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The Impact of Pre-Reading Strategies through Online Reading on EFL Students' Reading Comprehension

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Master of Arts in Teaching English as a Foreign Language

By

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Abstract

Pre-reading strategies are commonly used in numerous instructional environments for a variety of reasons. It is well adapted for use in English as a Foreign Language (EFL) classroom as an introduction to the reading portion of the curriculum. The present study intends to improve students' reading comprehension by integrating online reading alongside pre-reading strategies in an English Afterschool Program in Armenia. It determines the learners' level of progress after the application of the online reading with the pre-reading strategies, as well as their perceptions and inspiration towards them. The quasi-experimental study, which incorporated action research, was conducted with treatment and comparison groups of students. The participants of the comparison group completed the pre-reading strategies in a traditional method, which was without the inclusion of online reading, while the treatment group learners completed this stage with the utilization of searching tools on the Internet. This research contained mixed method data: qualitative data were conducted through interviews and class observations, while quantitative data were obtained through pre- and post-tests, as well as weekly assessment tests. Enhancement in reading comprehension through pre-reading strategies was highlighted as the outcome of the quantitative data analysis, and the findings of this study indicated the essentiality of the online reading incorporation in the pre-reading stage as it ensures to have a major impact upon the advancement of reading comprehension, engagement, and interest of students.

CHAPTER ONE: INTRODUCTION

Reading is among the most essential skills learners should develop to gain a better understanding of the target language. The purpose of reading comprehension is to acquire the text completely rather than partially (Gilakjani & Sabouri, 2016). Any reading section is stated to be divided into three stages which are pre-reading, whilst-reading and post-reading (Al-Faki & Siddiek, 2013). The pre-reading stage is a significant factor which helps learners have better comprehension of the text: it enables them to gain background knowledge, get prepared for the following passage, and enjoy the process of reading: it causes students to reflect on their existing knowledge around the content of the reading passages (Alemi & Ebadi, 2010).

Another factor that is helpful for better comprehension, is the inclusion of technology in the reading task (Stearns, 2012). It allows students to access unlimited information on the provided context discussed in class: through online reading, students are exposed to wider perspectives on the topic of the text as they get familiar with various articles and websites that have been created with different genres around the same themes (Salmerón et.al. 2018). However, it is stated that reading information online by looking through various websites, following keywords and finding the needed information require skills of a search engine: students should be technologically savvy to be able to surf the Internet in an effective manner (Coiro & Dobler, 2007). It is an advantage for the younger generation to use the Internet during tasks as it already is a habit of their everyday life and there may be less difficulties encountered by them.

One way to measure students' understanding level of the reading passages with and without the integration of technology, is through the application of various pre-reading strategies and discovering the most impactful one on their understanding. The utilized strategies in this

research are the pre-questioning, pre-teaching vocabulary and brainstorming. The effectiveness

and impact of each has been argued in the literature through the implementation of them on

diverse groups of students (Mousavian & Siahpoosh, 2018; Ghabanchi, & Behrooznia, 2014).

However, there has been comparatively little research done on adopting search tools and utilizing

the Internet with each pre-reading strategy and assessing the influence it has on students'

apprehension of the reading texts in an EFL classroom.

Accordingly, this mixed method study was done within the context of action research and

emphasizes on the completion of pre-reading strategies with non-traditional methods, which is

the inclusion of actively using searching tools, and with traditional ones, without the inclusion of

technology. The tools for data collection included interviews, classroom observations, pre and

post tests as well as weekly assessment tests. It compares reading task results that point to the

comprehension of Armenian intermediate level learners enrolled in an English Afterschool

program. The following are the questions that are to be addressed and answered in this study.

1. Does the inclusion of online reading with pre-reading strategies influence reading comprehension? If so, how?

2. Which pre-reading strategies are most effective with and without the incorporation of online reading?

3. What are students' attitudes towards pre-reading strategies completed with and without online reading?

The results of this study will highlight the effectiveness of online reading and using

searching tools during the pre-reading exercises. Teachers are going to be provided with a unique

perspective of delivering pre-reading tasks with the combination of technology when utilizing

textbook materials. Moreover, the study will offer tutors the opportunity for the consideration of

including and experiencing non-traditional practices in the curriculum. By doing so, students'

engagement during reading activities, having better understanding of written works, and

completing reading exercises productively may be recognizable.

CHAPTER TWO: LITERATURE REVIEW

2.1 The Role of Reading Comprehension in Teaching

Reading is one of the essential skills students can learn during the period of their education (Donough et al., 2013). It is both intentional and unintentional mental operation, and readers use a number of techniques to comprehend the purpose intended to be revealed by the writer and they accomplish this by connecting details provided in the content to the information they have previously gained (Mikulecky, 2008). The process of obtaining knowledge from a published document is also defined as reading: a reader accumulates implications from a text by transforming letters to vocabulary, vocabulary to clauses, and clauses to a set of words, and this procedure enables the reader to be able to recognize all the information on the documents precisely (Eskey, 2002).

Reading comprehension is defined as producing meaning from the text and the aim of it is to understand the content of the text as a whole instead of certain parts of it (Gilakjani & Sabouri, 2016). It is an intellectual or physical action performed in order to optimize some aspects of comprehension, it also is referred to as the capacity to grasp the concepts and relationships between ideas expressed in a text by going beyond the sentences (Dhillon et al., 2020). Students' skills in word recognition while reading can have an effect on their interest and understanding: when students have insufficient skills in understanding word and letter relationships, they fail to grasp the content of the reading text, and as a result, the disinterest in reading for entertainment decreases, and correspondingly, students who have good word recognition skills, but incapability in understanding the content, can stop the activity of reading (Sanford, 2015). Furthermore, the lengthier a passage is, the more challenging it becomes to

understand it, since there are more concepts to interpret and incorporate into the ideas presented in the text (Harvey, 2018). It is also claimed that the best way to achieve comprehension is through the relation between the reader and the text (Al-Faki & Siddiek, 2013). The active interaction of the reader and text results in better acquisition of the accessible information in the passages (Jahangard et al., 2012). Another way of successfully achieving understanding is by learning how to acquire it: A vast body of research suggests that we are able to help students learn the techniques and methods utilized by good readers and that this increases their general understanding of texts, both the ones used to teach the techniques and those read by them for pleasure (Duke & Pearson, 2009). Many other techniques can be used to enhance comprehension while completing reading exercises: maintaining vocabulary comprehension and building a setting in which learners are exposed to the new vocabulary, enabling appropriate linguistic competence, teaching sentence order, developing intellectual curiosity for reading activity and correctly enabling and allowing previous information into the teaching (Grabe, 2004). Other factors that affect apprehension is the involvement of students in reading exercises: unlike students who have intrinsic motivation, those who have extrinsic motivation are not consistently involved while reading, which can have a damaging influence on the ability of reading, and the involvement of learners are also influenced by their engagement levels as learners do not partake in practical tasks which are necessary for the improvement of comprehension (Sanford, 2015).

Reading is a multilayered and immersive procedure during which readers use their schemata to create a concise depiction of written material: in order to achieve a full comprehension of texts, schemata is important (Al-Issa, 2006). In addition, the first language and the cognitive schemata of the reader decide what they recognize in a context as well as the way they relate their schemata to the content, whereas the L2 readers' cognitive interpretations are

dependent on the language they were born with: the meaning of this statement is that readers' perspectives and acquirement of texts will differ because of their cultural background and point of view of language competence (Mikulecky, 2008). Another important factor in the reading practice is metacognition: readers who obtain a deeper metacognitive knowledge of the meaning of reading texts as well as their individual techniques to comprehend the text, will differ from the learners that do not (Jun Zhang, 2001). Furthermore, the imagery content in the reading passage blends with the non-imagery detail in a person's mind to gain understanding in the process of reading: in this sense, the knowledge that exists in one's mind is almost as critical as what appears on the document when it comes to making context (Dhillon et al., 2020).

2.2 Reading Strategy Instruction

Structured instruction takes place when there is a scheduled, logical progressive series of information units, well established goals, planned delivery of activity to create proficiency, and organized work on new illustrations to promote implementation or generalizability of information that is already acquired (Carnine et al., 1997). Strategy teaching is critical in the EFL (English as a Foreign Language) framework for fostering reading abilities: the participants' previous experience would assist them in their anticipation skills (Saricoban, 2002). It also must be mentioned that despite the fact that reading strategy instruction can take place with effort and adequate training, its success is greatly influenced by certain pre-existing influences, such as the number of students, learner language level combined with experience of the tutor, the standard of information accessible along with enough training for reading, and the recurrence of reading strategy instruction (Klapwijk, 2012). Furthermore, if any approach that is dependent on strategy is applied extensively, issues such as syllabus limitations, teachers' instructional methods, and

inadequacy of experience and expertise in implementing techniques are advised to be discussed more thoroughly in strategy instruction (Aghaie & Zhang, 2012). An important aspect of reading strategy instruction is that it is difficult to apply and requires assistance after its application: instructors do not readily accept reading strategy instruction and need to practice it long-term in order to adapt to methods offered by it, they also need to be exposed to the content of the text in order to have a more efficient reading strategy instruction (Klapwijk, 2012). Moreover, it is becoming abundantly clear that the development of reading strategies and understanding abilities necessitates much commitment and inspiration (Stipek, 2002). Inspiration and encouragement can be increased through teachers and their instruction, due to which students can be exposed to effective reading: this will occur progressively as teachers draw students' interest on the benefits of reading and introduce them to the ways it allows learners to improve in all of their other language areas like writing, speaking, listening, utilizing correct and relevant words, as well as have knowledge about grammar through passages tailored for the instruction of reading (Anderson, 2012). In addition, combining the inspirational and intellectual strategies in instruction of reading will improve enthusiasm while performing reading activities and comprehending the content: it is important to remember that activities that enhance motivation can have a variety of impacts on students, including perceptual and theoretical implications as well as inspirational factors (Guthrie et al., 2004). Another important information about motivation is that extrinsic motivation, through which students aim at achieving high academic goals, has shown to have a better impact on learning specific details and following instructions on the texts rather than intrinsic motivation which comes from the aims that students have to read for their own pleasure (Guthrie et al., 2007).

Aside from the instruction, the role of teachers is significant in the extent to which pupils learn (Rupley et al., 2009). They must be knowledgeable in a variety of ways in order to instruct reading successfully and properly: some of the areas include basic skills or goals that shape the reading procedure, as well as the method for introducing those skills, the order whereby skills incorporated, the process of assessing, choosing, and adjusting reading strategies so that they address the students' requirements (Carnine et al., 1997). The essentiality of teacher input in achieving goals cannot be taken lightly: students require regular guidance on which information is learned, knowling which strategies of reading are applied and whether they are self organized, and the teachers who incorporate achievement into the instruction of their teaching, realize dedication and enhancement of the learners in the reading tasks (Guthrie et al., 2007).

Intensive instruction is needed for students who have difficulties reading effectively, and aside from becoming aware of this type of instruction, teachers should be concerned with making sure that learners who require rigorous reading instruction remain good readers (Vaughn et al., 2003). During the instruction of strategies to learners who have inadequate outcomes while applying them, educators must recognize and identify the crucial strategies that the learners are having trouble achieving (Margolis & McCabe, 2006). It is also essential to highlight that since reading is among the complex language comprehension tasks, leading learners on how to read and improve their skills in reading would allow them to achieve understanding from the text independently and as a result, second language students who read must keep learning the strategies until they have mastered them to be conscious or independent proficient readers (Aghaie & Zhang, 2012). As students who have poor reading skills usually do not trust themselves enough in their reading performance, it is crucial for instructors to assist them by setting personal, demanding, yet attainable objectives (Tam et al., 2006). They should also

provide an explanation to the learners on the importance and the appropriate time to apply strategies in order for the students to learn independently and overcome their goals of comprehending the language individually (Margolis & McCabe, 2006). On the other contrary, a research suggests that for students who have troubles reading, working in groups rather than individually has a great influence on having a successful performance in reading comprehension: groups that have few numbers of learners are more successful for increasing reading achievement, the reason is that learners are given more chances to show their knowledge and get input from a professional (Vaughn et al., 2003).

2.3 Pre-Reading Strategies and Their Effectiveness

There are three stages in reading tasks which are pre-reading, whilst-reading and post-reading (Al-Faki & Siddiek, 2013). The pre-reading stage is an important aspect that allows learners to understand the text better: it helps them to be exposed to new information adding it to their prior knowledge, be ready for the next passage, or get pleasure during the experience of reading (Alemi & Ebadi, 2010). While doing the activities prior to the reading, students examine the similarities and differences of what they know and they include the new pieces of information in their existing schemata (Ajideh, 2003). In addition, this stage of reading enables learners to recognize the intention of the authors, the reasoned arrangement of the passages and the structure of the language used in the text (Saricoban, 2002). Moreover, the motivation and focus of students are enhanced, and teachers are provided with a wider perspective on students' competence about the following reading text (Al-Faki & Siddiek, 2013).

Many studies have been conducted arguing about the most effective pre-reading tasks and strategies in increasing the reading comprehension of students. The first essential role of the pre-reading tasks is through the activation of background knowledge and there were many suggestions on different helpful strategies for it. One of them which activates students' prior knowledge is using brainstorming in the pre-reading tasks (Sharafi-Nejad et al., 2016). During this strategy, learners call out the opinions and ideas that they individually identify with the terms or words presented by the instructor: this strategy offers students the flexibility to freely express their viewpoints with their classmates at the same moment (Ajideh, 2003).

Another strategy which aids to connect reading content to students' prior knowledge is pre-questioning which aims to advance the active engagement of students and to check their readiness to learn (Aziz et al., 2017). Asking questions to students about the content of the text before reading arouses their interest and desire to know the story, enabling the readers to predict the upcoming information (Mousavian & Siahpoosh, 2018). Familiarizing the vocabulary of the text by pre-teaching the new words was another strategy to facilitate the comprehension of it: learning vocabulary before reading increases awareness of the meaning by helping to quickly perceive the context of the words and remember pieces of information (Gi-Pyo, 2004). Its inclusion is important in the pre-reading skills as it develops and enhances them (Wise et al., 2007). The aim of vocabulary teaching is to enable students to learn and apply the newly learned words and connect them to previously gained knowledge, comprehend content, and enhance utilization techniques for working out the meaning of the new words (Tam et al., 2006). In addition, teaching vocabulary before reading can have an impact on the student fluency in reading when they are taught the keywords and unfamiliar words prior to the main passage (Burns, 2007). However, not all vocabulary teachings improve comprehension, especially if the

instructions of words are not used in a context (Nagy, 1988). In order to evaluate and investigate the effectiveness of pre-questioning and vocabulary pre-teaching strategies, Maghsoudi (2012) and Mihara (2011) claim that the pre-questioning strategy has a better impact on the reading comprehension of students than the vocabulary pre-teaching strategy.

2.4 The Internet and Online Reading Comprehension

The Internet has been the most powerful mechanism in human history for transmitting technological advances that necessitate learning new skills to read, produce literary work, and connect efficiently: literacy nowadays is defined as having the ability to use a combination of forums, websites, messaging, and search tools (Leu et al., 2011). It is also stated that surfing the Internet and searching for websites require reasoning skills: as the information has been collected, the results must be assessed and checked by the students which require reviewing, dismissing and evaluating (Singhal, 1997). Other skills that enhance the value of technological literacy include selecting the correct key terms, as well as finding and examining content, demands a wide range of choice making, directing attention, problem solving, focus switches and other mental abilities (Wolf et al., 2009). Technology is also being used in innovative and effective ways to explore the wide spectrum of skills, both contextual and practical, needed to develop the competence in reading of learners: it can have more advantages than only a resource of training learners' skills as it is possible for it to be a way of learning new words and gaining background information (Biancarosa & Griffiths, 2012).

While the Internet has been accessible to many, educators have lately understood the benefits of the Internet in the second language classes (Singhal, 1997). According to a

descriptive study, special characteristics of reading on the Internet include a lot of content accessible on websites, and with the introduction of technology as well as increased rate of network, images, recorded videos, songs and anime have become available to the users (Zhang & Duke, 2008). Due to this opportunity of having a variety of articles and resources enabled on different websites for readers, reading online has become one of the sources of intake for English language learners (Park et al., 2014). Moreover, some strategies can improve both online and offline reading: a strategy that can improve online reading is the questioning in the pre-reading stage: it is considered to lead the reader's attention to the related sentences in the passage and stimulate predictions about the text (Lewis & Mensink, 2012). Additionally, reading comprehension gained through reading from printed text is simultaneously improved through pre-questioning, as students get interested while having expectations about the content through predictions (Mousavian & Siahpoosh, 2018).

Online and offline readers are not alike since those who read from physical books do not perform the same way during the online reading: aside from the acquisition of the vocabulary and understanding of text structure, the learners should be technologically savvy, by that meaning they should know how to use web pages effectively (Coiro & Dobler, 2007). When the reader clicks on a hyperlink, it may lead him to a variety of them one after another: the unordered nature of online reading is what makes it different from the offline (Sandberg, 2011). As both types of readings may include positioning, assessing, questioning and interaction, online reading demands expertise of a search engine (Leu et al., 2007). One of the expertise is the cognitive strategy through which readers create meaning from the information given in various forms on the Internet as well as to explore carefully through the numerous hyperlinks for understanding, reading, and creating sense (Park et al., 2014). It also is implied that the one who

reads is involved in higher degree interpretation of the content in addition to constructing a conceptual image of the script (Margolin et.al., 2013). Furthermore, online readers dissolve texts by collecting an interpretation of what information they acquired from the passages, and unlike offline readers, online readers analyze a text in another way as well which is by deliberately building the articles which they read by selecting websites, deciding which hyperlinks to visit, with who to connect, and what notifications to open as they search explanations that drive their reading on the Internet (Leu et al., 2007). Another fact that differentiates online from offline readers, is that reading offline is described as reading a set and restricted content with no communication with people, no links to many other documents, no browsing for content, and little to no choice over what to be exposed to by the person who reads and readers of websites online need more skills than the ones that offline reading necessitates (Leu et al., 2011). However, Schmar-Dobler (2003) adds to this idea mentioning that the Internet may distract online readers as it contains flickering images, noticeable words, and similar attention drawing features, therefore the readers should easily determine which part of information is the most effective.

2.5 Reading on Paper and Screen

In today's transforming technological environments, multimedia formats of texts, such as news stories and emails, academic published studies, electronic books are accessible, and therefore can be viewed on a number of screens on various devices such as computers, desktops, and phones (Margolin et al., 2013). As texts are displayed on the screens of technological devices and the Internet has been a needed source to make use of, screen reading has become

popular: readers are directed to their screens when they are seeking information (Sahin, 2011).

Screen reading is very embedded into communities and education that some scholars now argue

that learners are used to reading from screens of their devices, and have difficulty interacting

with the texts that are included in their textbooks and another prediction is that digital texts will

eventually overtake traditional reading (Burke & Rowsell, 2008). On the other hand, there are

doubts about problems which may occur using digital texts, such as reduced reading process, the

failure to recognize pieces of information while reading on the screen, and the distraction from

accessible activities; nonetheless, the advantages of accessibility of reading tools exceed these

doubts (Wright et al., 2013). Another study claims that familiarity with digital texts can improve

the confidence of students: if more students were aware of the ways in which they may connect

with the texts displayed on the screen, they might be more confident reading in this format as this

practice is becoming a part of their education no matter their preferences (Vandenhoek, 2013).

Not only does their confidence levels increase, their improvement in achieving comprehension of

the reading texts show clear differences as well, especially if students are used to the media

platform they are utilizing (Chen et al., 2014). However, when trying to acquire the available

details when reading on the screen, one of the effects which this may have on students is that the

average reading flow declines (Wright et.al. 2013). Moreover, readers who were used to

acquiring information on paper through time, believe that reading from printed text is more

efficient than reading from a device: when elaborating, they mention that reading on a paper

provides them the feeling of having control over the paper and offers a better comprehension

since they can mark on them and write their ideas in whichever way they prefer (Salter, 2018).

However, another researcher contradicts this idea, reaching the conclusion that comprehending

content in a digital setting is equal to understanding of written information displayed on paper

(Margolin et al., 2013).

2.6 Skimming and Scrolling

Skimming on screens is also needed as texts are displayed on the Internet: rapidly

reviewing the hypertexts given, tapping the overview to navigate relevant parts of the passages,

reading and marking certain paragraphs easily, then scrolling to interpret the marked parts to

understand the key concepts is called "screen skimming" (Kol & Schcolnik, 2000). Skimming is

viewed with people that are accustomed to reading vast amounts of resources and also use this

technique to read fast, which helps them to comprehend a broad understanding of the key content

on the websites and to browse through content quite easily, without reading all of the information

(Ahmed et al., 2012). Moreover, it is classified as either a fast reading ability that results in a

shallow comprehension or a challenging mental skill required of readers, and when they are

faced with a vast volume of content to read in a brief period of time, there is a need to skim

(Hong, 2013). One of the benefits of skimming is that students can also improve their capacity to

evaluate a text by applying this approach, focusing on linguistic elements, content structures,

contextual phrases, and verb tenses in a reading passage (Dhillon et al., 2020). Moreover, it is

also viewed as a useful practice because it allows readers to omit the less important sections of

the passage while concentrating on the important parts only: because of the growth of the

Internet and the easy access of materials, there is now an issue of reading a lot of content in the

provided short time, as a result of skimming, any loss in understanding caused by a lack of time

will be less serious (Duggan & Payne, 2009). One of the strategies of skimming is to look at

images, names, headlines; However, this just provides an indication of what the material is generally about, and in order to achieve a better comprehension of the texts, it is advised to read the last and first sentences of each section (Ahmed, et al., 2012).

During the activity of reading information from a document, readers' eyes do not move seamlessly and quickly, according to research on eye movements of readers, the eyes of readers rather have fast and short-term motions: the eyes catch many words at a time with one single motion, after which the mind interprets this lump of words depending on the slightest number of imagery input available (Eskey, 2002). On the other hand, it is stated that having less movements with the eyes is considered a better practice if the reading grasps many words at a time while reading: a productive reader has the capacity to chunk a text into meaning units, each of which contains multiple words and is drawn in by a single focus of his eyes (Paran, 1996).

Throughout the practice of reading on the screen, scrolling is now widely used while viewing or glancing through websites as the texts they include are not accumulated in one page and the need of it is evident: it is described as the way the reader goes through the texts, stopping and proceeding with the same action (Dyson & Haselgrove, 2001). Readers of documents on the Internet are drawn to and used to scrolling as it has become a practice utilized in their everyday lives, and this activity while browsing allows them to read the content with better speed (Baker, 2003). It is claimed to hinder the reading process, by causing visual uncertainty that could adversely influence the reader's understanding of the written work (Piolat et al., 1997). However, Gernsbacher et al (1990) states that learners may benefit from scrolling because it enables the entire text to be seen at once, which could allow the development of a unified text representation instead of a number of smaller constructs.

CHAPTER THREE: METHODOLOGY

The study investigated the effectiveness of pre-reading strategies along with online reading inclusion in the pre-reading stage of the reading process. It examined the influence of completing pre-reading strategies with and without the utilization of searching tools and browsing for information on the Internet, on students' comprehension level of the reading texts. This chapter explains the study's educational context, learners, instruments for the gathering of the data, as well as the interpretation and analyzation procedure. As a result, this section of the paper attempts to expand on the approach used in the research.

3.1 Research Design

The quasi-experimental study was conducted at the English Afterschool Program in Armenia. Convenience sampling was used in the analysis of the study. This action research was based on mixed methods to monitor and explore the influence of strategy instruction of reading, with the aim of receiving feedback and information about the students' experiences. It focused on two groups of learners with Intermediate level of English.

3.2 Research Questions

The purpose of the study is to find answers to the following research questions:

1. Does the inclusion of online reading with pre-reading strategies influence reading comprehension? If so, how?

2. Which pre-reading strategies are most effective with and without the incorporation of online reading?

3. What are students' attitudes towards pre-reading strategies completed with and without online reading?

3.3 Educational Context, Materials and Participants

The research was carried during the online course and the participants joined the classes through the Zoom application. As for the teaching part of the study, it was implemented by the researcher herself as a guest teacher for the reading strategy instruction portion of the curriculum. The research lasted for 4 weeks and the duration of the teaching for each group was for 20-25 minutes within the class time. The lessons were held twice a week, and the strategy instruction was performed once per week during class time while the post-test was completed during the last (fourth) lesson with both treatment and comparison groups. The course book that was utilized for the study is called Language Leader.

The study was done with intermediate level students aged from 11 to 17. The treatment group consisted of seven participants and only four of them were present during the entire teaching, while the comparison group contained six students and four of them were present as well. The learners were informed of the study and the steps of the activities required during the teaching beforehand. The students were chosen to be at the same proficiency level and the two groups of the participants used their physical textbooks while reading the assigned texts, and were at the same pace of learning. The purpose for this was to apply the pre-reading strategies to the same texts for both groups and thereby ensure the reliability of the study.

3.4 Ethical Considerations

Students were well aware of and knowledgeable of the research. During the teaching process, approval was requested from the group teachers ahead of time in order to record the lessons, and they were only recorded after the permission was obtained. As for the interviews with the selected participants, they were well informed that the information they provide would be used for the objectives of the study and that their names would not be revealed and would remain private during the data analysis. Furthermore, the interviews were recorded with the students' prior permission. The weekly assessment and post-test results which the researcher compiled, and the reading section results of the midterm test were collected from the group teachers, who were told of the anonymity of the students' identities when utilizing the grades for the study.

3.5 Instruments

The following were completed to gather qualitative and quantitative data:

- Pre-test

- Post-test

- Weekly Assessment Tests

- Class Observation through Video Recording

- Final Interview

3.5.1 Pre-test

The reading section results of the participants' midterm tests were considered as pre-test scores, and the marks were compiled to estimate the students' reading proficiency, and the results were

compared to the scores obtained later in the research. The rationale behind this action was to evaluate the reading comprehension level of the students throughout the study based on their grades. Its role in the study was important as it answered the first and second research questions.

3.5.2 Post-test

The learners were provided with a post-test, which was a multiple-choice questionnaire on a reading text, at the completion of the strategy teaching. The students from both treatment and comparison groups were required to read and respond to the same 10 questions, which were adapted and developed from the questionnaire mentioned in the textbook, on a text called "Transatlantic Tunnel." The test lasted for 25 minutes and was designed to determine the students' level of improvement in reading comprehension following the implementation of the reading strategy instruction. In order to answer the first research question, the post-test findings were compared to those of the pre-test.

3.5.3 Weekly assessment Tests

To measure the comprehension of the learners, weekly multiple choice assessments were done with the treatment and comparison groups: at the end of each lesson which included completion of one reading task, 10 multiple choice questions were provided to the students: they were modified from the existing questionnaires for each passage included in the textbooks. Moreover, the titles of the texts were named as "Business Icons," "A Man's World?" and "Asteroids." The students were asked to choose one option from three different choices provided for each question. The same questionnaire was completed by all of the participants from both of the groups.

3.5.4 Class Observations through Video Recording

Observation took place through video recordings: the teaching process for the three pre-reading strategy instructions was recorded with consent. The reason behind this action was to examine the recordings afterwards: student performance and participation were given close attention and assessed as they were the determining factors of the pre-reading strategy efficacy and preference. This part of the study was carried out in order to answer the third research question.

3.5.5 Final Interview

Interviews were held with five participants. The interview questions were structured to elicit the students' views and perceptions about the pre-reading strategies and their role to facilitate the learners' comprehension of the reading texts. Moreover, the treatment group students, who had experienced online reading with the pre-reading strategies, the questions were intended to analyze their experiences in searching for information online. As a result, the answer to the third research question was inferred from the online interviews.

3.6 Data Collection:

The collection of data began with online interviews with the group teachers. They were introduced to the study, its procedure and purpose. In addition, the scores for the reading section in the midterm tests were gathered from the teachers which were considered to be the pre-test in the study.

During each class, the researcher, who stepped in as a guest teacher, entered the Zoom meeting and was provided the first 20-25 minutes of each session. For each lesson, one pre-reading strategy was completed using the existing reading sections of the students' textbook. The pupils were then introduced to the topics and asked to complete the first procedure of the study, which was the pre-reading strategies. The comparison group completed that stage without looking for pieces of information on the Internet, and only by interacting with the class and teacher. On the other hand, the treatment group performed this stage of reading in a non-traditional format as they were asked to use their devices in order to navigate through websites and answer questions discussed in class. The pre-reading phase necessitated student-teacher interaction as students were frequently asked to express and share their thoughts or facts received from the Internet.

The first pre-reading strategy the learners were required to complete was the pre-questioning that was done prior to the text called "Business Icons" which was about biographies of famous businessmen and businesswomen and their path to success. This reading text was divided into four sections, each of which was written about a different business icon. However, due to time limitations, the learners were told to read only two sections, and the questionnaire was prepared for the two texts only. The learners were told to answer the following questions posed by the instructor:

- What are famous brands for cosmetics?
- What are famous brands for technology?
- What do you know about people who started these brands?
- What makes a successful company?

- Do childhood experiences help people in their success?/ Does difficult childhood help people become successful in business?

- Do people need good education to have successful business?

The students of the comparison group responded to the teacher and class orally, expressing their own opinions on makeup, technology, prosperous enterprise and corporations. While the treatment group learners were told to copy the questions from the Chat box displayed on Zoom, and paste them in the Google tab skimming and scrolling through the websites and hyperlinks, as well as to share the information which they found to the class and teacher.

The brainstorming strategy was introduced to students in the second lesson. The reading text subject on which they needed to complete the pre-reading strategy was titled "A Man's World?" and was primarily about who engineers are and what they do for a living. The comparison group members were instructed to share information they recalled or knew about engineers as well as to share their answers. On the contrary, the learners in the treatment group were asked to write the word "engineer" on Google and navigate through the web pages and pieces of information and share them to the class.

The third lesson was focused on the third strategy, which was the vocabulary pre-teaching strategy. The reading text was named as "Asteroids," and it discussed how meteors pose a threat to the Earth. The learners of the comparison group were pre-taught vocabulary that were mentioned in the text by the instructor orally. The words were "asteroid," "meteor," "collide," "hazardous," and "probe." Meanwhile, the treatment group participants were told to copy paste the words, written in the Chat box, to the Google tab and read the definitions aloud.

After finishing the pre-reading phase, the learners were given time to read the texts. After which they were told to complete the multiple choice questionnaire for each reading passage. The questions were displayed on the screen by the teacher through the slides. The learners were told to send their answers to the teacher via a social media platform at the end of the lesson.

During the fourth and last lesson, as a post-test with a duration of 25 minutes was provided, the learners were asked to read a text from the textbook called "Transatlantic Tunnel," which was about magnetically-raised trains that travel through tunnels, and were asked to complete the multiple choice questionnaire through the slides shown on the screen. As they had previously done, they were asked to send their answers to the teacher at the end of the lesson.

For the final stage of the study, an Interview was conducted with the treatment and comparison group students online through the Zoom platform and the interviewees were asked to join separately in order to avoid influencing each other's thoughts and opinions. They were selected based on their mean score results that were calculated for each reading task. The participants were provided with open-ended questions in order to allow them to elaborate and expand their answers when necessary, and justify their perspectives on the activities done during the study. The questions were designed for both groups to identify the learners' comprehension level for the reading texts depending on the pre-reading strategies used beforehand, understand the extent of how challenging or helpful the strategies were in interpreting the reading passages as a whole, and be familiar with their preferences of having pre-reading activities in their future lessons. The participants of the treatment group were asked to explain their attitude towards the allowance of the Internet to learn more about the subject explored in class. Other questions were posed to examine the clarity of the accompanying texts after finishing the pre-reading strategies and using the search tools simultaneously.

3.7 Data Analysis:

The quantitative data which were gathered from the pre-test, weekly assessment tests as well as post-test was evaluated using Excel in order for the results of the mean scores to be calculated through percentages. The score for rating the multiple choice questions for the weekly assessment tests was 10 and the results were interpreted depending on the amount of correct responses for each learner. The standard deviation for pre and post tests was estimated in order to investigate if the division of scores was within the range of rationality and to investigate the distinction and differentiation of the grades. Moreover, the qualitative data gained from the interviews was examined abstractly. Furthermore, students' answers for the interview were examined based on the video recordings: every participant's level of involvement and engagement in each pre-reading strategy was interpreted and numbered as an indicator of the relevance of their answers to each question asked. The majority of the relevant portions of the learners' interview responses were interpreted and portrayed in a descriptive manner. Responses to open-ended questions from participants were rewritten and introduced collectively.

CHAPTER FOUR: RESULTS

This research aims to assess the effect of online reading and pre-reading strategies on students' reading comprehension level, experiences and enthusiasm. It is also important for the analysis to ascertain the participants' attitudes to use research tools when reading online, as well as the degree of efficacy it has on the reading experience. Before the section on the research questions, the outcomes of the student performance during the experiment are explained using graphs and estimation results.

The study was conducted with treatment and comparison groups of students that had the same level of proficiency in the English language and pace of learning. The mean scores for the reading section of the students' midterm test, which was considered as a pre-test, were calculated. The marks for the comparison group was 49% and for the treatment group was 42%: these scores demonstrate that the reading proficiency of the learners for both of the groups were very similar with no substantial variation between them.

Results of The Pre-Test and Pre-Reading Strategy Scores for the Comparison Group:
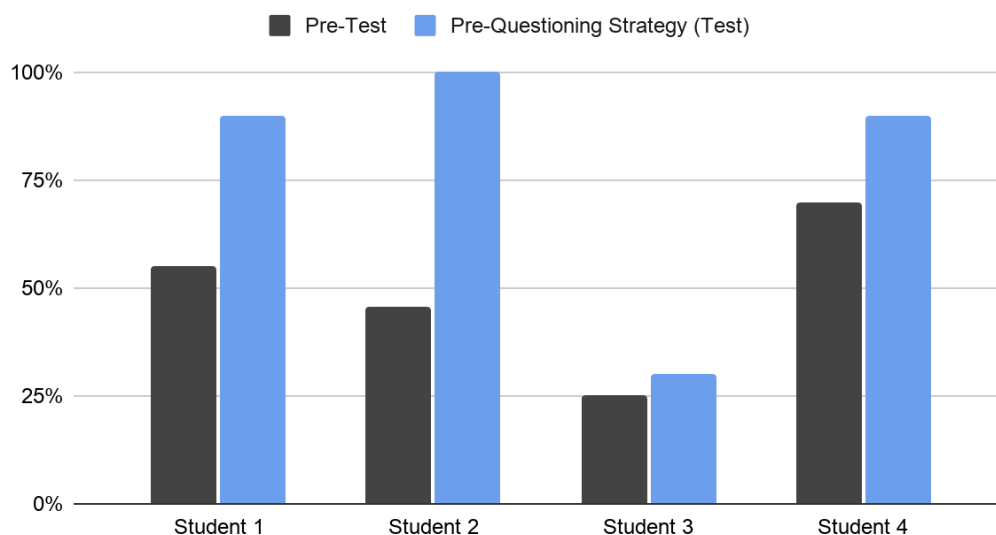
Figure 1: *The Comparison Group Results for the Pre-Test and Strategy 1.*

In the chart demonstrated above, a strong discrepancies and improvements in the students' grade results is revealed by measuring their pre-test scores and the ones as a result of the implementation of the pre-questioning strategy in the lesson. For each student separately, the level of enhancement was different and distinct: when comparing the success of the student with poor reading proficiency as determined by the pre-test, there was little distinction as compared to the other participants who had higher competence and indicated significant development after completing the first pre-reading strategy. Moreover, the mean grades for the pre-test was 49% and the pre-reading section was 78% with the gap between the two results, 29%. These outcomes reflect the fact that tremendous progress was achieved in reading comprehension by the end of the first strategy completion.
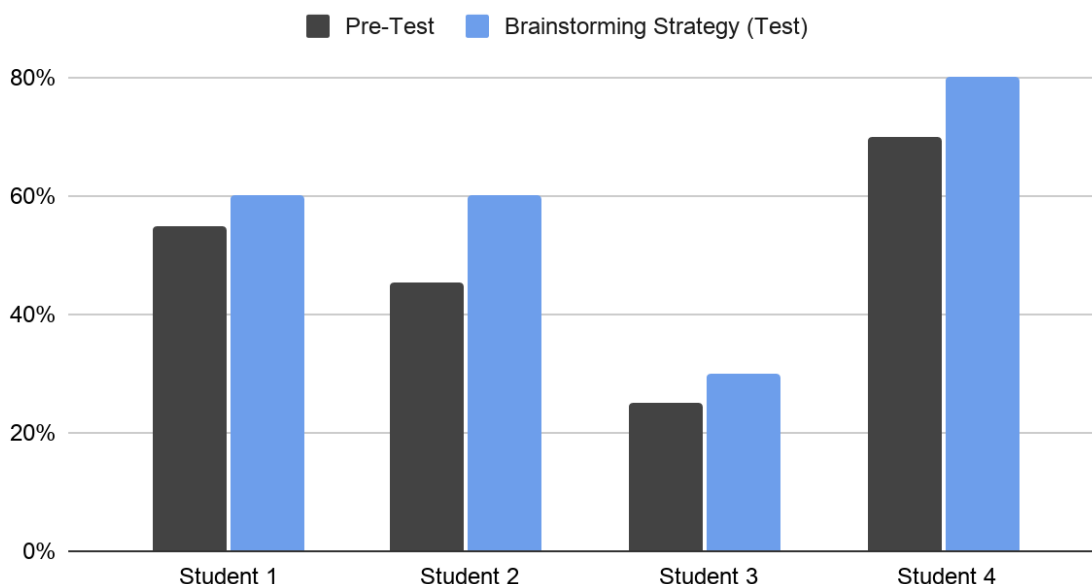
Figure 2: *The Comparison Group Results for the Pre-Test and Strategy 2.*

This graph reveals the small gap between the two mean grades of the students, with the mean score for the pre-test being 49% and the test for the brainstorming strategy being 58%. When reviewing the graph and the data, the results show that the gap between the grades is only 9%: the findings indicate that although there was an estimated increase in the participants' success during this strategy, the change was not significant. Based on these results, it is possible to infer that the students' output improved. However, in comparison to the prior graph, which represented the achievement in reading comprehension after the first strategy, the advancement seen after this strategy was not as significant as it was in the previous figure, and this can be inferred by reviewing the grade gap between the results, which only reflected 9% growth between the pre-test and strategy test.
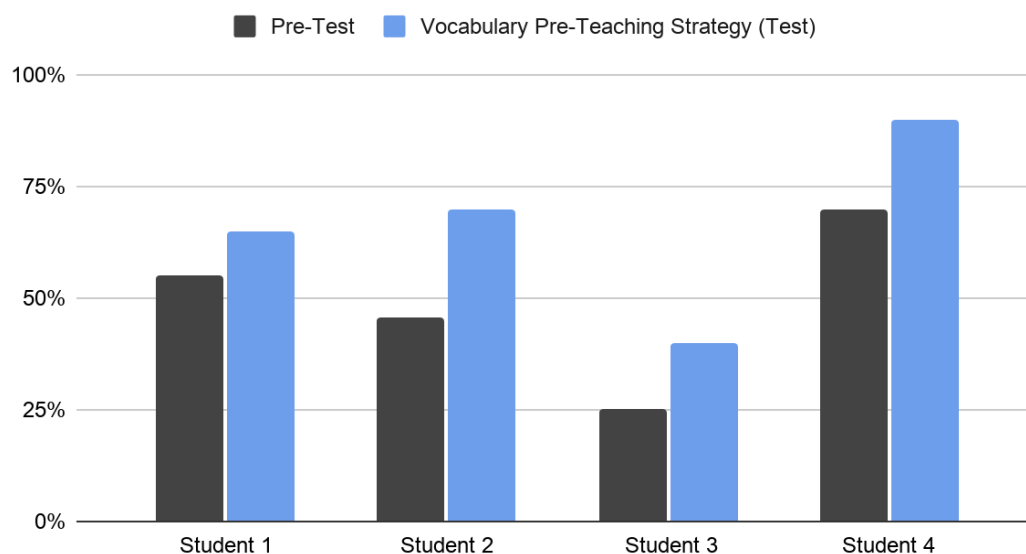
Pre-Test and Strategy 3 - Comparison Group

■ Pre-Test　　■ Vocabulary Pre-Teaching Strategy (Test)

Figure 3: *The Comparison Group Results for the Pre-test and Strategy 3.*

The learners' performance during this strategy, which was vocabulary pre-teaching, was noticeable, and the graph illustrates that considering their varying levels of participants in the reading proficiency, all students underwent approximate enhancement during this strategy: this is expressed through the mean of their marks for this strategy which was 73%, while for the pre-test was 42% with a difference between the two results which was calculated as 31%.

When comparing the three graphs depicted above that portray the mean scores for each strategy and the pre-test for the comparison group, which did not include online reading during their practices in the study, it can be seen that there was a significant learner performance and improvement in the first graph, which is the depiction of the pre-questioning strategy. When assessing the results for the pre-test, it becomes evident that the outcomes of the learners' reading proficiency level after the brainstorming and vocabulary pre-teaching strategy weren't as high as the test for the reading section done after the pre-questioning strategy. This is visible

when measuring the difference between the grades for the pre-test and the tests after the strategies, since this demonstrates the students' degree of progression. The gap between the pre-test and test completed after the pre-questioning strategy was 29 %, which was a greater percentage than the gap scores received for the brainstorming strategy (9%) and the vocabulary pre-teaching strategy (17%).

Results of The Pre-Test and Pre-Reading Strategy Scores for the Treatment Group:
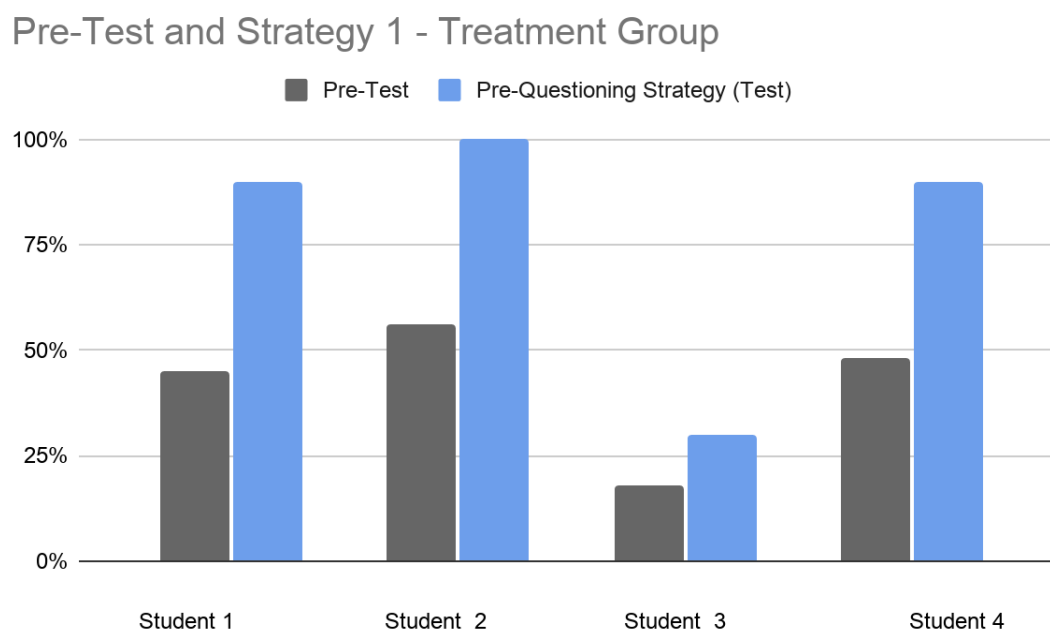

Figure 4: *The Treatment Group Results for the Pre-Test and Strategy 1 with Online Reading.*

After analyzing their pre-test and reading section results after incorporating the pre-questioning strategy combined with the implementation of online reading in the lessons,

there is development in the students' test results in this figure. The level of achievement was varied with each learner, and by looking at their cumulative growth, students with advanced reading abilities were able to develop their skills further after implementing the pre-reading strategy with online reading. However, we do not see a major enhancement in the performance of the third participant who had lower reading proficiency level. Additionally, the mean grade for the pre-reading strategy with the online reading was 78% while for the pre-test results was 42% with the difference that shows a significant distinction with the result of 36%, and this score reveals the enhancement level of the learners' reading comprehension after the strategy instruction.
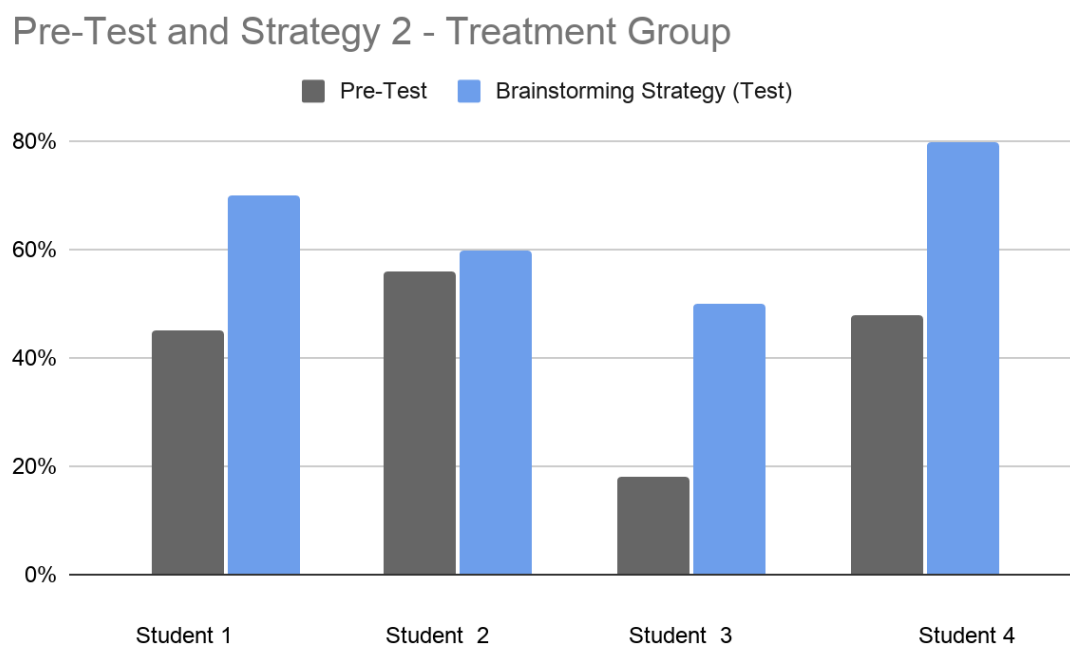

Figure 5: *The Treatment Group Results for the Pre-Test and Strategy 2 with Online Reading.*

This figure illustrates the varying levels of progress during the brainstorming strategy: it shows that the learners who had high proficiency in reading made comparatively considerable progress, while the participant who had poor proficiency in reading showed immense advancement in reading comprehension after the completion of the brainstorming strategy with reading online. Moreover, the mean marks of the students for the pre-test was 42%, whereas for the brainstorming strategy with the online reading was 65%, and the difference in the two of these scores was 23% which showed the amount of enhancement after the strategy teaching.
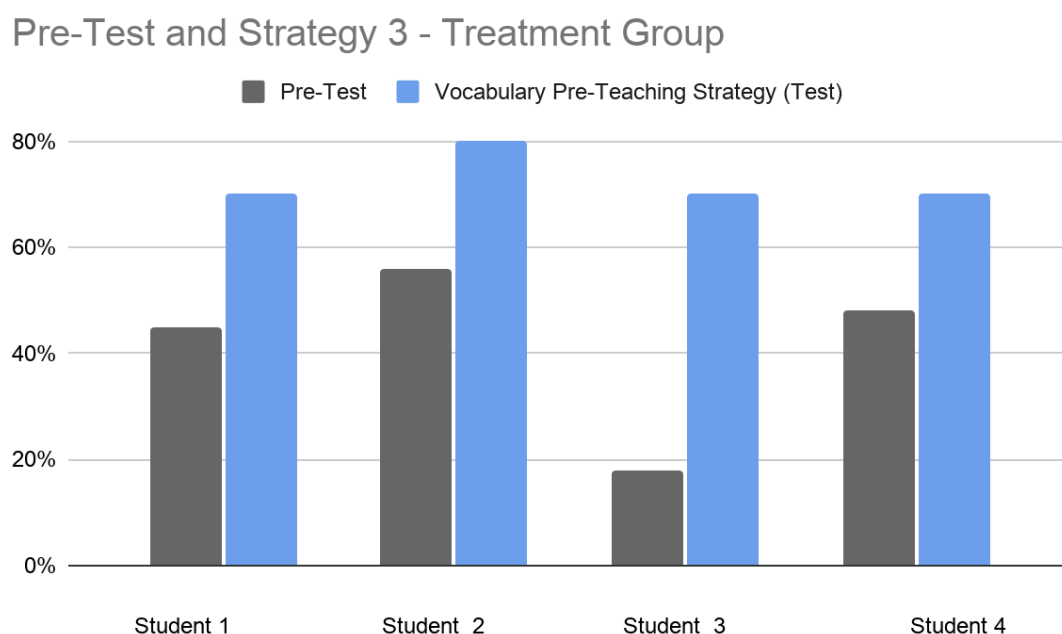

Figure 6: *The Treatment Group Results for the Pre-Test and Strategy 3 with Online Reading.*

This figure demonstrates the experience of participants' progress with different levels in their reading skills as it is noticeable when comparing the results before and after the vocabulary

pre-teaching strategy completion with the online reading. The mean of the score for the pre-test was 42% while for the reading task after the application of the pre-reading strategy with the online reading was 73% and the difference for both of the total marks was depicted as 31%. When exploring this figure, it is apparent that each student had varying degrees of success. Moreover, the result of the learner that had low proficiency shows inevitably immense amount of progress when performing in the pre-test and in the reading text after the strategy instruction.

When analyzing the three figures above for the treatment group calculating the differences of the marks for the pre-test and of the scores received after the application of the pre-reading strategies with online reading, it is possible to come to the conclusion that the first pre-reading strategy, which was pre-questioning, together with the online reading revealed to have a massive impact on the learner's understanding of the reading passages as the difference for its average grades was 36% while for the second strategy (brainstorming) and the third strategy (vocabulary pre-teaching) were 23% and 31% respectively.

4.1 Research Question 1: Does the inclusion of online reading with pre-reading strategies influence reading comprehension? If so, how?
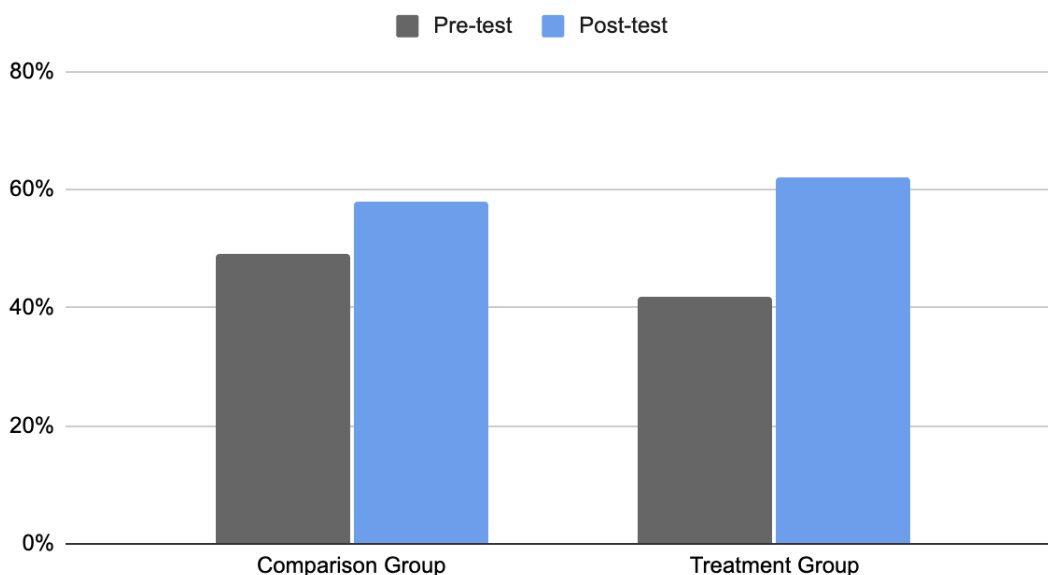
Figure 7: *The Comparison and Treatment Group Results for the Pre- and Post-Tests.*

The figure indicates the enhancement of the learners with the comparison of the pre- and post-test results. The mean score of the pre-test results for the comparison group was 49% while for the treatment group was 42%. Meanwhile, the mean scores of the post-test for the comparison group was 58% while the treatment group got 62%. When analyzing the difference between pre- and post-tests for each group, the comparison group got 9% progress after the implementation of the pre-reading strategies while the treatment group achieved 20% enhancement and there is a relatively higher progress in the treatment group after completing the strategies together with online reading. When calculating the standard deviation of the pre-test of the learners, the result for the comparison group shows 1.4 and for the treatment group 1.6, and for the post-test it scores as 1 and 0.8 respectively. These results show that the allocation of scores was within the bounds of normality as there was not an immense amount of difference in

the reading proficiency levels of both of the groups. Moreover, the scores of 1.4 and 1.6 indicate that the variance of the pre-test grades was bigger whereas after the post-test, the variance in both groups decreased and resulted in 1 and 0.8 deviation.

4.2 Research Question 2: Which pre-reading strategies are most effective with and without the incorporation of online reading?
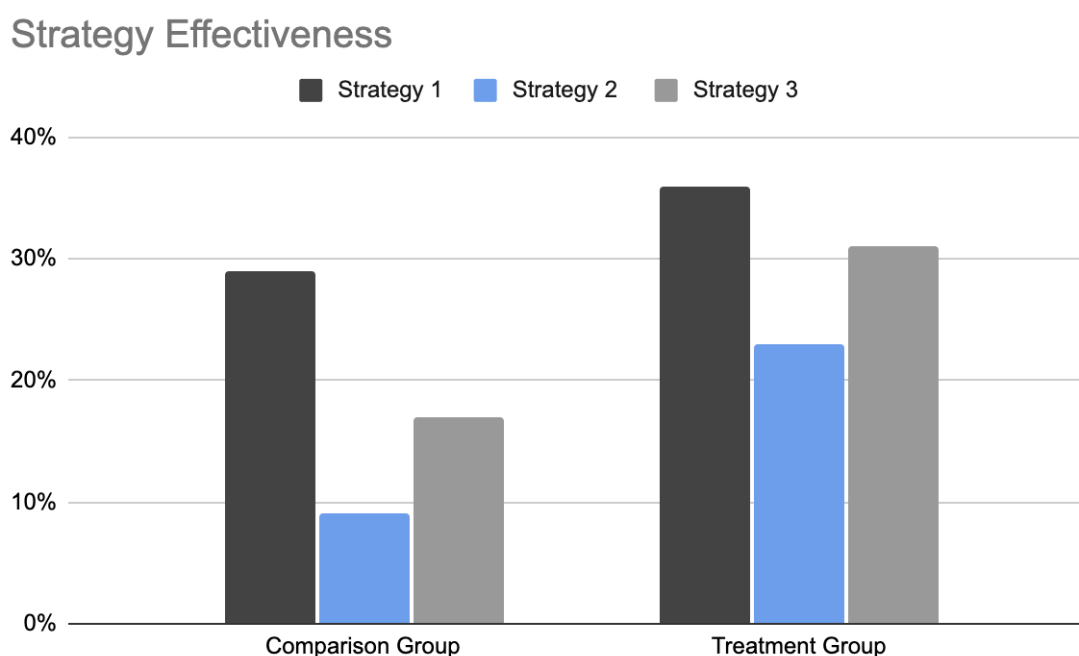
Figure 8: *The Comparison and Treatment Group Results for the three Strategies.*

This figure reflects the effectiveness of the pre-reading strategies with and without online reading for both of the groups to reveal which strategy was the most efficient. When calculating the difference between the mean scores of the pre-test marks and the grades for the test that was completed after the pre-questioning strategy (strategy 1), it was 29% for the comparison group and 36% for the treatment group, for the brainstorming strategy (strategy 2), the comparison

group got 9% and treatment group scored with 23%, for the vocabulary pre-teaching strategy (strategy 3), the comparison group got 17% and the treatment received 31%. Based on these findings, it can be noticeable that for both of the groups, the pre-questioning straetgy was the most successful, the next in effectiveness came the vocabulary pre-teaching strategy, and the third in efficacy was the brainstorming strategy. Moreover, when comparing the progress level with and without the incorporation of online reading, the increase of success was evident after the completion of pre-reading strategies associated with online reading through which the treatment group underwent better development in reading comprehension than the comparison group. When concluding on which strategy caused the most advancement during the experiment, it is evident that it was the pre-questioning strategy with the integration of the online reading in the procedure.

4.3 Research Question 3: What are students' attitudes towards pre-reading strategies completed with and without online reading?

In order to get a thorough interpretation of the students' individual perspectives and preferences on the practicality, beneficiality and helpfulness of the pre-reading strategies and online reading, interviews were conducted with participants from both the treatment and comparison groups. During the strategy instruction of the comparison group, the Internet was not included in the process. However, the participants of the treatment group utilized searching tools on the Internet along with completing the pre-reading strategies.

When asked to share their general opinion about the pre-reading strategies, all of the interviewees from both of the groups mentioned that the strategies prepared them for the upcoming reading texts providing the opportunity to have an overview about the content. One of

the participants from the treatment group added that carrying out the strategies "made her understand everything much better, completely" and "it made everything clear." Moreover, all three of the participants from the comparison group mentioned that they experienced learning new words, which was one of the fruitful encounters for them during the teaching. Two of them, on the other hand, added that the strategies enabled them to recall their background knowledge about the topics of the passages.

For the questions about their strategy preferences, one of the participants from the comparison group indicated that the pre-questioning strategy was useful in getting a clearer interpretation of the text, but they comprehended the passage accompanied with the brainstorming strategy the most. However, they do not believe it was a strategy that facilitated the comprehension of the passages. This student added that the pre-questioning strategy eased the apprehension of the text as the pre-questioning made her remember the background information she had about the content. Another learner from the same group, however, claimed that she understood the reading text guided with the brainstorming strategy the most because this strategy was productive for her and enabled her to understand the topic more. On the other hand, two participants from the treatment group and one from the comparison group, reported that they prioritised the vocabulary pre-teaching strategy because they agreed that understanding the meaning of the words until reading offered them a clearer view of the text.

With regards to the question about what challenges the students had understanding the texts, the students from the treatment group, who used the Internet, mentioned that they did not have any difficulties. Additionally, one of the students from the group mentioned that the vocabulary pre-teaching strategy was the most beneficial since the Internet provided her with the definitions of the words she did not know about. She also noted that searching offered her extra

information: not only did she learn the meaning of the new learned vocabulary, but she was exposed to other synonyms and meanings of the words. However, all of the students from the comparison group reported having trouble interpreting the passages followed by the vocabulary pre-teaching strategy since the words were complex for them, while one of the participants added that she had problems remembering the vocabulary.

In response to the experience reading online, the interviewees from the treatment group reported that they had no problems finding information online. One participant indicated that they obtained information from the Internet but they also used their skills to link the pieces of information together by clicking on websites that were provided on the screen, evaluating and selecting the bits of content that are required for the discussion: she believes that her familiarity with using searching tools, which she acquired prior to the strategy instructions, helped her in conducting more success research. She added that the Internet allowed her to learn more about facets of the concepts that were not included in the text and helped her to expand her imagination about the themes. While the other interviewee highlighted the fact that the inclusion of online reading during activities was a completely new experience for her and believed that it is necessary to use technology in classes as it will be widely popular throughout education in the future.

When the participants from the treatment group were told to elaborate on how searching for information on the Internet made them feel about the topic, one of the students claimed that their interest was aroused. Moreover, the second student said that she felt motivated, engaged and confident while using searching tools, and for her, performing that action was much more preferable than not performing it. Both of the students stated that they would like to have more of online reading in their future lessons: one of the students elaborated on their preference claiming

that the Internet provided her information with which she was not familiar before reading the texts during the instructions and she said "it's like broadening our horizons." The other learner added that even though she likes using textbooks, she would utilize the Internet in her future classes because it provides her information which cannot be found in the textbooks.

When questioned which of the pre-reading strategies they choose for potential classes, three of the five interviewees reported that they favour the pre-questioning strategy, while one noted that they also prefer brainstorming. Furthermore, two of the participants indicated that they would like to complete the vocabulary pre-teaching strategy in their upcoming classes.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

5.1 Discussion

The current research sought to measure the impact of pre-reading strategies and online reading on students' comprehension in reading as well as to understand participants' point of views and experiences toward the strategies and online reading. This chapter attempts to clarify and interpret the study results along with the academic findings.

Research Question 1: Does the inclusion of online reading with pre-reading strategies influence reading comprehension? If so, how?

When paying attention to the inclusion of the online reading, we can clearly see that it had an immense amount of efficacy on the reading comprehension of the students due to their completion of the pre-reading strategies combined with the online reading: during the study, the comparison group was slightly stronger than the treatment group until the implementation of this research. However, after the reading strategy instruction, the treatment group, which used searching tools and read information on the Internet, recorded a very huge progress in reading comprehension during all three strategies and exceeded the comparison group in their performance of the final test. Due to this interpretation, it can be indicated that the inclusion of the online reading strategy instruction is very beneficial for the understanding of the reading content. According to the discoverings of the study, one of the advantages of the Internet is that it boosts the motivation of the students during the reading practices. Kramarski and Feldman's (2000) study supports this claim emphasizing that the incorporation of the Internet in EFL (English as a foreign language) studies enhances the motivation of the learners. Another indication of the study is that the acquaintance of the learners with the Internet enables them to

use searching tools confidently and correctly by analyzing, examining, and connecting the chunks of information provided by the Internet. Singhal's (1997) study correlates with this research as it states that browsing the Internet and looking for resources necessitate thinking skills: after gathering facts, the findings must be evaluated and reviewed by the pupils, which necessitates checking, rejecting, and assessing what is found. Another finding of this research was that students' desire of having the Internet as part of their lessons in the future increased after this study as the Internet enabled them to gain extra information that they cannot find in the textbooks and this benefited them to have a wider perspective about the content of the text. The study of Park et al. (2014) supports this claim mentioning that due to the Internet, learners can have access to a multitude of articles and resources on numerous sites, which is why reading online should be considered as a part of the studies of English language.

Research Question 2: Which pre-reading strategies are most effective with and without the incorporation of online reading?

During the analysis of which strategy applied with and without online reading has the major impact on the reading comprehension, the findings of this research indicated that the pre-questioning strategy was the most helpful when compared to the vocabulary pre-teaching and brainstorming for both groups, although a major difference was clear in the results of the learners of the treatment group, who performed the pre-questioning strategy while using searching tools on the Internet at the same time. An article written by Lewis and Mensink (2012) supports these findings indicating that the pre-questioning strategy is very beneficial when reading online as it guides the attentiveness of the reader to the relevant parts in the text, and it also promotes expectations and assumptions about the content. It is also stated that completing the

pre-questioning strategy traditionally, in other words with printed text, it can increase the interest of the readers which results in understanding the reading passage (Mousavian & Siahpoosh, 2018).

Moreover, the results of this study that evaluated the efficacy of the strategies coincides with Maghsoudi's (2012) and Mihara's (2011) studies which claimed that the pre-questioning strategy has a greater influence on learners' reading comprehension than the vocabulary pre-teaching strategy. As for the efficiency of the pre-teaching vocabulary strategy with and without the inclusion of the Internet, the results of the tests and interviews showed that learners' performance was better with the inclusion of the Internet, and not utilizing technology for searching word definitions results in not having a full picture of the new learned vocabulary which impact the readers' understanding of the text and not remembering the words properly. Not only did the Internet provide the meaning of the new words, but also enabled the students to be introduced to a variety of definitions and synonyms. The claims of Gi-Po (2004) contradict with this study regarding the facilitation of the vocabulary pre-teaching of students' understanding of the text by enabling them to comprehend the meaning of the words and remembering bits of detail, as this study states that the combination of online reading with the vocabulary pre-teaching strategy is the factor which enables full comprehension.

As for the brainstorming strategy, the study concluded that it was the least efficient pre-reading strategy during the strategy instruction. Additionally, when this strategy was applied without the simultaneous use of the searching tools, it did not have as much influence on the learners' reading comprehension as the time when they were incorporated.

Research Question 3. What are students' attitudes towards pre-reading strategies completed with and without online reading?

According to the findings of the interview, the overall thoughts on the pre-reading strategies provided by the students were positive, all of the interview participants from both groups stated that the strategies primed them for the reading texts by giving them an outline of the text. Implementing the strategies enabled the learners to gain a better understanding and clarified the content of the passages. Furthermore, according to some students, vocabulary learning was the most beneficial experience they faced during the reading instructions. Moreover, they believed that the pre-reading strategies enabled them to remember their prior information about the subject. Saricoban's (2002) study coincides with this statement as it states that strategy instruction is essential in the EFL (English as a Foreign Language) context for promoting skills in reading: the prior knowledge of the learners aids them in their anticipation capabilities.

As for the strategy preferences, one of the participants from the comparison group indicated that the pre-questioning strategy was useful in getting a clearer interpretation of the text and comprehending it easily because she remembered prior information about the topics, but her understanding level for the text that followed the brainstorming strategy was the highest: when the video recording was studied, it depicted that this student contributed eight times during the discussion while completing the pre-questioning strategy, and only once during the brainstorming strategy. A study done by Aziz et al. (2017) supports the student's claims about the role of background knowledge activation during the pre-questioning claiming that it helps in linking reading material to students' past knowledge, promoting students' constructive interest and assessing their ability to study. Another learner from the comparison group also mentioned

that they comprehended the text accompanied with the brainstorming strategy the most. However, as her engagement level was examined, she was the least involved during this strategy, participating only once, while her performance frequency increased to three times (during the pre-questioning) and twice (during the vocabulary pre-teaching). Furthermore, the third student in the same group commented that the text accompanied by the vocabulary pre-teaching was the one he enjoyed best and that the strategy was interesting. However, though he did partake, he only did so twice.

In the case of the treatment group, both of them mentioned that they preferred the vocabulary pre-teaching strategy. However, the first student engaged four times during the teaching practice, which is less than during the pre-questioning strategy (10 times), but more than the brainstorming strategy during which she did not contribute to the discussion at all. The second learner, on the other hand, never joined the conversations during this strategy instruction while she interacted more during the pre-questioning strategy (four times) and took part in the brainstorming strategy as well (once).

5.2 Pedagogical Implications

Teaching pre-reading strategies combined with online reading has better results on the reading comprehension of students compared to completing the pre-reading stage without online reading. Its inclusion in the strategy teaching has many advantages, including the improvement of motivation, which causes better achievement of student results. Furthermore, it offers learners a variety of perspectives on the content of the subsequent reading texts: the incorporation of technology facilitates the process of acquiring new information about the upcoming reading passages as students can navigate through the Internet and fill the gap of misunderstanding or

incomplete acquirement of details by being exposed to various pieces of content available.

5.3 Limitations and Delimitations:

Many limitations and delimitations occurred during the study. It was limited to thirteen learners with only eight of them present during the three pre-reading strategy instruction sessions. Due to the large number of absentees, the research was conducted with only a small number of pupils, which may have influenced the findings of the study. Another incident that may be considered as a drawback was the duration throughout which the study was carried out. If the experiment had been performed over a longer period of time, the results would have been more credible.

The delimitations of the study were the students' age and level of English proficiency. This advantage can be highlighted in the case of the treatment group participants who were asked to complete the pre-reading strategies with navigating and searching for information on the Internet. Despite the fact that online reading was a new practice for them, their age had a significant effect on their experience with technology: their knowledge, which was gained prior to the research, on how to skim through websites and follow keywords allowed them to easily follow the instructions and fulfill the requirements of the tasks. As for their language proficiency, they had no language barriers when surfing the Internet, which was one of the reasons for the smooth task execution. Another delimitation was that the activities used for the research were based on the texts included in the reading portion of their curriculum: this can be interpreted as an advantage since the students were familiar with the content and format of the reading sections in the textbooks.

5.4 Recommendations for Further Research

The present research is done with limited participant number and time constraints. It is advisable to perform a comparable study over a lengthier duration and a larger sample size as different results may occur due to those factors. Another recommendation may be to perform pre-reading strategy instruction combined with online reading with students who have a higher level of proficiency in order to investigate whether interpreting information as a result of Internet navigation will impair students' reading comprehension.

5.5 Conclusion

The results of this study highlight the significance of online reading in the process of pre-reading strategy instruction in an EFL classroom. Online reading in association with pre-reading strategies has a better impact on learners' reading comprehension rather than implementing the strategies alone. It also suggests that students' enthusiasm and interest increase as a result of introducing the act of navigation as well as the use of search tools on the Internet. As a result, students gain a more precise view of the reading texts included in their curriculum.

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Appendix A

Multiple Choice Question Slides for the Pre-Questioning Strategy

1. Which one of the statements below is true about Morita:

    a.   He was a fan of music and art.
    b.   He neither liked music nor art.
    c.   He was a fan of art but did not like music.

2. Which statement about Estee Lauder is NOT true:

    a.   She worked in a hardware store
    b.   She sold products for her uncle's business
    c.   She founded her first company on her own

3. Estee's success started when:

    a.   she sold products to her friends
    b.   she sold products to a department store
    c.   she sold products for her uncle's business

4. Who used a word and an expression from two languages to come up with the name for their company?

    a.   Estee Lauder
    b.   Akio Morita
    c.   both

5. The first product of Morita's company was sold in:

  a. Japan
  b. America
  c. Nagoya

6. The main idea of Morita's book was that:

  a. people need higher grades to have a successful business
  b. people don't need good education to have a successful business
  c. people need to work hard to be successful in their business

7. The main reason for Morita's success in business was because:

  a. people loved music.
  b. the company was about youth and energy
  c. he knew more about the American trade after moving there.

8. Morita was the _____ child in his family:

  a. youngest
  b. eldest
  c. middle

9. Estee Lauder started out:

   a.   as a lawyer

   b.   as a beauty artist

   c.   working at a hardware store

10. Which person came from a poor family background?

   a.   Estee Lauder

   b.   Akio Morita

   c.   both

Answer Key:

1. a

2. b

3. b

4. b

5. a

6. b

7. c

8. b

9. c

10. a

Appendix B

Multiple Choice Question Slides for the Brainstorming Strategy

1. According to the text:

a. The majority of engineers is men
b. The majority of engineers is women
c. There are as many women engineers as men

2. Which of the mentioned below was **NOT** invented by engineers:

a. Washing machine
b. Aircraft
c. Lift

3. The word 'engineer' means:

a. Competent
b. Hardworking
c. Determined

4. When there is a problem:

a. Engineers find ways to overcome the problem.
b. Engineers search for reasons behind the problem.
c. Engineers prevent events that occur after the problem.

5. According to research, women have:

a.   Organizational skills
b.   Critical thinking skills
c.   Analytical skills

6.Science and engineering are:

a.   Completely similar
b.   Completely dissimilar
c.   Similar and dissimilar at the same time

7. Which of the following is **NOT** mentioned about engineers:

a.   Engineer's contribution to society
b.   Types of engineers
c.   Engineering and science

8. *They gain knowledge to be able to construct:* which of the following is this statement about:

a.   Scientists
b.   Engineers
c.   Both of the above

9. Which of the statements is true:

a. 91% of engineers in the US are men.
b. 8% of engineers in the UK are women.
c. None of the above

10. Which of the facts below is **NOT** true about engineers:

a. They stimulate pollution
b. They invent new drugs
c. They create developed technologies

Answer Key:
1. a
2. c
3. a
4. a
5. c
6. c
7. b
8. b
9. a
10. a

Appendix C

Multiple Choice Question Slides for the Vocabulary Pre-Teaching Strategy

1. Which of the following below is **NOT** true about meteors:

   a. It harmed people
   b. It was traced by NASA
   c. It was found in a city in Russia

2. When a meteorite stroke the Earth:

   a. Tsunami was produced
   b. Earthquake was caused
   c. Many animals disappeared

3. The recent event in Russia was a reminder that:

   a. Meteors and asteroids are threatening
   b. Meteors and asteroids are close to the Earth
   c. Meteors and asteroids are less dangerous than they occur to be

4. Which of the ideas below was **NOT** claimed by the engineers to prevent the collision of the Earth and asteroids:

   a. Hitting asteroids with a rocket
   b. A space vehicle could settle on the asteroids
   c. Setting a satellite to direct the asteroids to the Earth

5. In order to trace the asteroids, NASA used their:

a. Satellite
b. Radio Telescope
c. Electric Motors

_____

6. The largest material to draw close the Earth was:

a. Meteors
b. Asteroids
c. Meteorite

7. The scientists state that:

a. There is enough time to change the route of the asteroids
b. It is difficult to repair the damage caused by asteroids
c. It is impossible to change the direction of the asteroids

_____

8. The most serious warning for the Russian scientists is:

a. Apophis
b. Sending a probe
c. Asteroid that will fly close to the Earth

9. Which of the following below is true about an asteroid:

a. It crushed windows
b. It ruined ceilings of houses
c. It passed by within a Moon's orbit.

10. Which of the following does the text **NOT** mention:

a. 2005 YU55
b. Methods to avoid collisions with asteroids
c. Restoration of damages after collisions in Yucatan Peninsula

Answer Key

1. b
2. c
3. a
4. c
5. b
6. b
7. a
8. a
9. c
10. c

Appendix D

Post-Test: Multiple Choice Question Slides

1. With the magnetically-raised train, the duration of travelling from New York to London will be:

   a. approximately 2 hours
   b. Approximately an hour
   c. 54 hours.

2. Which of the ideas below is **NOT** true about magnetically-raised trains:

   a. They are longer than the ordinary ones
   b. It saves the passengers' time
   c. It passes through tunnels

3. Which area does the tunnel **NOT** cover:

   a. Atlantic Ocean
   b. Gulf Stream
   c. Arctic Ocean

4. The depth of the anchors that will descend to the lowest part of the sea is:

   a. 54000 meters
   b. 8 kilometres
   c. 1000 kilometers

5. Which of the below is **NOT** an advantage of the Sahara solar panels:

a. Improving weather conditions
b. Intensifying the sunlight
c. Generating electricity

6. Solar panels in North Africa will generate more electricity than the ones in Europe because:

a. There's more sunlight in North African than Europe
b. The quality of the solar panels is better in North Africa than the ones in Europe
c. The solar panels in North Africa absorb sunlight faster than the ones in Europe.

7. Which of the countries is not joining to build a supergrid:

a. Libya
b. North Africa
c. Syria

8. The main concern of the scientists about the solar panels is:

a. How the solar panels will be cleansed
b. How the troughs of solar panels will be kept clean
c. How they will import the panels from Egypt and Germany.

6

9. One of the reasons why the government wants to build the dam is:

a. To rely on fossil fuels
b. To provide help to local tribe
c. To improve the country financially

10. The Belo Monte Dam will:

a. force people to leave their land
b. improve forests
c. both of the above

7

Answer Key

1. b

2. a

3. c

4. b

5. b

6. a

7. b

8. b

9. c

10. a

Appendix E

Final Interview with the Comparison Group Participants

1. How was your experience doing pre-reading activities?

2. What are your preferences about having pre-reading activities?

3. In what ways did the pre-teaching strategies help you?

● How did they help you remember what you had already known about the topic?

● How have they prepared you to understand the text?

4. Which strategy helped you comprehend the text the most (learning new vocabulary,

   pre-questioning, brainstorming?) Why?

5. What challenges did you face when completing the strategies?

6. How much were you familiar with the topic before doing the pre-reading strategies?

7. What difficulties did you have understanding the texts?

8. Which of the pre-reading strategies would you like to have more in your future classes

   while doing reading tasks? Why?

Appendix F

Final Interview with the Treatment Group Participants

1. What are your preferences about having pre-reading activities?

2. In what ways did the pre-teaching strategies help you? How have they prepared you to understand the text?

3. Which strategy helped you comprehend the text the most (pre-questioning, brainstorming, vocabulary pre-teaching) Why?

4. What challenges did you face when completing the strategies?

5. How was your experience doing research online and reading the information in the websites or on google?

6. How did searching information on the internet make you feel about the topic?

7. How familiar were you with the topics before doing the pre-reading strategies and the online reading?

8. How did the internet help you to have more information about the following reading content?

9. Were you familiar with using technology before our lessons? Do you think that experience helped you to look for information quickly and easily?

10. What difficulties did you have when searching for information?

11. What difficulties did you have understanding the text?

12. Which of the pre-reading strategies would you like to have more in your future classes while doing reading tasks?

13. Would you like to have more online reading during your future lessons? Why/ Why not?