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Improving EFL Preparatory Stage Pupils' Reading Comprehension Skills through a Web-Based Self Regulated Learning Strategies Program

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Abstract

The research aimed at investigating the effect of a web-based self regulated learning strategies program to improve EFL preparatory stage pupils' reading skills. The participants of the research were sixty (60) second year preparatory pupils from Riyadh Elsalheen Private School, Mansoura, Al Dakahlia Governorate, Egypt. The study adopted the quasi-experimental research design. So, there were two groups: an experimental group (n= 30) taught through the suggested program and a control (n= 30) taught through the regular method. To collect data, the researcher used multiple instruments: an EFL reading skills test and self-regulated learning strategies inventory. The results of the research revealed that the experimental group outperformed the control group in the reading skills. The research recommends using web-based self-regulated learning strategies as a technique in teaching EFL skills and as a training approach in professional development programs of EFL teachers .

Key Words : Web self-regulated learning strategies and reading.

Introduction

The first word revealed by Allah Almighty in the Qur'an is (read) and it is a clear sign by the Almighty on the importance of reading in the life of the individual and the group, reading is still and will remain the backbone and the foundation for knowledge and information, and it is communication among humans.

Reading is one of the most important skills which a foreign language learner should acquire primarily because it is thought to be the gate through which other language skills are opened. Reading is associated with academic success, as formal education depends on the student's ability to read with understanding. Consequently, reading as a basic skill in language learning is important especially for EFL students in keeping one aware of new findings and in increasing one's academic and professional position.

Reading is seen as a key indicator of academic success in schools. Students gain information and ideas mostly through reading, which allows them to communicate and write. Speech is much faster than reading, so they should not rely solely on hearing. Reading skills are required to solve math

and science challenges. Reading is a meaning-making process that involves both the learner's self-reflection and the participation of others through think-aloud exercises (Wilhelm, 2001).

The role of reading is very important because it helps students to gain information about different cultures and customs. Moreover, students who have a good promotion in reading and receive inducement at home can only exceed in school (Yubune, Kanda &Tabuchi, 2007). Likewise, Nasr (2011) stated that reading skill is viewed as the most essential skill of the four skills particularly in the countries where English is taught as a foreign language.

More students still face troubles in mastering the reading skill. Engaging these students in active reading activities may assist them to become more involved in their reading (Glencoe, 2003). On the other side, good readers are active and strategic readers who apply and utilize various comprehension strategies before, during, and after reading. Good readers apply comprehension strategies to make the construction of meaning easier. These strategies involve previewing, self-questioning, making connections, visualizing, knowing how words work, monitoring, summarizing, and evaluating. Furthermore, McLaughlin and Allen, (2002) believe that applying and utilizing such strategies already assist students become more metacognitive readers.

Reading comprehension has been a part of classrooms as long as schools existed. Students desire to read texts and teachers want to promote and assess comprehension. Understanding the meaning of text words, numbers, and images, in print or digital form is the ultimate desired goal of reading. Reading comprehension, both its instruction and assessment, are arguably the most significant outcomes of reform movements designed to improve reading curriculum and instruction or at least it ought to be. The trends over the past five or six years are encouraging (Snow, 2003).

The emphasis on comprehension has been reinforced by attention to the plight of older readers, for whom comprehension is both the central goal and barrier (Biancarosa& Snow, 2006). The main key of comprehension is to make meaning of a text in a way that is understandable and relatable to the reader (Tompkins, 2007). It is evident that many students at school face difficulties in reading, which can be attributed to several reasons such as too little reading practice, and/or poor reading teaching and instruction. "Teachers still adhere to traditional language teaching procedures," Alemu

(2004, p.252). As a result, pupils must be trained in a variety of situations in order to improve and foster their reading comprehension skills.

Applying recent methods in English teaching and learning gives learners more opportunities to be active participants. Internet technologies are characterized because of their positive effects for literacy learning inside and outside of the school context (Hull & Schultz, 2001). In fact, Internet technologies have become a part of school learners' daily lives, especially in the area of informational texts (Lebo, 2003). The internet provides numerous resources and chances for students (Spires & Estes, 2002). Reading and searching for information on the internet is an interacting process between students and the hypertext (Wang, Hawk, &Tenopir, 2000).

In spite of the fact that reading skills are considered essential in teaching, EFL many studies indicated that students have difficulties in the reading (Shafiee et all, 2019; Juliana's, 2018& Jeon's, 2012).

Self-regulated learning is an active, constructive process whereby learners set goals for their learning, and then monitor, regulate and control their cognition, motivation and behavior, guided and constrained by their goals and contextual features of the environment (Pintrich, 2000). Self-regulated learners systematically use metacognitive, motivational and behavioral strategies and proactively participate in their own learning process (Zimmerman, 2008). This concept not only looks into cognitive aspects of learning, but also considers the social-affective dimensions of language learning such as motivation and self-efficacy (Oxford, 2011).

Good language learners are viewed as self-regulated learners who are able to monitor their own learning, develop their learning strategies, overcome their learning anxiety, keep themselves motivated and engaged in the language learning process, and be responsible for their own learning (Sykes, 2015).

In addition to social cognitive theory, it partly relies on the volitional view of self-regulation as it was derived from volitional theory, which distinguishes self-regulation from metacognition via volitional control. Learners need to exercise will power (i.e., volition) to put metacognitive abilities into practice. Because will power underlies self-regulated learning, metacognitive knowledge alone cannot bring about successful learning (Corno, 2001; Zimmerman, 2001).

In spite of this technological revolution we experience nowadays and its countless tools and devices, EFL/ESL students are still unaware of themselves, their abilities, their potentialities and their own language

learning strategies. They do not recognize these potentialities. In other words, students in this age of open cyberspaces need to be self-regulated learners. They need to know and recognize their self-regulated strategies and skills to be responsible for their own learning and to be autonomous learners.

Utilizing **self-regulated** learning strategies for the acquisition of foreign languages is well established in the literature (Nejabati, 2015). These strategies should be used to language learners because they increase their language proficiency and involved in the process of foreign language acquisition and are well documented in the literature as necessary to foreign language success (Mills, Pajares, & Herron, 2007; Tung-Hsien, Shan-Mao, Shu-Hui Eileen, & Wen Johnny, 2012; Wang, Spencer, & Xing, 2009; Yusri, Rahimi, Shah, &Wah, 2013).

Through the lenses of self-regulatory learning theory successful learners are seen as being proactive when they are responsible for their own learning and take active steps such as planning, setting up goals, regulating emotions, controlling boredom, resisting procrastination, and getting over test-taking anxiety (Andrade & Bunker, 2009; Artino, 2009; Schunk& Zimmerman, 2008).

In fact, self-regulated learning strategies such as; the ability to regulate thoughts, feelings and actions that lead to achieve learners' goals, goal-setting and planning, self-evaluation, information seeking, environmental structuring, and reviewing can increase students achievement help them increase language proficiency (Alhaqbani&Riazi, 2012).

Self-regulation is thus similar to metacognition or autonomy, but with more explicit volitional control techniques. In the self-regulation literature (Oxford & Lee, 2008), volitional control strategies are divided into two categories: (a) strategies for controlling all stages of learning, such as metacognitive control strategies, emotion control strategies, motivation control strategies, and environment control strategies, and (b) strategies for maintaining learning in the face of challenges such as temptations and distractions.

Previous research showed that self-regulated learning is crucial for students' academic achievement (Latifi, Tavakoli, &Dabaghi, 2014; Maftoon&Tasnimi, 2014; Zimmerman &Schunk, 2001). However, many studies investigated the effectiveness of integrating self-regulated learning strategies into reading instruction among second semester learners of

Chinese as a second language at college level and examined students' and instructors' perceptions of reading strategy instructions (Li, 2017)

It is impossible to deny the effect that technology has had on our daily lives. The Internet, which has been with us for long, has invaded almost every aspect of modern society. It exceeds cultural, physical and spatial borders; it encompasses developed and developing worlds. Having an e-mail address or a website has become as common place as having a telephone and now ELT practitioners are experimenting with the use of different tools in their teaching contexts. On the Internet we play games to entertain ourselves, download music and videos, and do our banking.

Concerning web-based learning, it is seen as a better tool to the extent that it provides a lot of instructional strategies (e.g., text, audio, graphics, synchronous and asynchronous communication) that can be structured to address students' needs. It is also pointed out that some clusters of web-based learning features may prompt to greater instructional impact including media assortment, facilitation of Web exploration, learner simplicity, and flexibility of utilization (Arbaugh, 2005).

Through web-based learning, content is conveyed using web portals such as learning administration frameworks or sites. Utilizing such portals, teachers can associate with students and vice versa. In any case, because of the rise of web 2.0 advances, web-based courses can now be designed to give learners more possibilities to devour, as well as to create content that can be shared by means of the World Wide Web, that route moving from web-based learning islands to web-based learning situations (Ehlers, 2009).

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Through reviewing the literature and related studies, it is observed that many researchers carried out various studies to improve reading comprehension skills. Asuti and Marhum (2016) used audio-lingual Method to improve reading comprehension skills of second year students of Negeri secondary school. In the same respect, Yo (2011) mentioned that shadowing is most effective to develop learners' reading comprehension skills. Kang (2016) evaluated the effectiveness of incorporating self-regulated and awareness strategies with podcast activities in reading English as a second language (ESL) class.

Studies Related to Developing Reading Comprehension Skills

There are a number of studies which are related to reading comprehension skills. These studies are listed below.

Hamed (2020) investigated the effectiveness of using A readers' theatre based program to develop some reading skills of EFL secondary school students and increase their motivation. The participants of the study consisted of 50 students from two classes of EFL secondary school in Quweisna, Menoufia governorate. They were divided into two groups a control group, and an experimental group who received the readers' theatre program. Instruments of the study included a reading skills questionnaire, a pre- post reading test and a motivation scale. The results revealed that the readers' theatre based program has positive effect of experimental group students' reading skills, regarding comprehension, fluency and critical skills. It also revealed the mean score of the experimental group in the post administration of the motivation scale was higher than that of the control group. These results emphasized the effectiveness of readers' theatre based program in developing EFL reading skills and motivation

Shafiee et all (2019) investigated the impact of CALL based Methods of Instruction on Reading Comprehension among Iranian Upper-Intermediate EFL Learners. 52 Iranian upper-intermediate EFL learners were selected randomly and divided into two equal groups; CALL-users (n = 26) and non-CALL-users (n = 26) groups. After that, both groups were pretested by a reading comprehension pretest. Then, both groups received the treatment. After the treatment ended, both groups took the post-test of reading comprehension. The results indicated that the CALL group outperformed the Non-CALL group on the post-test.

The objective of Juliana's (2018) was to find out the effective strategy to use for enhancing the students' reading comprehension. The sample of the study was 40 Informatics Systems students of PotensiUtama

University. The data collection was used written test by comparing the scores results after giving the treatment. There were two tests in this study before and after treatment. The first group was taught using lexical glossing strategy, while the second group was treated using lexical inferencing strategies. The test resulted that the students in the second group using lexical inferencing strategies could guess the unfamiliar word meaning correctly that impact toward the students' reading comprehension. While the students in the first group using the lexical glossing strategy make erroneous guesses about unfamiliar word meaning that impact on the students' reading comprehension.

Jeon's (2012) study examined the role of oral reading fluency (ORF) in learning L2 reading comprehension. The sample of the study was 255 Korean students at secondary stage. An explanatory factor analysis (EFA) was used to examine the relationship between ORF and other reading comprehension predictor (RCP). Results indicated that there was significant improvement due to the experimental treatment.

Hamed (2015) measured the effectiveness of using a multi sensory approach to decrease dyslexia of EFL sixth grade primary stage pupils. The researcher adopted the quasi experimental design. Participants of this research consisted of 60 dyslexic pupils chosen deliberately from two schools in Dekernis, Dakhahlia governorate. The participants were divided into two groups randomly as one experimental group of 30 pupils and one control group of 30 pupils. The researcher used a pre-post reading test and a dyslexia checklist as a data collection method for measuring the effectiveness of using a multi sensory approach to decrease dyslexia of the experimental group members. T. Test was used to compare the mean scores of the control and the experimental groups. Results of the research revealed that using a multi sensory approach helped to improve the pupil's reading skills namely, the comprehension skill followed by vocabulary followed by phonemic awareness and fluency.

While El-Sherbiny (2007) research indicated the impact of survey, question, read, recite and review (SQ3R) strategy in enhancing students' reading comprehension skills of students at Al-Azhar institutes. The sample included 90 students that were divided into an experimental group and a control group. The results of the research proved that using SQ3R strategy was effective to enhance students' comprehension reading skills.

The previous studies manifested the importance of improving reading comprehension skills as various methods and strategies were used to achieve this goal.

Self-Regulated Learning

SRL is one of the main concepts in ESL and EFL nowadays. It was defined variably by many psychologists, experts and educational researchers. Pintrich (2000) explains self-regulated learning as "an active and constructive process whereby students set goals for their learning, and then try to monitor, regulate, and control their cognition, motivation, and behavior guided and constrained by their goals, and the contextual features in the environment" (p. 453).

Zimmerman (2000) states that self-regulation refers to self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (p.14). It is an active process during which learners have their goals for learning and start monitoring, regulating, and controlling their cognition, motivation, and behavior which are guided by their goals and the features in the environment.

Paris and Paris (2001) pointed out self-regulated learning" emphasizes autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise and self-improvement" (p. 89).

From the definitions above, they have agreed upon certain aspects of SR such as, setting goals, planning, monitoring and evaluation. The researcher defined self-regulated learning as an active learning process in which pupils plan, set up certain goals for themselves in their learning tasks, monitor their learning improvement and self-evaluate their learning performance during learning online to become more independent learners

Web-Based learning

"Web-Based learning is learning that uses the World Wide Web or the Internet as a means and a method for delivery of learning and instruction" (Alessi and Trollip, 2001).

Acar and Toy (2013) defined web-based learning as "an interactive environment providing interaction of students with tutorials on the web and other elements (drills, simulations, educational games, tests, etc.)" (p.446).

In the current research ,, the researcher defined web-based learning as an online learning which includes online course content, discussion

forums via email, videoconferencing, and live lectures. Pupils can use all these resources to enrich their learning.

Studies Related to Self-Regulated Learning

There are a number of studies which are related to the present study in terms of studying the same variables, reading comprehension and self-regulation. These studies are listed below.

Ahmed (2017) investigated the effectiveness of using cognitive self-regulated strategies based program to develop EFL oral communicative competence skills for student teachers. Participants of the study were sixty student teachers from Benha university faculty of Education. Results showed no statistically significant differences between the two groups. The researcher administrated the proposed CSRS-based program on the experimental group. Finally, post-oral communication test was administered on both groups. Results showed that experimental group performed better in the post- oral communicative competence test after the treatment.

Hassan (2019) investigated the effect of a proposed online self-regulation based vocabulary learning programme on secondary school students' EFL reading comprehension skills and reading speed. Five instruments were built to fulfill the study's objectives: An Online Reading Comprehension Skills Questionnaire, a Pre-post Online Reading Comprehension Test, a Pre-post Online Reading Speed Test, an Online Vocabulary Strategies Inventory, and an Online Self-regulation Strategies Scale were created to determine the reading comprehension skills The study's sample included 60 EFL first-year secondary school students. Results of the study revealed that the proposed program led to significant improvement in first grade secondary stage student EFL online reading comprehension skills as well as their reading speed.

Mostafa (2018) investigated the impact of using a computer-based scaffolding strategy to improve the reading skills and self-regulation of EFL Preparatory Stage students. Sixty (60) first-year preparatory school students from Al-Zayaat preparatory school in New Damietta, Egypt took part in the study. The research was conducted using a quasi-experimental research design. So there were two groups: a control group (n= 30) and an experimental group (n= 30). The researcher employed a variety of instruments to gather data, including a reading comprehension skills checklist, a computer and internet skills questionnaire to choose the study's sample, a pre-post reading comprehension exam, and a self-regulation questionnaire (SRQ).The results of the study revealed that there was a

statistically significant difference between the mean scores of the experimental group and the control group in the reading comprehension skills in addition to self-regulation in favor of the experimental group.

The impact of self-regulation on EFL students' reading comprehension was explored by Maftoon and Tasnimi (2014). To achieve this goal, 149 Iranian EFL language students from the Islamic Azad Universities of Qazvin and Tehran were chosen from a total of 200 and divided into two experimental and control groups based on their TOEFL PBT exam scores. The findings revealed that self-regulation had a considerable impact on Iranian EFL students' reading comprehension.

Aregu (2013) examined the effects of using self-regulated learning strategies on critical reading performance among second year distance education students taking critical reading course. In this study, 140 participants presented the study sample. Results showed that 52% of the variances in critical reading are accounted for by the group effects of the self-regulated learning strategies entered in the regression equation. Among these, applying of behavioral self-regulated learning strategies have positive and significant influences on critical reading performance. The results suggest that concern should be paid to the uses of self-regulated learning strategies.

Yigzaw and Fentie (2013) examined whether or not motivational beliefs and self-regulated learning strategies are significant predictors of high school students' reading performance. The sample consisted of 107 grade 9 students at Bahir Dar. They utilized some cognitive and metacognitive strategies in addition to some motivational beliefs. Final results showed that only students' cognitive strategies such as rehearsal, elaboration, organization and critical thinking were significant predictors of high school students' reading comprehension performance.

Al Asmari and Ismail (2012) investigated the use of self-regulated learning strategies as predictors of reading comprehension. Participants were 248 EFL university students: 112 males and 136 females. Results revealed some differences between students across their different academic levels in self-regulated learning strategies. Also, there were differences between students across different academic levels, in the reading comprehension test. Additionally, the multiple regression results reported that some of the self-regulated learning strategies were predictors of reading comprehension.

Studies Related to Using CALL and Web-Based Learning to Improve Reading Comprehension Skills:

This part includes some studies related to CALL and other studies related to web-based learning.

In this regard, Gouda (2017) investigated the impact of training secondary school students in web-based self-regulated learning strategies to improve their reading comprehension skills. Two instruments were designed, a pre-post self-regulated learning strategies and a pre-post reading comprehension achievement test. The study adopted the quasi-experimental design. The participants consisted of sixty female students selected from second year of Hussein Hammad secondary school, in Dikirnis. Results of the study revealed that there were statistically significant differences between the control and experimental groups on both questionnaire and test scores in favor of the experimental group.

Bhatti (2013) conducted a study to explore which of two methods of teaching reading skills, an instructor-led class vs. CALL helps secondary students in enhancing the literal, inferential, and evaluative levels of reading skills. The sample included two groups of ninth grade students. Both groups received 24 reading lessons either through CALL or through an instructor-led method. Participants' reading skills were measured by pre and posttests by a panel of three examiners. A paired one-tailed t□ test was utilized to analyze test scores. Results revealed that CALL was 35% more influential than the conventional instructor-led class.

Meihami and Varmaghani (2013) investigated the combination effect of CALL materials in second language reading comprehension classrooms. Two classes of 60 students represented the study sample each included 30 students. The comparison between the experimental and the control group pinpoint that CALL materials develop reading comprehension skill among EFL low advanced students. It was also concluded that the majority of students have positive attitude toward CALL. The results suggest that applying CALL materials both in teaching and learning reading comprehension is significant in allowing learners to make progress in reading comprehension.

Fard and Nabifar (2011) investigated the impact of CALL on reading comprehension in an EFL setting. Forty male learners of English at an intermediate level of linguistic proficiency after a proficiency test were randomly chosen as the sample of this study and were assigned into two

groups of experimental and control. Results of T-test supported the significant difference between experimental and control groups.

Ali (2004) studied the influence of teacher-based instruction (TB) versus computer-assisted language learning (CALL) on enhancing undergraduate Arab learners' English reading ability in the three aspects speed, comprehension and vocabulary knowledge. Participants are represented in two samples of 100 and 150 students for experiments I & II, respectively. Each sample was divided into two groups depending on learners' pre-instruction preferences for (TB) or CALL methods. Results revealed that CALL was significantly more effective than TBI for improving the learners' reading ability in the three aspects mentioned and targeted.

The study conducted by Al-Fakara (2020) investigated the impact of Audiobook on enhancing the EFL reading comprehension and speaking skills of basic education students in Jordan. The participants of the study were sixteen tenth grade students. The study adopted the quasi-experimental research design with two groups: a control and an experimental one. To collect data, the researcher used multiple instruments: a reading comprehension sub-skills checklist, a speaking sub-skills checklist, two pre posttests of reading comprehension and speaking, a speaking assessment rubric. The results of the study revealed that there were statistically significant differences between the mean score of the experimental group and the control group in the reading comprehension and speaking performance in favor of the experimental group.

Zahran (2019) used electronic guided reading instruction (EGRI) approach to develop EFL reading comprehension skills and attitude towards reading among preparatory school pupils. During the first semester of the academic year 2018-2019, 40 second-year students from Al-Shaheed Ahmed Hamid Abdel Dayem – Preparatory School in Al-Menofia Governorate- took part in the study. The study's participants were split into three groups: two experimental groups (group one had ten students, and group two had ten students), and a control group with twenty students. An EFL Reading Comprehension skills checklist, a placement test, a pre-reading comprehension test, a post-reading comprehension test, a rating competence scale, and an attitude toward reading scale were used in the study.

Ali (2019) used a proposed Metacognition-Based CALL Program to improve EFL secondary school students' reading comprehension skills and

motivation. Thirty female students from the first year of Esh-shenawy secondary school for girls in Tanah, Dakahlia governorate, took part in the study during the second term of the academic year 2016/2017. To assess students' reading comprehension skills levels before and after the experimental treatment, a pre-post reading comprehension skills exam was devised and employed. In addition, a motivation for reading measure was utilised to examine the motivation of kids to read. The suggested curriculum was taught to the study group.The control group, on the other hand, was taught using the traditional technique. In both the reading comprehension skills test and the motivation for reading scale, the study group outperformed the control group. This was also demonstrated by the treatment's effect size on the pupils' reading comprehension skills and motivation to read.

Basyouni (2018) examined the use of some online reading strategies to enhance secondary stage students' reading comprehension skills and their attitude towards reading. The study adopted the quasi-experimental design. The study sample consisted of sixty two participants from four classes at Kafr El-Sheikh Science, Technology, Engineering, and Mathematics (STEM) School. The participants were divided into two groups; an experimental group and a control group. Each group encompassed thirty one students. The instruments of the study included an Online Reading Comprehension Test and a reading attitude scale. Statistical analyses of students' performance on the pre- and post-test revealed significant gains and there proved to be a significant statistical difference between the mean score of the experimental group and that of the control groups on the post administration of the test in favor of the experimental group. Further, the analysis of the Attitude Towards Reading Scale revealed that the experimental group students developed a positive attitude towards reading.

Ahmed (2017) investigated on the effectiveness of employing task-based mobile learning to improve EFL reading skills in secondary school pupils. The study's participants were divided in two groups: experimental and control. A reading skills questionnaire and an android mobile learning pre-post reading exam were used in the study. After the programme was implemented, both groups were given a post-test. The experimental group outperformed the control group, according to the results. This demonstrated that the treatment programme had a positive impact on the students' EFL reading abilities development. As a result, task-based mobile learning is found to be beneficial in enhancing EFL reading skills in secondary school pupils.

El-Marakby (2017) aimed at investigating the effectiveness of using some online peer-assisted learning strategies (OPALS) for developing prep stage students' EFL reading comprehension and their self-esteem. Forty four students from Future Language Schools, East Tanta Educational administration were selected as participants of the study. The study used the OPALS checklist, a reading comprehension exam (pre and post), and a self-esteem scale as instruments (pre &post). The results demonstrated that the experimental group's reading comprehension skills and self-esteem were much greater than the control group's. The findings of the study revealed that using online peer-assisted learning methodologies in such a technology setting improved students' self-esteem.

El-Shourbagy (2017) investigated the effectiveness of a CALL (computer aided language learning) software in enhancing EFL first-year secondary students' reading comprehension skills, listening comprehension skills, and motivation. The participants were two classes (60 students) of first-year secondary school students from the Manzala Directorate's Ahmed Shelbia Secondary School for Girls. Students in the experimental group were taught reading and listening using the CALL programme, whereas students in the control group were taught following the teaching procedures outlined in the Ministry of Education's Teacher's Guide. Both groups were post-tested after the programme was taught, using the same instruments as the pre-testing. The study's findings revealed substantial differences between the experimental and control groups' mean scores on the test.

Mohammed (2016) investigated the impact of a proposed web-based unit (PWBU) on the reading comprehension skills of eighty Al-Azhar third preparatory institute students, as well as their attitudes towards web reading. The sample was randomly selected and divided into two groups: control and experimental. On a MOODLE, the PWBU and scale were created, then posted to the Mansoura University website. The PWBU was given to the experimental group during the second term of 2015, while the control group was taught in the traditional manner. The experimental group favoured the PWBU, and the results demonstrated a significant improvement in reading comprehension skills and attitudes toward web reading. More research should be done, according to the results.

In brief, researchers generally agree that there is a positive relationship between computer assisted language learning (CALL) and academic achievement in EFL/ESL context, especially the improvement of reading skills.

Statement of the problem

Through reviewing the literature, it became apparent that the results of a number of studies dealt with reading skills in their studies such as (El-Sherbiny, 2007; Hamed, 2020; Bhatti, 2013; Meihami and Varmaghani, 2013& Hamed 2015) found out that students' level in reading comprehension skills needed to be improved.

Therefore, the present research uses web-based self-regulated learning as the theoretical framework to demonstrate effective learning strategies in reading comprehension skills among the learners of preparatory stage.

Questions:

In order to tackle the problem, the present research attempted to answer the following questions:

1- What are the features of a web-based self-regulated learning strategies program to improve EFL reading comprehension skills of preparatory stage pupils?

2- To what extent does a web-based self-regulated learning strategies program improve EFL reading comprehension skills of preparatory stage pupils?

Hypotheses:

1. There is a statistically significant difference at the $\leq$ 0.05 level between the mean score of the experimental and the control groups in the post-administration of the EFL reading comprehension skills test in favor of the experimental group.

2. There is a statistically significant difference at the $\leq$ 0.05 level between the mean score of the experimental group in the pre and post-administration of the EFL reading comprehension skills test in favor of the post-test.

Purpose:

The main purpose of this research is to investigate how far a web-based self-regulated learning strategies program would improve EFL reading comprehension skills of preparatory stage pupils.

Design

This research utilizes a quasi-experimental design that aimed to investigate the effectiveness of using web-based self-regulated learning strategies in developing EFL second year preparatory stage pupils' reading

comprehension skills. Table (1) below highlighted the experimental design of the research.

Table (1) The experimental design of the research

| Group | Main Procedures | | | Test/scale |
	Pre-test Pre-application	Treatment	Post-test Post-application	
Experimental	√	√	√	Reading Test
Control	√	—————	√	

Instruments

For achieving the purpose of the research, the following instruments are used:

1. An EFL Reading Skills Test (pre-post) to evaluate the pupils' reading skills.
2. Self-Regulated Learning Strategies Inventory to determine the most important strategies.

Delimitations:

This research is delimited to:

1. A sample of sixty second year preparatory pupils from Riyadh Elsalheen Private School, Mansoura, Al Dakahlia Governorate.

2. Reading skills necessary for second year preparatory pupils: (inferring sequences skill, identify the main idea correctly, reading for specific information, identifying word meaning and recalling facts and details).

3. Self-regulated learning strategies SRLSs that are expected to help second year prep stage pupils to learn reading skills (goal setting, elaboration, rehearsal, organization, self-monitoring).

Testing the first hypothesis

The second hypothesis stated that ***"There is a statistically significant difference at the ≤ 0.05 level between the mean score of the experimental and the control groups in the post-administration of the reading comprehension skills test in favor of the experimental group".***

In order to validate this hypothesis the researcher used the descriptive statistics. Table (2) illustrates the findings.

Table 2: comparing the reading performance of the two groups on the reading comprehension skills test.

| Skills	The group	N.of cases	Means	S.D	df	*t.*value
Distinguishing the main idea from supporting details	Control	30	1.20	0.761	58	-3.304**
	Experimental	30	1.73	0.450		
Recalling facts and details	Control	30	3.10	1.155	58	-3.084**
	Experimental	30	4.03	1.189		
Reading for specific information	Control	30	3.40	1.589	58	-2.668**
	Experimental	30	4.37	1.189		
Identifying word meaning from the text	Control	30	2.57	0.774	58	-2.682**
	Experimental	30	3.13	0.860		
Inferring sequences	Control	30	2.97	0.850	58	-2.254**
	Experimental	30	3.40	0.621		
Total score	Control	30	13.23	4.183	58	-3.563**
	Experimental	30	16.67	3.220		

* significant at 0.05 level

** significant at 0.01 level

To compare the mean scores of the control and experimental groups, t-test for independent samples was used. Table (2) shows that the mean scores of the experimental group in the five sub-skills namely (was in= 1.7; 4.0; 4.3; 3.1; 3.4; and 16.6 respectively). This indicates that the experimental group outperformed the control group in all reading comprehension sub-skills as well as in the total score.

The table illustrates also that the estimated t-value is significant at .05 level. This indicates that there is a statistically significant difference between the experimental and control groups in the five sub-skills as well as the total score on the post-administration of the test. This can be shown in the following diagram

Figure (1) The mean scores of the control and the experimental groups in all individual reading sub-skills and the total score of reading skills test
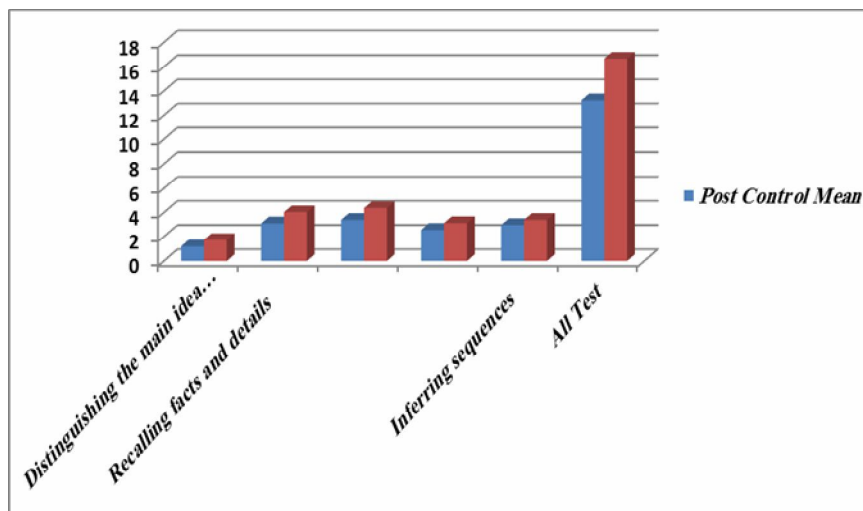
The results show that there was improvement in the different reading skills. However, reading for specific information was the highest improved skill (m=4.3) while distinguishing the main idea from supporting details (m=1.7) and Identifying word meaning from the text (m=3.0) were the lowest improved skills. The web-based self regulated learning strategies provided the participants more opportunities to read, and pay more attention for finding specific information, which gradually lead to having more time to focus on reading for specific information and Inferring sequences (m=3.4).

The improvement in the various reading skills; indicates that the treatment was effective and successful since pupils had to grasp the elements of these sub-skills and put them into action.

In other words, using web-based self-regulated learning strategies represented a positive shift for the participants. They were eager to change the traditional ways of learning. These strategies provided a challenging experience for most learners to actively and enthusiastically participate in reading comprehension tasks and activities.

Testing the second hypothesis

The fourth hypothesis is that, ***"There is a statistically significant difference at the ≤ 0.05 level between the mean score of the experimental group in the pre and post-administration of the reading comprehension skills test in favor of the post-test".*** In order to verify this hypothesis, the

following table presents the results of t-test of the Experimental group comparing the pre and post administration in all individual reading comprehension sub-skills and total score of the reading comprehension skills Test:

Table 3: comparing the reading comprehension performance of the experimental group in the pre and post administration in all individual reading comprehension sub-skills and total score of the reading comprehension skills Test

Skills	Application	N.of cases	Means	S.D	df	*t-value*
Distinguishing the main idea from supporting details	pre – test	30	0.97	0.669	29	-5.139
	post – test	30	1.73	0.450		
Recalling facts and details	pre – test	30	2.70	1.317	29	-3.808
	post – test	30	4.03	1.189		
Reading for specific information	pre – test	30	2.90	1.322	29	-3.958
	post – test	30	4.37	1.189		
Identifying word meaning from the text	pre – test	30	2.03	0.999	29	-4.649
	post – test	30	3.13	0.860		
Inferring sequences	pre – test	30	2.13	1.106	29	-5.188
	post – test	30	3.40	0.621		
Total score	pre – test	30	10.73	4.386	29	-5.406
	post – test	30	16.67	3.220		

* significant at 0.05 level

** significant at 0.01 level

It is clear from the results of the table (12) that there are statistically significant differences between the mean scores of the experimental group pupils in the pre and post applications in all skills of the reading test and the total score in favor of the post application (the highest mean), where all values of (*t*) are statistically significant at the level of Significance (0.01) and degree of freedom (29). These results agree with or confirm the fourth hypothesis. This can be illustrated by the following diagram:

Figure (2) The mean score of the experimental group in all individual reading sub-skills and the total score of the reading comprehension skills test in the pre and post applications
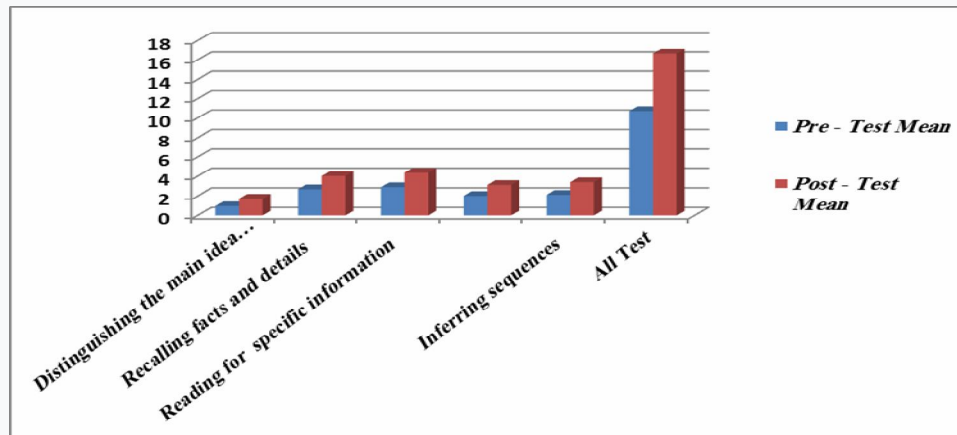
Results in the above table and figure illustrate that the estimated *t*-value is significant at 0.05 level. This reflects that there is statistically significant difference between the mean scores of the pre-post-administration of the reading skills test in the different five sub-skills and in the total score. This significant difference is in favor of the post-test.

According to the figure above, the pupils in the experimental group improved their levels of different reading skills in their performance on the post-test. Low, medium, and high levels of improvement were seen. The sub-skills of reading for specific information and recalling facts and details had the highest improvement.

The effect size of the web-based self regulated learning strategies program:

In order to calculate the effect size of the web-based self regulated learning strategies program, the researcher calculated the effect size value ($\eta2^*$) as shown in Table (4). Fouad Abu Hatab and AmalSadiq (1991: 442) reported the following rules:

A- The effect that explains about 1% of the total variance indicates a small effect.

B- The effect that explains about 6% of the total variance indicates a medium effect.

C - The effect that explains about 15% of the total variance indicates a significant effect.

Table 4: The effect size of the web-based SRLSs program on improving reading comprehension skills:

Skills	η^2	Effect size
Distinguishing the main idea from supporting details	47.7 %	High
Recalling facts and details	33.3 %	High
Reading for specific information	35.1 %	High
Identifying word meaning from the text	42.7 %	High
Inferring sequences	48.1 %	High
Total Test	50.2 %	**High**

*In the case of parametric tests.

It is clear from the table (4) the strength of the effect of web-based self regulated learning strategies program on the total score of the reading test and its sub-skills, where the values of (η^2) in each skill and the total score of the test ranged between (0.333, 0.502). This means that the effect size of the suggested program on improving the individual reading sub-sills ranged between33% and 48% and was responsible for 50%of the improvement of the total test score.

The extent of the impact of web-based self regulated learning strategies program on the reading test can be illustrated through the following figure:

Figure (3) The effect size of web-based self regulated learning strategies program on the reading comprehension skills test (skills and the total score)
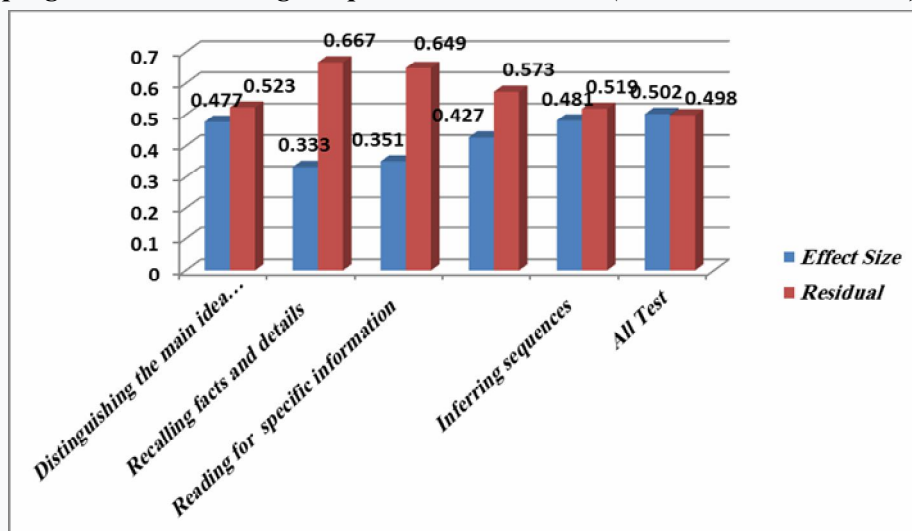
To summarize, the preceding tables show that implementing web-based self regulated learning strategies program can be beneficial and effective in improving pupils' reading. The pupils were able to perform better in reading skills.

Results

The present research reached the following findings:

The research revealed that the experimental group outperformed the control group in reading comprehension skills. Moreover, the experimental group pupils were also better than the control group counterparts in their ability to self-regulate their own learning. All these positive differences between the web based self-regulated strategies program and the targeted dependent variable, i.e. reading comprehension, the statistically significant differences and estimating the effect size of the proposed treatment between the research participants in the two groups were due to the efficiency of the web based self-regulated strategies program.

Hence the web based SRLSs program was found to be effective in developing the EFL preparatory stage pupils' reading comprehension skills.

Recommendations

Based on the findings and conclusions of the present research, the following recommendations can be made:

A- For Teachers
1- Ministry of Education should train EFL teachers in using self-regulated strategies.
2- The web based self-regulated strategies program should be utilized to improve language skills in general, reading skills in particular.
3- Teachers should teach students how to employ a variety of self-regulated strategies in the classroom to help them improve their language skills.
4- Teachers should make use of self-regulated strategies to increase pupils' reading skills.
5- The web based self-regulated strategies program can be used to engage students in the learning process and make them responsible for their own learning.
6- Teachers at all stages should be given workshops on how to incorporate self-regulated strategies within the activities they undertake in their classrooms.

B- For Supervisors

    7- Supervisors should encourage teachers to make a use of various self-regulated strategies in their lessons when possible.

C- For Curriculum Designers

    8- EFL curriculum designers should give space for self-regulated strategies to be implemented properly inside the classrooms.

    9- Self-regulated strategies should be adjusted and used online to help learners learn in better ways.

Suggestions for further research

Based on the results of the present research, it can be suggested to carry out more research in the following areas:

    1- Investigating the effectiveness of using a web based self-regulated strategies program in enhancing other language skills such as listening, speaking and writing.

    2- Developing courses to teach students how to use different self-regulated strategies and integrate them in learning.

    3- Evaluating the effectiveness of using self-regulated strategies to promote higher thinking skills and creativity.

    4- New strategies and techniques for improving the reading skills can be explored by other research projects.

    5- Investigating the effectiveness of web based self-regulated strategies program in improving reading skills of other EFL learners at different stages.

    6- Investigating EFL teachers' attitudes towards using web based SRLSs in teaching.

    7- Investigating the relationship between web-based self-regulated learning strategies and academic achievement in EFL classrooms.

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