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Running head: DEVELOPING STUDENTS' READING COMPREHENSION SKILLS
THROUGH ACTIVE READING STRATEGIES IN AGRONOMY ARTICLES

Developing Students' Reading Comprehension Skills through Active Reading Strategies
in Agronomy Articles

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Research Report submitted

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Abstract

This paper reports on an action research project conducted with tenth grade students in a public sector school in agreement with SENA CEDEAGRO in Boyacá, Colombia. The researcher decided to develop this topic because the students' needs analysis reported a lack of reading strategies in order to identify main ideas in Agronomy articles and because the emphasis of the English competence of SENA is based on the requisite of improving reading comprehension. The project focused on the implementation of four lesson plans in which six reading strategies were applied. These were predicting, activating background knowledge, questioning, re-reading, summarizing, and evaluating. Data collection was conducted by using students' logs, interviews and artifacts. Data analysis included participants' insights into the usefulness of the strategies. Findings demonstrated that participants thought that the reading strategies led them to improve the understanding of the texts, enabling them to identify main ideas and increase their vocabulary. The students also felt more organized and encouraged to read since they followed a complete process in which each of the strategies gave them support and scaffolding to comprehend the texts. The researcher hopes that the result of this study might provide ideas for other EFL teachers who are interested in improving their students' reading comprehension.

Key words: Reading strategies RSs, reading comprehension, agronomy articles, graphic organizers GOs

Resumen

Este trabajo presenta un proyecto de investigación llevado a cabo en una Institución pública articulada con el SENA CEDEAGRO en Boyacá, Colombia, con estudiantes de grado décimo. La investigadora decidió desarrollar este tema porque el análisis de las necesidades de los estudiantes informó sobre la falta de estrategias de lectura que se desconocían y que se podrían utilizar para identificar las ideas principales de los artículos Agronomía, así como por el énfasis de la competencia de Inglés del SENA que se basa en el requisito de mejorar la comprensión de textos. El proyecto se centró en el desarrollo de cuatro clases en las que se fomentó el uso de seis estrategias de lectura: predicción, activación de conocimientos previos, preguntas, relectura, resumen y evaluación. La recolección de datos se llevó a cabo mediante el uso de registros de los estudiantes, entrevistas y artefactos. El análisis de datos incluyó las percepciones de los participantes sobre la utilidad de las estrategias. Los resultados mostraron que los participantes consideraron que las estrategias de lectura les llevaron a una mejor comprensión de textos y así identificar las ideas principales, también a un incremento de vocabulario. Los estudiantes también se sienten más organizados y animados al leer ya que ellos siguieron un proceso completo en el que cada una de las estrategias les dio apoyo y andamiaje para comprender los textos. La investigadora espera que los resultados de este estudio aporten ideas a otros docentes de inglés que estén interesados en la mejora de la comprensión lectora de sus alumnos.

Palabras clave: EL estrategias de lectura, comprensión de lectura, artículos de agronomía, OGs organizadores gráficos

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Chapter One: Introduction

For many decades the different methods to teach reading comprehension tended to emphasize on the *products* of comprehension and neglected the *process* of comprehension. Reading comprehension was considered a passive skill in which student read a text and then answered questions about the text itself. This method tackled the reading comprehension as a product (interpretation) rather than as a process (constructing meaning) and did not allow students to know what to do when they had difficulties.

Nevertheless, the cognitive revolution originated between the seventies and nineties; works by psychologists started to focus on characteristics of the text and the nature of the knowledge students brought to the reading task. In this sense, passive readers changed to an active process in which they are assisted by suitable tasks which reflect the interactive nature of reading and help learners to develop good reading strategies (Duke and Pearson, 2002).

Effective reading strategies might help learners a great deal in improving their reading proficiency allowing students to become effective readers, who are able to solve different difficulties during their reading process. Considering the current advantages of using active reading comprehension strategies, the researcher decided to carry out a study using them to enhance the identification of main ideas in agronomy articles.

This study was carried out at the “Institución Santa Rita de Casia - Educación básica y media técnica Agropecuaria”. This institution which is located in a rural community in Boyacá, in the town of Beteitiva. This institution belongs to the Articulation Program with SENA (Servicio Nacional de Aprendizaje), a public institution in Colombia. In this study, the participants were tenth graders between fifteen and sixteen years old, whose English level is A1

according to the Common European Framework, and who are able to understand and use familiar everyday expressions and very basic phrases.

A requirement of the under graduate course in Agronomy technicians is that students are required to develop their competence in English, which includes the ability to understand written texts. During the English classes, the researcher observed that when required to read English texts, students failed to employ reading strategies. This led the researcher to conduct a needs analysis to try to discover more about the students' reading processes and the level of their reading comprehension.

The researcher designed and applied a questionnaire (see Appendix A) the data from which indicated several key elements (see Appendix B); students answered that comprehension was their greatest challenge when they read because their vocabulary was so limited and admitted that they translated most texts in order to understand them; in addition, they reported that they did not know what strategies they could use to identify main ideas in either English or Spanish texts. In addition, they answered that they liked reading agronomy texts because through the reading, they can learn vocabulary and have access to information in this field in a foreign language and it would be useful in their future work environment.

In terms of the use of RSs, students affirmed they make inferences based on the images in an article to have a general idea about what the text is about. However, they affirmed that by seeing no more than the layout of the text, they are unable to identify the main aspects in the text.

The study plan of the school and SENA requirements presume that, students are able to understand English texts and identify their main ideas. However, most students showed low reading comprehension performance. This was highlighted in a variety of activities developed during the classes including workshops and evaluations.

Students demonstrated difficulties in gathering information from the text because they were not aware that they could use various RSs to improve their reading comprehension processes. In consequence, the researcher focused on helping and guiding the students to improve reading comprehension through the use of six active RSs.

Reading comprehension can be improved by teaching students to use specific cognitive strategies or to reason strategically when they encounter barriers to understanding what they are reading (Shanahan, 2006). Students can benefit greatly and become strategic readers from direct instruction on how to interact with a text to solve problems for themselves. By using cognitive strategies, they should be able to process information in the texts more effectively and understand the author's message.

Students can use RSs to facilitate the identification of main ideas using visual aids, linking new information to prior knowledge, asking questions, re-reading, summarizing, and evaluating. With this wide range of interests in mind, the purpose of this study was to make students aware of the use of RSs to facilitate and improve reading comprehension.

Statement of the problem

I. E. Santa Rita and SENA institutions require that students be able to understand texts for their future performance as professionals in different agronomy enterprises. However, a need analysis carried out showed a mismatch between what the institutions require and the real achievement of students in their reading comprehension.

The needs analysis showed that students had to translate complete texts because they could not comprehend unknown vocabulary.

The results of the questionnaire (see Appendix B) demonstrated that students had definite learning needs since they did not know about RSs or how to find the main ideas in English texts.

La habilidad con mayor dificultad es la comprensión de lectura, no se la mayoría del vocabulario, tengo que traducir todo el texto, no sé qué estrategias utilizar para identificar ideas principales en textos en Ingles, no entiendo la mayor parte del texto.

Excerpt from the Questionnaire. September, 2011.

Students have low knowledge of vocabulary. Furthermore, the results of the questionnaire showed that the students do not know what steps they can follow to develop reading comprehension skills. This may be illustrated below:

No sé qué estrategias se utilizan para saber las ideas principales en textos en Ingles, no entiendo la mayor parte del texto, a través de los dibujos más o menos entiendo de qué se trata el texto pero no lo entiendo completamente todo.

Excerpt from the Questionnaire. September, 2011.

A research starting point, indicated by students' opinions in the questionnaire, revealed that students do not use active RSs and accordingly they have problems in reading comprehension processes. This research project therefore aims to solve problems related to the reading comprehension processes, specifically the identification of main ideas, and using RSs which increase the opportunities of understanding or remembering the information in a text.

The use of RSs clearly stated allows students to solve problems for themselves, understand the author's message and thus increase reading comprehension skills. As McNamara (2007) argues, active RSs deal with meaning-making on the part of the reader, and encourage the reader to focus on and think carefully about the text using the following strategies: predicting,

activating background knowledge, questioning, re-reading, summarizing, evaluating; these strategies could improve reading comprehension.

Similarly, according to McLaughlin and Allen (2002), successful readers use comprehension strategies to facilitate the construction of meaning. These strategies include predicting, self-questioning, making connections, summarizing, and evaluating. These researchers affirm that using these strategies helps students become meta-cognitive readers.

The aim of this research is to gain understanding of the effect of using active RSs on the enhancement of the comprehension of main ideas in English texts. Thus, this research analyzed certain processes in order to answer the following research proposal:

What insights can be gained regarding the effect of using active reading strategies to enhance the comprehension of main ideas?

Objectives

The research objectives accompanying the main and only question are:

- To determine and document how effective active RSs might be for students to comprehend main ideas in English texts.
- To describe and document the perceptions students have about the effect of using active RSs in their independent reading comprehension.

Rationale

For many decades, it was widely accepted that if a student can read the words, reading comprehension would result automatically. However this was a misconception; it is important to emphasize that the processes of reading comprehension operates efficiently, when readers have adequate background information, when they have developed the necessary linguistic resources

and when they have been trained with the appropriate reading strategies to overcome possible difficulties during the reading.

In the target population of the present research, twenty-three out of the twenty-five participants responded in the preliminary questionnaire that they had difficulties understanding texts. They tried to understand the text using a mechanical translation process because they had problems with the knowledge of vocabulary and they did not handle the reading strategies.

Based on these characteristics and after the researcher corroborated this problem situation in the results of the questionnaire, it was evident the need of providing learners with relevant and efficient learning experiences in order that students might perceive reading comprehension as a set of processes.

Consequently, this set of processes might allow students to build and support their knowledge, to have a more successful interpretation of the texts through the use of different strategies including: predicting, answering questions, activating their background knowledge, re-reading the text, learning how to summarize; (for example underlying key words, sentences and differentiating main ideas from supporting details) in a graphic organizer, finally evaluating their own reading comprehension process.

Additionally, the researcher considers this research study as an important work because if the use of reading skills has not been taught and students have not been trained to use them, it is difficult for them to become successful readers. Thus, frequent practice of the RSs helps students to handle the strategies and in that sense students might make their reading comprehension more effective and easier.

This study would bring new possibilities in terms of an improved reading comprehension process at my setting; this project may have a positive impact on students at Santa Rita de Casia

Institution and SENA. They might benefit from this project because they may well become effective readers, capable of possibly solving problems in their comprehension process using the different RSs. Additionally, they may reach a better performance in understanding the texts from both institutions. What is more, students might then be able to transfer the use of these strategies to other subjects. The researcher also believes that this project may have a positive impact accomplishing local needs and even departmental needs and showing an innovative vision of the teaching and learning process of reading comprehension.

This project might therefore help not only students but also teachers with the introduction of new ways to achieve higher results in reading comprehension, and not only in English classes but in other languages and other subjects. In brief, this project may help students move from the translation method to a more independent strategy when accompanied with teacher modeling.

Chapter Two: Theoretical Framework

The concept of reading

Many recent researchers have agreed that reading is an active process that cannot be taught as such. However, depending principally on the learner's ability to learn, it might be facilitated by helping the learners acquire particular strategies that aid their efforts to understand the texts. Grabe and Stoller (2002) argue that reading is a process in which a number of the skills, such as word recognition and syntactic processing, allow the reader to anticipate text information, select key information, mentally organize it, summarize it, monitor comprehension, repair comprehension breakdowns, and match comprehension output to readers' goals. Far from being a passive process, reading implies a demanding attitude from the reader in order to build meaning from the text and access the authors' ideas. Reading is an interaction between the reader and the writer.

Additionally, Grabe and Stoller (2002) claim that reading is an interactive process in which the readers are recognizing words and keeping them active, whilst also analyzing the structure of the sentences to assemble the most logical clause level meanings, while, at the same time, building a main idea model of text comprehension. The same authors argue that reading is an interactive process between the linguistic information from the text and the background knowledge activated by the reader. These two sources of knowledge (linguistic and background) are essential for building the interpretation of the text by the readers. The readers start a process in which they must access word decoding in order to understand the message in the reading. In addition, they will activate their background knowledge which might make comprehension easier.

Leipzig (2001) and Pank and Muaka (2003) suggest there are two related processes in reading; the first is word recognition, which refers to the ability of a reader to recognize written words correctly and effortlessly. The second is comprehension as the process of interpretation, constructing and understanding of what is read. This particular point of view may lead us to become aware that readers may, at time be extremely active in creating the text in their mind. They often start the process of reading by identifying the word structure of the text, and then their mind might then begin to work on understanding and interpreting, i.e., the comprehension of the text itself.

These ideas are supported by Nuttall's observations (1996) which argue that reading is an interactive process between the reader and the text. The reader can make sense of the text by thinking and then going back to check difficult parts. This same researcher claims that, apart from the students having sufficient decoding skill or ability to recognize the words in a text, it is necessary that they develop certain skills, such as fluency, and analyze the reading on a deeper level. This skill of analysis is achieved by using RSs.

Reading comprehension

For many years, until the 1970s, it was widely accepted that reading comprehension implied reading the text and answering some questions after the reading itself. For the last 30 years, reading has been recognized as a process that requires well-established strategies and skills that facilitate the understanding and interpretation of the information in the text. Reading comprehension is a form of active and dynamic thinking and includes interpreting information through one's own knowledge and beliefs in order to infer what the author wanted to say.

Identification of main ideas and supporting details influence how well students can construct meaning from the text. As Nuttall (1996) argues, reading comprehension focuses on identification of main ideas and in the ability to understand and interpret information in a text appropriately. Additionally, Grabe and Stoller (2002) argue that to form a meaningful representation of the text it is required to identify and coordinate main ideas and supporting details from the text itself. However, to understand main ideas and supporting details it is necessary to develop some skills, such as word recognition and comprehension, in order to understand and interpret what is read. Word recognition and comprehension refers to understanding sentences in discourse, then creating a discourse structure and then integrating this new knowledge with what one already knows. The present researcher agrees with the authors and concludes that reading comprehension is the appropriate construction of the general meaning of the text, identifying its main ideas and supporting details more than pointing to answer specific questions without truly understanding the text.

Reading comprehension cannot be carried out without good word recognition skills. It is necessary that learners try to determine the meaning of unfamiliar words and concepts in the text before and while reading in order to begin to interpret the information from the text in a more successful manner. As Nuttall (1996) argues, it is necessary to make use of the context to have a more satisfactory interpretation of unfamiliar words. It is essential to show students that they may retrieve a great deal of information from the sentence, even though they do not fully understand every word.

In her research project, Carrillo (2010) explained that it is necessary to work with the appropriate vocabulary techniques (e.g. getting meaning by context), in order to improve

comprehension and she reported that when students read they expand their vocabulary, which in turn makes comprehension easier.

Although vocabulary can be taught, most vocabulary words are learned through reading. That is why people who read a great deal generally have a large vocabulary. Having extensive vocabulary knowledge facilitates and improves comprehension; it increases fluency and leads to an improved interpretation of the text. Shanahan (2006) indicates incidental learning of vocabulary occurs when students read.

Reading also allows students to increase vocabulary knowledge because the more exposure students have to a word, the more likely students will be able to define, comprehend and remember it. Pressley (1995) argues that students benefit from seeing the same word several times; word meanings are accumulated gradually when students see a word repeatedly, they gather more information about it, until they acquire an idea of what it means. The repetition of vocabulary is very important in the learning process, in order that students might learn more quickly using and applying several examples of a word in a different context to reinforce word knowledge. Additionally, it is important to take into account that visual aids also play an important role in the understanding of unknown vocabulary, reinforcing and representing the meaning of the text.

This research study was carried out in a similar way to that of Mihara (2011), in the sense that the researcher presented key vocabulary to the students before they read the text. Mihara (2011) asserts that vocabulary may be more successful if the words to be taught are key words from the target passage.

In addition to word recognition, the reader must be able to take in and store words together so that basic grammatical information can be extracted to support the comprehension of

the text. Grabe and Stoller (2002) argue that those words which are recognized and kept active for one to two seconds, along with grammatical cueing, give the reader time to integrate information in a way that makes sense in relation to what has been read before. As meaning elements are introduced and then connected, they become more active in their memory and become central ideas if they are repeated or reactivated multiple times.

In this way, as the reader continues and builds an understanding of the text, the set of internal summary of main ideas that the reader develops is the summary of the most reasonable and important ideas in the text. Ideas that do not play any further roles in connecting new information or that do not support connecting inferences, quickly become inactive and fade from the network. In consequence, less important ideas tend to get pruned from the network and only the more useful and important ideas remain active. Grabe and Stoler (2002) point out that the reader begins to interpret the information from the text influenced by background knowledge, inferences, reader motivation toward the text and this is a clear example of the successful improvement of the processes of reading comprehension.

Readers need to understand how texts work and what they can do when they are reading. As Nuttall (1996) argues, when students are able to recognize what they do not understand in the text, find out why and adopt a strategy to solve the problem, they are monitoring their own comprehension.

The selection of reading strategies for this research

Active RSs might help readers to monitor their comprehension and work out when it is unsuccessful. The use of RSs make reading comprehension easier, as well as present them as a wide variety of possibilities that best suit the reading task and are important tools that guide readers to achieve better results in the comprehension of the text. As McNamara (2007) argues,

active RSs prepare a learner to read, help them to establish what they already know about the topic, and consequently determine the way they need to process information discussed in the text.

Grabe and Stoller, (2002) argue that RSs take more time initially, however, with practice, they help the reader to understand and remember much more from the text, in less time than it would take without using RSs. Successful readers are aware of how well they understand a text while reading; also employ active RSs to overcome difficulties in comprehension.

Pre –reading stage

This stage prepares readers for reading the text, motivating them to read, enabling them to make predictions about what is coming next and associate ideas in the text to what they already know. This stage prepares the student for reading the text without giving them much written information but in exchange, giving them visual aids and questions with which to approach the content of the text. As Chastain (1988), Varaprasad (1997) claim, the pre-reading stage attempts to improve students' interest in the topic, motivate them and provide them with some predicting/guessing activities for the reading process and make use of students' background knowledge about the topic. The same stage may also prepare the students for the context of the reading passage and builds a bridge between the reading passage and the learners' background knowledge and interests. At this stage, two strategies were included: predicting and activating background knowledge.

Predicting

Prediction helps readers set up goals that guide the comprehension process: first, predicting is helpful for allowing readers to become familiar with the text, developing ideas about what to expect next in the text. Second, prediction allows students to possibly have an

easier and more enjoyable experience of reading, by being able to connect the new content more meaningfully to prior knowledge through the different visual aids. As Duke and Pearson (2002) claims, more successful readers may often make predictions about what is to come.

Predicting is also a previewing strategy. Successful readers analyze what a text may be about using textual clues or their own experiences. Students might be asked to skim the selection, make predictions based on key words in the title or the introduction to the selection.

Making predictions might also allow students to figure out what the topic of the reading is and to express what they think about the text itself. As Echeverri and McNulty (2010) reported, making predictions helped students to explore the topic before they read and thus understand it more successfully. Through this strategy students focused their concentration on the reading and checked their expectations about the reading.

Similarly, the study developed by Zabala (2004), proved that prediction and analyzing the main idea were the main mechanisms used by students to solve their difficulties. They analyzed the text superficially and from this analysis predicted its possible meaning.

Activating background knowledge

Students need to visualize the text to have general ideas about the text itself. However, in addition, it is fundamental that teachers activate their content ideas schemata to improve students' interest and prepare them for the context of the reading passage, build a bridge between the reading and the previous knowledge students had. As Nuttall, (1996) argues, the schemata activated by students allow them to interpret successfully the text.

Activating prior knowledge using visual aids such as titles, images, among others, this helps student remember and retain information easier, be ready to read and be open to new information. As Abraham (2002) argues that an interactive approach relies on teachers activating

varied student schemata, by helping them to recognize the knowledge that they already have about the topic of a text i.e. through, discussion of titles, subheadings, photographs, identifying text structure, i.e., forms of previewing.

Similarly, different authors as: Rowe and Rayford (1987), Echeverri and McNulty (2010), Cummins (2009) propose two strategies to activate background knowledge: visual aids in texts and asking questions. Visual aids such as charts and graphs and formulating questions related to the content of the reading can all be used to build and stimulate students' background knowledge about aspects of what is depicted, and encourage students to predict what the text is likely to be about. Asking questions can also be a cue to guide the content of the text. Answering questions may provide helpful cues for activating background knowledge, facilitating a high level of knowledge construction and linking prior knowledge with the content of the text. It is difficult to think of presenting a text to beginners without offering them support or scaffolding of knowledge before the reading. They probably will not have a general idea about what the text is, nor will they be able to identify the basic concepts. In summary, learning to think about the text before reading greatly enhances comprehension.

Additionally, Zhaohua (2004) found that an important part of teaching background knowledge is teaching the vocabulary related to it by selecting key concept words and difficult words and phrases, and so provide students an effective combination of concrete information and visual representation to understand the upcoming text. In other words, students with rich background knowledge do better in reading comprehension. In fact, in this research study and based on the activities that the authors previously mentioned suggested to activate students' background knowledge, the tenth grade students receive mostly redundant context when using visual aids and asking questions before the reading.

While reading stage

The “while reading” stage leads the students to the reading; they are cognitively and actively involved in this stage in order to construct the meaning of the text. Students as active participants of the process take advantage of their linguistic and schematic knowledge using their own inferring and judging abilities to deduce the writer’s purpose (Varaprasad, 1997). Readers can take advantage of the language structure and the logical organization in the text, identifying that when they are reading the text content it is important to guess the meaning of unfamiliar words using contextual clues. In this stage, two strategies are used to facilitate the decoding of information. These are re-reading and questioning.

Re-reading

It is difficult for any beginner readers to read a text through once without having to stop and concentrate on a part they find confusing in order that they may clarify the meaning for themselves. Re-reading allows readers to change their initial understanding so they can alter their schemata and possibly comprehend main ideas better. As Robb (2013) argues that re-reading strategy support comprehension during reading since students may be able to understand unknown or difficult words, find words and sentences the learner skipped and help the reader to make sense. Kyleene (2003) agrees that the independent readers often stop to re-read sentences and passages that do not initially make sense. Additionally, Duke and Pearson (2001) assert that reading the text different times will be useful to improve comprehension.

Questioning

Posing questions help clarify information during reading. For example, when the student is answering his or her own questions, he /she is connecting with the text and checking his/her understanding. This strategy is very useful because the readers ask questions about what they do

not know and try to find the answers through a cognitive process in which they have to identify the answer in the reading. This is an essential strategy for becoming successful readers. As Echeverri and McNulty (2010) reported in their research study, students affirmed that answering questions while they were reading was helpful to have clarity about the text, and to understand it better after reading.

Recent researchers, including McNamara (2007) and Vacca (2002) both argue that skilled readers are prompted to self-questioning as they read and seek answers to the questions, while reading helps guide the reading comprehension process. Additionally, students might be asked what they would like to know more about, what predictions they can make, if a particular detail is important, what they think the writer means and so on.

The studies developed by Baier (2005), Grace (2005) suggest that students retained more information and understood the texts better when they ask questions while reading. Students demonstrated that asking questions while reading allowed them to break down the text and understand more easily.

After reading stage

This stage provides a global evaluation and individual response, the students' role is to recycle what they have obtained from the text and go beyond the text. As Wahjudi (2010) argues, during this stage it is expected to encourage learners to reflect upon what they have read, to also allow the students to respond to the text creatively and to attempt to encourage students to focus more deeply on the information in the text.

Summarizing

Summarizing allows students on the one hand to check their understanding of the text, on the other hand, to identify main ideas in the text by underlining key words and identifying

unimportant and important ideas, synthesizing or picking out key information and writing it in drafts, asking questions about the main ideas and important details, then putting them the main ideas into their own words in complete sentences.

In addition to underlining the ideas which appear to be the most important key in summarizing, readers might be encouraged to read the text again and eliminate supporting details less important or irrelevant to the main thrust of the text, and take note of the surviving ideas in their own words and to write them in a graphic organizer. Dole, Duffy, Roehler and Pearson (1991), Pressley (1995), Jones (2006), Echeverri and McNulty (2010) argue that, in order for students to develop summarization skills they must be able to complete the following task: focus on the heart of the matter, seek key words and phrases that manage to capture the gist, differentiate important from unimportant ideas, save the main ideas and crucial details that support them. These steps will help students analyze the information and synthesize it before they can condense it and then create a new coherent text that stands substantive criteria, summarizing allows students to clarify doubts, to develop their thinking and imagination and to learn more.

Evaluating

When successful readers finish reading, they reflect on the strategies they used to determine whether their plan worked or whether they should try something else next time. Evaluating helps readers to determine their progress in their comprehension process. Metacognitive skilled readers not only construct meaning from the reading, they also monitor and evaluate their reading comprehension process.

Recent researchers including Gunning (1996), Zurek (2006), Carrillo (2010), Clarisse (2011) agree that students monitored their comprehension, they became aware of different RSs

that could help them overcome problems in their reading comprehension process, they were able to determine the extent to which the RSs were effective in their own reading comprehension process and they themselves established their action plan to improve their weaknesses in the next readings.

Active readers will almost always use different RSs to solve possible difficulties they find during the reading; they are always monitoring their own process, identifying weaknesses and strengths and thinking how to improve these weaknesses. In contrast, Garner, (1987, cited in Alfassi, 1998) describes the opposite situation of passive readers, who are unable to select appropriate RSs and monitor their reading and so are regarded as novice or passive readers.

Reading strategies Research

The use of RSs has been useful to deal with the reading comprehension process in different contexts, levels and texts. The main conclusions have been that the use of RSs has an important influence on students' level of understanding.

RSs allowed students to understand better, recognize the meaning of words, locate important information, learn more and lead students to be motivated to read. These important findings have been demonstrated in different research studies carried out by Zabala (2004), Zhaohua (2004), Baier (2005), Zurek (2006) Echeverri and MacNulty (2010), Carrillo (2010), Mihara (2011), Fuenzalida (2011).

Although there are no research studies which include the use of active RSs to specifically identify main ideas in agronomy articles as in this case, most of these studies use RSs to improve general reading comprehension. Some studies use three or five RSs. The study developed by Zabala (2004) proved that imagination and prediction were the most important strategies used by the students to comprehend the reading text. Prediction gave students a deeper analysis of the

text and allowed them to solve their difficulties analyzing the text superficially and predicting the possible meaning of the text.

Zhaohua (2004) found that activating background knowledge through visual aids and explaining concrete information as key vocabulary enhanced reading comprehension by focusing student attention. In the study carried out by Mihara (2011) about the effects of pre-reading strategies on EFL/ ESL reading comprehension, it was concluded that the pre-questioning group did perform better on the reading comprehension test than the students who were taught key words before reading the text. Additionally, Baier (2005) concluded that the sixth grade students improved reading comprehension and obtained better results in the post-tests after using self-questioning, since this strategy allowed them to break down the text they were reading and to have detailed and clearer ideas about the reading.

Echeverri and McNulty (2010), Roa (2011) reported in their findings that the use of graphic organizers to summarize a text allowed students to organize information, clarify doubts, learn more, identify main ideas and discriminate relevant information to summarize the content from the text.

Zurek (2006) reported in her findings that self-evaluation allowed students plan and monitor their comprehension. Fifth graders students became strategic readers because they were able to solve their problems while reading.

Echeverri and McNulty (2010) reported that the use of RSs led students to be motivated to read, learn more and understand better. Another study that demonstrated the positive effect of RSs to improve reading comprehension was carried out by Carrillo (2010) who reported that the RSs allowed students to find specific and general information in a short period of time and they

became more conscious that the strategies helped to identify the meaning of unknown words or sentences and clarified their comprehension about the text.

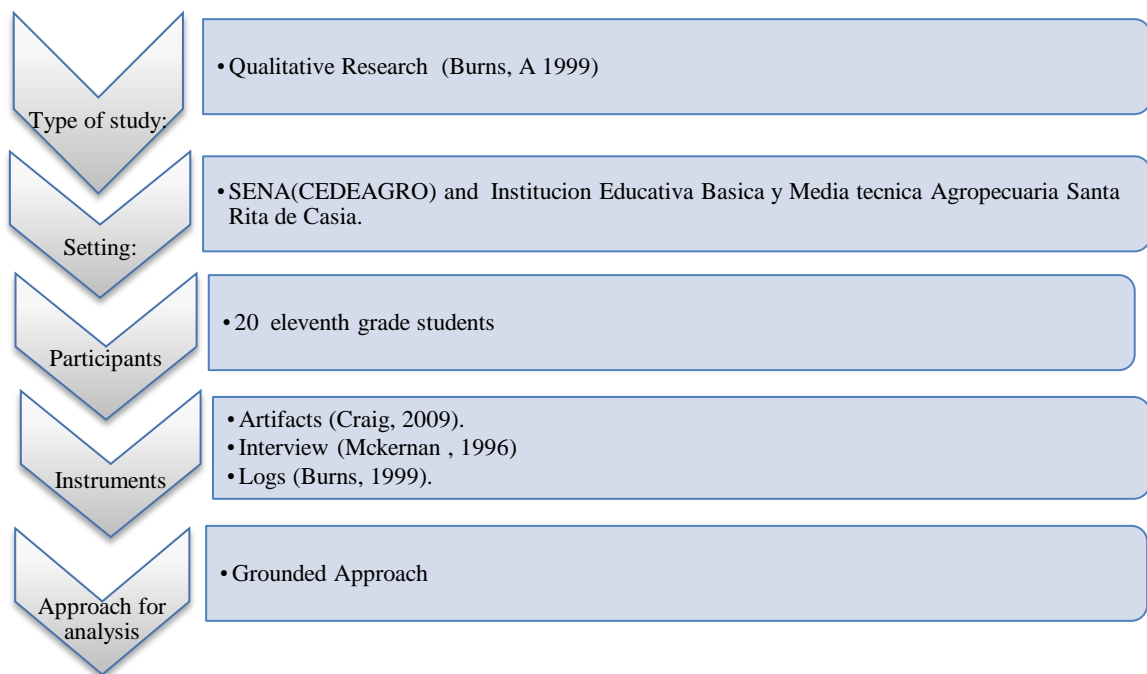
Similarly, Fuenzalida (2011) concluded that the use of RSs have been shown to be effective in enhancing reading comprehension. It was reported that these strategies provided students with the necessary tools to reach a better understanding of the texts, since students started to use them strategically when they found barriers to understanding what they were reading. Ozek and Civelek (2006) reported that the effects of cognitive strategies on reading performance suggests that relating pictures and background knowledge to the text, guessing, re-reading, making notes and summaries of important information are the strategies that help readers to improve their reading ability significantly, providing rich information about how learners can solve problems and when they can use them to better understand the texts.

Many of the research studies presented in this theoretical framework have contributed with important insights about the strategies to enhance reading comprehension as well as learning about how to use them and when. Despite this, findings are incomplete when referring to the enhancement of the identification of main ideas using active RSs in agronomy articles.

Chapter Three: Research Design

This chapter presents the design of the research study, the type of the study, a detailed description of the research setting, taking into account the mission and the vision of the institution and the curriculum. The chapter includes a description of the participants, the researcher’s role, the instruments used to collect data, the validation of the instruments. In addition, it incorporates an explanation of the ethical considerations taken into account. Finally, this chapter presents an explanation of the process followed to manage and analyze the data.

Figure 1. Research Design Framework



Type of study

Qualitative action research guided my research methodology. As Burns (1999) argues, action research applies a systematic process of investigating practical issues or concerns which arise within a particular social context. In this case, the issue took place in a public institution in an articulation with SENA.

Burns (1999) affirms that action research is contextual, small-scale and localized; it identifies and investigates problems within a specific situation. The research clarifies the nature of the situation by identifying a problem. In this case, the problem was identified through a need analysis in which the researcher corroborated a problem situation: students' knowledge of vocabulary was so limited, and they did not know what strategies they could use to identify main ideas in English texts.

Qualitative action research is both evaluative and reflective as it aims to bring about change and improvement in practice using a systematic process of analysis and interpretation. In this research, this process was done through the analysis and interpretation of how the implementation of active RSs in the students' work allowed them to identify main ideas in English texts.

The researcher focused on the major components of qualitative research: the data which comes from the various instruments (students' logs, interviews, artifacts), the different analytic or interpretative procedures used to arrive at findings or theories by means of coding technique and finally, presenting the written report about the research.

The aim of this project is to examine the use of active RSs employed to better understand the main ideas of a text, in order to ascertain what insights can be regarded from the effects of said strategies. The Objectives of the study were:

- To establish and document the effectiveness of active RSs that student can employ to comprehend main ideas when reading English texts.
- To describe and document the students' perceptions of active RSs effects on their independent reading comprehension

Setting

This study was carried out at “Institución Santa Rita de Casia - Educación básica y media técnica Agropecuaria”; this is an institution that belongs to the articulation program with “Centro de Desarrollo Agropecuario” CEDEAGRO SENA. It is a public institution that offers different programs, one of them the articulation program with public institutions, and thirty technological programs in the department of Boyacá.

Mission and Vision

According to the national learning Service (2012), SENA is responsible for fulfilling the state’s role to invest in the social and technical development of Colombian workers by providing and running free comprehensive training, for the incorporation and development of people in productive activities that contribute to the social, economic and technological development. Its vision is to be a recognized organization of knowledge by all Colombians, especially regarding the innovation of their learning strategies and methodologies, in full agreement with the economic trends, technological changes and the needs of business and workers, positively impacting productivity, competitiveness, equity and development.

Curriculum

SENA bases the English program on the Common European Framework of Reference; this provides a common basis for the elaboration of language syllabuses, and curriculum guidelines. It describes in a comprehensive way what language learners have to learn to do in order to use a language for communication and what knowledge and skills they have to develop so as to be able to act effectively.

English competence

SENA methodology is based on the development of competences, one of those being reading. The learners have to be able to understand English texts in written way and the level of the competence has seven learning results. The researcher will cite the learning results concerned with the reading comprehension skill. These are:

- ✓ Find specific, predictable information in written texts.
- ✓ Understand phrases and vocabulary related to technical topics.
- ✓ Understand the main ideas in short written technical texts.
- ✓ Find words and expressions in technical English in short written texts.

Participants

This participant population belongs to A1 level according to the Common European Framework of Reference. They are eleventh graders and their ages are between fifteen and sixteen years old. They are studying to graduate from high school as technicians in Agronomy at SENA. Learners of SENA are studying at the same time in the “Institucion Educativa Tecnica Santa Rita de Casia” and SENA CEDEAGRO. The researcher chose the group taking into account their class schedule. They have two hours of English classes per week.

Additionally, the researcher chose eleventh grade students because in September 2011, when they were in tenth grade, a questionnaire was applied and the results showed that students were interested in learning about agronomy articles.

Researchers' role

According to Elliot (1991) action research teachers are knowledge generators rather than appliers of knowledge. Thus, here, the present researcher was a participant in the whole process guiding students how and when to employ the different active RSs, the researcher was interested

in promoting enhancement of identification of main ideas through the use of RSs. Furthermore, the researcher was an instrument of observation, pedagogical intervention, implementation, data collection and data analysis.

During the pedagogical intervention, the researcher conducted a term of five cycles, during the data collection process; the researcher formulated questions and explored in depth the participants' opinions by applying a questionnaire, the students' log and conducting the interview. To analyze the data the researcher used the grounded theory approach, taking the decision to understand what was occurring in her teaching context and to create original solutions for these issues (Pine, 2008).

Data collection instruments

I collected spoken and written data, which were gathered by applying an interview, a questionnaire and by analyzing artifacts such as the graphic organizers. These instruments allowed participants to express their ideas as well as permitting the researcher to identify and justify monitoring or observing what happens in connection with the research problem itself (Burns, 1999).

Interview

Interviews are ways for participants to get involved and talk about their views. The interview researcher conducted and applied an interview at the end of the research in order to determine the students' perceptions about the use of RSs in their reading comprehension process. In addition, the interviewees were able to discuss their perception and interpretation in regards to the given situation involved in answering eleven "why questions", used to get greater depth or

detail about the situation (see Appendix C). This interview allowed to focus on a specific issue which was explored in some real depth (McKernan, 1996).

Logs

The researcher used the student' log in order to get a running record of events and more detailed and personalized information about students' insights when they used the RSs to understand agronomy articles (Burns, 1999). The log was used to gather specific information related to the research question, by identifying and analyzing main events and activities carried out by students (McKernan, 1996). The students' logs involved twelve predetermined questions presented in written forms; using open-ended items facilitated their expression and freedom to answer (see Appendix D).

Artifacts

Artifacts consist of those items that are readily available in the research setting, relate to the focus of the action research, inform the inquiry and provide insight into the situational milieu (Mertler, 2009). Based on this statement, the researcher used the graphic organizers as artifacts in order to corroborate and inform about the process of the identification of main ideas. The graphic organizer provided evidence of the identification of main ideas, important words, and details identified by students after using the reading strategies. (see Appendix E).

Validation process

The researcher presented the research instruments during her seminar on research projects II in order to pilot the instruments. During this exercise, she received feedback from her professor and classmates. The professor suggested it was important to include more questions that could enrich her data. For instance, she had not included a question in which she could find

out students' key insights about the effect of using RSs, it was: "Which reading strategies did students use?", "Why?", "How?" The teacher also suggested improving statement number eleven in the students' log, since it was necessary to emphasize the benefits of using RSs. Finally, her classmates suggested it was important to provide more space for participants to justify their answers. Once the suggested changes had been made, the piloting process began.

Piloting process

To do the piloting process, the researcher explained to the students what the RSs were, when and how to use them; then it was carried out a class in which they used the strategies while reading an agronomy article. After that, the piloting process with the students' log started and different aspects were perceived. The researcher realized that statement number two needed to be changed ("Antes de leer el artículo lo primero que hice fue..."), because students could write answers such as "sit down", "take a pencil"; so the statement was changed for: "La estrategia o estrategias que utilicé antes de leer el artículo fue/fueron."

Secondly, the researcher detected that during the data collection process it was very important to check whether the participants answered all the questions before collecting the students' log.

The second instrument piloted was the interview. It was noticed that "yes", "no" and "why" items had to be added to the question "Do you think that your English reading comprehension has increased after using the reading strategies?" This was needed in order to obtain more relevant and specific data. The option "why" was added because some students answered just "yes" and did not include any information. Finally, the piloting process was useful and enriching because the researcher had the opportunity to refine, improve and change certain

elements of the research instruments, which was important to facilitate and ensure relevant and useful data in the analysis process and to answer the research question.

Ethical considerations

During the entire research, key principles in the ethical conduct of action research like responsibility, confidentiality were taken into account as fundamental aspects in the development of this project. The American Psychological Association (APA) includes obtaining informed consent from the subjects and ensuring that participation in the study is voluntary as some of the ethical standards a research project must contain (Tomal, 2010).

Confidentiality ensures that the identities of the participants in the research will not be published. Before applying the research instruments; the researcher informed students that their personal information would be kept confidential, that their identities would not be published and that the project would be used only for research purposes (see Appendix F). The researcher also explained to students that the information would not affect their grades and told them about the objectives to develop this research project, including the benefits of the study.

All the students confirmed their participation and affirmed they were interested in the development of this project. Consent letters were made known to the principal of the school (see Appendix G).

Reliability, Triangulation and Validity

Reliability relates to the accuracy of the gathered data; in this project, reliability was ensured as a consequence of deriving data from different research instruments. The use of more than one source of data was important to get more than one perspective on the topic. The data revealed similar findings that corroborated and indicated the accuracy in the outcomes.

Additionally, the reliability was determined, based on whether the findings were credible or

reliable, according to key elements. These included the number of participants, the piloting process of the research instruments, the use of different research instruments and design of the timeline for implementing the action plan to see possible, observable changes in the study.

Seale (1999) asserts that data triangulation involves using diverse sources of data. Thus, specifically, triangulation seeks out instances of a phenomenon in several settings, at different points in time or space. This is why the researcher used a range of evidence collected with the research instruments in order to have instances of the perception students had when using RSs in their reading process. This, in turn, meant that the meaning could be clarified by identifying different ways the phenomenon was perceived at different times during the research. Data was analyzed and the results were found to be similar, which confirmed and validated the findings based on the three data sources. This matched Craig's (2009) assertion, namely that triangulation occurs when multiple forms of data show similar results when analyzed, thereby confirming the researcher's findings.

The data provided relevant and useful information regarding the research situation involved. These multiple sources provided a rich resource for building appropriate understandings that formed the base for working toward the resolution of the research problem. This interpretative research validity process made the findings more convincing because evidence was provided that the problem the researcher identified at the beginning of the research had been successfully solved. Thus, the use of RSs allowed students to enhance the reading comprehension process, specifically the identification of main ideas. Herr and Anderson (2005) have argued that the process validity asks to what extent problems are framed and solved in a manner that permits ongoing learning of the individual or system.

In order to corroborate the information, the triangulation of these sources of data involved examination to determine, for example, if the data collected and the comments made by participants in the interview and students log were consistent, regardless of their answers in the graphic organizer and the students' checklist.

Procedures for data collection

I collected data for one month and a half. First, the log was answered by students in the last section at the end of the implementation of the project. In addition, the interview was applied at the end and the participants were interviewed one by one. Students completed the graphic organizer at the end of each section. I collected three graphic organizers from each student.

I placed everything in different folders; one folder for the students' log, another for the interview and a different one for the graphic organizer and students' checklists about the graphic organizers. As soon as I collected the information, I transcribed the data of the students log and the interview as well as the comments made by students in the graphic organizers' checklists. Regarding the graphic organizers, I scanned some of them and classified them in the artifacts folder.

In this chapter, a clear design of the research study was considered in order to have a clear view of triangulation. The researcher used triangulation technique to contrast and compare different data to permit her to interpret and analyze the results.

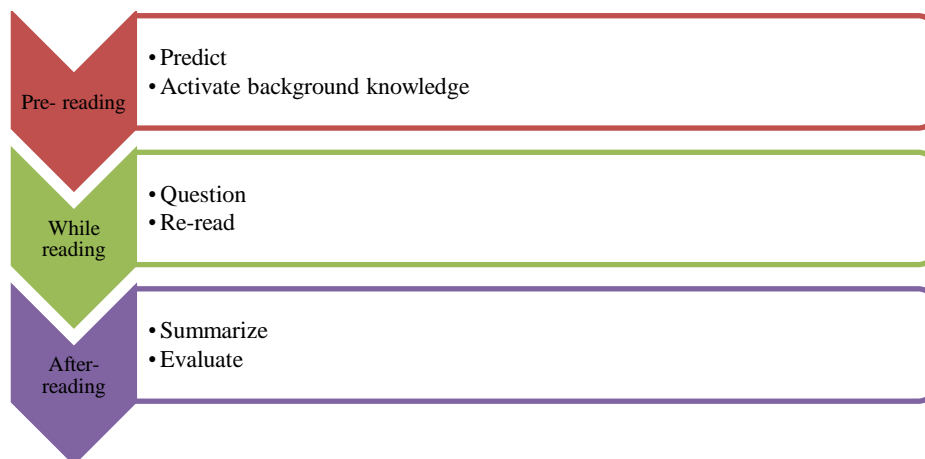
Chapter Four: Pedagogical Intervention and Implementation

Instructional design

In this section, the researcher explains the pedagogical design, which was conducted in the following way: a description of the steps and processes which were followed to solve the problem, a description of the units, lessons, materials, the ICELT lesson sample implemented and the timeline.

This pedagogical design focused on the process of reading comprehension of agronomy articles in which six strategies such as predicting, activating background knowledge, questioning, re-reading, summarizing and evaluating were used to improve the student's reading comprehension process, specifically the identification of main ideas. This pedagogical intervention was developed systematically through the “pre-reading”, “while reading” and “after reading” stages.

Figure 2. Stages in reading comprehension process.



The researcher proposed three stages during reading and two strategies in each stage, in order for students to improve their reading comprehension. Before starting to use the strategies, the researcher trained students on the use of them and emphasized different elements, regarding

when to use them; additionally, the teacher chose an agronomy article and demonstrated to the students step by step the way they could use each one of the strategies.

Pre-reading stage

The researcher familiarized students with the features of a text, so that they could find and use information more efficiently and explained to students that text features could include headings, subheadings, paragraphs separated by spacing, bulleted lists, pictures, diagrams, charts, graphs, italicized or bolded words or passages. The readers started to understand how to use these features to spend less time unlocking the text.

During this stage the researcher focused on two reading strategies:

Predicting

The researcher guided students to predict the content of the text, focusing on visual aids in the text such as: images, the title, bold or italicized words, figures and tables. The students started to predict the possible topic or content of the article through the visual aids. Students thought up at least two predictions about the possible content of the text and wrote them in their notebook.

Activating background knowledge

The researcher explained two activities. In the first activity, the researcher showed key words of the article using flashcards for each word in order to enable the students to identify and remember words and then connect them with the new information in the text (see Appendix I). In the second, the researcher pulled out a main idea from the text and asked students a question that related with the new information.

During reading stage

The researcher focused on two reading strategies:

Questioning

The researcher asked students to answer questions about the important ideas in the text while reading, using words such as where, what or why. Students wrote their questions and answered them in their notebooks.

Re-reading

Students paid attention to whether they understood what they were reading, and when they did not, they reread parts of the text that did not make sense.

After reading stage

The researcher focused two reading strategies:

Summarizing.

By highlighting words and phrases, students identified the details and the possible main ideas that pertain to a specific topic. Students read the text again to check and to classify supporting details and main ideas and then organized the important details and important words related with the main idea. Finally, they wrote the main idea in complete sentences in the GOs.

Evaluating

The researcher asked students to answer some questions themselves.

How well did I read and understand?

What strategies worked well for me?

What strategies did not work for me?

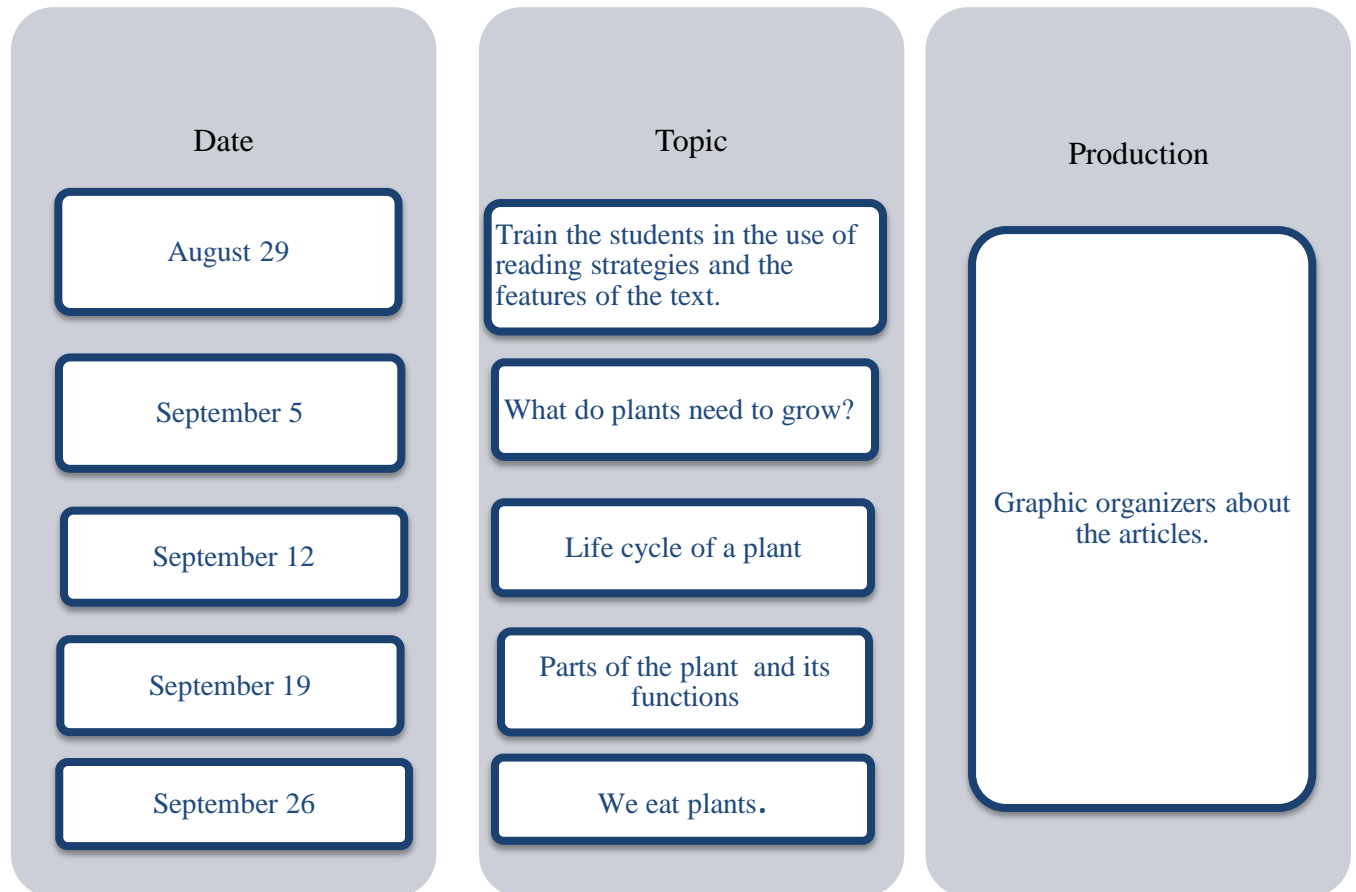
What should I do next time?

Do I need some help for next time?

How will I remember what I read?

The implementation of this project was divided into five cycles of five hours each, the first cycle being utilized to train students on the use of the strategies (a complete example of the process being given by the researcher who also explained to the students the features of a text); in each one of the cycles a different topic was implemented for five hours, using all six of the RSs for each one of the four agronomy articles and completing the GOs in all of its four sections.

Figure 3. Timeline



The materials, the units and the lessons

The researcher and students used different materials such as reading materials (agronomy articles), flashcards, GOs, student's notebook and ICELT lesson plans.

The reading materials were taken from Internet and adapted according to the English level of the students. The researcher redesigned the articles including text features useful to students in the strategies for predicting and activating background knowledge. Text features and visual aids such as heading, titles, paragraphs illustrations, pictures, diagrams, charts, graphs, italicized or bolded words were related with the topic of the article (see Appendix H).

Taking into account that graphic organizers are tools that help students to classify main ideas and organize them more effectively, illustrating key concepts, highlighting important details and pointing to support information, I used two different GOs in which students wrote the important words, highlighting important details and main ideas. (see Appendix I)

Participants used their notebook to write the predictions about the article, answer the questions before the reading, write key words presented by the teacher, takes notes of important details, secondary ideas and main ideas. The lesson plans were designed according to ICELT format (see Appendix J). Each stage was monitored by the researcher to support and provide learners with ideas and suggestions.

Finally, it is evident the pedagogical intervention has provided a clear vision of how best to help students acquire and use the RSs as support or scaffolding, allowing learners to foster good comprehension and move toward independent application of the strategies. The results and analysis of this intervention will be further discussed in the next chapter.

Chapter Five: Results and Data Analysis

This chapter aims to present the process used to analyze the data collected as well as the procedures used to validate the data process. In addition, the researcher reported the category and subcategories that emerged from the data collected.

For this analysis the grounded theory approach was used. According to Strauss and Corbin (1990) this is a general methodology for developing theory that is grounded in data which is systematically gathered and analyzed. During this research process, a theory was developed and evolved based on the interaction between the data gathered from participants' insights and perceptions, and the analysis phases carried out by the researcher. Analyses were carried out, following ground theory, in order to systematize data. These were open coding, axial coding and selective coding, in which the researcher discovered the patterns from the collected data and then advanced to name, group and find similarities among them. The features and the process applied in this project are explained below.

Open coding

As Strauss and Corbin explain (1990), open coding fractures the data and allow for the identification of certain categories, their properties, and dimensional locations. In this research, the process of open coding began in the following way: the researcher coded or labeled words and phrases found in the transcript, then underlined the most important and relevant information. A specific color was used to classify and organize those comments, insights and perceptions students had about the effects of using each of the RSs, motivational elements were also used. In short, color coding was used as a way to codify data.

Variables were identified, labeled, and categorized and then related in an outline form. The researcher identified codes in the data and simplified the information making a close

examination of information line by line and even sometimes of single words, as Strauss and Corbin suggest (1990).

Figure 4. Sample of key words from Question 1 taken from the students' logs.

1. Usted piensa que las estrategias le ayudan a identificar ideas principales? Si ____ No ____
Cuales estrategias _____ Porque? _____

S1 contestar la pregunta antes de la lectura. Releer y subrayar las ideas importantes. Luego hacer el resumen.

S2 visualizar

S3 releer, subrayar las palabras claves y las ideas más importantes. También contestar la pregunta antes de la lectura.

S4 contestar preguntas después de la lectura

S5 fue muy útil ver los dibujos, el título, las palabras resaltadas en negrita, algunos cuadros. Porque los dibujos y las palabras en negrita me dieron una idea clave.

S6 visualizar de que se trataba el texto observando los dibujos, luego contestar una pregunta relacionada con el texto con esta pregunta confirme de que se trataba el artículo .Luego releer fue importante porque hablan partes que yo no entendía pero al subrayar entendí más, cuando volví a leer entendí mejor, hacer preguntas porque me ayudo a enfocarme en diferentes partes del texto más en profundidad.

S8 resumir porque hay que enfatizar las ideas secundarias y las ideas principales.

S9 hacerme preguntas sobre el artículo me llevo a volver a leer, buscar las respuestas subrayarlas y luego organizarlas en el organizador gráfico, todo fue un proceso.

S10 visualizar, resumir y preguntar, porque desde antes de comenzar a leer uno se da cuenta a través de los dibujos, tablas, de que se trata el texto, luego al resumir en el organizador grafico uno clasifica información y finalmente cuando uno contesta las preguntas después de la lectura uno se da cuenta si entendió la lectura o no.

Axial coding

According to Strauss and Corbin (1990), axial coding puts those data back together in new ways by making connections between a category and its sub-categories. Based on this theory, the researcher puts data together in new ways using the paradigm model. The paradigm model allowed the researcher to make explicit connections between categories and sub categories in a set of relationships denoting causal conditions, phenomena, context, action and interactional strategies and consequences.

The students' logs, the interview transcriptions and the transcription of students' checklist of the artifacts were all read. The researcher then tried to determine the properties and dimensions from the information that could help her to determine students' insights regarding the effect of using RSs on the identification of main ideas. Afterwards, I grouped the codes found

and tried to reduce them by giving a preliminary structure of categories and subcategories which indicated that learners improved their reading comprehension skills; these were, specifically, the identification of main ideas regarding increased knowledge of vocabulary, appropriation of reading skills (constructing the meaning of the text) with the use of RSs.

After grouping the names for each instrument, the information was read several times and linked the facts provided from the instruments as a way to triangulate the information taking into account similarities and relations among the concepts found. In this way, the researcher compared the data and reduced the concepts into a category and three subcategories.

Category

The core of this work was to study how the comprehension of main ideas could be enhanced through the use of RSs while students were reading agronomy articles. To guide this research proposal the following research question was posed:

What insights can be gained from the effect of using active reading strategies to enhance the comprehension of main ideas?

As a result of the process and after analyzing the data from the instruments, the ideas were grouped into a core category: Improvement of the identification of main ideas. This unit refers to all those phrases and sentences students used when they talked about the importance of vocabulary knowledge and how it affected the comprehension process; it also included all those comments, ideas and sentences that students mentioned about the improvement in the reading comprehension processes as the result of using the six RSs, and how the use of the strategies raised students' motivation to better comprehend main ideas in agronomy articles.

After a systematic process of analysis, in which data was compared, the researcher found the most common properties, which came across in a category that could answer the main

question; in making this grouping, the three main subcategories were carefully considered as shown below.

Table 1. Categories and Subcategories.

Research question	Category	Sub-categories
<ul style="list-style-type: none"> • What insights can be gained regarding the effect of using active reading strategies to enhance the comprehension of main ideas? 	<ul style="list-style-type: none"> • Improvement of identification of main ideas. 	<ul style="list-style-type: none"> • Appropriation of vocabulary knowledge • Appropriation of reading skills. (constructing the meaning of the text) • Motivation and interest

Category 1: Improvement in the identification of main ideas

The main category (improvement of identification of main ideas) points at the relationships that emerge while the students were identifying main ideas in agronomy articles. The sub categories are *appropriation of vocabulary knowledge, appropriation of reading skills, (constructing the meaning of the text), motivation and interest.*

This category and subcategories highlighted the students' progress presented when they understood English texts by using RSs. In this way, this core category answers the research question.

The research instruments revealed that learners became aware of a set of RSs they could use through different reading activities. They gained self confidence in the use of strategies and established relationships among the strategies they learned. Additionally, the increased

vocabulary knowledge after reading each one of the articles allowed students to understand the text and identify the main ideas of the text faster and more clearly.

The use of RSs was linked to increase students' motivation. Readers were conscious that they have the ability to improve the reading comprehension skill employing different, more effective, reading strategies. Motivation played an important role because students determined that they can transfer the same strategies to different contexts.

Subcategories

Appropriation of vocabulary knowledge

This concept included clear evidence that when students started to read the agronomy articles, they used context cues such as visual aids to acquire the vocabulary. Students identified and interpreted some of the unknown words that were illustrated with visual aids (See Excerpts 1). The use of visual aids helped students to strengthen and reinforce the meaning of the vocabulary; they easily understood the meaning and associated the word with the visual aid. As Allen, Kate and Marquez (2011) argue visual aids allow students to absorb the information through an additional sensory perception.

Furthermore, students made connections between the new words with their previous knowledge and the text in which it appeared (See Excerpts 2). This finding is supported by Nuttall (1996) who claims that it is necessary to make use of the context to have a more satisfactory interpretation of unfamiliar words. The students used their background knowledge and the context to guess the meaning of unknown words and after were able to make sense of the text (See Excerpts 3).

Additionally, students claimed that they learnt new words by seeing them several times in different contexts (See Excerpts 4) when they saw a word repeatedly; they started to recognize it,

identify it, understand it, use it and learn it. It was easier for students to comprehend, remember and learn these words (See Excerpts 5). As Pressley (2002) argues, students benefit from seeing the same word several times because they gather more information about it, until they acquire an idea of what it means.

Furthermore, students increased word knowledge in the process of incidental vocabulary learning through multiple exposures in various reading contexts (See Excerpts 5, 6). As Shanahan (2006) indicates incidental learning of vocabulary occurs when students read.

These findings were relevant to the improvement of the reading comprehension process because students increased vocabulary knowledge and this new knowledge allowed them to comprehend the text more easily and quickly (See Excerpts 6).

To summarize, the extracts below indicate that learners focused on visual aids to guess the meaning of some unknown words and learn them. The family relation between words allowed students recognize and learn vocabulary (See Excerpt 2). As Cook (1991) asserts, the acquisition of vocabulary is meaningful when it is in relation to other words. Additionally, the frequency of the same words presented within the several articles in different contexts allowed students to learn and reinforce an amount of vocabulary knowledge. Finally, students increased vocabulary through the simple act of reading.

Antes de leer el texto, a través de los dibujos voy a tratar de entender el significado de las palabras desconocidas para mí, hoy identifique algunas palabras desconocidas y comprendí su significado antes de leer, esto me ayudo bastante para comprender de que se trataba el texto, para clasificar las ideas principales de las secundarias, para responder las preguntas sobre la lectura y finalmente aprendí más vocabulario.

(Excerpt 1) from log of student 6, October 3rd 2012.

Hacer conexiones del nuevo vocabulario con los temas que ya habíamos visto por ejemplo yo sabía que sun era sol y en el nuevo texto encontré la palabra sunlighth yo relacione que esta nueva palabra tenía que ver con el sol, y en el texto aparecía un dibujo de luz solar entonces de esta forma comprendí que sunlight era luz solar.

(Excerpt 2) from log of student 3, October 3rd 2012.

Lo qué más se me dificultó al leer el artículo en ingles fueron algunas palabras que no me acordaba del significado. Por ejemplo yo no sabía que significada soil pero entonces leí toda la oración que decía Water and minerals are taken from the soil through roots. Entonces como yo sabía que raíces es roots deduje que soil era algo que estaba cerca a las raíces. Luego asocie que el agua y los minerales los toman las raíces del suelo así comprendí la idea.

(Excerpt 3) from log of student 5, October 3rd 2012.

Al ver el mismo vocabulario o vocabulario relacionado a lo largo de los talleres aprendí bastante nuevas palabras en Inglés, por ejemplo sobre las partes de la planta en inglés, sus funciones los nutrientes que necesitan las plantas para crecer , el ciclo de vida de la planta. Aprendí el vocabulario desconocido por que en la mayoría estaba dibujado el tema principal mostrando las partes en inglés.

(Excerpt 4) from log of student 9, October 3rd 2012.

Recordar el vocabulario, en las primeras lecturas comencé a entender que significaban palabras como, parts of theplant, nutrients, wáter, sunlight ,temperature, roots, soil, después en la siguiente lectura vi nuevamente las palabras entonces las recordé como ya las había visto leí más fácil y rápido ya en la tercera lectura ya recordaba el significado de cada una de las palabras ya me sabia las palabras.

(Excerpt 5) from log of student 10, October 3rd 2012.

Aprender nuevo vocabulario, con este nuevo vocabulario fue más fácil y más rápido entender el texto.

(Excerpt 6) from Log of student 7, October 3rd2012.

Appropriation of reading skills. (Constructing the meaning of the text)

Predicting

The use of visual cues was a useful tool because students had a general idea but also because they predicted the content of the text. Predicting allowed students to relate their knowledge with the new information to give possible hypothesis about the content of the text.

The following excerpts show the evidence (See Excerpt 5, 6)

Viendo las imagines fue una gran idea para entender de qué se trataba el párrafo por ejemplo cuando vi el agua caer sobre la planta la asocie que era un elemento para que la planta creciera, luego cuando vi el sol entendí que la información en ese párrafo hablaría sobre que la luz solar era otro elemento que la planta necesitaba para crecer. La tierra la asocie con los nutrientes que la planta necesita y el termómetro simbolizaba la temperatura que se debe tener una planta.

(Excerpt 5) from log of student 3, October 3rd 2012.

Si, una de las estrategias que más me ayudo fue la estrategia de visualizar porque con ver los dibujos, y los cuadros tuve una idea clara del tema del artículo. El dibujo le da una clave sobre las ideas en cada párrafo.

(Excerpt 6) from log of student 14, October 3rd 2012.

Prediction allowed students to expand understanding, developing mental images that represent the ideas in the text. "Reading the pictures" allowed students to infer and anticipate information of the text and hypothesize what the author will say in the text (See Excerpt 7). As Duke and Pearson (2002) argue, successful readers make predictions about what is to come.

Si, utilice ayudas visuales para tener una idea de que se trataba el texto, estas fueron observar los dibujos, el título, la letra en cursiva porque son ayudas que te dan una idea general sobre el tema del artículo, y te ayuda a adivinar de que se tratan algunas partes del texto.

(Excerpt 7) from interview of student 5, October 10 th 2012.

Si, comencé a comprender de qué se trataba en general el texto cuando leí la letra en cursiva, al leer estas oraciones en letra cursiva tuve un idea sobre de que se trataría el artículo antes de leer más específicamente el texto.

(Excerpt 8) from checklist of student 7, October 10th 2012.

Logre comprender más el contenido del texto porque lo que yo hice fue observar las palabras claves, esto me ayudo a ganar nueva información las palabras claves fueron un ingrediente clave para predecir de que se trataría la lectura. Luego yo comencé a visualizar rápidamente y a lo largo del texto se repetían varias veces las palabras plants, root, leafes, stem ,flower, seed, fruits, functions. Esto me ayudo a predecir que el texto se trataba sobre las partes de la planta y sus funciones.

(Excerpt 11) from log of student 7, October 3rd 2012.

Based on the samples presented, these extracts demonstrated that students used visual cues to increase the effectiveness of predicting thereby developing a general idea and a better understanding of the text , to become familiar with it. Mihara (2011) reported in her research study that when key words of the reading are given to the students before reading, then this has proved a successful strategy for students to understand the text.

The relevance of using visual cues is that these aids allowed students to predict the content of the text. These findings are similar to the results of the studies carried out by Zabala (2004), Echeverri and McNulty (2010) who reported that making predictions helped students to explore the topic before they read and thus understand it better. Through this strategy students focused their concentration on the reading and checked their expectations about the reading.

Activating background knowledge

There was clear evidence in relation to this project of how learners were able to bring to mind their own knowledge that was relevant to understanding the text. The extracts below indicated that learners focused on the previous knowledge they had about the topic and they

related it with the text, including word knowledge. The activation of background knowledge was through visual aids (Excerpt 9) and answering a question before the reading (Excerpt 10).

Antes de leer el artículo visualice los dibujos los cuales señalaban las partes de las plantas, la letra que estaba en negrilla mostraban palabras como parts of the plant and its functions. Lo cual me llevo a la conclusión que el texto se trataría sobre las partes de la planta y sus funciones. (S 4 checklist)

(Excerpt 9) from checklist of student 4, October 10th 2012.

La pregunta que encontré antes de la lectura hacía referencia a si sabía cuáles eran las partes de la planta y si sabía cuáles eran sus funciones lo cual me llevo a recordar algunas partes de la planta en inglés y recordar algunas de las funciones finalmente entendí que el texto se trataría de ese tema. (S 2 Interview)

(Excerpt 10) from interview of student 2, October 10th 2012.

The relevance of the fact that students used background knowledge was highlighted when they affirmed it was easier to understand the text, because when they answered a question before the reading it helped them to make a connection between what they already knew and the new information. As Cummins (2009) considered, asking questions is a cue to guide the content of the text. Research by Rowe and Rayford (1987) suggest that the teacher can facilitate students' activation of background knowledge by having them answer questions before and/or while they read the material.

Furthermore, prior knowledge activation through visual aids allowed students to build appropriate background before reading the article (See Excerpt 9). These visual aids gave them ideas about the content of the text. Similarly, Echeverri and McNulty (2010) used visual aids and questions to activate students' background knowledge in order to generate ideas about the topic.

In the previous samples (Excerpt 9, 10) the researcher found that using and building prior knowledge before the reading task was crucial to help students actively link new knowledge to existing knowledge. Students learned to make connections and take advantage of what they

already knew. They started to understand new ideas and concepts based on vocabulary and ideas they already had.

This was clearly observed from the students' answers in the three instruments in which the researcher found that commonality. Undoubtedly, this study indicates that activating background knowledge allows students to think about the text before reading and this greatly enhances comprehension. These findings are similar to the results of the study carried out by Zhaohua (2004) who reported that background knowledge activation is the key to understanding the upcoming text.

Re-reading

There is a clear evidence of how important the use of this strategy was for a better comprehension of the text when students were facing some confusing part in the text; they could make a better reading to clarify information. As Robb (2013) argues, the re-reading is useful to improve comprehension since students can understand difficult words and find words and sentences that the learner skipped in the first reading; re-reading helps students to make sense of the text.

The data demonstrated that most students affirmed this strategy was useful because they found words and sentences they skipped in the first reading. In the re-reading, students could make sense of the text focusing on difficult words that were understood by the context (See Excerpt 13). Re-reading the text was very useful in the identification of main ideas (See Excerpt

Con la ayuda de esta estrategia, logre mejorar la comprensión pues con calma volví a leer y comprendí mejor el vocabulario, logre entender de qué se trataba esa parte en inglés.

(Excerpt 12) from log of student 8, October 3rd 2012.

Si sobre todo en la parte de las funciones de la raíz, me confundí porque había algunas palabras desconocidas pero al volver a leer y por el contexto u por las imágenes me imagine el significado de las palabras desconocidas y logre comprender mejor esa parte del texto que estaba un poco difícil de entender.

(Excerpt 13) from GO checklist of student 5, October 10th 2012.

Releer me ayudo a darle más sentido al artículo.

(Excerpt 14) from interview of student 2, October 10th 2012.

Releer me ayudo a entender palabras difíciles y desconocidas que en la primera lectura no había podido entender.

(Excerpt 15) from log of student 5, October 3rd 2012.

Students recognized that they become better readers (See Excerpt 12). Using re-reading strategy was crucial to help students to make sense of the article. This is highlighted in (Excerpts 14, 15.)

Questioning

Questions allowed students to find specific answers and start to differentiate between main ideas and secondary ideas (See Excerpt 16). Vacca (2002) argues that skilled readers ask questions during the reading and seek the answers to clarify ideas and improve their reading comprehension.

Students affirmed that generating questions during reading benefited comprehension because formulating questions allowed students to analyze and interpret the text at a deep level since learners had to re-read specific parts of the text to answer the questions (See Excerpt 17, 18). Similarly Baier (2005) reported in his research study that results demonstrated significant improvement in students' scores when students ask themselves questions while they were reading.

Si, mientras leía yo hacía preguntas para que me guiaran a identificar la información más importante en el texto y luego poder identificar las ideas principales.

(Excerpt 16) from log of student 10, October 3rd 2012.

Las preguntas me llevaron a volver a leer detenidamente en determinadas partes del texto y allí encontrar ideas importantes e ideas secundarias.

(Excerpt 17) from log of student 7, October 3rd 2012.

Based on the data it could be argued that asking questions allowed students not only a better understanding of the text but also clarifying meaning, focusing attention on specific components of the text.

**Si yo hacía preguntas mientras leía para verificar la comprensión yo hice preguntas como :
Que entendí del párrafo que acabe de leer?
Cuales palabras representan las ideas principales?
Luego de responder las preguntas tuve una mejor comprensión de lo que estaba leyendo.**

(Excerpt 18) from GO checklist of student 9, October 10th 2012.

Summarizing

There was clear evidence, in relation to this concept, of how learners were able to summarize not only by identifying the main ideas but also by including ideas related to the main idea and by removing redundant information to summarize the text, (See Excerpts 19, 20, 21).

The data indicated that learners focused on useful aids such as key vocabulary and key sentences as useful tools to guide them to condense important information and organize it in a GO (See Excerpt 22). These findings were clear evidenced in *figure 4*.

Furthermore, the use of GO was a useful tool to summarize articles because students outlined the relationships among main ideas, secondary ideas or important details and words that were related to each one of the main ideas. These findings are similar to the results of the study carried out by Roa (2011) when she reported that GOs allowed students identify the most important information and discriminate relevant from irrelevant information.

Clasificar las ideas secundarias de las ideas principales en el organizador grafico fue interesante, importante y útil porque me ayudó a organizar las ideas y luego decidir cuáles eran más importantes al distribuir la información aclare dudas de cuales eran más importantes y cuáles no.

(Excerpt 19) from line 23 of GO checklist of student 8, October 10th 2012.

Thus it might be argued that this finding is relevant and supported when Grabe (2009) asserts that the use of the GOs creates an important combination of main ideas and allows student to recognize text structure and highlight main concepts and their relationship with supporting information.

El organizador grafico me fue útil para identificar las ideas principales porque primero identifique los detalles más importantes, la evidencia para apoyar las ideas principales.

(Excerpt 20) from log of student 7, October 3rd 2012.

Resumir me ayudo a clasificar, comparar y analizar ideas y conceptos.

(Excerpt 21) from interview of student 8, October 10th 2012.

Un organizador grafico me ayudo a escribir diferentes detalles relacionados con el tema y luego me guio a determinar la idea principal.

(Excerpt 22) from log of student 5, October 3rd 2012

Subrayar palabras importantes y frases importantes pues cuando tuve que completar el organizador grafico fueron ayudas claves para recordar la información y diferenciarla de las ideas secundarias.

(Excerpt 23) from log of students 6, October 3rd 2012.

Figure 5. Example of an artifact used by a student.

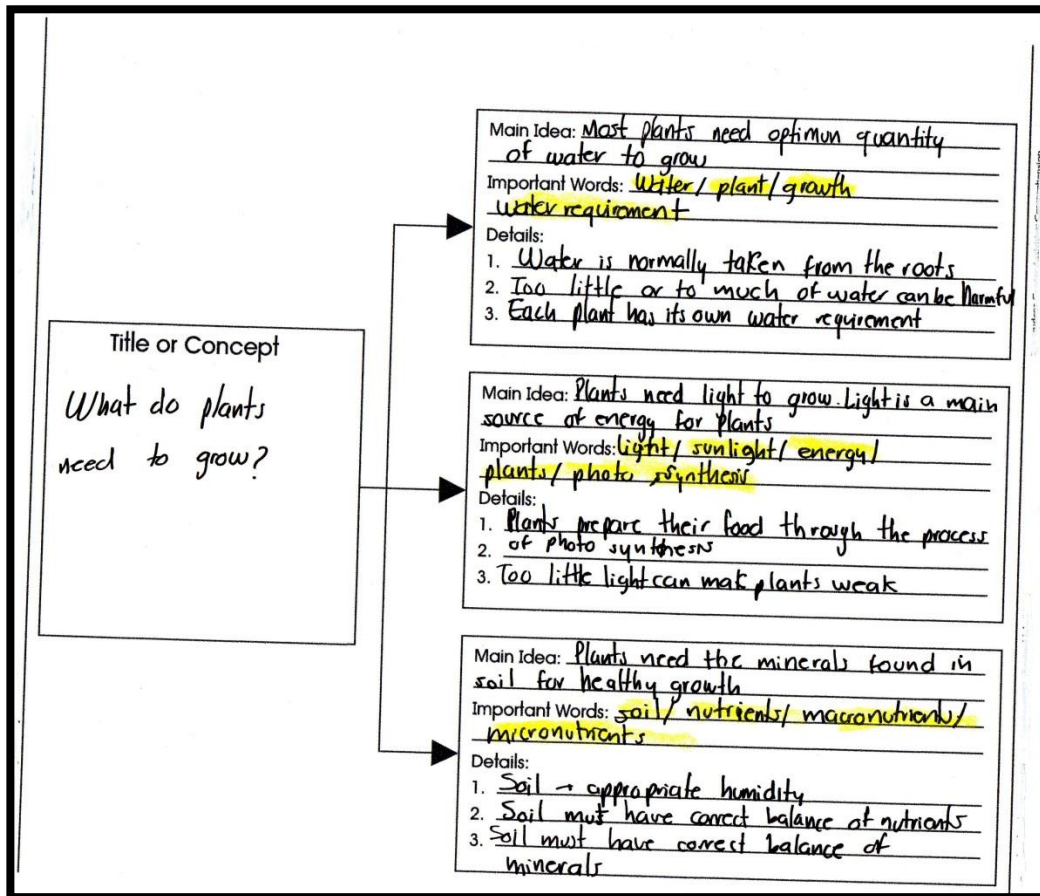
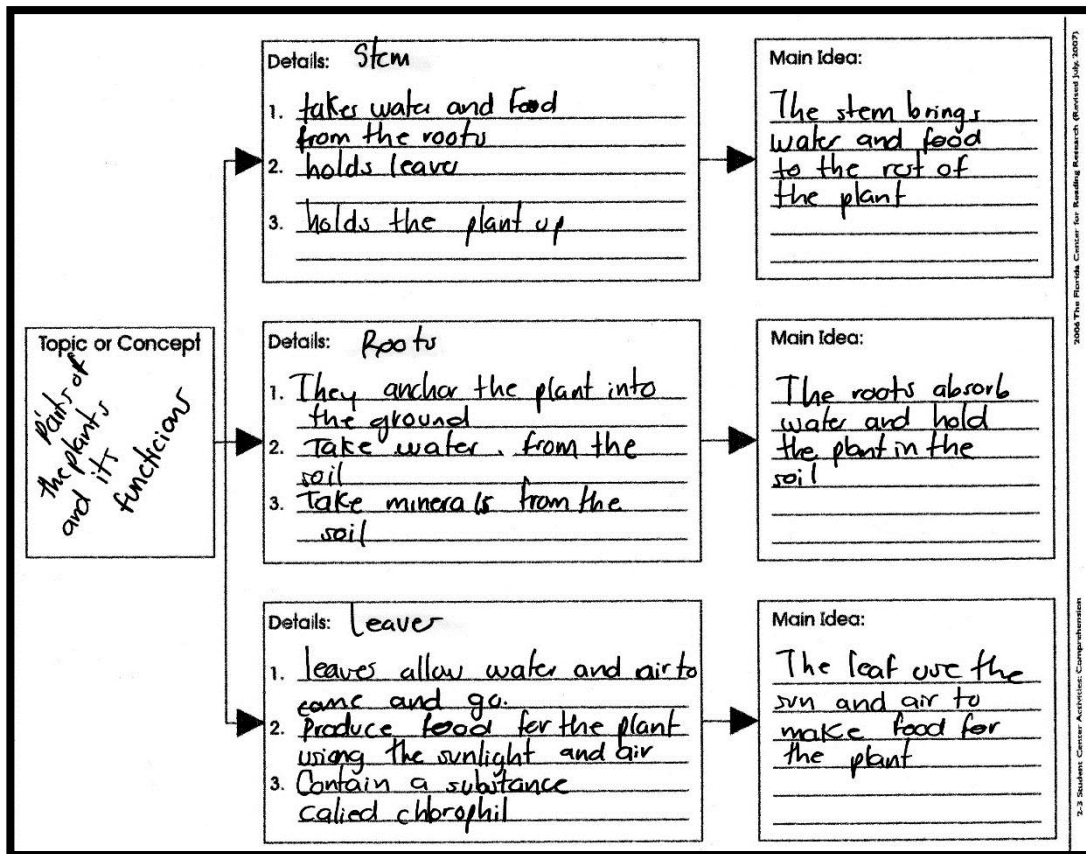


Figure 6. Example of a GO completed by a student after reading.

In the artifact is highlighted how students identified details, key words and main ideas.



Evaluating

There were clear pieces of data that supported the fact that when students became conscious of how the use of appropriate RSs improved their reading comprehension process, they realized they achieved more effective results. They were aware of when, how, why they could use the strategies. Similarly, Zurek (2006) found in her research study that this metacognitive strategy allowed students to solve their problems during reading and led them to become strategic readers. Therefore, they had control of the use of the RSs by themselves (See Excerpt 23). The relevance of the fact that students used evaluating strategy was that they monitored their comprehension process and were able to realize if the strategies allowed them to

better comprehend texts or not (See Excerpt 24). The researcher asserts that these findings are supported by Carrillo (2010) since in her study it was highlighted that students followed a self-evaluation tool in which they reflected their own process.

Far from being passive readers who are unable to select appropriate strategies to try to overcome or solve the difficulties in the text, in this project it was highlighted that students become aware of the characteristics an efficient reader must have to be successful in their reading comprehension process and how to solve these difficulties using the RSs (See Excerpt 23). The following excerpt shows the evidence.

Para mi evaluar mi propio avance en la comprensión de lectura fue bueno, me di cuenta de las estrategias que fueron más fáciles para mí y me ayudaron más en comprender el texto por fueron visualize, active background knowledge, summarize y saber que puedo utilizarlas en las próximas lecturas.

(Excerpt 23) from interview of student 6, October 10th 2012.

Sí, yo realmente soy consciente que antes no sabía que existían estrategias que podían ayudar en la lectura utilizaba algunas de ellas pero sin saber y por lo tanto no era organizado, ahora que soy consciente y aprendí las estrategias me gusta utilizarlas porque aprendí que se hace antes de leer, cuando estoy leyendo y después de la lectura para entender el texto. Ahora soy consciente de como las debo utilizar y cuando.

(Excerpt 24) from interview of student 8, October 10th 2012.

To conclude with this subcategory, students' responses demonstrated that the use of RSs gave them supports, aids, clues, and a set of steps that successful readers can use to make sense of the text and differentiate between supporting details and main information. Reading comprehension strategies helped students become active readers who are in control of their own reading comprehension. They are able to monitor when, how and why they should use a reading strategy in order to improve their comprehension process.

Motivation and interest

This subcategory presents the different elements of how students felt when they used the RSs, what kind of attitudes they showed, what their impressions were, towards the use of RSs to identify main ideas in English.

Attitudes, motivation and interest were reflected in the students' answers in the interview and the log about the use of RSs to identify main ideas. The following exemplifies how the motivation helped in the identification of main ideas.

Lo que más me motivo es que uno no se aburre leyendo porque primero está viendo los dibujos y las imágenes y estos dan una idea general de lo que se trata el texto, después es muy interesante responder una pregunta antes de leer porque uno responde la pregunta comienza a recordar y relacionar lo que uno sabe de ese tema, la pregunta es una gran ayuda pues es una guía, cuando uno comienza a leer ya tiene una idea de que se tratará el texto definitivamente para mí fue más fácil comprender el artículo sobre partes de la planta y sus funciones. (S 2 interview)

Si, volvería a utilizar las estrategias en el futuro porque son herramientas que me ayudaron a comprender más fácil el texto, viendo las imágenes, el título(S 8 interview)

(Excerpt 25) from students' interview, October 10th 2012.

In this extract, the student recognized how the use of some RSs motivated him to better comprehend main ideas in a text. Students affirmed that besides translating the texts there are more RSs available, all these motivated them to read a text more quickly and easily. They could visualize in their minds the content of the reading before they began, allowing them to develop their creativity and motivation.

Students were able to remember information they already knew and then formulate and answer questions before and during the reading process. The completion of GOs allowed students become organized students additionally; they became aware of the real functions and use of RSs.

The extracts below indicate that learners are also interested in transferring the use of these strategies to other subjects.

Claro que sí, utilizaría las estrategias en otras materias porque es una forma más fácil, organizada y sencilla que te llevan a comprender textos en inglés.

(Excerpt 26) from log of student 12, October 3rd 2012.

Seguir los pasos que hicimos durante la clase porque son muy claros y me ayudaron a entender mejor el texto.

Utilizar las estrategias para comprender mejor un artículo o cualquier otra cosa como un cuento, un texto.

(Excerpt 27) from log of student 3, October 3rd 2012.

In brief, the core category and subcategories highlighted students' improvement in the reading comprehension process and in the identification of main ideas, to reach this improvement students had to follow a process. First, using predicting and activating background knowledge strategies, students gained new and activated existing vocabulary knowledge which allowed them to read more easily and quickly. Then re-reading, questioning and summarizing strategies allowed students to make sense of the text and construct the meaning of the text to understand it thoroughly. Students demonstrated to be able to solve problems as they engage with the comprehension of the text. In this sense, the students' reading comprehension was regarded as a process rather than a particular outcome or product.

Chapter Six: Conclusions and Pedagogical Implications

In this study, the researcher mainly studied the effects of using RSs to enhance the comprehension of main ideas in agronomy articles, by analyzing a group of high school learners who lacked training in the use of RSs to comprehend main ideas.

The results of this study lead to two central conclusions. The first conclusion relates to the fact that RSs reveal themselves to be useful for reading comprehension improvement (mainly the identification of main ideas), since the students demonstrated that making use of each one of the strategies by following a complete process gave them the support and scaffolding necessary to comprehend the texts and allowed them to more easily differentiate main ideas from supporting details.

As seen in this study, students had the opportunity to work with six RSs. They recognized them as tools that guided their reading comprehension. Students become aware of when, how and why they should use the strategies. Similarly to Zurek (2006), the use of RSs facilitated the general learning process in other areas of learning and allowed students to become successful readers.

This present study demonstrated that during the pre-reading stage students became aware that making predictions using visual aids allowed them not only to have a general idea, but also give specific predictions about the content of the text. These findings support the results reported by Zabala (2004) who states that prediction gave students a deeper analysis of the text and permitted the students to have a general idea about the possible meaning of the text.

Regarding background knowledge contributions were also essential in students' reading comprehension process, which allowed them to better understand the texts, answering questions helped students not only to think about new ideas but also focus on specific information which

was the key to have a clear idea about the topic of the text. Additionally, the activation of prior through interpretation of visual aids gave students ideas about the content of the text. These results support the findings by Zhaohua (2004) who argues that background knowledge activation focus students' attention on detailed information, which is the key to understand the content of the text and improve comprehension.

The “while reading” stage, re-reading and questioning strategies allowed students to clarify information. Students clarified confusing parts of the text by re-reading. In comparison with the findings reported by Baier (2005) and Mihara (2011) in my study the students also decomposed the reading through each one of the questions they formulated by themselves, they clarified confusing parts of the text by re-reading. More successful understanding of the text, through deep analysis and clarification of meaning, was obtained when students formulated key questions while they were reading. The relevance of re-reading the text was to find key words and sentences they skipped in the first reading which allowed them to make better sense of the text.

During the “after reading” stage students used two strategies: summarizing and evaluating. Similarly to the findings by Echeverri and MacNulty (2010), Roa (2011) who reported that the use of GOs allowed students to discriminate relevant information to summarize the content of the text. In this study, graphic organizers also allowed them to identify main ideas, supporting details from these main ideas and remove any that were redundant, to then summarize the text. Students used a GO that allowed them to underline key words and information, as well as classify the relationships among main ideas and secondary ideas.

Finally, awareness and reflections about the importance of using RSs was provoked in students. They realized about the role that RSs played to enhance the identification of main ideas. They monitored their reading comprehension process and became aware of how, when and why use them; they achieved more effective results after using the RSs.

Furthermore, students recognized the benefits of the appropriation of vocabulary knowledge, since this new knowledge allowed them to comprehend the texts easily. They expressed that they learnt new words by seeing them several times in different contexts, and they read to find out the unknown words, underlined them, and then looked at the visual aids to interpret the meaning, as well guessing the meaning of unknown words through the context.

All three the stages were useful for students because they gave support in order to help learners to overcome difficulties in their reading comprehension process. RSs were absolutely useful tools for language learners. Students of tenth grade will need them in the future: at work or at university. Students will use the strategies in a learner-centered methodology.

In this study, the results related with general reading comprehension, in conjunction with the findings reported by Ozek and Civelek (2006), Echeverri and MacNulty (2010), Carrillo (2010), Fuenzalida (2011), demonstrated that combining all these RSs allowed increase students' knowledge, led students to be motivated to read, understand better reading texts, develop reading comprehension skills and consequently improve students' level of reading comprehension.

The second conclusion is related with the students' motivation .The findings of this study indicated that using the RSs led students to be motivated to read. They felt encouraged, interested and more organized in their reading comprehension process. Students' personal reactions indicated to be interested in transferring the use of these strategies to other subjects.

As opposed to the traditional way of teaching reading comprehension, in this study the integration of learning strategies within the “pre”, “while” and “after” reading activities allowed students to go beyond the single fact of answering comprehension questions about the text. These stages led students to comprehension through a process in which were included six RSs, all of which facilitated the reading comprehension process.

In brief, the results achieved with the implementation of this project showed that the six RSs chosen for developing reading comprehension skills, (mainly in the identification of main ideas in agronomy articles), are useful for students because combining the six RSs, they better understood the texts, learnt more vocabulary and students felt more encouraged to read. Additionally, the findings of this study suggest the importance of incorporating and recognizing the significance of developing effective RSs to provide the students with greater learning opportunities, furthermore to make reading in a second language an autonomous process. Active readers must consider the need to improve all their RSs through constant practice and constant evaluation of their own reading comprehension process.

Pedagogical implications

Reading is a long process that implies time and attention, so it is necessary to work with RSs for a longer period of time in order to obtain better results and to make sure students learn to use them. Although the researcher involved students in a detailed explanation and familiarization with the reading strategies, it is important to take more time in which students can practice and use the strategies.

This project allowed the achievement of new actions in the reading comprehension processes specifically in the identification of main ideas; students improved their reading

comprehension, which was important and a requirement to fulfill with SENA program. Students pass the English competence and they obtained the certificate as technicians.

The researcher hopes that the results of this study provide ideas for other EFL teachers who are interested in improving their students' reading comprehension. Additionally, one of the most important actions for the researcher has been the engagement of students to use the RSs even in other subjects.

Another important implication for the researcher is to continue supporting public Institutions in regard to the use of RSs to improve the students' reading comprehension process since, as an English instructor of SENA's articulation program, the researcher has to evaluate the English competence of different technicians' programs in eighty public schools from the Boyaca department, all of which are articulated with SENA CEDEAGRO. The interesting implication has been that, with the development of this project, the researcher has shared her experiences with some English teachers of these public institutions in an informal dialogue, discussing observations and findings as well as the benefits for students and the motivation that it has given them.

After the researcher has trained these students in the use of the six RSs, they will be able to continue using them with their English teachers and through an English articulation Blog; In the bog they will find two readings according to the technical specialty of each school. The activities in the blog will require the use of all six reading strategies. At the end of each one of the sections she will continue to ask students what strategies allowed them to better understand the English text.

Limitations

During the development of this study the present researcher encountered a difficult situation that made the process harder. At the beginning of the process, she organized a data collection chronogram. However, she had to change the chronogram many times because there were cultural activities in the school and the process of implementation was disrupted. This difficulty was overcome by reprogramming the new dates of implementation.

Recommendations for further research

In the data analysis process, it may be observed that learners improved not only in terms of reading comprehension and identification of main ideas, but they also improved their vocabulary knowledge. I consider that it would be appealing to carry out similar studies that emphasize in detail each one of the RSs and take into account the students' learning styles

(visual, auditory, and kinesthetic)

Furthermore, it can be observed that some students used some specific strategies more frequently than others. I think that it would be worth exploring the reasons why students focus on certain strategies rather than others.

On the other hand, the use of different types of the RSs also contributed to having more dynamic and participative classes. Another contribution could be to carry out research to identify the effectiveness of RSs in other subjects such as Math, Social studies etc.

Considering that improving reading achievement and enhancing reading skills among students must remain a top priority for reading researchers and teachers, in this research study, I have suggested some directions in reading research that might enhance the reading achievement of different students in different contexts and levels and taking into account that high reading achievement is a critical prerequisite for future successful educational performance and

participation of my students and different population in society. In this sense, it is necessary that teachers instruct students not only the basic reading comprehension skills as a "product", but also as a "process" in which students can use different RSs to face with possible difficulties when reading. It is important that teachers train students on the use of different RSs including metacognitive strategies in order to students monitor their own reading comprehension process.

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Appendix A

Needs Analysis Questionnaire

Estudiantes Institución Educativa Santa Rita de Casia.

Por favor responda las siguientes preguntas, recuerde que su identidad y la información serán confidenciales y no tendrá ninguna incidencia en sus calificaciones.

1. ¿Cuál de las siguientes habilidades se le dificulta más?

- Escucha _____
- Lectura (Comprensión de lectura)_____
- Escritura _____
- Habla_____

¿Por qué?_____

2. ¿Le gusta leer y comprender textos en inglés? SI_____ No_____

¿Porqué?_____

3. De los siguientes tipos de textos ¿cuál le gusta más leer en Inglés?

- Agronomía
- Pecuaria
- Preservación de Recursosnaturales
- Cultura general
- Textos de la clase de inglés.
- Otro

Cual?_____

4. Que estrategias utiliza usted para comprender textos en Inglés en forma escrita?

1. Mirada preliminar estructurada y predicción títulos, subtítulos, cuadros, imágenes, introducciones entre otras. Si _____ No_____

2. Subrayar palabras claves. Si _____ No_____

3. Identificar la idea principal. Si _____ No_____

4. Lluvia de ideas Si _____ No_____

- 5. Preguntas previas Si _____ No_____
- 6. Realización de mapas conceptuales. Si _____ No_____
- 7. Traducción del texto Si _____ No_____

5. ¿Cómo fue su experiencia al leer textos en Inglés relacionado con los recursos naturales y la protección de los mismos?

Muy buena _____ Buena _____ Mala _____ Muy mala_____

6. Enuncie algunos aspectos aprendidos

7. Escriba que aspectos se le dificultaron sobre la lectura

8. ¿Cómo cree usted que se mejoraría esta experiencia?

9. ¿Cuáles de las siguientes actividades usted realiza para comprender textos en inglés

- Comprender frases y vocabulario
Si _____ No_____ ¿porqué? _____
- Comprender la idea general en mensajes breves claros y sencillos.
Si____No_____ ¿porqué?_____
- Encontrar información específica y predecible en escritos sencillos
Si_____No_____ ¿porqué? _____
- Encontrar vocabulario y expresiones de inglés en anuncios folletos, páginas web etc.
Si_____No_____ ¿porqué? _____
- Realización de inferencias basadas en el contexto de lo leído.
Si_____ No_____ ¿porqué? _____

- Utilizar el conocimiento previo para predecir información e inferir el significado de palabras desconocidas.

Si_____ No_____ ¿porqué? _____

- Identificación de estructura gramatical

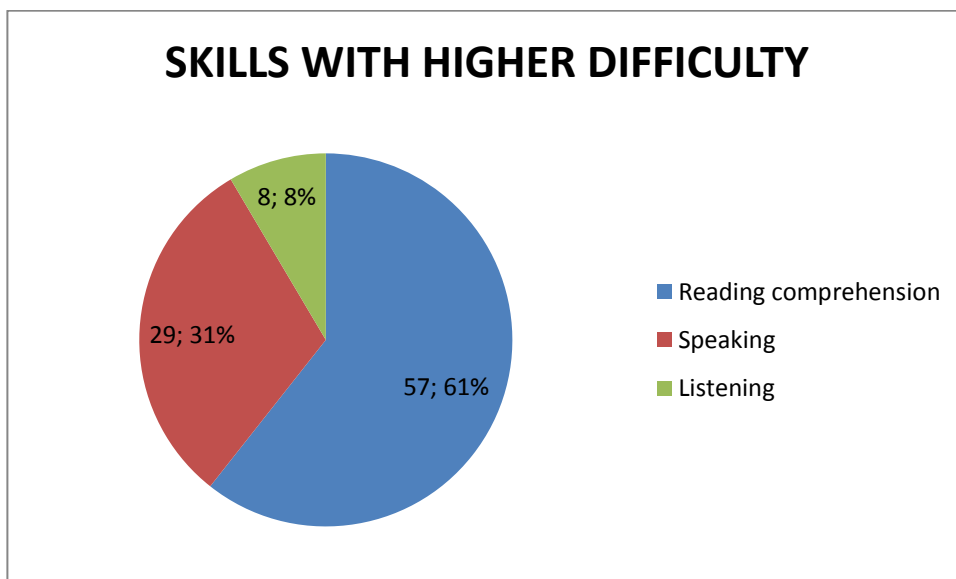
Si_____ No_____ ¿porqué? _____

GRACIAS POR SU COLABORACION.

Appendix B

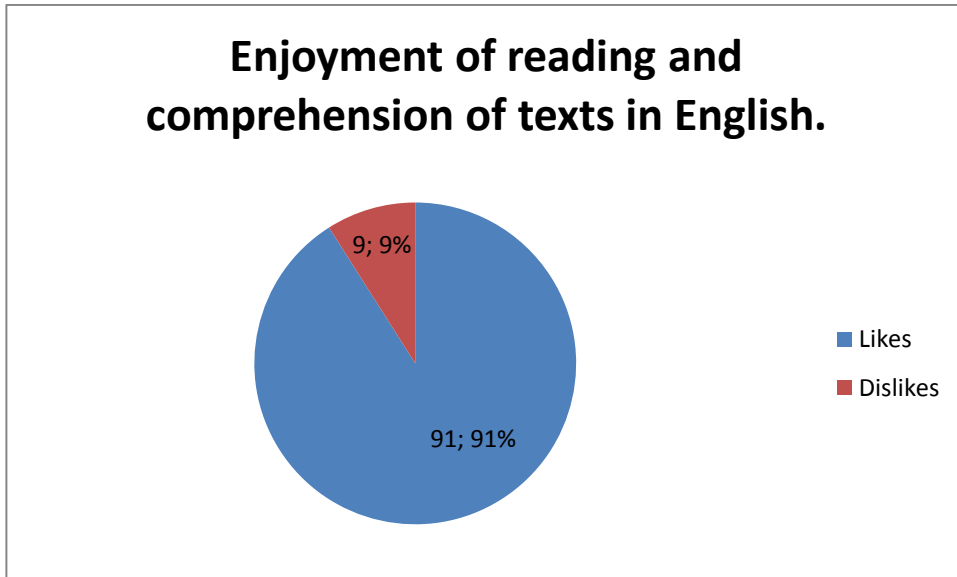
Data Analysis of the Needs Analysis Questionnaire

To the question: **Which of the following skills is more difficult and why?** 57 percent of students answered that the reading comprehension is the most difficult skill. They affirm they do not know most of the vocabulary, they must translate all the text to understand it, they do not know what kind of strategies there are to identify the main ideas, they do not understand most of the text because since sixth grade they have not received a class of reading comprehension in which they have learned the steps to improve reading comprehension.



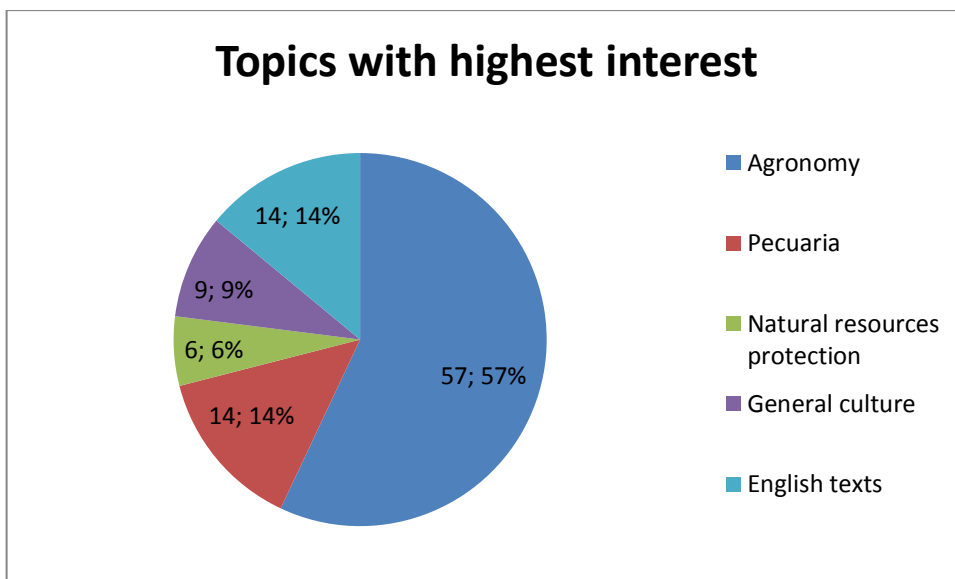
To the question: **Do you like reading and understanding texts in English?**

Ninety one percent of the students answered yes, because through reading they can learn vocabulary. Most of the students emphasized they would like to learn vocabulary and new information about agronomy in English.

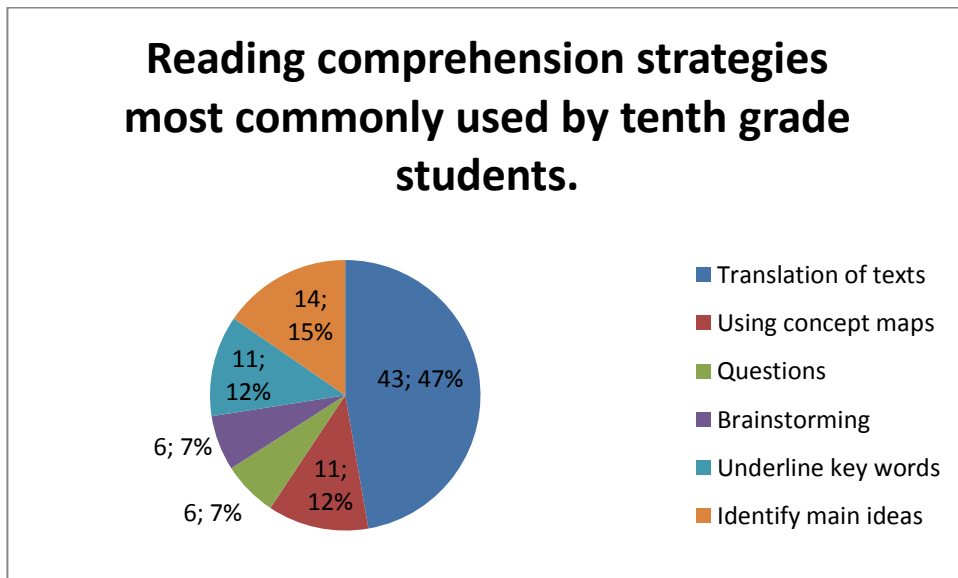


To the question: **Which ones of the following types of texts would you like to read the most in English?**

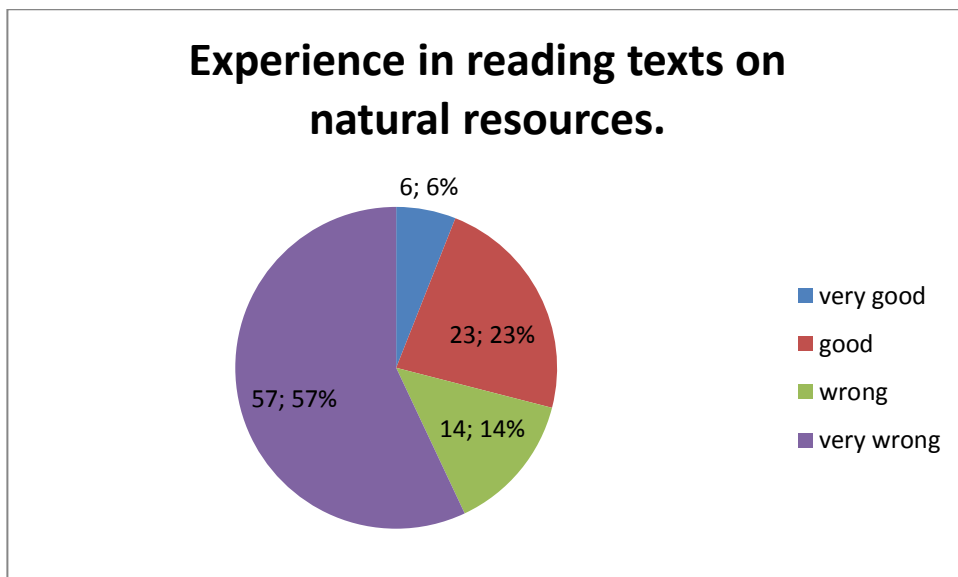
Fifty seven percent of the students answered they like to read texts about agronomy because they have enough knowledge in Spanish and want to learn all these topics in English.

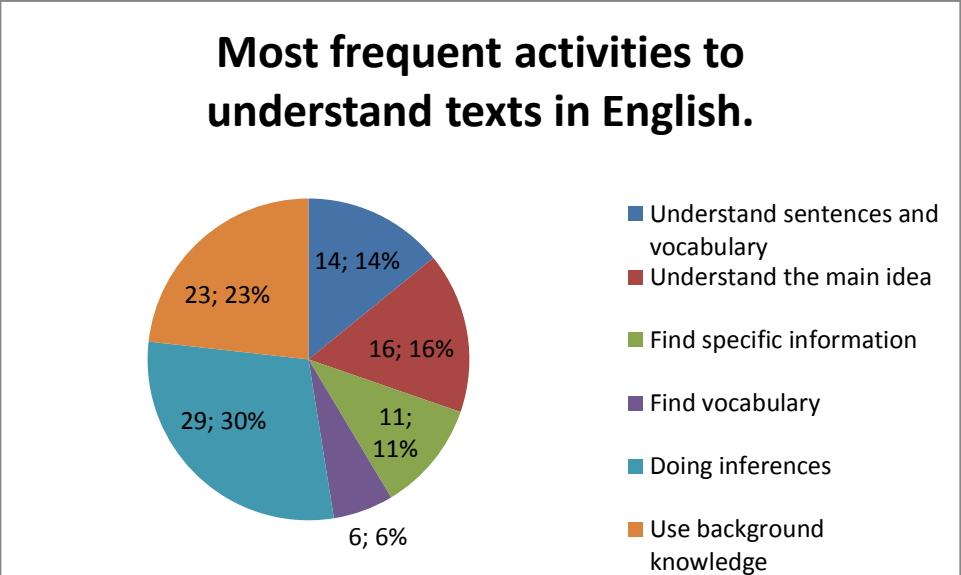


To the question: **What reading strategies do you use to understand texts in English?**



To the question: **How was your experience in Reading English texts related to natural resources and their protection?** Twenty nine percent of students answered that the experience was bad because they did not know the vocabulary, they did not understand most of the words and it was difficult for them to identify main ideas.





Appendix C

Interview

Institución Educativa Santa Rita
Students' eleventh grade

Por favor responda las siguientes preguntas. Recuerde que su identidad e información solicitada será confidencial y con propósitos de investigación.

1. ¿Usted considera que su nivel de comprensión de lectura en Inglés ha mejorado después de que usted utilizó las estrategias de lectura? ¿Por qué?
2. ¿Qué estrategias de lectura usted utilizó para comprender mejor las ideas en artículos de Agronomía en Inglés? ¿Por qué?
3. ¿Usted utiliza ayudas visuales para predecir de qué se trata el texto? ¿Cuáles? ¿Por qué?
4. ¿Usted relaciona lo que ya sabía con los aspectos más importantes en su lectura? ¿Por qué?
5. ¿Usted hace preguntas mientras lee? ¿Por qué?
6. ¿Usted relee una parte del texto cuando usted no lo entiende? ¿Por qué?
7. ¿Usted resume los detalles más importantes en el texto utilizando un organizador gráfico? ¿Por qué?
8. ¿Usted evalúa sus avances en la comprensión de lectura? ¿Cómo?
9. ¿Usted utiliza estas estrategias en otras materias? ¿En otras tareas? ¿Cómo?
10. ¿Utilizaría las estrategias de lectura en el futuro? ¿Por qué?

11. ¿Utilizaría las estrategias de lectura en otras materias?¿Por qué?

Appendix D

Logs

Institución Educativa Santa Rita.
Students' eleventh grade

Por favor responda las siguientes preguntas. Recuerde que su identidad e información solicitada será confidencial y con propósitos de investigación.

1. Usted piensa que las estrategias le ayudan a identificar ideas principales?

Si _____ No _____

Cuales _____

Porque? _____

Cómo? _____

2. Lo que más me gustó de la clase fue

3. La estrategia o estrategias que utilice antes de leer el artículo fue

4. Durante la lectura del artículo fue buena idea

5. Cuando relacioné lo que ya sabía con la nueva información del texto me sentí

6. Cuando me hice preguntas sobre la lectura del artículo comprendí

7. Cuando hice el resumen de la lectura en el organizador grafico me di cuenta que

8. El organizador gráfico me sirvió para

9. Cuando volví a leer el artículo comprendí que

10. Lo que más se me dificultó al leer el artículo en inglés fue

11. La próxima vez que lea un artículo voy a

12. Considero que el uso de las estrategias me benefició en

LOGS

Institución Educativa Santa Rita.

Por favor responda las siguientes preguntas. Recuerde que su identidad e información solicitada será confidencial y con propósitos de investigación.

1. Usted piensa que las estrategias le ayudan a identificar ideas principales?

Si X No _____

Cuáles? Visualizar, activar conocimiento previo, releer, preguntar, resumir.

Por qué?

Las estrategias son ayudas que le permiten a organizar las ideas

Cómo? Identificar las ideas principales fue más fácil porque como entendí el texto pude diferenciar lo importante de lo no tan importante.

2. Lo que más me gustó de la clase fue

Lo que más me gustó de la clase fue al clasificar las ideas en el organizador gráfico, porque aprendí a diferenciar los detalles de las ideas secundarias de las ideas principales

3. La estrategia o estrategias que utilice antes de leer el artículo fue

Ver en general todo el texto, teniendo en cuenta los dibujos, la letra, el título y también contestando una pregunta que había antes de la lectura.

4. Durante la lectura del artículo fue buena idea

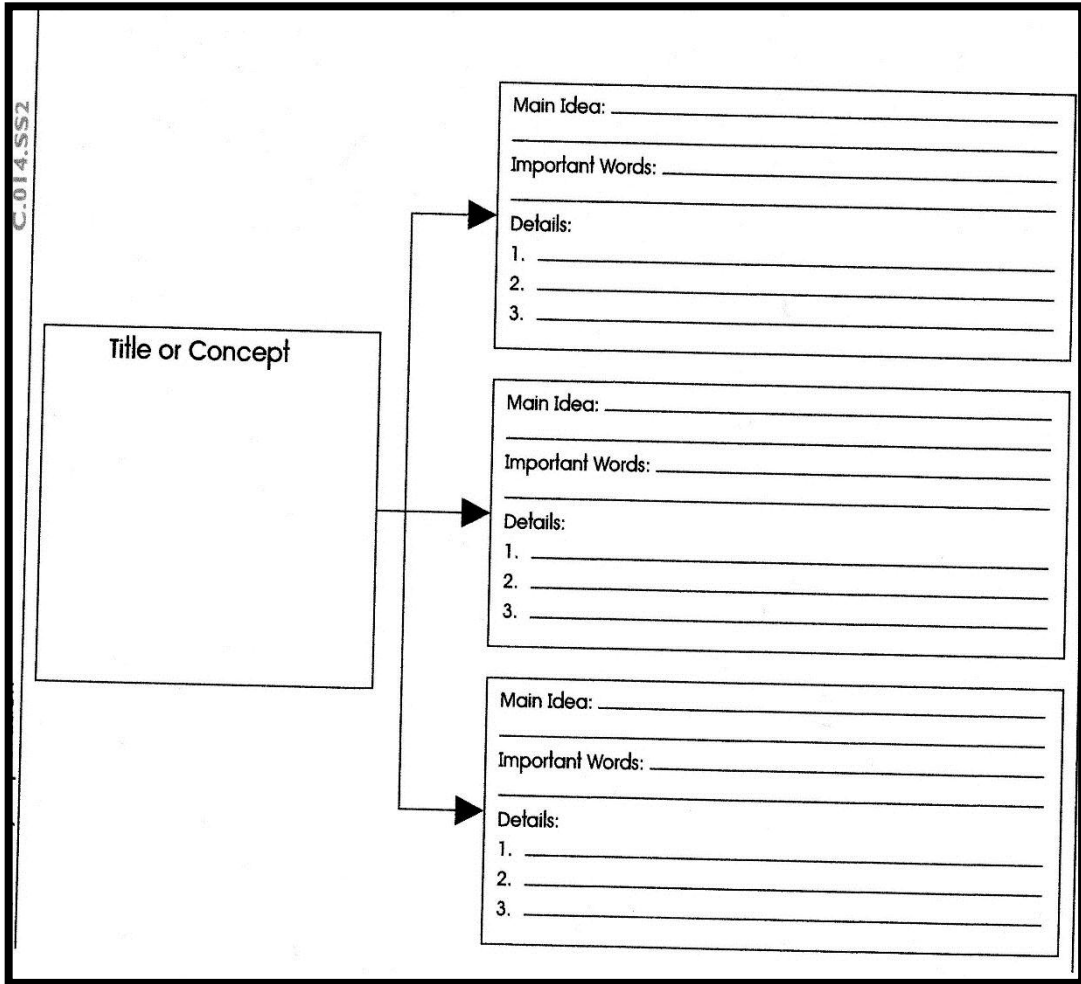
habían algunas partes que no entendí, entonces fue mejor volver a leer, también buscar en el diccionario algunas palabras desconocidas

5. Cuando relacioné lo que ya sabía con la nueva información del texto me sentí

Más familiar con el texto y el tema, es más fácil cuando uno ya tiene algunas ideas sobre el tema del artículo que cuando el tema es desconocido y uno no sabe nada sobre ese tema.

Appendix E

Example of Graphic Organizer



The Florida center for Reading research (2007b)

Appendix F

Consent Letter

Beteitiva, 01 de Marzo de 2012

Señores
Estudiantes Grado 11
Ciudad

Apreciados Estudiantes:

Como es de su conocimiento, en el área de Inglés se pretende desarrollar un proyecto educativo llamado: **Developing students' reading comprehension skill through using six active reading strategies in agronomy articles** con el objeto de diseñar actividades de comprensión de lectura para ser realizadas a través del trabajo en equipo y así contribuir al progreso de esta habilidad.

Para este propósito se llevaran a cabo 6 talleres de comprensión de lectura en las horas de clase en las que usted participaran activa y voluntariamente, su profesor guiará el proceso. Para hacer el seguimiento del desarrollo de este proyecto se realizaran algunos cuestionarios, entrevistas y desarrollo de logs, los cuales servirán de soporte para analizar su participación en los talleres y el desarrollo de su competencia escrita.

A los participantes se les garantiza estricta confidencialidad con la información que se obtenga y este proyecto no tendrá incidencia alguna en las notas correspondientes al curso.

Como constancia que conocen esta información y la aprueban, por favor firmar el presente documento.

Nombre _____

Agradezco su colaboración.

Appendix G

Consent Letter

Institución Educativa Santa Rita de Casia.
Formato de Autorización –Directivos
Beteitiva, 01 de Marzo de 2012

Señor
Jorge David Castellanos Velandia
Respetado Señor
Ciudad

Con el deseo de contribuir al desarrollo de la comprensión de lectura en el área de Inglés, se pretende desarrollar un proyecto educativo llamado *“Desarrollar la comprensión de lectura en los estudiantes a través del uso de estrategias activas de comprensión en artículos de agronomía”* dirigido a los estudiantes de décimo grado.

Para este propósito se llevarán a cabo talleres de comprensión de lectura en las horas de clase de inglés durante el segundo semestre del 2012 donde los estudiantes participarán activa, individual y voluntariamente y guiados por el docente del área. Para hacer el seguimiento del desarrollo de este proyecto se llevarán a cabo algunas entrevistas, logs o diarios académicos, cuestionarios, los cuales servirán de soporte y evidencia para analizar la participación y desarrollo de la competencia de comprensión de lectura de los estudiantes.

A los participantes se les garantiza estricta confidencialidad con la información que se obtenga y este proyecto no tendrá incidencia alguna en las notas correspondientes al curso.

Para que quede constancia que conocen esta información y la aprueban para ser desarrollada en su institución solicito firmar el presente consentimiento.

Agradezco su atención prestada,
Cordialmente,
Vilma Consuelo Amaya Pérez
Estudiante Maestría didáctica del Ingles Universidad de la Sabana.

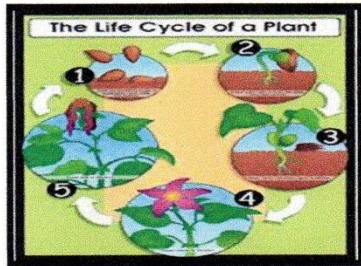
Jorge David Castellanos Velandia
Rector

Appendix H

Example of an Agronomy Article

Plant Life Cycles

Plant Life Cycles



Makewaves (2011)

Every living thing goes through changes. Living things grow through different stages. Then they reach the end of their life cycles and die. There are many kinds of plants. Each kind has its own life cycle.

Many plants start their life cycles as a *seed*. The seed needs certain things or it will not grow into a plant. Sometimes seeds wait in the ground until they can get the things they need. They wait for warmth from the sun. They wait for water. When they have what they need, they start to grow.



Day (n.d)

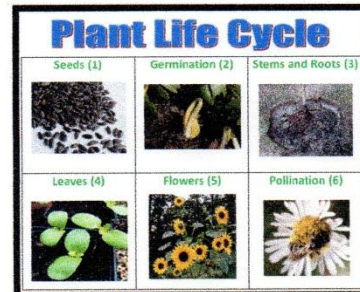
Plants receiving water.



Everything ponds (n.d)

Plants receiving sunlight

A tiny little sprout will push out of each seed. The sprouts stretch up until they poke through the dirt and into the air. The plants continue to grow when they get sunlight and water.



Loving 2 learn (n.d)

Plant Life Cycles

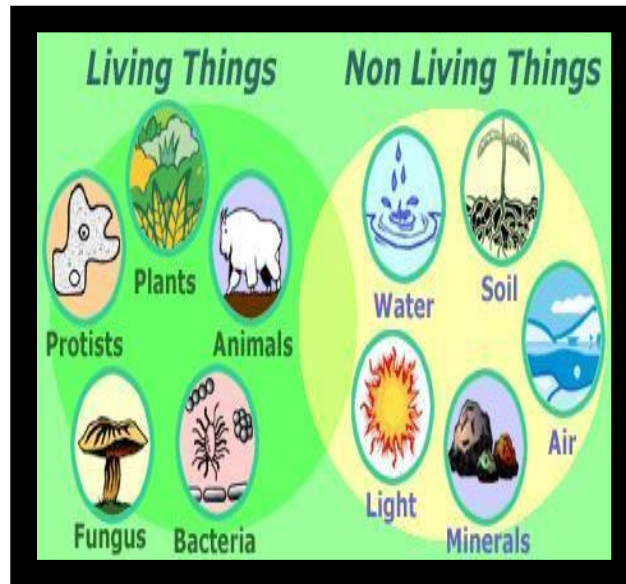
The ***stems*** grow taller and leaves unfold. More leaves and stems grow on the main stems. The adult plants grow flowers. The ***flowers*** of many plants make fruit. The ***fruit*** has seeds inside it so more new plants can grow.

New plants look like their parent plants. Seeds from a parent plant will grow into the same kind of plant as the parent. When a seed begins to grow, it is the beginning of another plant life cycle

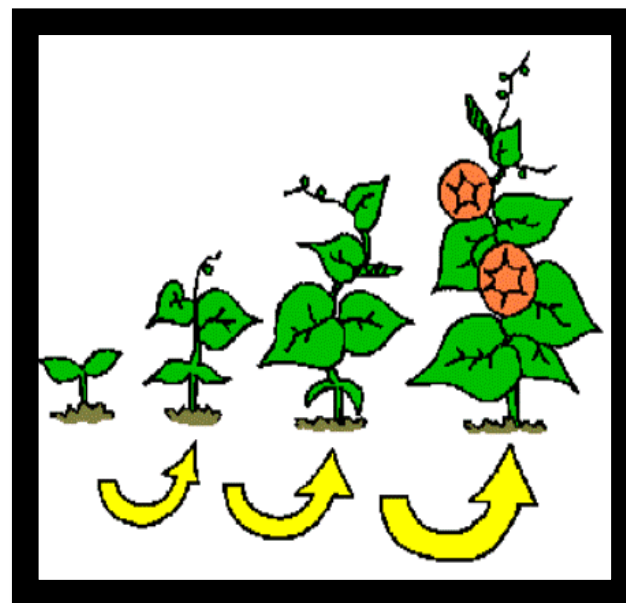
Reading instruction resources for teachers and parents.(2011)

Appendix I

Flashcards Used in the Sessions



Thomas (2011)



One year bible blog (2012)



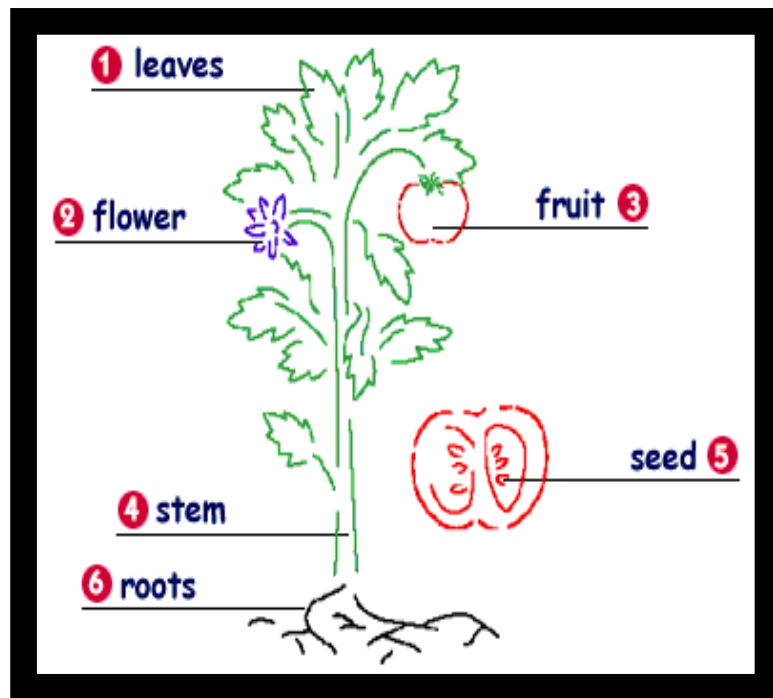
Seedfreedom (n.d)



Life with toast (2010)



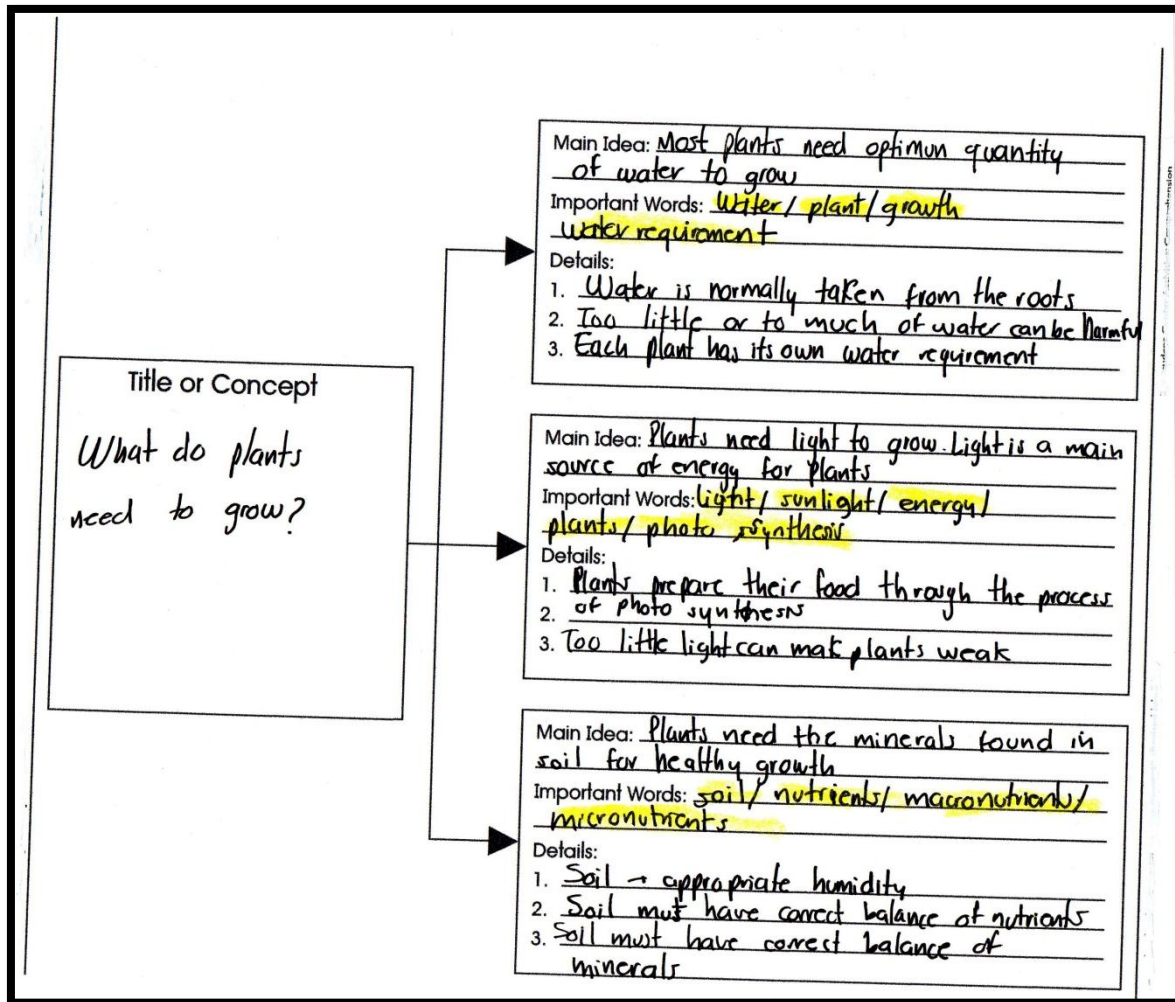
Volusia County (2012)



University of Illinois Extension (2013)

Appendix J

Example of a graphic organizer completed by a student after the reading.



The Florida center for Reading research (2007a)

Appendix K

ICELT Lesson Plan

STAGE / AIM	STEPS OR ACTIVITIES FOLLOWED IN EACH STAGE.	
<p>PRE - READING STAGE</p> <p>Getting the readers ready to read the text, motivating learners to read, making predictions about what is coming next, as well as associating ideas in the text to what they already know.</p>	<p><i>Reading strategies:</i></p> <ul style="list-style-type: none"> • <i>Predicting</i> 	<p>Teacher asks students to see and analyze the title, the images, the bold or italicized words, figures and tables.</p> <p>Teacher asks students to write on their notebooks at least two predictions about the content of the text based on the visual aids.</p>
	<ul style="list-style-type: none"> • <i>Activating background knowledge.</i> 	<p>Teacher shows students different flashcards illustrating the key words of the reading through visual aids. After students receive appropriate input and clarify the meaning of some unknown words through the explanation given by the teacher and the visual aid, they start the next activity.</p> <p>Teacher asks students a key question that is connected with the main topic of the text in order for the students to make connections between what they already know and the new information.</p>
<p>WHILE READING STAGE</p> <p>Taking advantage of the linguistic and schematic knowledge using their own inferring and judging abilities to deduce</p>	<ul style="list-style-type: none"> • <i>Questioning</i> 	<p>The teacher asks students to formulate in their notebook different questions that attempt to answer important ideas about the text.</p> <p>The students decide what kind of questions they can do. The teacher gives some ideas as to what they would like to know more about, what predictions they can make, if a particular detail</p>

<p>the writer's purpose.</p>		<p>is important, what they think the writer means.</p>
<p>AFTER READING</p> <p>Focusing more deeply on the information in the text and reflecting upon the self process of reading comprehension.</p>	<ul style="list-style-type: none"> • <i>Re-reading</i> 	<p>Teacher asks students to re-read the text in the confusing parts in order to guess the meaning of hard words using the context.</p>
	<ul style="list-style-type: none"> • <i>Summarizing</i> 	<p>Teacher asks students to underline the key words, important details and main ideas in the text.</p> <p>Teacher asks students to re-read the text in order to classify and differentiate the supporting details from the main ideas. They classify the main ideas from the supporting details in their notebooks.</p> <p>Finally, students organize in the graphic organizer the important details, important words related with the main idea and then write the main idea in the graphic organizer.</p>
	<ul style="list-style-type: none"> • <i>Evaluating</i> 	<p>Teacher asks students to answer the following questions in their notebook in order for the students to evaluate their own reading comprehension process.</p> <p>How well did I read and understand?</p> <p>What strategies worked well for me?</p> <p>What strategies did not work for me?</p> <p>What should I do next time?</p> <p>Do I need some help for next time?</p> <p>How will I remember what I read?</p>

DEVELOPING STUDENTS' READING COMPREHENSION SKILL THROUGH USING ACTIVE READING STRATEGIES IN AGRONOMY ARTICLES