning (SRL) and Self-Directed Learning (SDL) since both types of knowledge can be developed in a conventional or an **e-learning environment** (emphasis added). Besides, they both are applied to improve students' learning abilities in a more independent way which is essential to promote academic autonomy among them. According to Candy (1991) and Long (1993) cited in Bouchard (2012), autonomous learning is the option that

students have to make their decisions and select the most relevant topics and aspects to start learning by their academic needs.

Moreover, it is important to state that there are many more terms relating to self-learning, whose differences are difficult to determine since all of them have a common goal, which is to develop independent learning skills in students.

Many similar terms like self-regulated learning, self-planned learning, self-teaching and independent study are used in the same meaning and context, and the differences between them are often subtle and inconsistent which has caused them being used interchangeably by many researchers. (Saks and Leijen, 2014, p. 191)

3.4.1 Self-Regulated Learning

Weinert (1982) states that Self-Regulated Learning is the learning process in which the students have the free willing to decide the place, the time and the ways or strategies to learn with autonomy (Translated from German). Based on this, it could be said that Self-Regulated Learning (SRL) is the general feeling of academic independence, in which elements such as cognition, metacognition, and motivation are necessary to help students decide what to learn and how to do it to better achieve the expecting learning outcomes in any classroom. Zimmerman (2000) also mentions that all the actions performed by learners through their brain and feelings focused on achieving the setting aims have to do with self-regulation.

Out of these three elements, metacognition is essential for self-regulated learning because it implies the self-analysis of all the cognitive and motivational processes, especially those that are directly related to learning such as the case of reading. According to Zimmerman (1989) cited in Maftoon and Tasnimi (2014), self-regulation has to do with the high level of motivation that learners feel, which makes them metacognitive dynamic creators of their learning. Other authors such as Zohar and Barzilai (2013) also support this

theory because they claim that metacognition enhance learners' thinking and thus their abilities in different academic areas like reading are improved, which finally leads to the automatic enhancement of their knowledge and comprehension.

Hence, the effectiveness of self-regulated learning is mainly determined by the participants' beliefs about their capabilities, as well as their positive mindset to encourage themselves to learn independently by selecting right elements to attain the setting objectives. Besides by applying suitable learning strategies to face the different academic challenges and making good decisions on their own. Bandura (1995) mentions that the success of the arrangement and execution of the diverse learning activities in a self-regulated course is directly linked to people's positive thinking, feelings, and beliefs about their capacity and experience.

3.4.2 Self-Directed Learning

Self-Directed Learning (SDL) is the independent behavior that students adopt to diagnose their academic needs, set their learning outcomes, select the learning strategies, and measure their progress without the continuous monitoring and guidance of their tutors due to the intrinsic motivation they feel to learn by their own. Washbourne (2014) indicates that self-directedness is the internal encouragement that students feel for learning as a result of an evolving process based on their experiences.

Self-Directed Learning originated in the Netherlands in 2010, due to the setting of some vocational education programs, whose main purpose was to promote environments for learning in real contexts, which were known as workplace simulations (WPS). One of the objectives of this type of learning sceneries was basically to encourage learners to act proactively and acquire knowledge independently through the use of technology, which will finally lead to the development of their self-instructional abilities, and thus succeed in the attainment of the expecting learning outcomes. According to Teurlings and van der

Sanden (1999); Van Kuijk and van Kessel (2001) cited in Jossberger, Brand-Gruwel, Boshuizen and Van de Wiel (2010), the objective of this type of learning is to motivate learners to perform independent work so that they self-guide their learning.

In agreement with some experts, this kind of learning encourages students to have the commitment and willingness to work independently in specific learning areas, with the support of digital aids and selected technological resources that have been specially designed or adapted to their personal and professional needs. Bary and Rees (2006) opine that Self-directed learning is the lookup, organization, and conduction of any education system carried out by the students in an autonomous way. Additionally, Rogers (1969) and Long (1989) state that self- directed learning is the way how students learn and work independently, regardless the learning system they choose, or the level of formalization they need.

Besides developing learning autonomy in students, another aim of Self-directed Learning is to promote the setting of new challenges during students' academic lives. It seems like Self-directed learners feel motivated enough to cope with any theoretical drawback by using the most appropriate strategies for the right moment and situation, to finally find the most suitable solution. Newman (2002) argues that self-regulated students own a magic kit with techniques and solutions to cope with different situations due to their high feeling of independence.

Furthermore, Van Kessel (2001), based on the words of Jossberger, et al. (2010) claims that the objective of this type of learning is to make learners work autonomously, and make them capable enough to self-direct their learning without the excessive help of their tutors during the process. Hence, this kind of autonomous learning system is not another thing that a self-instructional process proactively planned and applied by learners to change their mind to academic skills, or in other words, the way how all their ideas,

decisions, and activities are formulated to attain the expecting learning aims. In one of his works, Zimmerman (2000) says that Self-regulation has to do with the feelings, states, ideas, and performance of the learners especially focused on achieving the setting objectives.

However, in spite of the high sense of independence in most of these learners, it is undeniable that they will always need the support of their tutors if it were required, especially because the fact of being guided by more experienced people will help them overcome any drawback. Newman (2002) indicates that the fact of being a self-regulated learner does not mean that the students must feel disengaged from others who can clarify their doubts and support their ideas if necessary.

Furthermore, depending on the type of Self-Learning applied, it is highly recommendable that teachers provide their learners with all the tools and instructions since the beginning of a new challenge to familiarize them with all the details of the process. The student must check and inspect all the verbal directions provided by their tutors to search information related to the issue, and thus draw their conclusions about it (Butler, 2002, p. 37). In short, self-directed learners do also need a previous induction from their teachers, about the activity they will perform, which contributes to the increase of their self-confidence.

Finally, Self-Directed Learning is a process highly determined by three conditions such as (1) The right willingness and motivation of learners to bear the experience. (2) The different procedures or activities performed by the students to overcome problems on their own and (3) The Environmental factors because most of the learners' decisions are influenced by external conditions such as the case of online resources for instance.

According to Jossberger, et al. (2010) the effectiveness in the development of the self-directed learning process is mainly determined by the implementation of the learning

atmosphere, the participation of the stakeholders and their interaction. Therefore, it could be said that self-directed learning is especially determined by the motivation learners need to feel to create their learning, and the planning to attain this aim.

3.5 SELF-DIRECTED LEARNERS

Pajares (2002), claims that Self-directed learning theory supports the way how students are organized, proactive and responsible for their actions and decisions due to the influence of internal elements. As it was previously mentioned, Self-Directed Learning involves the setting of more and new challenges to be achieved by learners independently. Besides the support and guidance of their tutors to make them develop their critical analysis and self-assessment abilities because one of the goals of this type of learning is precise to transform students into educational freelancers.

Therefore, Self-directed learners do also need teachers' feedback to achieve the setting aims better, since most of them feel motivated to receive opinions, advice, and strategies from their mentors to avoid similar failures in the future and improve their successes. Charlotte Silén and Uhlin (2008) mention that the learners need ongoing attention from their tutors to set new goals, but besides they need to receive their feedback, due to its influence to turn them onto self-directed learners.

Moreover, it is widely known that motivation is an essential learning component that encourages people to comply with their obligations and duties exceptionally, and thus every self-regulated learner needs to feel motivated by different environmental factors to succeed in this process. According to Clement, Dornyei, and Noels (1994) (as cited by Cho, 2015), there are some particular qualities in self-directed and motivated students such as responsibility, commitment, and creativity that help them succeed in their academic activities. Besides, Cho (2015) also states that the prediction of their future selves makes

learners feel motivated to ponder on the diagnostic, enhancement and changes of their future actions and decisions.

On the other hand, for Loyens, Magda, and Rikers (2008) self-directed students develop their skills focused on the solving of learning problems (PBL), which makes them become good collaborators intrinsically encouraged to build large foundations of the knowledge. Other authors as Bouchard (2012) indicates that intrinsic motivation to learn makes students acquire certain academic characteristics and virtues that will eventually help them formulate their aims, directions, and learning strategies without further intervention of the environment.

For all the above mentioned in this section, it is believed that self-directed learners have the competence and power to generate their learning path to attain the goals and evaluate their cognitive progress by their own.

3.6 SELF-DIRECTED LEARNING DIFFICULTIES

As in all processes, Self-directed learning can also present some inconsistencies, and precisely one of them has to do with the lack of experience and essential abilities of some learners for solving academic problems independently. Zimmerman (2001) claims that the absence of vital skills in students makes self-learning an incompetent process, although readiness is increased. As a consequence of this lack of autonomous skills, some learners tend to fall into errors caused by factors such as the poor information about the process, personal preferences, lack of self-analysis, bad attitude, laziness, lack of willingness and discipline to work autonomously, wrong self-assessment techniques, among others. That could lead to the quick and bad decision-making in learners who think to be doing things well according to their personal view, but unfortunately, they are not.

Beckers, Jacobs, and Kerkhoffs (2005) cited in Helen Jossberger et al. (2010) mentions that independent learners sometimes show difficulties to autonomously decide

what to do and how because of their ignorance about the problematic or preferences at the time of performing any activity. This theory is supported by Torrance and Mourad (1978) cited in Bouchard (2012) who argue that some self-directed learners are ineffective at the time of dealing with academic problems as well as analogical activities.

Self-awareness is another point that must be taken into account because some students do not respect the meaning of the words responsibility and commitment, and thus they have problems to be part of self-directed activities in which these two values are highly required to succeed. Also, learners need to be honest enough to accept their strengths and weaknesses when reading. Therefore, students should be conscious of the right moment to ask their mentors or experienced colleagues for help if necessary. Newman (2002) indicates that learners know when they cannot deal with any academic drawback by themselves, and thus they know that this is the best time to ask their teachers for help.

Therefore, learners must be aware of the skills that need to be enhanced, as well as all the negative aspects that need to be changed to maximize their self-learning performance. Zimmerman and Schunk (2001) claim that uncertain status can be affected by students' limitations in the development of essential skills, but it is well-balanced with the eagerness they feel to accept personal changes.

In conclusion, self-directed learning could not be easy for everybody or could become a demanding process if the participants do not ask their tutors for guidance during hard situations based on their independent status. Besides if they do not adopt self-disciplinary measures to apply this effective but demanding learning in their daily lives with commitment and clear setting goals because they need to know that there are many qualities they have to comply with if they want to participate in such a process.

3.7 READING

Research is considered an academic element nowadays highly required in education all over the world. Thus 21st-century professionals have to become active researchers and constructors of their knowledge because the current school system has changed the focus of the typical teaching-learning process in which learners were only regulated by their teachers' strategies and decisions inside and even outside the classroom.

One of the conditions to conduct a research work successfully is reading because most of the updated information and literature required is precisely acquired through this receptive communicative skill, where the individual capacity of readers to comprehend the information provided plays an important role. Douglas and Albro (2014) believe that despite the persistent support and finance to reading the research, it is necessary to increase reading comprehension in more and more learners.

Hence, it is essential for students to develop their reading skills to acquire as much information as possible, and thus succeed in any research study they are required to conduct. Levine et al. (2000) cited in Dreyer (2003) believe that the fact of developing reading abilities could be considered an essential academic point to be achieved by higher education EFL (English as a Foreign Language) or ESL (English as a Second Language) learners.

Reading is maybe considered the most important English skill because it involves responding a text instead of producing it, which means that it makes sense of the texts, and thus it must be developed by learners from early stages of their lives due to their necessity of being constantly communicated with the world. According to Nosratinia and Shakeri (2013), reading is perhaps the most relevant skill in people's lives because it keeps them aware of different issues related to education and entertainment. Moreover, Alemi and Ebadi (2010) state that reading is not only a relevant skill to spread information and cause

pleasure among readers but besides it is a means that helps to consolidate the knowledge in any language session.

Based on all the information collected from different authors, it could be said that reading has always been an essential skill for communicative and academic purposes in society, but especially today it should be highly promoted in higher education institutions due to current research demands. Qi, G. Y. (2016) argues that reading is considered one of the most relevant skills to be developed because it helps learners succeed personally and professionally.

3.8 READING COMPREHENSION

Durkin (1993) cited in Dreyer and Nel (2003) states that the proper comprehension of texts could be considered the most relevant element of the reading process. Reading comprehension is the capability of some readers to make sense of the data provided by the texts by combining new information acquired with the one that is already known, and hence build new knowledge. This idea is supported by Koda (2005) who says that reading comprehension is the process in which the person extracts different data from new sources and adapts it with old information. Moreover, Nosratinia and Shaker (2010) mention that Reading comprehension is the clue of the reading process because it consists of drawing and creating meaning employing the interaction with written language.

It is important to know that the number of factors that influence reading comprehension process is extensive, and therefore all of them have specific and defined functions that will be essential for enhancing the understanding of any text. Car and Levy (1990) cited in Fletcher (2012) state that different reading comprehension components influence the development of reading skills at the time to understand a text. According to Block (1992); Brantmeier (2002); Burns, Roe & Ross (1999); Erten & Topkaya (2009);

Heidari (2010); Lehr, Osborn, and Hiebert (2005) (as cited in Koosha, Abdollahi, and Karimi, 2016) several studies have been mainly focused on different factors that influence reading comprehension process, in order to learn and evaluate the knowledge of a foreign language.

Among some of the factors that can influence the acquisition of English as a foreign language, and thus the development of General English reading skills we have: the role of motivation, the use of effective reading strategies, and the use of digital tools or online resources.

3.9 THE ROLE OF MOTIVATION

It is believed that teaching-learning process tends to be more effective when students work under motivational conditions. According to M. and Kim (2014) motivation is considered a determinant factor concerning learners' academic performance and goals. Other authors such as Deci (1975) claim that classroom atmospheres that improve motivation, perceived autonomy by giving pupils chances and opportunities for self-direction have been related to increased intrinsic motivation.

The creation of a positive environment and motivation are essential points to undertake any academic activity with autonomy and proficiency. Spratt (2005) mentions that Motivation is every feeling that encourages people to do something, keep going on it, and turn their plans into actions. For Gardner (1985), motivation is a combination of willingness and endeavor to acquire a second language with a positive attitude. Other authors specialized in motivation such as Cheng and Dornyei (2007) believe that motivation in education is the necessity for developing learning at the beginning of a process to later ends in a hard commitment to establish an aimed language.

Certainly, motivation is an essential component of education, and hence other authors also point out their opinions about such an important academic ingredient, for

instance, Brown (2000) indicates that motivation is considered as the willingness that makes people do a particular action. “The influence of a positive environment has been a vital factor to acquire and master a second or foreign language from different education sectors” (Khodashenas, Amouzegar, & Kishani, 2013, p.766).

According to Hagelskamp, Brackett, Rivers, and Salovey (2013), The relationship between students and teachers is determined by the social and emotional classroom atmosphere. Furthermore, Masgoret and Gardner (2003); Tremblay and Gardner (1995); and Cho (2015) agree on the fact that the performance of students is not only determined by their skills and capabilities but besides by the motivation, they feel at the time to carry out any activity.

Undoubtedly, motivation is the clue to encourage students to attain the expecting learning outcomes. Thus it could be a useful tool to make learners adopt reading habits due to their reluctance at the moment to put in practice such an important skill.

3.10 MOTIVATION FOR READING

Based on all these concepts and theories about the positive influence of motivation on the attainment of academic goals, it is firmly believed that reading can also be promoted through motivational strategies and productive activities. Guthrie and Wigfield (2000) cited in Cabral (2011) consider that reading motivation can be defined as all the achieving reading goals resulting from personal beliefs, aims and values relating to the reading process.

In another perspective, Lin, Wong, and Chang (2012) emphasize that inner motivation makes people feel independently committed to practice reading, and thus reading comprehension tends to increase automatically. Other authors as Kim and Krashen (1997) state that people used to read, generally have a broad range of lexis and are better at

addressing grammar and writing activities because their skills are more developed than people without reading habits.

However, reading is still considered by many people as an annoying activity since their childhood. According to Horner and Shwery (2002) unfortunately, most children feel weak motivation for reading. Juel (1988) mentions that during an interview with fourth-grade children to know if they prefer to read or clean their rooms, 40% of them chose cleaning, while only 5% of them selected reading. Therefore, it is urgent to seek more alternatives to promote reading among students.

3.10.1 Why do learners feel weak motivation for reading?

Even though the importance of acquiring good reading habits, most students are reluctant in developing their reading skills because of the tiredness and boredom it entails. Additionally, other factors such as the time, culture, and difficulties to find texts with suitable topics according to their professional or personal interests have affected their motivation for reading, situation that is needed to be changed. From the perspective of Watson (2015), the lack of time, lack of access to appropriate books, and fatigue are some of the main factors that have led to decreased reading.

The lack of general or technical vocabulary could be another constraining factor because students feel disappointed when they do not understand most of the words in a text. Thus they avoid reading due to the lack of comprehension and the little efficacy at the moment of addressing reading activities. According to Bandura (1995), the action in which learners avoid challenging reading tasks because of the lack of efficacy, is well known as reading work constraint.

Furthermore, pupils face the necessity of seeking different strategies or techniques that can help them to acquire new vocabulary, especially those words they believe are going to be relevant for their academic or professional purposes, but unfortunately, they

decide to quit the process since the lack of results. Regarding this point, De la Garza and Harris (2016) claim that the disappointment EFL learners feel arising from ineffective techniques to gain new vocabulary makes them abandon the process.

Based on these statements, it is necessary to start considering motivational ways to help students acquire more and new vocabulary, and the use of technology could be an effective solution for instance. Succinctly, it is important to detect all the factors that could constrain in one or another way the motivation of students to adopt reading habits to find solutions and take action points that encourage them to practice reading as part of their everyday lives and professional growing.

3.11 READING STRATEGIES

Students need to develop their English reading competencies if they want to have a high level of reading comprehension, but this process cannot be easily achieved if teachers do not have a structured plan with clear reading strategies that will determine the intensity of learners' reading comprehension. According to Yousefian and Sabet (2014), it is essential for learners to get suitable English reading competence to understand what they read through the use of effective reading strategies.

Reading strategies are mainly applied for speeding up learners' reading, and thus for making reading process more efficient and easier. Undoubtedly, skimming and scanning are two of the most common reading strategies used by readers at the time of facing a reading task. Beale (2013) claims that mature readers usually read fast and accurately to get the exact and useful information they need due to their mastering of skimming and scanning. Other authors such as Irvine-Niakaris and Kiely (2015) believe that the combination of skills such as skimming and scanning enable readers to identify the main idea of a text and guess the meaning at the sentence level.

The development of reading skills through the application of reading strategies helps learners enrich their knowledge and enhance their reading comprehension in any of the fields they would be required to work, in spite of the number of factors that have made reading comprehension a hard skill to be developed by most EFL learners. Fletcher (2012), states that reading comprehension is a strong ability, considered by many EFL students as a too difficult skill to develop.

Nonetheless, it is necessary to keep in mind that learners must be previously trained about the use of both strategies to develop their comprehension reading skills better and thus make reading tasks easier to be addressed independently. Aghaie & Zhang (2012) indicate that helping learners how to read and further develop their reading skills through the use of reading strategies will help them learn from texts by themselves.

Moreover, it has been proved that the application of reading strategies is an effective way to encourage learners to read because they can see how their reading comprehension is enhanced, and thus their curiosity for knowing more about certain issues increases. Nosratinia and Shakeri (2010), claim that the use of reading strategies is very beneficial for readers to guarantee their success in the process of reading comprehension. Other authors such as Carrell, Pharis, and Liberto (1989), mention that the relation between the use of reading strategies and reading comprehension have an effect on the form how readers interact with written texts.

As it was mention above, skimming and scanning are two of the most practical and useful strategies to address reading activities accurately. They both help readers to avoid so much wasting of time which is one of the typical problems for beginners at the moment of reading a text whether in their mother tongue and worse in a foreign language as the case of English. Thus it is necessary to analyze both strategies to have a better idea of their specific functions as well as the steps to follow to succeed on them

3.11.1 Skimming or reading for gist

According to Spratt and Pulverness (2011), skimming is not only a reading strategy but besides a reading sub-skill that consists of getting the overall idea of a text by reading it very quickly. For instance, when people want to buy a book, they just read the abstract to decide if it is interesting enough to be purchased. This theory is also supported by Beale (2013) who says that skimming is the action of reading just the most relevant information of a text to get the general idea of it. For Beale the steps to skim effectively must be carried out as follows:

Read the title to have a previous idea of the text.

Read the introduction, the first paragraph, or the abstract to have a general idea of the text.

Read the first sentence of every other paragraph to understand the purpose of that section.

Read any headings and sub-headings as references to keep the sequence and sense of the text.

Notice any pictures, charts, or graphs as visual aids to better understand, save time, and support previous ideas about the book.

Notice any italicized or boldface words or phrases to be aware of any significant event.

Read the summary or last paragraph to complete and reinforce the main idea of the text.

3.11.2 Scanning or reading for specific information

Spratt and Pulverness (2011) believe that the fact of not reading a full text and just searching the most important parts is precisely the function of scanning sub-skill or strategy. As the name says, the reader scans just the information that is going to be useful for a particular purpose. Moreover, Beale (2013) one more time coincides with them about it, and says that scanning is not just a strategy, but rather a technique used by readers to quickly find accurate information by following these steps:

State the specific information you are looking for to avoid wasting time seeking useless information.

Try to anticipate how the answer will appear and what clues you might use to help you locate the answer. For example, if you were looking for a certain date, you would quickly read the paragraph looking only for numbers.

Use headings and any other aids that will help you identify which sections might contain the information you are looking for in the text.

Selectively read and skip through parts of the passage to save time and find specific information quickly and more efficiently.

Skimming or reading for gist and scanning or reading for specific information are two important reading strategies or sub-skills applied in self-directed reading to enhance reading comprehension and thus attain better outcomes.

3.12 DIGITAL TOOLS AND ONLINE RESOURCES

It is well known all over the world that the internet has become the 21st-century tool for social, communicative, and collaborative purposes. Therefore, teachers should try to tap this reality to also apply it to education because of the great attraction that current learners feel for technology and its derivatives such as social networks, video games, online transactions, online courses, and blogs, among others.

Those tools in one way or another have made our lives more practical and easier to live. Tess (2013) emphasizes that communication, collaboration, and learning have been updated with the use of technology. Moreover, Chacón (2013) also supports the idea that education has been enhanced during the last years thanks to the use of technology with new ways to update teaching strategies, educational materials, course contents, and others.

Based on this, it could be said that teaching-learning process has been highly improved with the use of technology, and thus it is necessary to understand the meaning of

key concepts such as E-learning and social media because both of them are technological terms closely related to education. For Henry (2001) E-learning is the integrated transfer of information, acquaintance, and abilities through the use of the internet without any limitations. For Joosten (2012) cited in Tess (2013), Social media has to do with the different technology tools such as websites, platforms, social networks, blogs, and others, specially created for communicative and collaborative purposes.

It is believed that reading comprehension and the acquisition of vocabulary can be more efficient with the help of digital texts and online resources. Learners would have more opportunities to autonomously practice reading any time they feel like doing it according to their time, willingness, and mood within a very relaxing and free of pressures E-learning environment, which is one of the points that differ from traditional classrooms. Chen, Shu-Chu, Shu-Hui, and Wey (2013) argue that the use of online texts in reading programs for EFL students could effectively enhance their reading comprehension skills and the acquiring of new vocabulary.

As it was already mentioned, the application of digital tools and online resources can be so helpful to promote independent work among higher education learners. Besides, their teachers will only adopt the role of facilitators with recommended or suggested websites and digital activities especially created by them to meet their students' needs, which is a key factor to develop self-directed abilities in learners. Perea-Barberá and Bocanegra-Valle (2014) state that teachers' current role is just to supervise and monitor their pupils' performance and progress with the help of complementary technological materials facilitated by them to maximize in-person lessons.

From the perspective of Zidat and Djoudi (2011) nowadays the interaction of teachers and learners has decreased due to the use of self-directed technological activities. Besides, Arnó (2014) states that education has been reshaped due to technology because

current learners are very skillful in technological systems. Thus, the role of teachers has turned into being just information transmitters, observers, and evaluators of their students' self-directed learning process.

Therefore, it is important to take advantage of the fact that students feel quite engaged with technology matters, since this is an effective strategy to draw their attention, and that way encourage them to practice and develop this relevant academic skill as the case of reading. Zidat and Djoudi (2011) believe that the use of suitable and selected technological tools is vital to enhance reading comprehension in learners.

The use of technology should be promoted in higher education institutions as a support tool for reading comprehension process, but it must be mainly set and focused on learners' professional needs and interests.

3.13 ENGLISH FOR SPECIFIC PURPOSES (ESP)

English learning focused on general purposes (EGP) is essential to growing personally, socially, and academically since it implies the development of the four communicative skills (reading, writing, listening and speaking) within general contexts in people's daily lives. Therefore, the necessity of learning general English as a foreign language is essential to be competent and fulfill the expectations in any place that a person would be required to work. Arias (2014), believes that since the complex demands of hectic age, learners and professionals have felt pressured to learn English as a foreign language.

However, EGP is not so capable of fulfilling students' English needs within specific fields due to the significant amount of technical terminology used in their jobs, which is important to take into account due to the professional demands of this current globalized and competent world. According to Hayati (2008), the fact of providing learners with specific abilities to face professional demands is one of the objectives of technical or

accurate English. Hence, the necessity to meet the needs of future professionals within specific contexts has made English experts and teachers design English focused on specific purposes courses. Hutchinson and Waters (1987) mention that sessions focused on English for specific purposes is a good alternative to being used by professionals to meet specific demands within their fields of action.

From the general view of different experts, English Learning focused on specific purposes (ESP) is the fact of making learners develop specific professional skills in English to help them be prepared to face real work demands related to their career fields. For Arias (2014) ESP can be considered a particular component of EFL, which implies the preparation of students in specific areas. To complete the previous idea Hayati (2008) states that one of ESP aims has to do with the adaptation of the language to the learners' specific needs. Furthermore, Bucur and Neagu (2015) claim that ESP courses make students improve their general English abilities, and thus prepare them to succeed in specific competencies.

One point that should be taken into account is that most of the relevant information and literature in specific fields such as Agriculture or any other science is provided in English, which means that reading is an essential part of ESP courses regarding communicative competences and research. Arias (2014) supports the idea that reading should be considered the major activity that encourages learners to seek relevant information related to their professional fields. Based on this previous statement, it could be said that the promotion of reading among ESP students is vital to help them achieve their academic and professional goals.

3.14 AGRICULTURE ENGLISH

Agricultural English is the teaching of natural resources, and land management through the experience of bilingual agriculture professionals whose primary aim is to

prepare students for future work demands within the field of agriculture by using English as a referential language. According to Garton and Robinson (2006), it is admitted by teachers that the fact of developing suitable specific abilities in their learners will help them to have a better performance in their workplaces. However, this is not an easy job to carry out due to the low proficiency level of some students in general aspects of the language, so improving their English level in specific areas such as agriculture is necessary since it is a field where the use of technical terminology is more demanding.

The lack of technical vocabulary in English has constrained the proper development of the reading comprehension process in agriculture texts. It results worrisome because agriculture students must be ready to deal with technical terms not only in their mother tongue but besides in a foreign language like English since most of the information and literature related to Agriculture is available in books or articles in English. According to Yousefian and Sabet (2014), it is essential for learners to get suitable English reading competence to understand what they are required to read.

Furthermore, the lack of books and materials applied for agriculture teaching is another constraint that limits the work of agriculture English teachers regarding the use of a suitable methodology to make their students feel engaged with the learning of different agriculture issues in a foreign language like English. Qi, G. Y. (2016) states that there are not many books related to individual sciences, and the ones available have been designed according to the curriculum contents. Hence, for agriculture reading lessons, teachers must elaborate or adapt special material, and reading tasks mainly focused on meeting their learners' professional needs after a well-conducted need analysis.

Undoubtedly, the domain of Agriculture English will allow graduates to open many doors within their career field, and thus the probabilities of a promotion, better salaries, and succeed in their jobs are higher due to their capability to deal with agriculture

matters in both languages. For Akridge (2004); Onianwa, Wheelock, Mojica, and Singh (2005); Norwood and Henneberry (2006); Briggeman, Henneberry and Norwood (2007) cited in Artz and Orazem (2011) agriculture graduates with developed communicative skills and good knowledge of this science have the capacity to work with others in a team, which is one of the factors that defined a potential employer.

Commercial agriculture is also relevant for agriculture graduates, and reading comprehension is vital at the time of giving directions for doses and applications. For Haggblade, Chapoto, Drame, Hendriks, S. L, Kabwe, Minde, and Terblanche (2015) The trading of agriculture products, supplies, and other services is also a key point for higher work opportunities all over the continent, and it is known as Agribusiness. Agriculture is the future of the world, and thus the learning of agriculture English and the promotion of agriculture texts reading is highly significant to succeed in this professional field.

Finally, it has been already mentioned the points that must be taken into account to promote independent General English reading such as motivation, effective reading strategies, and the use of digital tools. However, to improve Technical English reading for ESP learners, it is also necessary the conduction of a need analysis, which must be set according to the profile of the learners, their academic shortcomings, professional interests, environmental class conditions, motivation, among others.

3.15 NEED ANALYSIS

As it was mentioned above, different factors should be analyzed to meet the learners' needs in an ESP course, especially if the students are required to work independently in a self-directed learning program. Knowles (1975) says that self-directed learning is the diagnostic of the learners' necessities and the implementation of suitable resources that help them achieve their academic aims independently.

Hence, the analysis of all the factors that could enhance the performance of independent learners should be considered as the starting point of any ESP course because it will provide teachers with a better view of the situation to fulfill those needs as part of the solution to the problem posed. For Lesiak (2015) needs analysis (NA) could be considered the first requirement of ESP because it provides relevant information of the participants to select better the materials that are going to be used in the design of the course.

It is necessary to point out that the need for selecting appropriate materials based on the students' necessities at the time of developing an ESP course is essential to maximize learners' independent work. Besides, it is also applicable to the design of reading tasks to improve reading comprehension in specific professional areas such as agriculture, since they are elaborated or adapted according to the learners' proficiency level of the language, range of vocabulary, reading gaps, and other points that teachers should consider. Anthony (2007) cited in Rodriguez (2014) states that the selection of reading materials, strategies and activities is more effective when teachers are conscious of their learners' needs.

Finally, it is also important to remark that the need analysis of the learners will also permit teachers to reinforce their pupils' academic weak spots during the development of specific abilities such as reading. Thus, learners can be continuously trained by their teachers to develop their reading strategies, and besides, they can be provided with technical vocabulary related to their field of action, which will ensure the increase of reading comprehension in ESP learners through self-directed learning.

3.16 SELF-DIRECTED READING TASKS

The use of self-directed reading tasks is also believed to be an attractive strategy to motivate learners to read because these kinds of activities are specially designed to meet students' academic needs. Besides they are created after a deep analysis of the students' profiles, professional interests, and English proficiency level to turn them into engaged self-regulated readers which is one of the aims of self-directed learning. Horner and Shwery (2002) state that self-regulated readers' main characteristic is their commitment to choose their reading techniques to assess themselves, and keep follow-up actions to measure their progress.

Undoubtedly, the selection of proper materials based on previous need analysis of the learners is a key point for the design of all the tasks that are going to be applied to make students practice reading and thus develop their reading comprehension skills. According to Lesiak-Bielawska (2015) in ESP courses the choice of adequate sources and the design of proper activities are vital elements to promote practice among learners and increase motivation. Lesiak also states that this selection of materials previously the design of the tasks for ESP courses must be done after a well-conducted need analysis of the group of learners that are going to participate.

One of the things to highly consider for the correct design of reading tasks is the English proficiency level of the learners because all the materials applied must not have advanced technical vocabulary if the participants are A1 or A2 students, or must not be so simple if participants have a B2 or C1 level. Therefore, the use of proper vocabulary according to the English proficiency level of the learners and related to their professional field is another important point to consider at the moment of designing reading tasks for an ESP course. Martinez, Beck, and Panza (2009) indicate that the vocabulary used must be accessible to the language of the teachers and their learners.

Finally, the design of these tasks must be done carefully with correct adaptations and taking into consideration all the points suggested after the analysis of the students' needs and with the guidance of more experienced professionals in this field. Otherwise, negligence could be part of this process from young teachers. About this point, Lesiak (2015) believes that teachers with no training in these fields who use materials that do not accord with the development of these tasks without a previous need analysis can be considered as negligent designers. Furthermore, Jossberger, et al. (2010) argue that the implementation of resources and the setting of the learning conditions should be adapted to the students' necessities.

3.17 CONCLUSION

A suitable environment, active learning strategies, appropriate resources, effective reading strategies, discipline, positive attitude, appropriate behavior among other extrinsic and intrinsic factors, are common characteristics of self-directed learners that in one way or another will determine the attainment of the setting goals during this self-sufficient learning period.

The necessity to learn English for specific areas is no more a matter of vanity as in the past, but rather a question of competence due to the demands of current society. Thus, accuracy in English has been included in the curriculum of some technical high schools and universities programs as a compulsory subject to be learned because it is considered one of the needs of every 21st century professional. Qi (2016) states that English is among the three most important subjects in high schools and thus it is early included in their curriculum programs.

Reading comprehension is a language skill that must be promoted in educational institutions, especially in universities because most of the information that learners need within their professional fields is provided in English. Nosratinia and Shakeri (2013) claim

that the necessity of being informed about a topic or any other piece of information makes people feel the need of reading, whether for acquiring new knowledge or just for entertainment.

This literature review is mainly focused on the findings and all the essential points studied by the researchers related to the effects of self-directed reading tasks on the development of reading comprehension skills in an ESP group of learners of an Ecuadorian Higher Education Institution.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 RESEARCH PARADIGM

4.1.1 Definition and rationale

This chapter aims at providing a thorough understanding of the methods applied to describe the ontological, epistemological and axiological stances of the present research. The study is focused on the effects of self-directed reading tasks in an A2 ESP group of learners mainly based on an active and individualistic learning motivated and conducted by them to enhance their English reading comprehension within the field of agriculture.

Also, this chapter explains the rationale to apply some techniques, strategies, and procedures that will be helpful to find, select and analyze important data used to understand the problem, and thus determine the validity and reliability of the present study.

4.1.2 Methodological stances

4.1.2.1 Paradigm of the study: Researcher and participants' roles, epistemological, ontological and methodological position.

Concerning the methodological stances of this study, the researchers' role was not merely as teachers but as guides and supporters because the participants were guided through the whole process by carrying out discussions on the concepts and vocabulary regarding different aspects of the acquisition of terms related to agriculture and self-directed learning methodology. The teachers provided learners with face to face and online support.

Besides, the participants had to be responsible for their learning. Thus, they worked at their pace; they got technical and strategic training regarding the platform where they had to work during the study that lasted four weeks. Moreover, they had the support of the teachers whenever they needed during the process of the research.

It is important to have an aligned positioning when doing research because it determines the effectiveness of the investigation work. According to Grix (2002), a clear and transparent knowledge of the ontological and epistemological assumptions that underpin a research is necessary to show the effectiveness of the study.

The proposed study had more functional than theoretical relevance since it was mainly focused on the constructivism learning theory. According to Fosnot (2013), Constructivism describes knowledge as truths that emerge and are constructed by humans through a self-regulatory process. In this study, the participants were exposed to some readings through which they could practice vocabulary related to agriculture. Additionally, they had to work on different reading activities to foster the acquisition of new concepts and ideas regarding agriculture vocabulary.

Besides, the ontological position of this study is Objectivism. According to Bryman (2015), Objectivism is based on social facts that have an independent existence which is separate from the influence of actors. Our study was centered on real events based on observable facts of reality that were beyond our reach. As teachers and researchers, we had to be aware of all the participants' information to get accurate data for our study project.

The epistemological position aligned to the ontological position in this study is according to Bryman (2015) the Positivism, which fosters the application of natural sciences methods to the study of social reality and beyond. Bryman also states that one of the principles of the Positivism is to generate a hypothesis that can be tested. Through this research, we could verify if the effect of self-directed reading tasks improved students' reading comprehension skills without manipulating the obtained data, which generates new insights and knowledge about this new way to develop reading skills.

Regarding the methodological position, this is a quantitative research because it is based on the cause-effect relationship. For Bryman (2015) a quantitative research does not necessarily entail the collection of data. However, it follows a process to check the reliability and validity of a study.

We carried out an experimental study since the collected data was transferred to statistics and histograms in percentages to underpin the results of the research, and thus provide clear and precise information to know if the use of these self-directed reading tasks promotes the reading comprehension in the field of agriculture.

4.2 ASCERTAINING THE WARRANT FOR THE ISSUES OF VALIDITY AND RELIABILITY

Regarding the reliability of the instruments (tests and questionnaires) of this project, Bell (2005) mentions that it has to do with the similar results that a procedure produces under different conditions. A reading experience questionnaire with ten questions using the Likert scale was applied to know the students' interest in this skill. Besides, each participant took a pre-test and post-test, which means that the similarity of both tests ensured the reliability of this study.

The tests, the questionnaires, the texts and the statements in the reading activities used during the study were piloted to ensure their reliability and validity. First of all, they were checked by an English teacher to detect any grammar and vocabulary mistakes, and hence correct them to ensure students' understanding.

Also, they were applied to a small group of students with similar characteristics before the conduction of the study to identify the pros and cons of the instruments, and thus guarantee its validity and feasibility. Bell (2005) mentioned that the validity of an instrument is shown when it measures what it has to measure. Therefore, these research

instruments were so helpful to monitor and measure the learners' progress during the process and at the end of the study.

4.3 ETHICAL CONSIDERATIONS.

The authorities and participants were presented an Informed Consent Form to be aware of the purpose of the research, what was expected for them to do and how their confidentiality would be protected before signing their participation approval. According to Mackey and Gass (2005), informed consent entails that participants should be given the opportunity to choose what shall or shall not happen to them.

4.4 METHOD

4.4.1 Definition and characteristics

This quantitative and exploratory study was carried out to determine to what extent the use of self-directed learning enhances reading comprehension in an A2 ESP course at the Agriculture School of an Ecuadorian Higher Education Institution.

4.4.2 Research design

This study was based on One-Group Pre-test and Post Test Design. Tuckman (1988) proposed that this experimental condition can be diagrammed as shown:

$$O_1 \text{ X } O_2$$

It was a quantitative study because it provided accurate information regarding the effects of self-directed reading tasks in an A2 group of ESP university students.

4.4.2.1 Students' survey

A survey with ten questions using the Likert scale was applied to students to measure their preferences and opinions regarding reading skills and self-directed reading. Besides, this kind of survey lets researchers have accurate information related students point of view regarding reading ability.

4.4.2.2 English proficiency level test

Before the conduction of the study, an Awesome Placement Test ® provided by Richmond Publishing was administered to the students to know if the participants had the A2 English proficiency level according to the Common European Framework. We needed to make sure about the language proficiency level of the participants to adapt the reading activities according to their English level, and thus avoid boredom and other difficulties caused by the lack of understanding at the moment of solving these reading activities.

4.4.2.3 Pre and post test

For this study, all the participants were required to take a pre, and a post-reading multiple choice question (MCQ) tests at the beginning and the end of the process. The purpose of tests was to measure their reading comprehension progress before and after the application of the treatment (self-directed reading tasks) as part of the teaching methodology. Both tests had the same reading activities and questions, and thus the same level of difficulty.

These tests consisted of two A2 readings activities focused on agriculture, the same ones that were retrieved from trustworthy text sources, which had a few adaptations or adjustments according to the English level of the students and besides to meet the most exceptional learners' academic and professional needs. The primary purpose of these MCQ tests was to determine to what extent the use of self-directed reading tasks can improve the reading comprehension in this group of learners.

4.4.2.4 Edmodo Platform

The participants also were registered on the Edmodo platform to work on sixteen agriculture readings by themselves. Kormos and Csizér (2014) describe autonomous learning as an important strategy in foreign language learning because it allows students to exploit learning opportunities when they are not in a classroom. All readings texts with the

correspondent activities related to agriculture were previously selected and adapted to the participants' English level to enhance their capability to comprehend technical texts.

As they solved the reading activities on the platform, they could see their progress, and besides, they got feedback from their tutors when required. Moreover, they could be in touch with the whole class. In many occasions, they gave support each other which were a great motivator for them to accomplish the proposed activities of the study.

4.4.2.5 Sessions

The group received two reading sessions per week of two hours each during one month (16 hours total) the ones that were held at the Computer Center of the Agriculture Sciences School (CCAA). During the classes, the teachers explained learners the meaning of some terms such as ESP and Self-directed learning as well as the use of reading strategies such as skimming and scanning to make reading comprehension more efficient. Also, the tutors used some aids related to agriculture terminology to provide students with technical definitions previously the execution of the activities.

4.4.2.6 Satisfaction Questionnaire

A satisfaction questionnaire with eight questions using the Likert scale was administered to the students at the end of the process to measure the level of satisfaction regarding the applied methodology. That was the opportunity that the students had to express their perceptions of the study. Also, it gave us the chance to know if the method applied was useful for them or not.

4.4.2.7 Interviews to authorities and teachers

The application of personal interviews was the best option to be used with the authorities and teachers of the institution because researchers could be aware of their colleagues' experiences about the development of reading skill in their students. Through

these interviews, we were informed about teachers and authorities' concerns and expectations regarding the present research study.

4.4.3 Selection and handling of data

The questions of the survey were analyzed one by one by using graphs to illustrate the statistics data, and hence to get reliable information that helped us understand and analyze the students' points of view with regards to reading and the use of self-directed reading tasks.

Furthermore, the students' reading comprehension performance was measured by applying a pre and post-test, and then a comparison of both results was made by using the statistical paired t-test with the SPSS statistical software, which provided us with useful and reliable information obtained from the study.

On the other hand, the Likert-Scale test with eight questions to measure the level of satisfaction of the students regarding the effectiveness of using self-directed reading tasks to enhance their reading comprehension skills was also analyzed and illustrated with charts that let us visualize the student's acceptance or refusal of the applied strategy. This scale consisted of five levels, in which the first tier represented the lowest satisfaction and the fifth level represented the highest achievement of the learners regarding the proposed methodology.

The results of the interviews with authorities and teachers of the institution were coded to analyze the obtained data. These interviews provided us with relevant information that is considered part of the study because it is important to know the opinions of those who are in charge of the students' professional growing as the case of authorities and the teachers.

Finally, concerning data analysis, a paired t-test with a level of significance of $p < 0.05$ was used because it allows measuring the tests before and after the study.

4.4.4 Participants

The study was conducted with a group of 36 learners who belong to the fifth semester of an A2 ESP course at the Agriculture School of a Higher Education Institution located in the city of Guayaquil. 20 out of the 36 participants were males, and 16 of them were females between 18 and 20 years of age.

4.4.5 Selection and Sampling

The target population for this study was an intact group of 36 learners, which means that sampling was not necessary since all the participants were registered in this course, and thus, according to the institution regulations, it is not possible to move students to other class in grounds of discrimination matters. According to Cohen, Manion, and Morrison (2013), the correct sample size depends on the aim of the study.

For this exploratory study, the size of the group was appropriate because it was good enough to get the necessary data to answer the previous research questions above mentioned. Fortunately, the selected participants match the requirements of this study because they all have the English level needed (A2) and besides they are in the fifth semester, which means that they are already familiar with similar reading activities in their mother tongue.

4.4.6 Background to the participants

The participants were required to pass two previous levels of English since they have a total of three English levels to pass as a requirement for graduation (two EGP and one ESP focused on Agriculture) which is part of the current English curriculum program. Most of these learners come from public high schools and just a minority of them from private institutions, which means that we had to work with a heterogeneous group of students in spite of their apparent A2 English proficiency level.

These learners presented problems to read and understand agriculture texts caused by different factors such as the degree of difficulty of the texts. Besides, the materials had not been suitably selected and designed according to the real students' proficiency level, lack of technical vocabulary, lack of reading habits, improper materials, and other factors that have unfortunately limited the learners' reading comprehension.

4.5 CONCLUSION

The present research study examined the effects of self-directed reading tasks in an A2 ESP course. The students remained fully engaged with agriculture reading activities uploaded to a platform. By working on these readings, they got significant comprehension improvement demonstrated in the post-test.

The benefits and the experience that the participants gained by doing these kinds of reading activities during the self-directed learning period have been essential for their professional growth because they claim to have enhanced their English knowledge within their professional field.

CHAPTER 5

PRESENTATION OF FINDINGS

5.1 INTRODUCTION

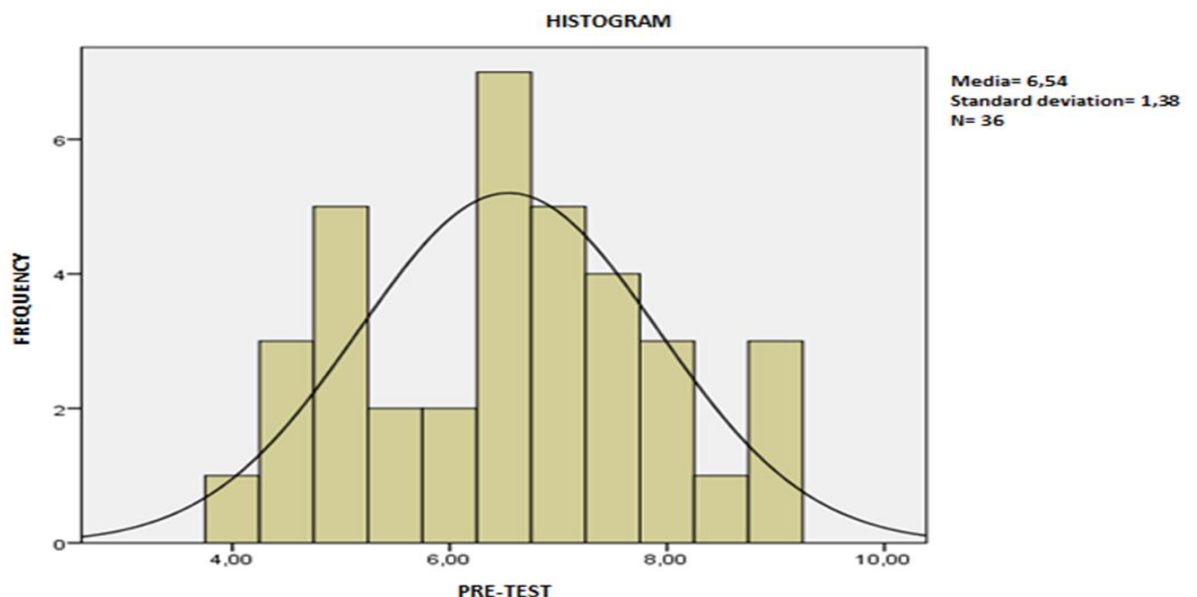
In this section, we present the findings obtained from data collection process of our study by using charts and tables to illustrate such results gotten from the surveys, pre and post-tests, and satisfaction questionnaire applied to the participants as well as the interviews applied to authorities and teachers regarding the effects of self-directed reading tasks in an A2 ESP course at the agriculture school of a higher education institution.

5.2 RESEARCH QUESTION

5.2.1 Findings from the Pre-test and post-test

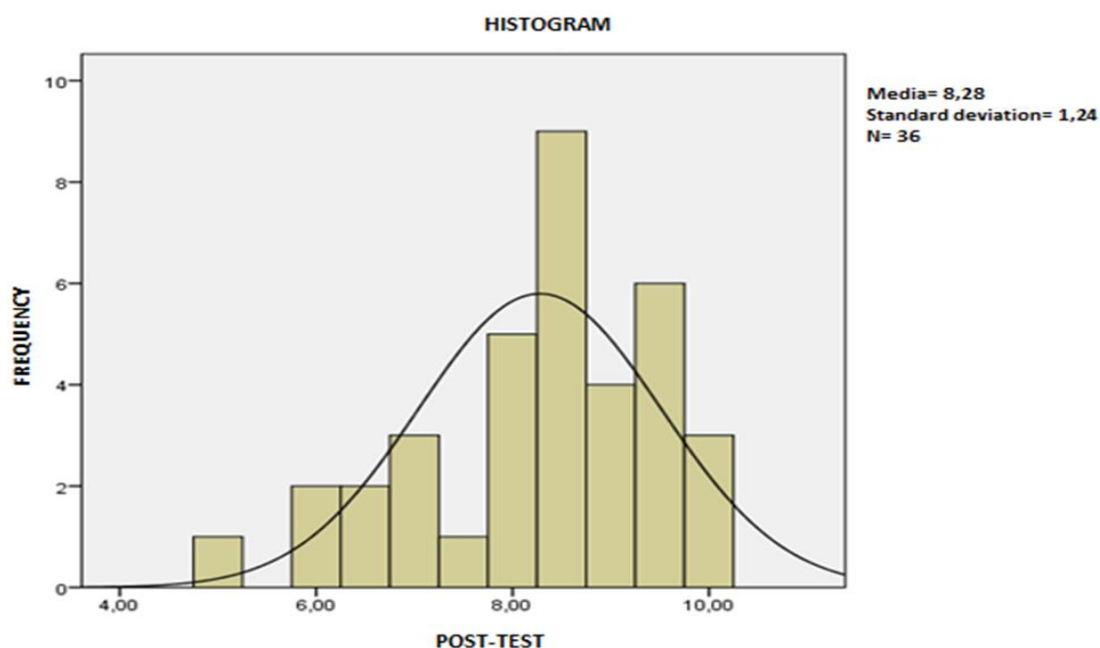
At the beginning and the end of the study, the participants were required to take a pre and a post-test respectively, which were basically the same tests in order to assure the reliability of the study. The main aim of these tests was to measure the learners' reading comprehension progress in texts focused on agriculture. Figures 5.1 and 5.2 show the results obtained as evidence.

Figure 5.1 Pre-test results



The results got in the pre-test show a media of 6.54 with a standard deviation of 1.38 of data.

Figure 5.2 Post- test results Source: Prepared by the authors



The results got in the post- test show a media of 8.28 with a standard deviation of 1.24 of data.

The comparison of both results was made by using the statistical T-test with the SPSS statistical software. Thus, the pre-test showed a media of 6.54 with a standard deviation of 1.38 and a standard media error of 0.23. On the other hand, the post-test showed a media of 8.28 with a standard deviation of 1.24 and a standard media error of 0.21 as shown in Tables 5.1 and 5.2

Table 5.1 Statistical data of pre-test and post-test

STATISTIC PAIRED SAMPLE					
		N	MEDIA	STANDARD DEVIATION	MEDIA STANDARD ERROR
PAIR 1	PRE-TEST	36	6,54	1,38	0,23
	POST-TEST	36	8,28	1,24	0,21

Table 5.2 Paired Sample Test

		Paired differentiation					t	df	(bilateral) Sig.
		Media	Standard deviation	Standard error media	Interval of confidence in the differences at 95%				
					Inferior	Superior			
Pair 1	Post-test – Pre-test	1,73611	1,44660	,24110	1,24665	2,22557	7,201	35	,000

Source: Prepared by the authors

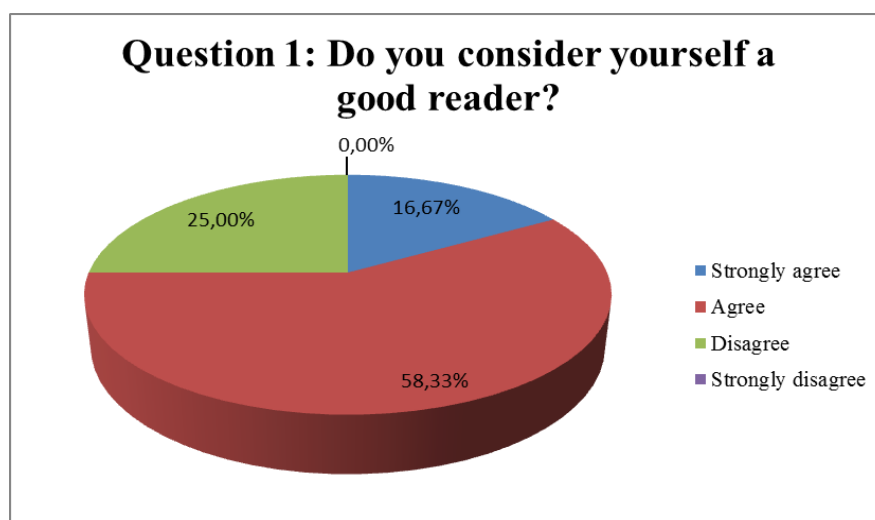
To relate student gains to class average gains, we applied the Hake’s gain factor which calculates data for students who took both the pre- and post-test. Hake’s gain demonstrates that in this study the class average gains were 50, 20%. The results are shown in Table 5.3 (See appendix G)

5.3 SUB RESEARCH QUESTION 1

5.3.1 Reading Survey Findings

A survey with ten questions was applied to get information about students’ opinions, experiences, and perceptions regarding the use of self-directed reading tasks. Some pie charts were used to present the findings illustratively.

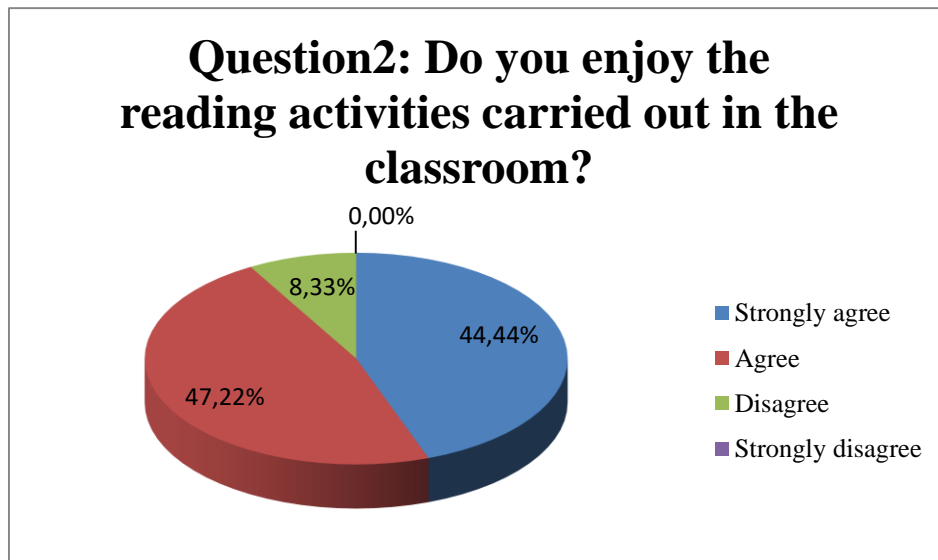
Figure 5.3 Question 1



Source: Prepared by the authors

Figure 5.3 shows that 16.67% of the students strongly agree that they are good readers; 58.33% of the students agree that they are good readers; 25% of the students disagree with the question. However, no one in the group strongly disagrees with the question.

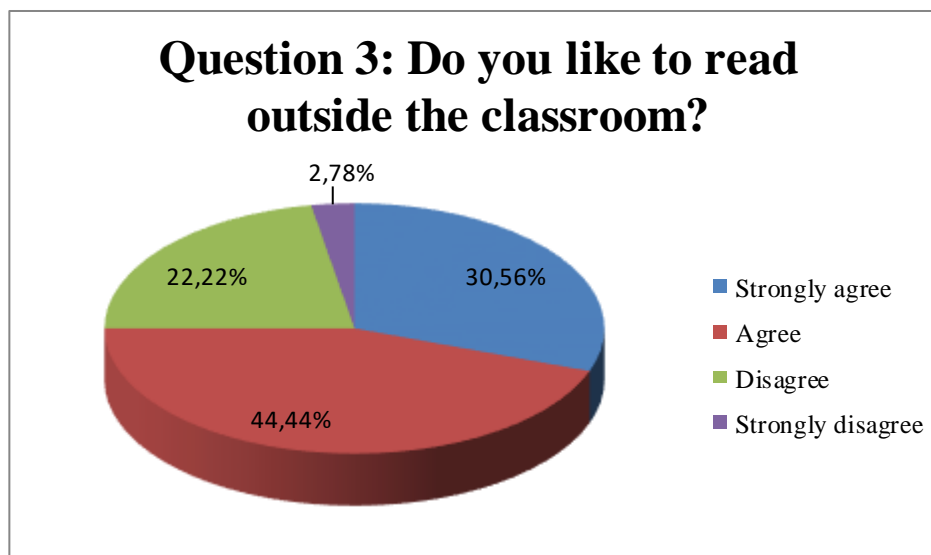
Figure 5.4 **Question 2**



Source: Prepared by the authors

Figure 5.4 shows that 44.44% of the students strongly agree that they enjoy reading activities carried out in class; 47.22% of the students agree that they enjoy reading activities carried out in class; 8.33% of the students disagree with the question, but no one disagrees or strongly disagrees with the question.

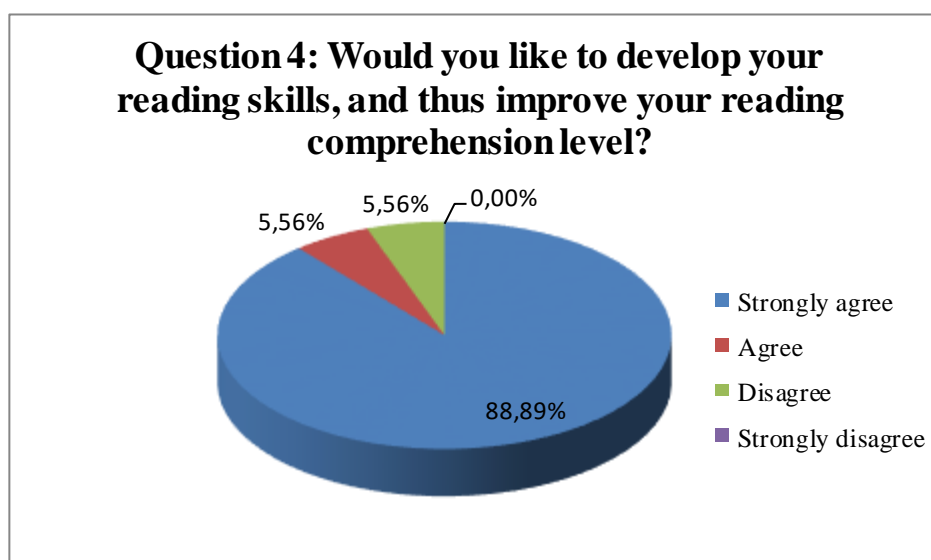
Figure 5.5 **Question 3**



Source: Prepared by the authors

Figure 5.5 shows that 44.44% of the students strongly agree that they would like to read outside the classroom; 30.56% of the students agree that they would like to read outside the classroom. However, 22.22% of the students disagree with the question, and only 2.78% of the students strongly disagree with the question.

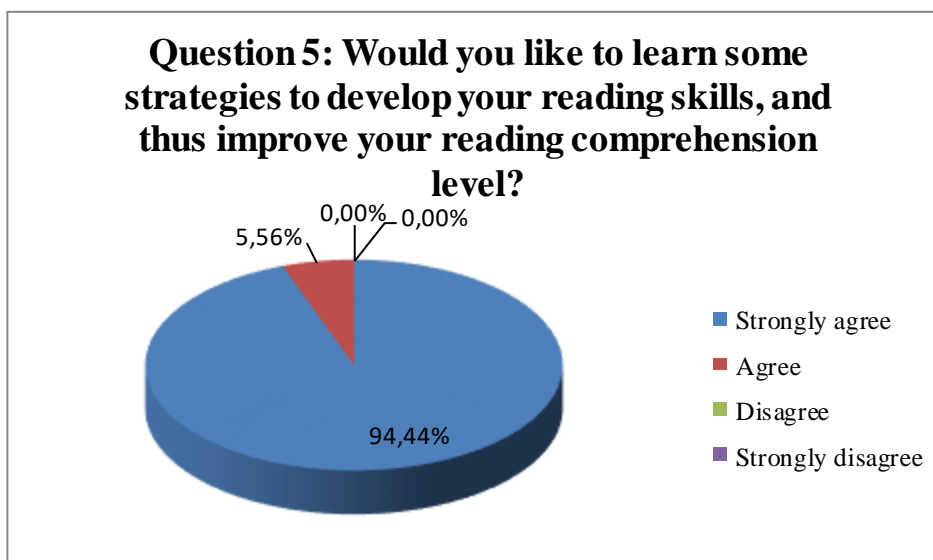
Figure 5.6 **Question 4**



Source: Prepared by the authors

Figure 5.6 shows that 88.89% of the students strongly agree that they would like to develop their reading skills; 5.56 % of them agree, while the same percentage disagrees with the question. However, no one in the group strongly disagrees with the question.

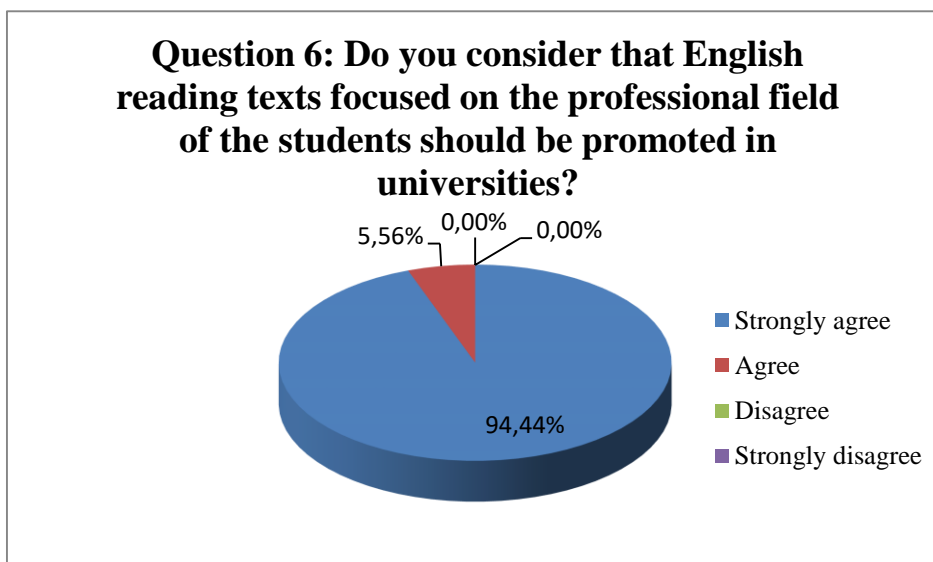
Figure 5.7 Question 5



Source: Prepared by the authors

Figure 5.7 shows that 94.44% of the students strongly agree that they would like to learn some strategies to develop their reading skills; 5.56 % of the students agree with the question, and no one disagrees or strongly disagrees with the issue.

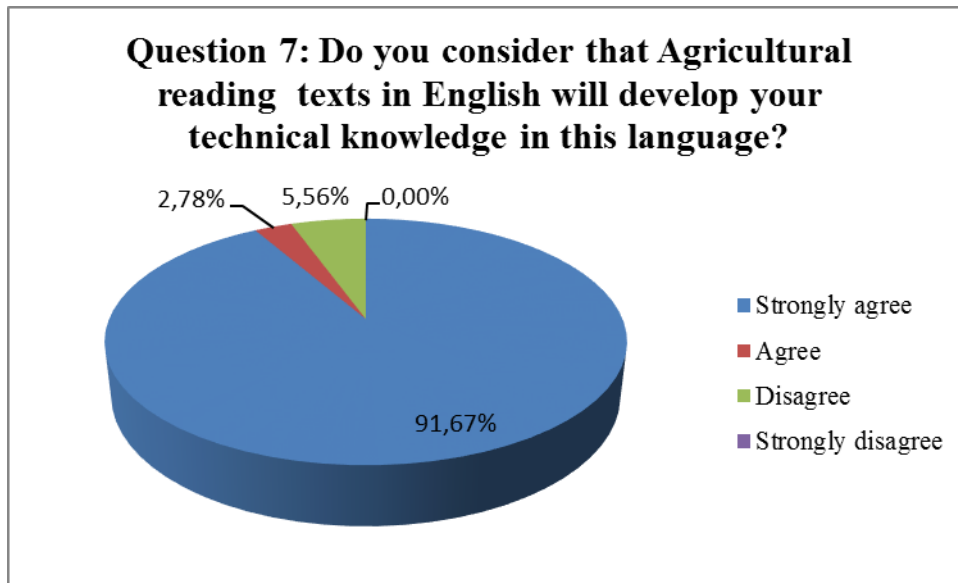
Figure 5.8 Question 6



Source: Prepared by the authors

Figure 5.8 shows that 94.44% of the students strongly agree that English reading texts focused on their professional field should be promoted in universities; 5.56 % of the students agree, and no one disagrees or strongly disagrees with the question.

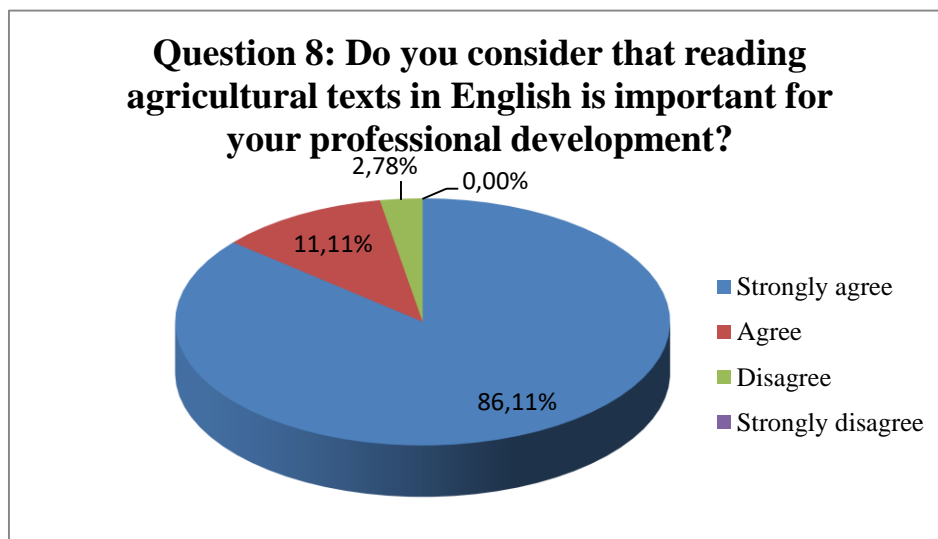
Figure 5.9 Question 7



Source: Prepared by the authors

Figure 5.9 shows that 91.67% of the students strongly agree that agricultural reading texts in English can help them develop their technical knowledge in this language; 2.78% of the students agree; and 5.56% of them disagree, but no one in the group strongly disagrees with the question.

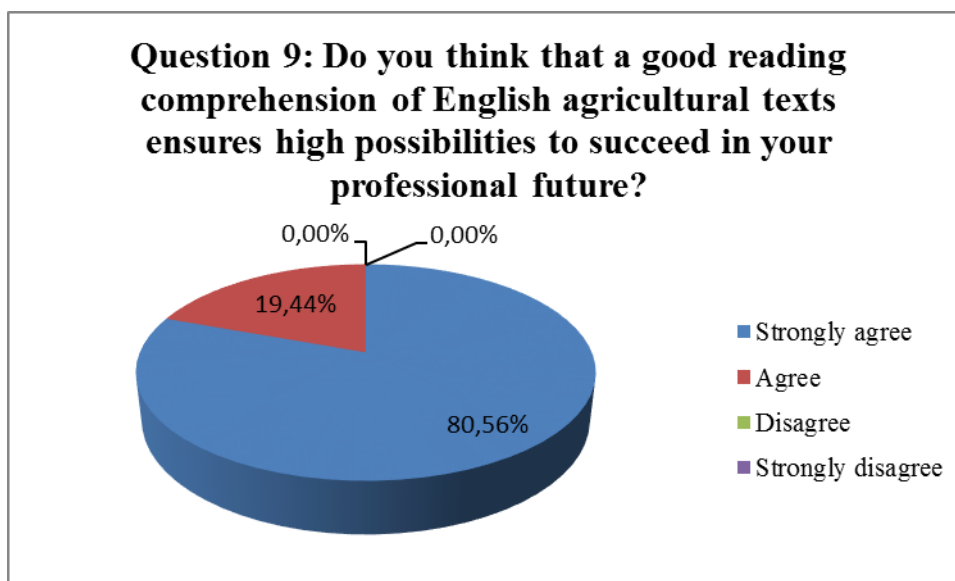
Figure 5.10 Question 8



Source: Prepared by the authors

Figure 5.10 shows that 86.11% of the students strongly agree that reading agricultural texts in English is essential for their professional development; 11.11% of them agree; 2.78% of them disagree, and no one strongly disagrees with the question.

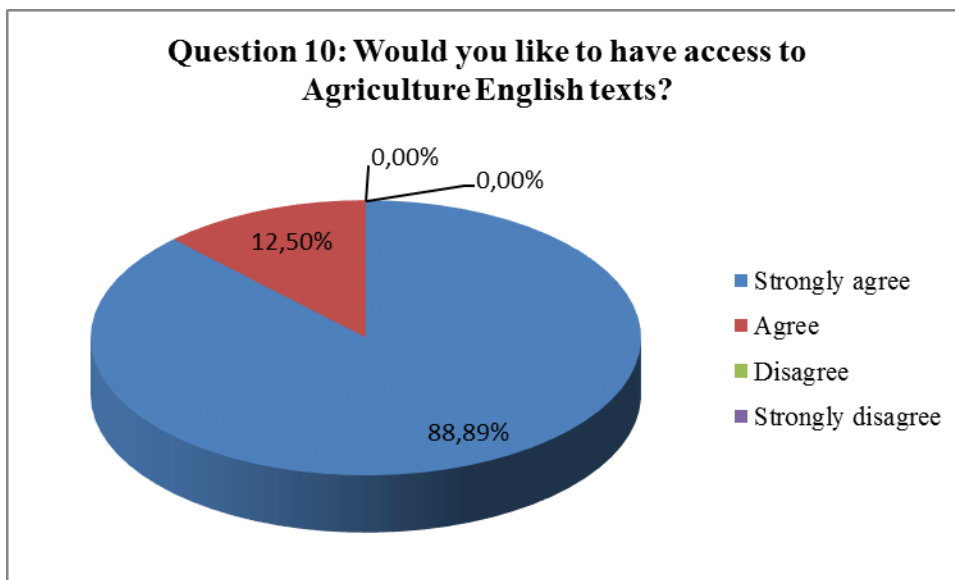
Figure 5.11 Question 9



Source: Prepared by the authors

Figure 5.11 shows that 80.56% of the students strongly agree that a good reading comprehension of English agricultural texts ensures great possibilities to succeed in their professional future; 19.44 % of the students agree with the question, and no one in the group disagrees or strongly disagrees with the question.

Figure 5.12 Question 10



Source: Prepared by the authors

Figure 5.12 shows that 88.89% of the students strongly agree that they would like to have access to agriculture English texts; 12.50 % of them agree with the question, and no one in the group disagrees or strongly disagrees.

5.3.2 Findings from the interview to the authorities and teachers

Both the authorities and teachers of the Institution emphasize the importance of making students develop their reading habits. As a matter of fact, according to one of the authorities “During students’ professional development, reading is essential part to comply with all the academic demands within their field of action” Besides that, all of the interviewees accepted to be highly concerned about the lack of independent reading in students. As it was stated by one of the teachers “Few students like reading, most of them

do not like practicing it, which is bad because this is an important habit that must be strengthened”

Authorities and teachers were also asked about the best ways to help students develop their reading comprehension within the field of agriculture, and they all agree that reading topics related to learners' professional field as well as the teaching of strategies to summarize texts usually lead to good results. Based on this, one authority expressed that “Teachers should promote more research focused on students’ field of education because it is vital for their professional growing”

Furthermore, the interviewees mentioned that it is also necessary to recognize that most of the agriculture literature has been written in advanced level vocabulary and idiom, which is so difficult for elementary students to comprehend. According to this fact, the dean of the faculty said that there are excellent agricultural books written in English, but unfortunately, students can not have access to them because of their elementary and limited technical lexicon.

Finally, all the people interviewed accepted that the use of technology would be substantial to improve reading comprehension since students are currently exposed to different technological tools and online resources. As one teacher mentioned: “the creation of platforms and other tools to have more dynamic and interactive classes would let learners develop not only their grammar knowledge, but besides their writing, speaking and of course, their reading skills”

5.4 SUB RESEARCH QUESTION 2

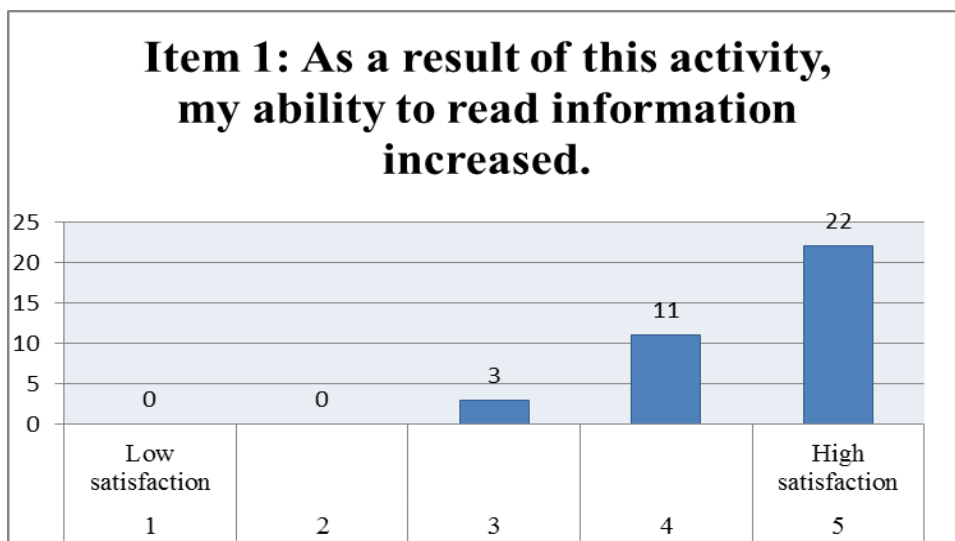
5.4.1 Findings from the satisfaction test

At the end of the study, the participants were asked to fill out a Likert Scale questionnaire to measure their level of satisfaction regarding the strategy applied during

one month to enhance their English reading comprehension in texts focused on agriculture.

The results were as follows:

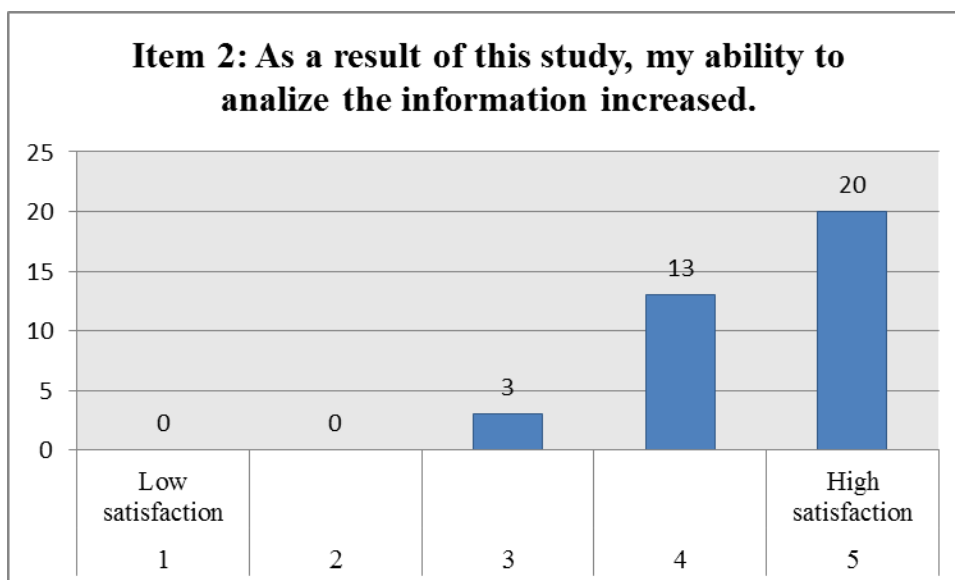
Figure 5.13 Item 1



Source: Prepared by the authors

Figure 5.13 shows that 22 out of 36 students are at scale 5, which means that most of the learners strongly consider that at the end of the study their ability to read information increased; 11 students are at range 4; and 3 students are placed at scale 3.

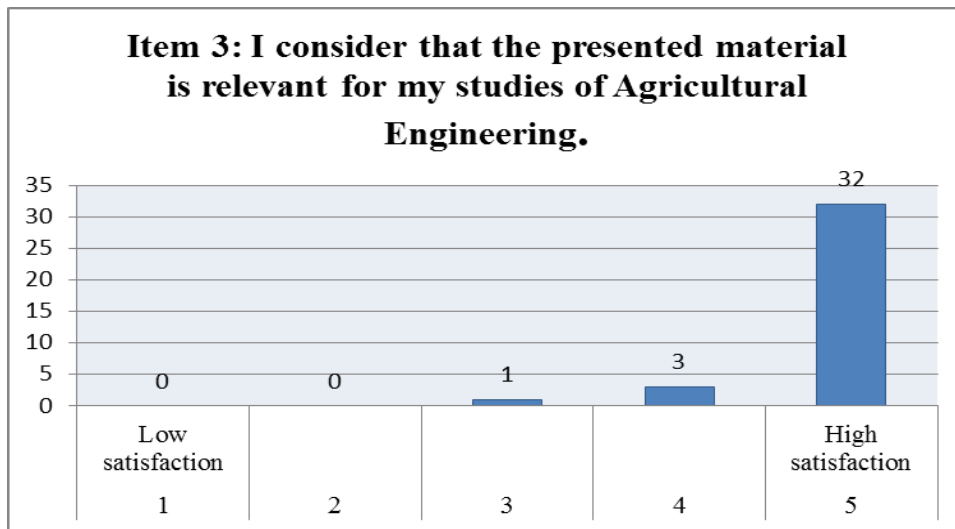
Figure 5.14 Item 2



Source: Prepared by the authors

Figure 5.14 shows that 20 out of 36 students are at scale 5, which means that most of the students strongly consider that at the end of the study their ability to analyze information increased; 13 students are at range 4; and 3 students place at range 3.

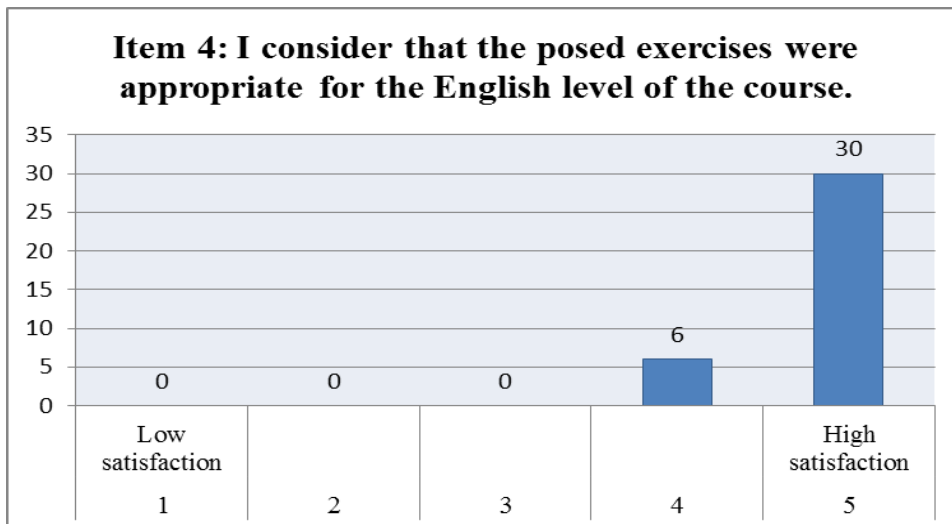
Figure 5.15 Item 3



Source: Prepared by the authors

Figure 5.15 shows that 32 out of 36 students are at scale 5 which means that most of them consider that the presented material was relevant for their agriculture studies; 3 students are at range 4; and only 1 student was placed at scale 3.

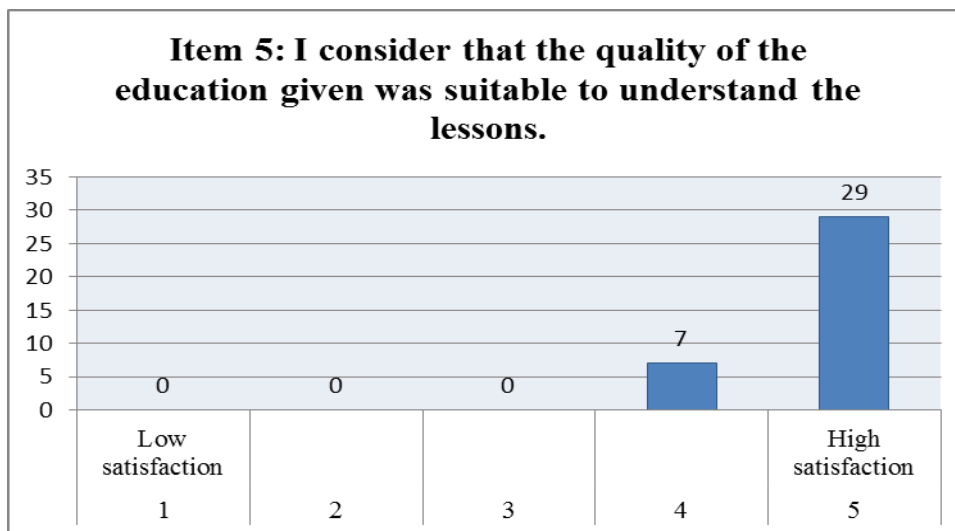
Figure 5.16 Item 4



Source: Prepared by the authors

Figure 5.16 shows that 30 out of 36 students are at scale 5, which means that the majority of them consider that the posed exercises were appropriate for their English level. Only 6 students are placed at scale 4.

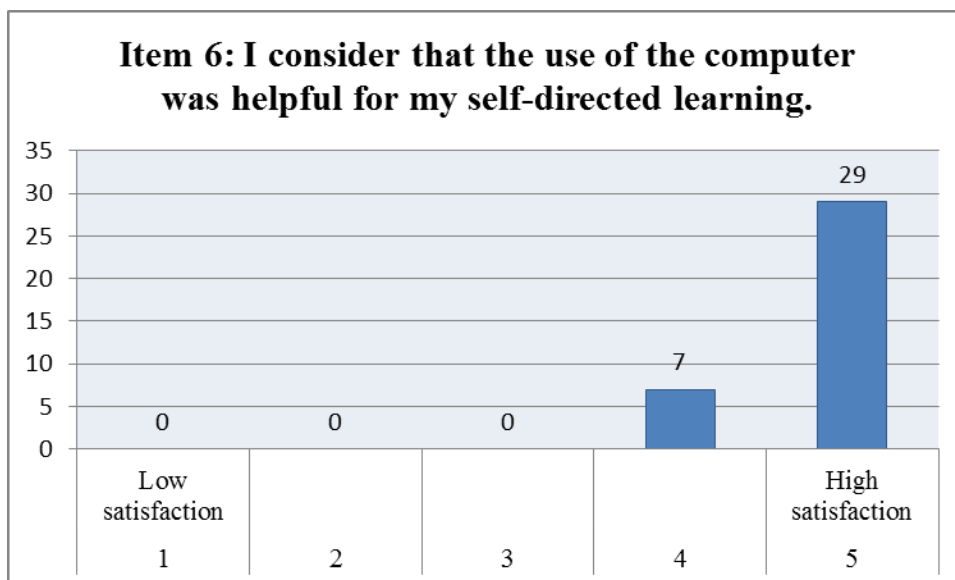
Figure 5.17 Item 5



Source: Prepared by the authors

Figure 5.17 shows that 29 out of 36 students are at scale 5, which means that most of the participants consider that the quality of the education provided the process was suitable to understand the lessons; while only 7 students are at range 4.

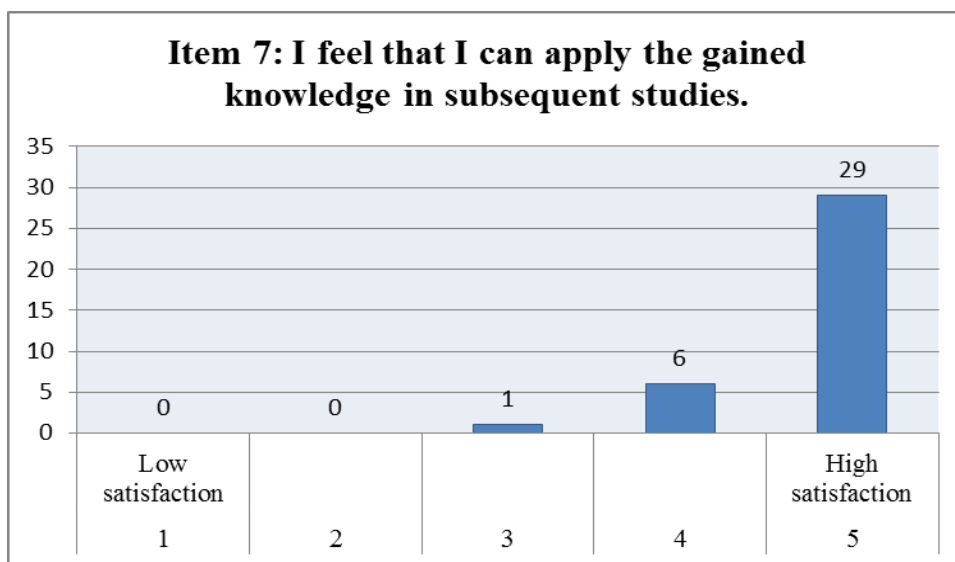
Figure 5.18 Item 6



Source: Prepared by the authors

Figure 5.18 shows that 29 out of 36 students are at scale 5, which means that all these participants consider that the use of the computer was helpful for their self-directed learning; while only 7 students are at scale 4.

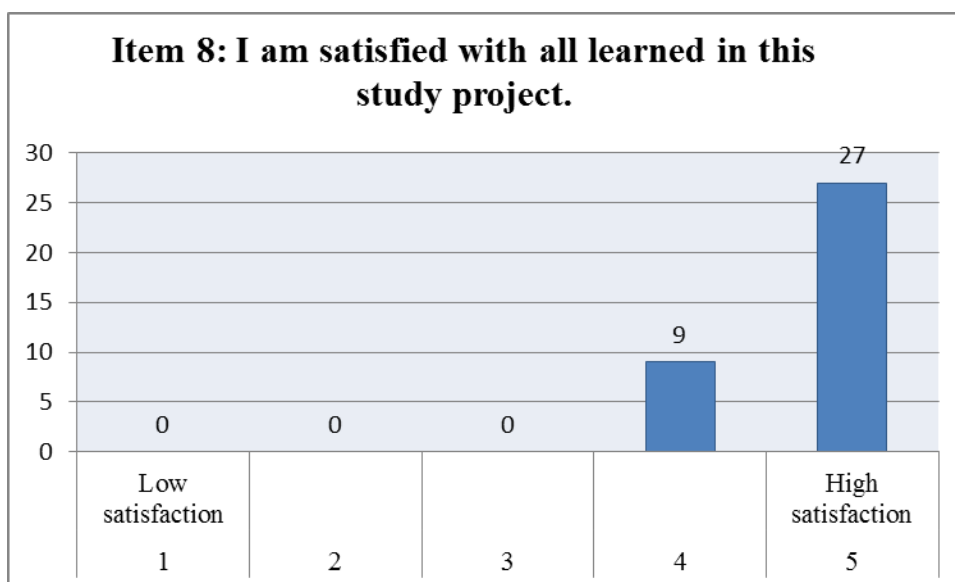
Figure 5.19 Item 7



Source: Prepared by the authors

Figure 5.19 shows that 29 out of 36 students are at scale 5, which means that most of the participants feel that they can apply the gained knowledge in subsequent studies; while 6 students are at scale 4 scale, and only 1 student is at scale 3.

Figure 5.20 Item 8



Source: Prepared by the authors

Figure 5.20 shows that 27 out of 36 students are at scale 5, which means that the majority of them are satisfied with all they have learned in this study; while only 9 students are placed at scale 4.

CHAPTER 6

6.1 INTRODUCTION

The main aim of chapter six is to conduct a discussion of the findings presented in chapter five which resulted from this study that lasted approximately one month. Relevant data collected from the surveys, pre- tests, post-tests, and satisfaction questionnaire applied to the participants will be analyzed deeply in this chapter. Also, the interview with the authorities and teachers of the institution regarding the effects of self-directed reading tasks in an A2 ESP course at the agriculture school of an Ecuadorian higher education institution will be analyzed in detail to support literature review of chapter three, and meet the research questions posed in the thesis proposal of the present study. .

6.2 RESEARCH QUESTION

6.2.1 Findings from the pre-test and post-test

As it was mentioned, the participants were required to take a pre-test at the beginning of the study to measure their English reading comprehension within the field of agriculture, and hence see if they were familiarized or not with agriculture terms. Similarly, the participants were required again to take the same test at the end of the study to measure their English reading comprehension progress, and thus determine to what extent the application of self-directed reading tasks can help them enhance their English reading comprehension with agriculture texts. The results are shown in Table 5.3 of chapter five as follows:

Table 5.1 Statistical data of pre-test and post-test

STATISTIC PAIRED SAMPLE					
		N	MEDIA	STANDARD DEVIATION	MEDIA STANDARD ERROR
PAIR 1	PRE-TEST	36	6,54	1,38	0,23
	POST-TEST	36	8,28	1,24	0,21

As it can be observed, the results obtained in the pre-test show a Media of 6.54 and a standard deviation of 1.38 of data, while the media of the post-test is 8.28 with a standard deviation of 1.24 of data. These results show a difference of 1.74 between both Medias, which means that there was a significant progress in the reading comprehension of most of the participants due to the use of self-directed reading tasks.

Moreover, it was statistically determined a significant result of $0.00 < 0.05$ obtained in the paired T-test, which means that the study is feasible, and hence there is a marked difference in the effectiveness of reading comprehension resulting from the use of self-directed reading tasks.

Another important point to take into account is the drop-off in the standard media error from 0.23 (pre-test) to 0.21 (post-test). It is necessary to point out that the comparison of both results was made by applying the statistical T-test with SPSS statistical software. Based on this information, it is clearly demonstrated that the reading comprehension of most of the participants was improved to a significant extent at the end of this self-directing learning process, and thus the application of self-directed reading tasks had a positive effect on this group of ESP learners.

Furthermore, these results support previous literature data cited and discussed in chapter three about the relevance of selecting reading activities from proper and reliable sources, as well as the adaptation of them accordingly to the needs, profiles, interests and English level of the learners; but besides, during this process the students were provided with a technical glossary uploaded to the platform, as an aid to help them enhance their English reading comprehension within the field of agriculture. Lesiak (2015) states that the selection and elaboration of suited activities are essential to encourage students to practice reading.

6.3 SUB-RESEARCH QUESTION 1

6.3.1 Findings from surveys

Ten questions were applied to the participants to know their preferences, opinions and perceptions regarding the importance of reading for their professional lives as well as the role of reading tasks in the enhancement of reading comprehension. The questions were as follows:

6.3.1.1 Do you consider yourself a good reader?

16.67% of the students strongly agree that they are good readers, which means that a minority of them feel confident about their reading habits and abilities. The majority of the participants (58.33%) consider that they know how to read, but they need to improve their reading skills and strategies. On the other hand, 25% of them disagree with the question, which means that reading is not a habit for them due to different constraints that maybe have not let them develop their reading abilities. Watson (2015) states that reading is not put in practice by learners due to several factors such as tiredness, the lack of time, limited access to suitable texts, boredom among others. Finally, nobody strongly disagrees with the question, which means that most of them feel capable enough to cope with reading activities if they are required to.

6.3.1.2 Do you enjoy the reading activities carried out in the classroom?

A significant number of the students (44.44% and 47.22%) believe that reading activities in class are fun; but 8.33% of the students disagree with the question, which means that they do not find reading enjoyable. Thus, this small group of learners do not like the way how reading has been conducted in the classroom up to now. Finally, no one strongly disagrees with the question, which means that no one totally refuses these reading activities.

In conclusion, most of the learners feel attracted by the reading activities applied in the classroom, which is positive because this motivation will be a key point to help them improve their reading comprehension skills. Lin, Wong, and Chang (2012) argue that intrinsic motivation makes learners increase their commitment and self-determination to practice reading, and hence improve their reading comprehension.

6.3.1.3 Do you like to read outside the classroom?

About half of the group (44.44%) like reading outside the classroom, while 30.56% of them show a common interest in developing their reading skills independently. Both cases are positive because they support the central principle of self-directed learning, which is the autonomy to build their own learning path and make decisions by themselves. According to Jossberger, et al. (2010) the students' insights to create free and active learning chances will be crucial to determine their way of learning.

Finally, 22.22% of the students disagree, and 2.78% of them strongly disagree with the question, which means that a quarter of the group apparently feel reluctant to practice this language skill in an independent way, so they just prefer the traditional way of learning in a normal classroom with a teacher guiding them all the time.

6.3.1.4 Would you like to develop your reading skills, and thus improve your reading comprehension level?

The replies to this question were mostly positive, 88.89% of the participants strongly agree, while 5.56% of them agree with the fact that they are aware of the benefits of developing their reading skills to enhance their reading comprehension at the time of reading agricultural texts.

Developing reading skills is essential for learners' professional growing because of the vast amount of literature in English which is needed for any research work. Also,

this positive mindset of the participants was confirmed by the fact that only 5.56% of the participants disagree and no one in the group strongly disagrees with the question.

6.3.1.5 Would you like to learn some strategies to develop your reading skills, and thus develop your English comprehension?

The majority of the participants (94.44%) strongly agree, while 5.56 % of them agree that they would like to learn and apply some reading strategies to become good readers. Furthermore, current learners are conscious of the need to improve their reading comprehension when reading agriculture texts, since it will help them to broaden their knowledge within their field of action.

To support this idea Aghaie & Zhang (2012) believe that students need to learn reading strategies to improve their reading comprehension abilities. Finally, no one disagrees or strongly disagrees with the question, which confirms the learners' positive perceptions about it.

6.3.1.6 Do you consider that English reading texts focused on the professional field of the students should be promoted in universities?

The majority of the participants strongly agree (94.44%), and the rest of them (5.56%) just agree on the fact that English reading texts focused on their professional field should be promoted in universities. On the other hand, nobody disagrees or strongly disagrees with the question. The positive answers to this question support the main aim of all the research questions of the study, which is to promote the teaching of agricultural English in the agriculture school of a higher education institution by using reading as the tool to carry out this process due to the diversity of benefits that the mastery of agriculture issues can offer to this ESP group of learners.

According to Akridge (2004); Onianwa, Wheelock, Mojica, and Singh (2005); Norwood and Henneberry (2006); Briggeman, Henneberry, and Norwood (2007) (as cited

in Artz and Orazem, 2011) the development of English communicative abilities within the field of agriculture is a determinant factor to get better work opportunities. Based on the fact of having better professional expectations in the future, all the participants believe that agriculture English and the reading of English texts related to this field should be promoted in universities.

6.3.1.7 Do you consider that agricultural reading texts in English will develop your technical knowledge in this language?

Most participants (91.67%) strongly agree, while 2.78% of them agree that the use of agricultural reading texts in English will develop their technical knowledge in this language. Apparently, most learners know that the promotion of this subject at the university will provide them with technical knowledge and professional abilities to face this globalized and competent world. A low percentage of the participants (5.56%) disagree with the question, but no one strongly disagrees with it.

6.3.1.8 Do you consider that reading agricultural texts in English is important for your professional development?

According to the answers, 86.11% of the participants strongly agree, and 11.11% of them agree with this question. It means that the majority of learners believe that the application of English texts and reading activities related to agriculture enhance their reading comprehension within this field, and hence this will contribute to their professional development, especially for research purposes. Arias (2014) mentions that reading is one of the most important activities that motivate students to search and find essential data related to their profession. Only 2.78% of learners disagree with the question.

6.3.1.9 Do you think that a good reading comprehension of Agriculture English texts ensures high possibilities to succeed in your professional future?

80.56% of the participants strongly agree with the question, while 19.44% of them agree that a good reading comprehension of agriculture texts in English will allow them to find better professional opportunities, since the mastery of a second or foreign language is one of the demands of every current professional. Therefore, the combination of such an important science as agriculture and one of the most spoken languages all over the world like English will help learners to succeed in all the areas of agriculture such as agribusiness, treatments dosage, management, fertilization, marketing among others where reading plays an important role .

Haggblade, Chapoto, Drame, Hendriks, S. L, Kabwe, Minde and Terblanche (2015) state that the marketing of the different types of agriculture goods and services is the clue for higher work opportunities all over the world. Agriculture is the future of the world, and thus the learning of agriculture English, as well as the promotion agriculture texts, is highly significant to succeed in this professional field.

6.3.1.10 Would you like to have access to Agriculture English texts?

88.89 % of the participants strongly agree, and 12.50 % of them agree that they would like to have access to agriculture English texts because they feel the need to be more involved in this field. Unfortunately, the facilities to get suitable agriculture reading books according to the learners' needs, English level, and interests are very limited, and hence their motivation for reading drops sharply.

No one in the group disagrees or strongly disagrees with the question, which means that the design of self-directed reading tasks according to the learners' profiles, needs and interests is vital to meet this deficiency. Once again, it could be said that the positive answers of the pupils in this question openly support another important goal of all the research questions set at the beginning of the study, which is the promotion of well-designed reading tasks especially adapted to the real situation of the students.

Based on these answers, it can be said that most learners' perceptions about the effects of self-directed reading tasks on the improvement of their reading comprehension skills is highly positive. However, there is a small group of learners who did not see any change or just a slight improvement of their reading comprehension at the end of this self-directed learning process, which is normal because dissatisfaction is part of every research study.

6.3.2 Findings from the interview to the authorities and teachers

Undoubtedly, every research study must be socialized and shared with the authorities and staff of the institution where it is being carried out because their opinions and experiences are vital to collect the information required. Therefore, the dean, vice-dean, and the coordinator of the major as well as three teachers were interviewed about the importance of promoting agriculture English in the institution, and their perceptions about the effects of self-directed reading tasks in the reading comprehension of an A2 ESP group of learners.

The six interviewees mentioned the following aspects:

Both the authorities and teachers of the Institution emphasize the importance of making students develop their reading skills because reading is an essential element to comply with current academic and professional demands. Qi, G. Y. (2016) states that the personal and professional benefits resulting from the habit of reading make it one of the most outstanding abilities to be developed. Therefore, authorities and teachers are really concerned about the low motivation of some learners to read whether in the classroom or outside of the institution due to their lack of reading habits. One of the teachers mentioned that "Most of the students do not like practicing reading, which is bad because this is an important habit that must be strengthened"

It is believed that the lack of reading habits is one of the reasons why some students cannot develop their reading comprehension skills, and therefore it is necessary to encourage learners to start adopting reading habits as part of their everyday lives. Moreover, all the interviewees agreed on the fact that the lack of autonomous reading in university learners is a serious constraint at the time of conducting any research work focused on their profession, since most of the relevant agriculture literature has been written in English.

Hence, the need to motivate students to practice this essential activity is unavoidable because the development of the students' comprehension skills is precisely one of the major objectives of this research work. According to Sherri L. Horner and Craig S. Shwery (2002), most young people do not feel high motivation for reading.

Authorities and teachers also agreed on the fact that it is necessary to teach learners reading strategies to facilitate reading comprehension, and thus prepare them for addressing reading activities focused on general or specific English. Nosratinia and Shakeri (2010), state that the success of the learners in reading comprehension is guaranteed by the reading strategies applied during the process.

Another relevant point taken into account by authorities and teachers of the institution is the need to promote the reading of English texts focused on agriculture due to the several benefits that the mastering of technical terms and definitions in a foreign language can imply for them during their professional growing.

In addition, all the staff of the institution believes that the use of modern technologies such as platforms, websites, web blogs, and other digital resources can be useful to improve the reading comprehension of the learners due to the interaction and dynamism that all these online resources imply during the self-directed learning process. In agreement with Zidat and Djoudi (2011) the selection of appropriate online tools is

essential to improve students' reading comprehension. According to this fact, the coordinator of the major mentioned that "the creation of platforms and other technology tools would help learners develop not only their grammar knowledge, but besides their writing, speaking and of course, their reading skills in a more dynamic and interactive way"

Based on the answers of the teachers and authorities of the institution, it can be said that the perceptions of them about the relevance of the present study is rather high, and thus they all believe that the use of self-directed reading tasks could be a good option to enhance the learners' reading comprehension in texts focused on their professional field as the case of agriculture.

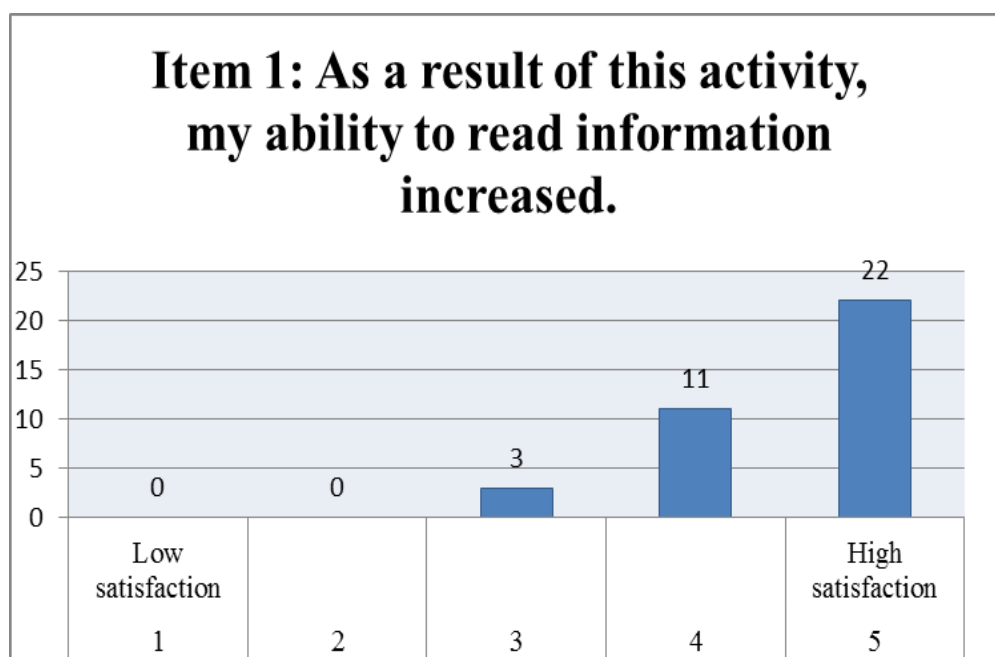
6.4 SUB-RESEARCH QUESTION 2

6.4.1 Findings from the satisfaction test

At the end of the study, the 36 participants were required to answer a satisfaction test of eight questions by using the Likert-Scale rating format with five hierarchical levels (scale from 1 to 5). The primary purpose of this test was to measure the learners' standard of satisfaction, reactions, experiences, and opinions about the effects of self-directed reading tasks in the enhancement of their reading comprehension in texts focused on agriculture. As part of this analysis, the results were divided into two groups of 4 questions each:

The first group is comprised of questions 1, 2, 3 and 7, which were similarly responded in a descending way within levels 5, 4, and 3 according to the Likert Scale. To better understand this situation, the first question will be analyzed in detail by using figure 5.15 of chapter five as a reference.

Figure 5.13



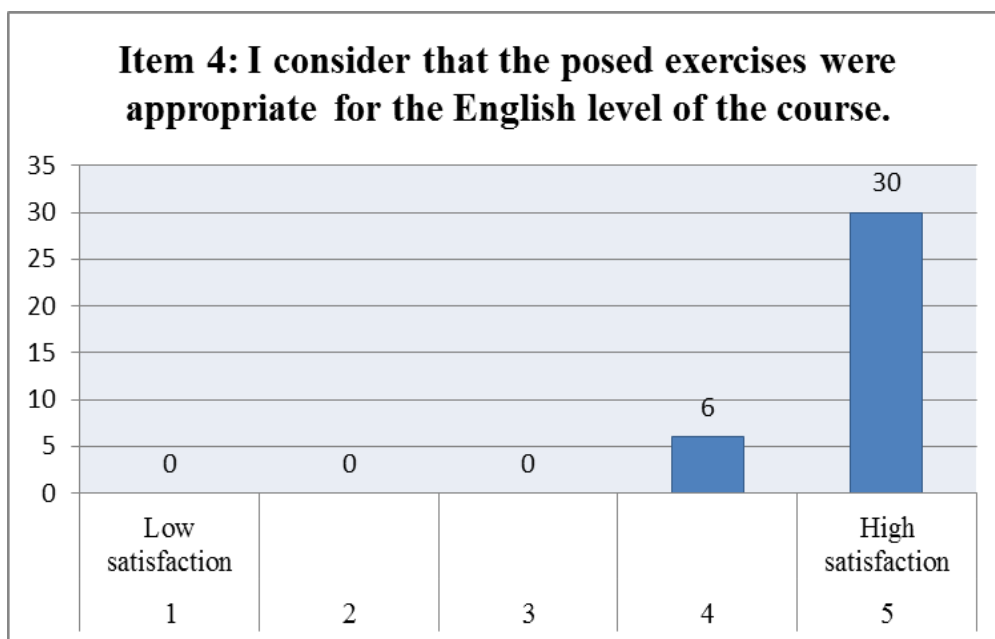
As can be seen, the responses to this first question presented in figure 5.13 of chapter five were mostly positive with 22 out of 36 participants placed at scale 5. It means that most of the learners deem having improved their abilities to read English texts at the end of the process. 11 participants were placed at scale 4, which means that they deem having developed the capacity to read information significantly; and a minority of them (3 participants) were placed at scale 3, which means that they consider having moderately improved their abilities to read information.

As it was mentioned above, similar responses to question 1 were obtained in questions 2, 3 and 7 in the satisfaction test, with level 5 as the highest option selected by the participants and level 3 as the least popular among them. It means that most of the participants agree that the reading strategies applied during the course of the study as well as the use of self-directed reading tasks are helpful to increase their abilities to analyze

information, are relevant for their studies of agriculture engineering, and will be useful to be applied in subsequent studies.

The second group is comprised of the remaining four questions (4, 5, 6 and 8) which were responded similarly in a descending way within levels 5 and 4 according to the Likert-Scale. To better understand this situation, question 4 will be analyzed in detail by using figure 5.18 of chapter five as a reference:

Figure 5.16



As can be noted from figure 5.16 in chapter five, the responses to question 4 were mostly positive with 30 out of 36 participants placed at scale 5. It means that most of them consider that the exercises applied in the study were highly appropriate for the English level of the course. Only 6 participants were placed at scale 4, which means that this minority of learners consider that the exercises applied in the study were significantly appropriate for the English level of the course.

The responses obtained in questions 5, 6 and 8 were similar to the ones of question 4, with level 5 as the highest option and level 4 as the second alternative of five

levels according to the Likert Scale rating format, which means that most participants highly agree on three more points: 1. The quality of education given during the study was suitable to understand the lessons 2. The use of technology was helpful for their self-directed learning, and 3. They feel satisfied with all they have learned over the course.

Thus, after analyzing the satisfaction test findings, it can be said that most of the participants feel satisfied with the effects caused by the use of self-directed reading tasks on their reading comprehension improvement in the context of agriculture, which has been ratified by their progress obtained in the post-test. On the other hand, no one can deny that conventional teaching-learning process is also effective, and indeed some students feel more comfortable and encouraged to learn with a teacher monitoring their performance all the time in real classrooms.

However, it has been demonstrated that most of the participants felt motivated to learn and practice reading independently with the help of the technology, as well as some tips, reading strategies and other instructions provided by their teachers during some especially arranged sessions to facilitate and reinforce this self-directed learning process. In addition, this independent way of learning proposed by both researchers, seems to be the solution for the few hours allocated to learn this foreign language according to the curriculum, which are not enough to cover all the contents of the program.

Based on these findings, it can be said that the level of satisfaction of most of the participants at the end of the study is high, and hence they feel optimistic and confident enough to keep practicing technical English in spite of their elementary proficiency level of the language (A2). Therefore, considering the fact that the majority of the participants feel motivated with their progress obtained at the end of this self-directed learning process in terms of reading comprehension, it is certainly possible to proposed more future ESP courses at the Agricultural Sciences School of this Higher Education Institution.

6.5 CONCLUSION

After a deep analysis of all the findings carried out in this chapter, it might be said that all the research questions posed at the beginning of the present study have been clearly discussed and met.

It has been shown to what extent the use of self-directed reading tasks has enhanced reading comprehension in this group of ESP learners, and how this self-directed learning process has been empowered by the use of technological tools, the teaching of reading strategies, motivation, and others factors.

It has been also mentioned the importance of adapting all these reading materials and activities to the real English level of the learners, and thereby make them easier to be comprehended.

CHAPTER 7

CONCLUSION

In this section, we present the general conclusions, the limitations, future directions and further areas for research, based on the findings of the study.

7.1 GENERAL CONCLUSIONS

The present study makes a significant contribution regarding the use of self-directed reading tasks to promote reading comprehension in an A2 ESP course at the Agriculture School of an Ecuadorian Higher Education Institution. Based on the findings of this research work, we conclude that when the students are exposed to read English texts related to their professional field, they feel more comfortable and motivated to practice reading.

Self-directed learning enhanced reading comprehension in students especially with the use of online resources and selected reading tasks designed according to the learners' profiles and needs. Students remained fully engaged in the readings and got a significant improvement by doing this kind of activities as was shown using Hake's gain factor.

Authorities, teachers, and students of the institution perceived the effects of self-directed reading tasks on reading comprehension as something that promotes the students' personal and professional growth. While working on the readings, the learners felt more comfortable and confident during the English classes, they got quickly involved in the reading lessons, and the teachers could get better results due to their students' active participation.

There is certainly a difference in the effectiveness of reading comprehension resulting from the use of self-directed reading tasks, which was supported by the findings

obtained in the pre and post-test results. Consequently, we conclude that it is possible to propose ESP courses with A2 students at the Agricultural School of the Higher Education Institution where the study was carried out.

7.2 LIMITATIONS OF THE STUDY.

Most of the students came from different public high schools, which means that some of them did not have the appropriate English level (at least B1) to be part of this ESP project. Therefore, it was decided to work with A2 instead of B1 students who would have been the most appropriate for this kind of study. However, the students of this faculty need to learn technical English due to the curriculum of the major demands.

Besides, some students did not properly work the sixteen reading activities uploaded to the platform because of their lack of commitment to work independently during this self-directed learning process. As a result, some of them got almost the same score in the pre and post -test. However, most of the students got better results at the end of the study due to their personal commitment, which means that the project is reliable and feasible.

Finally, another limitation of this study was the lack of a control group, which would have been useful to compare the students' performance. Finally, the students were not randomly selected for this pedagogical intervention, but rather it was decided to work with an intact group.

7.3 FUTURE DIRECTIONS AND FURTHER AREAS FOR RESEARCH.

The present research study has been so helpful to prove that the teaching of ESP can be carried out even with students of moderate English proficiency level (A2) as the case of the learners of the fifth semester of this institution. However, there are many more aspects that are needed to be discussed for the implementation of future ESP courses whether at this or other faculties.

For further studies, it could be necessary to work with an experimental and a control group of students, and thus the selection of the participants can be made at random to get more reliable results.

There is also important to include other variables such as motivation and metacognition to explore another research fields. Finally, this kind of study could be carried out by presenting the content and using different sources such as paper readings, videos, power point presentations, among others to see which one is more effective.

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APPENDICES

Appendix A

Nombre de la institución:

Fecha:

Nombre del participante:

INFORMED CONSENT FORM

Título del estudio: Effects of Self-Directed Reading Tasks in an A2 ESP Course at the Agriculture School of an Ecuadorian Higher Education Institution.

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1. Yo testifico haber leído, analizado y comprendido toda la información detallada en este Informed Consent Form, así como también haber aceptado de manera voluntaria todas las condiciones sobre las cuales se desarrollará el siguiente estudio de investigación. Yo debo mencionar además que todas mis preguntas y dudas sobre el desarrollo del proyecto en ejecución han sido satisfactoriamente contestadas y aclaradas por los investigadores.
2. Me ha quedado claro el hecho de que formar parte de este estudio de investigación es totalmente voluntario y por lo tanto yo soy libre de renunciar en el momento que yo desee sin necesidad de ofrecer ningún tipo de razón o explicación por mi decisión.
3. Yo soy consciente de que toda la información obtenida durante la ejecución de este proyecto será analizada por los investigadores y autoridades de mi institución para ser utilizada acorde a sus intereses investigativos, motivo por el cual yo les concedo el permiso de acceder a mis registros y records académicos personales.

4. Yo estoy de acuerdo en el hecho de no recibir ninguna gratificación de tipo económico o académico por mi participación en este estudio
5. Yo entiendo que mi identidad se mantendrá completamente confidencial y mi nombre no será revelado sin mi consentimiento personal.
6. Yo estoy de acuerdo en participar en el estudio mencionado.

_____	_____	_____
Nombre del participante	Fecha	Firma
_____	_____	_____
Nombre del investigador	Fecha	Firma
_____	_____	_____
Nombre del investigador	Fecha	Firma

Appendix B

READING ATTITUDE SURVEY

Prepared by: Oswaldo García B. Ana María Cruz Q.

Course: _____ Date: _____, 2017

Objective: The objective of this survey is to know the students' opinions, experiences and abilities in Reading.

Instructions: Circle the answer that most closely matches your opinion of each question. Remember there are not "Right" or "Wrong" answers.

1. I strongly agree. 2. I agree 3. I agree a little 4. I do not agree

1	Are you a good reader?	1	2	3	4
2	Do you read frequently at home?	1	2	3	4
3	Do you enjoy the reading activities done in class?	1	2	3	4
4	Do you like reading out of the class?	1	2	3	4
5	Would you like to improve your reading comprehension skill?	1	2	3	4
6	Would you like to learn some strategies to improve your reading comprehension skill	1	2	3	4
7	Do you consider that reading agriculture texts will improve your English level?	1	2	3	4
8	Do you consider that reading agriculture texts will be important for your professional development?	1	2	3	4
9	Do you think that a good reading comprehension of agriculture texts will ensure higher probabilities to succeed in your future profession?	1	2	3	4
10	Would you like to have access to English reading texts based on agriculture?	1	2	3	4

Thank you for completing this survey.

Appendix C

ENTREVISTAS

Prepared by: Oswaldo García B. & Ana María Cruz Q. Date: _____ 2017

Objetivo: El objetivo de esta entrevista es conocer su opinión sobre la lectura auto dirigida como estrategia para que los estudiantes mejoren su nivel de inglés.

Instrucciones: Lea y responda las siguientes preguntas.

Condición del entrevistado		Género del entrevistado	
Directivo		Femenino	
Docente		Masculino	

1. Considera usted importante desarrollar hábitos de lectura en los estudiantes? _____. ¿Por qué?

2. Cree usted que a los estudiantes les gusta leer de manera autónoma? _____. ¿Por qué?

3. ¿Según su criterio cuales serían las mejores estrategias que ayuden a desarrollar la comprensión lectora en los estudiantes?

4. ¿Cree usted que promover en los estudiantes la lectura de textos en inglés relacionados a la agricultura sería importante para su desarrollo profesional? _____, ¿Por qué?

5. ¿Según su criterio que pueden hacer los docentes de inglés para mejorar el nivel de comprensión lectora de los estudiantes dentro de su campo profesional como en el caso de la agricultura?

Gracias por sus respuestas.

Appendix D

READING PRE- TEST

STUDENT'S NAME: _____

COURSE: _____ DATE: _____

SCORE

10

Instructions: Read the texts and choose the correct answer for each question. (0.5 points each answer)

TEXT 1

ATMOSPHERE VS TEMPERATURE

The Earth's **atmosphere** is the area between the Earth's surface and the edge of space. It acts as a thin blanket between the sun and the Earth. The heat from the sun has an effect on the temperature of the air. The heat from the sun is transmitted through the atmosphere and the Earth's surface becomes heated. The sun warms the Earth throughout the year but at different temperatures due to several variables. The air temperature of an area, cold or hot depends on the angle at which the Earth is inclined, and will affect the amount of heat an area of the Earth receives. **Air temperature** is the measure of how hot or cold the air is and can be measured by using a **thermometer**. The hottest area of the Earth is near the equator. The **equator** is an imaginary line forming a great circle around the Earth's surface separating the Earth into the Northern and Southern hemispheres. The equator is the hottest area because the sun's path is directly above the Earth in that location. Unlike the equator, the north and south poles are the coldest places on the Earth because the sun is at a low angle in that area. Even though the sun is closer to Earth's surface in that area, the sun's rays are much weaker. There is not a direct path like at the equator.

Another variable affecting the temperature of the air is called insolation. The angle of insolation is the angle at which sunlight strikes the Earth's surface. **Insolation** is short for incoming solar radiation, which is the amount of the Sun's energy that reaches Earth at a given place and time. Sunlight warms the Earth in summer and winter. The amount of heat depends on the angle of insolation. The greater the angle, the warmer it gets. Since the angle is always less at the poles, it is colder in those areas. Because of the inclination of the Earth, if it is freezing in one part of the world, it is hot in another part. The time of day also has an effect on the temperature of the air. In the morning the sun is close to the horizon, and at mid-day the sun is higher up in the sky. After mid-day the sun is again lower in the sky. These changes due to the inclination of the Earth, is the reason it is warmer during the mid-day and cooler in the mornings and evenings. The next variable affecting the temperature of the air in an area is the texture of the Earth's surface in that area. The **texture** of the Earth is how smooth or rough the surface is. Rough textures cause light to bounce around at many angles and more of the sun's heat is absorbed the surface. This causes the areas to become hotter.

Finally, dark colors get hotter than light colors in the same light. Dark soils and rocks can also get very hot. On the other hand, plants help keep an area cooler in the sunlight. In summary, the Earth's atmosphere is like a very thin blanket in which the sun's rays pass through at different angles. The angles are called angles of insolation and is the amount of energy reaching Earth at a given place and time. The hottest area of the Earth is at the equator. There are many variables affecting how hot or cold the air is, which is also called the air temperature. Other variables include the texture of the Earth and the colors of objects that are absorbing the sun's rays.

1) Which of the following is the amount of the sun's energy that reaches the Earth at a given place and time?

- A: Atmosphere
- B: Insolation
- C: Thermometer
- D: Texture

2) Which of the following is the area between the Earth's surface and the edge of space?

- A: Insolation
- B: Radiation
- C: Hemisphere
- D: Atmosphere

3) The equator is the hottest area because

- A: the sun's path is directly below the Earth in that location
- B: the sun's path is directly above the Earth in that location.
- C: it is the coldest place on the Earth
- D: there is not a direct path like at the equator.

4) Which of the following is a measure of how hot or cold the Earth is?

- A: Temperature
- B: Thermometer
- C: Atmosphere
- D: Radiation

5) A thermometer is used to measure which of the following?

- A: Rainfall
- B: Humidity
- C: Temperature
- D: Wind speed

6) Which of the following means incoming radiation?

- A: Insulation
- B: Insolation
- C: Atmosphere
- D: Equation

7) All of the following has an effect on the air temperature of the Earth EXCEPT:

- A: inclination of the Earth B: Texture
C: Colors D: All of the above

8) Which of the following is how smooth or rough the surface of the Earth is?

- A: Atmosphere B: Equator.
C: Equation D: The texture

9) Which of the following help to maintain an area cool?

- A: The texture. B: Earth's atmosphere.
C: Plants. D: Sun's rays

10) Which of the following is correct?

- A: Dark soils get hotter than dark rocks in the same light.
B: Light colors get hotter than dark colors in the same light.
C: Dark colors and light colors are equally hot in the same light.
D: Dark colors get hotter than light colors in the same light.

http://www.softschools.com/language_arts/reading_comprehension/science/14/atmosphere_and_air_temperature/

TEXT 2

TREES

A tree is a wooden stick trying hard to reach the sky. It wants to reach the sunlight which it needs for life. The stick is called a **trunk**. Raising itself tall also keeps the leaves farther away from insects and animals. There are two main types of trees: conifers and broad-leaved. **Broad-leaved** trees are usually rounded. Conifers grow into a triangular shape. To be called a tree the plant must be over twenty feet tall. It can have only one trunk. Anything else is a shrub. A tree below twenty feet is called a **sapling**. Redwoods are the tallest trees in the world. They can grow to more than three hundred-sixty feet in height. All the parts of a tree work together to make it grow. Leaves make food by using sunlight and gases in the air. The roots take water and minerals from the soil. The leaves need water, and the roots need food. The trunk carries water and sap up and down the tree. Sap is the name for the tree's food. The water and sap channels are just under the outer layer of bark. The bark protects them. As a tree grows, the bark cracks open on the outside. New bark grows on the inside.

The leaves of **broad-leaved** trees are thin, flat, and often wide. In northern climates, broad-leaved trees are usually **deciduous**. They lose their leaves in the fall. The veins in a leaf carry food and water around the leaf. A leaf's shape can identify the type of tree. Young leaves are especially tasty to deer and other animals. Some trees have thorns to keep the eaters away. **Conifers** are trees which produce cones. Some conifers have hard, spiky needles. Leaf-eating animals cannot eat these spikes or needles. Others have bad-tasting leathery leaves or scales. Each needle of a conifer stays on the tree for three to four years. They save their energy by not having to make new needles each year. **Twigs** stick out from trees and are the growing ends of the tree. Each twig has some buds. These contain new shoots. The shoots open and become new twigs. Sticky scales protect the buds from insects.

Some trees have beautiful blossoms. These attract bees or other insects. They then carry **pollen** from male flowers to female flowers. Female flowers make seeds from the pollen. These may grow into trees. On conifers the cones serve as blossoms. Male cones produce pollen. This is blown to the female cones. Seeds begin to grow. The cone scales harden and protect the seeds. Seeds fall from cones to grow into new trees. They have light wing-type propellers on them to blow them away from the parent tree. They could not get sunlight under the tree. Some trees use their fruit as a means of spreading seeds. They may rely on the animals that eat the fruit and then leave the seeds in their droppings. These may contain seeds which will grow into new trees. Other trees have a tasty seed or nut. Many of these are eaten by animals. The ones which are not may grow into trees. In summary, a stick with leaves or needles on it is called a tree. The tree has to continually stretch to the sky to find the life-giving sun it needs to grow. Its height also keeps animals and insects away from the leaves. Conifers and broad-leaved are the two main types of trees.

1) Which of the following are the two main types of trees?

- | | |
|------------------------------|------------------------------|
| A: Conifers and apple | B: Broad-leaved and pine |
| C: Conifers and Cone-bearing | D: Broad-leaved and Conifers |

2) Which of the following heights must a tree reach to be considered a sapling?

- | | |
|-----------------|---------------------|
| A: Twenty feet. | B: Twenty-one feet. |
| C: Thirty feet. | D: eighteen feet |

3) Which of the following heights must a tree reach to be officially called a tree?

- | | |
|---------------------|---------------------|
| A: Sixty feet | B: Twenty-five feet |
| C: Thirty-five feet | D: Twenty feet |

4) Which of the following is the food of the tree?

- | | |
|--------|---------|
| A: Sap | B: Bark |
|--------|---------|

C: Pollen

D: None of the above

5) Which of the following best defines deciduous?

A: Feathery

B: Having cones

C: Losing leaves in the fall

D: Having blossoms

6) Which of the following statements is true?

A: Bees carry pollen from male to female flowers.

B: Male flowers produce seeds.

C: Bees carry pollen between the male and female cones.

D: All of the above.

7) Which of the following tells how conifers save their energy?

A: They don't grow as tall as broad-leaved trees.

B: The cones last for three to four years.

C: They don't produce blossoms.

D: They have sharp spiky needles.

8) Which of the following keep eaters away?

A: Thorns

B: Cones.

C: Blossoms.

D: Bees.

9) Which of the following are the growing ends of the tree?

A: Thorns.

B: Twigs.

C: blossoms.

D: spiky needles.

10) Which of the following is attractive to insects?

A: sap

B: Cones

C: Blossoms.

D: Leaves.

http://www.softschools.com/language_arts/reading_comprehension/science/35/trees/

Appendix E

READING POST- TEST

STUDENT'S NAME: _____

COURSE: _____ DATE: _____

SCORE

10

Instructions: Read the texts and choose the correct answer for each question. (0.5 points each answer)

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The Earth's **atmosphere** is the area between the Earth's surface and the edge of space. It acts as a thin blanket between the sun and the Earth. The heat from the sun has an effect on the temperature of the air. The heat from the sun is transmitted through the atmosphere and the Earth's surface becomes heated. The sun warms the Earth throughout the year but at different temperatures due to several variables. The air temperature of an area, cold or hot depends on the angle at which the Earth is inclined, and will affect the amount of heat an area of the Earth receives. **Air temperature** is the measure of how hot or cold the air is and can be measured by using a **thermometer**. The hottest area of the Earth is near the equator. The **equator** is an imaginary line forming a great circle around the Earth's surface separating the Earth into the Northern and Southern hemispheres. The equator is the hottest area because the sun's path is directly above the Earth in that location. Unlike the equator, the north and south poles are the coldest places on the Earth because the sun is at a low angle in that area. Even though the sun is closer to Earth's surface in that area, the sun's rays are much weaker. There is not a direct path like at the equator.

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- A: Atmosphere
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- C: Thermometer
- D: Texture

2) Which of the following is the area between the Earth's surface and the edge of space?

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- B: Radiation
- C: Hemisphere
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C: Pollen

D: None of the above

5) Which of the following best defines deciduous?

A: Feathery

B: Having cones

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http://www.softschools.com/language_arts/reading_comprehension/science/35/trees/

Appendix F

Cuestionario de satisfacción de la clase de lectura

Preparado por: Oswaldo García B. & Ana María Cruz Q.

Curso: _____ Fecha: _____, 2017

Objetivo: El objetivo de esta encuesta es conocer opiniones, experiencias y habilidades de los estudiantes en lectura.

Para las respuestas a los ítems presentados a continuación considere la siguiente escala:

1 2 3 4 5

Baja satisfacción

Alta satisfacción

1.) Como resultado de esta clase mi habilidad para leer la información se incrementó.

1 2 3 4 5

2.) Como resultado de esta clase mi habilidad para analizar la información se incrementó.

1 2 3 4 5

3.) Yo considero que el material presentado es relevante para mis estudios de ingeniería agrícola.

1 2 3 4 5

4.) Yo considero que los ejercicios planteados fueron adecuados para el nivel del curso.

1 2 3 4 5

5.) Yo considero que la enseñanza impartida fue adecuada para comprender la clase.

1 2 3 4 5

6.) Yo considero que el uso del computador fue una ayuda para mi aprendizaje auto dirigido.

1 2 3 4 5

7.) Yo siento que puedo aplicar lo aprendido en mis siguientes estudios.

1 2 3 4 5

8.) Yo estoy satisfecho con lo que he aprendido en este proyecto de estudio.

1 2 3 4 5

Appendix G

Table 5.3 Hake's gain data of pre-test and post-test

	Pre-test	Post-test	Hake`s gain
Student 1	90	95	50,00%
Student 2	70	85	50,00%
Student 3	50	85	70,00%
Student 4	70	75	16,67%
Student 5	60	65	12,50%
Student 6	90	100	100,00%
Student 7	70	80	33,33%
Student 8	45	85	72,73%
Student 9	75	85	40,00%
Student 10	55	70	33,33%
Student 11	75	85	40,00%
Student 12	50	95	90,00%
Student 13	60	85	62,50%
Student 14	90	95	50,00%
Student 15	60	90	75,00%
Student 16	50	65	30,00%
Student 17	65	85	57,14%
Student 18	45	95	90,91%
Student 19	60	80	50,00%
Student 20	65	75	28,57%
Student 21	85	95	66,67%
Student 22	65	95	85,71%
Student 23	45	55	18,18%
Student 24	70	85	50,00%
Student 25	80	90	50,00%
Student 26	65	90	71,43%
Student 27	40	85	75,00%
Student 28	65	80	42,86%
Student 29	65	80	42,86%
Student 30	80	80	0,00%
Student 31	60	65	12,50%
Student 32	70	85	50,00%
Student 33	60	70	25,00%
Student 34	75	100	100,00%
Student 35	55	70	33,33%
Student 36	80	80	0,00%
Media	65,42	82,78	50,20%

Appendix H

Edmodo Platform: Reading activities

The image shows two screenshots of the Edmodo platform. The top screenshot displays the 'Library' view, and the bottom screenshot displays the 'Grading Period' table for an 'Agriculture Class'.

Library View:

- My Items:** Library, OneDrive, Google Drive.
- Library:** Search Library, Name, READING 15 (), My Assignments, Mis Pruebas, READING 3, READING 16, READING 14, READING 13, READING 12.
- Notifications:**
 - Jhony L. and 25 others submitted READING 8
 - Oswaldo Garcia Bito commented on assignment READING 9: EXCELLENT JOB BRYAN CONGRATULATIONS HUGO, OSWALDO
 - Oswaldo Garcia Bito commented on assignment READING 9: EXCELLENT JOB BRYAN CONGRATULATIONS HUGO, OSWALDO
 - Oswaldo Garcia Bito commented on assignment READING 9: Hi dear Raquel! Very good job, however answer one is option A Hugs, Oswaldo
 - Oswaldo Garcia Bito commented on assignment READING 9

Grading Period Table:

Grades: Badges. Arrows → Move between cells ESC → Cancel ENTER → Edit/Confirm

Students	READING 9	READING 8	READING 7	READING 6	READING 5	READING 4	READING 3	READING 2
Jazmin Gunsha 87%	10 / 10	8.35 / 10	10 / 10	10 / 10	7 / 10	10 / 10	10 / 10	10 / 10
Jhony Lorenty 85%	Timed In	Timed In	7 / 10	9 / 10	8 / 10	8 / 10	10 / 10	6 / 10
Franklin Mendoca 61%	6.68 / 10	8.35 / 10	8 / 10	6 / 10	5 / 10	10 / 10	3 / 10	2 / 10
Christian Montano 71%	Timed In	8 / 10	9 / 10	9 / 10	3 / 10	10 / 10	6 / 10	2 / 10
Angie Belén Morenó 86%	Timed In	8 / 10	10 / 10	7 / 10	8 / 10	9 / 10	8 / 10	9 / 10
Florella Morenó 86%	Timed In	10 / 10	10 / 10	8 / 10	5 / 10	10 / 10	6 / 10	9 / 10
Julian Moreno 86%	Timed In	8.35 / 10	10 / 10	10 / 10	4 / 10	10 / 10	5 / 10	9 / 10
Raquel Nafiez 77%	6.68 / 10	6.68 / 10	10 / 10	8 / 10	7 / 10	10 / 10	5 / 10	9 / 10
Karen Olivo 82%	Timed In	8.35 / 10	10 / 10	10 / 10	7 / 10	10 / 10	10 / 10	10 / 10