

Using Webspiration to Develop Preparatory Stage Pupils' EFL Critical Reading Skills

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Abstract:

This study aimed at investigating the effect of using Webspiration on developing EFL critical reading skills among preparatory stage pupils. Participants ($N = 18$) were chosen at random from first year pupils at Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate, during the second semester of the 2016-2017 school year. An EFL critical reading skills test was developed and administered before and after the experiment. A Webspiration-based program was designed. The experiment lasted for six weeks during which in-class and out-of-class activities based on the use of Webspiration collaborative web-based concept-mapping tool were carried out by the pupils. Results revealed that the study group achieved significant gains in EFL critical reading skills. Thus, using Webspiration proved to have a positive effect on developing preparatory stage pupils' EFL critical reading skills.

Key words: *Webspiration, collaborative web-based concept mapping, EFL critical reading skills, preparatory stage pupils.*

1. Introduction:

Reading is a crucial skill for EFL students. It is considered both a means to the end of acquiring the language, as a major source of comprehensible input, and an end in itself, as the skill that students most need to employ (Eskey, 2005). According to Richards and Schmidt (2010, p. 483), it is "the processes by which the meaning of a written text is understood. The understanding that results is called reading comprehension". Different types of reading comprehension are often distinguished: literal, inferential and critical. Literal reading requires the reader to decode words and recall facts explicitly

contained in a passage in order to grasp the author's basic message. Inferential reading requires the reader to find information which is not explicitly stated in a passage to look for the implied messages in it. Critical reading takes place when the reader evaluates the material read, gives judgment or opinions and compares information in a passage with his own knowledge, values, attitudes or beliefs (Manzo & Manzo, 1993; Richards & Schmidt, 2010).

Consequently, reading critically differs from other forms of reading in that the reading act goes beyond the literal meaning by questioning the functions and purposes of the text rather than passively accepting the information encountered (Fisher, 2001; Mclaughlin & DeVogd, 2004). Nowadays, school students interact with many different information sources; and as they read, they need to question the text. They need to know the author's intent, to understand the socio-cultural influences and to comprehend with a critical edge (Mclaughlin & DeVogd, 2004; Pearson, 2001). In a critical reading context, the act of reading is viewed as a meaning construction process which entails higher-order abilities mainly because it is concerned with the understanding of the ideas and concepts conveyed in the text (Rapp, van den Broek, McMaster, Kendeou & Espin, 2007). Thus, the conceptualization of critical reading ability is largely explainable through fluent execution of critical thinking skills in that reading and thinking are two interdependent skills and the reading process cannot take place without active use of thinking activities while reading (Bartu, 2001; Douglas, 2000).

There are various newly developed Web 2.0 applications that can be used to promote students' critical reading as well as critical thinking. One of them is Webspiration (Bray, 2010; Brooks-Young, 2007). It has concept mapping capability and is equipped with features conducive to achieving collaborative tasks such as co-editing and communication /commenting (Hsu, Ching & Grabowski, 2014). The potential of Webspiration compared to other text-oriented Web 2.0 tools such as wikis and Google Docs, is that it supports online diagramming, dynamic construction of graphic maps and collaboration among students and teachers (Souza, 2013). Thus,

this collaborative web-based concept-mapping tool brings together collaborative learning and digital concept mapping in. This is likely to motivate students by offering the benefits of both digital concept mapping and collaboration learning (Keraro, Wachanga & Orora, 2007). Digital concept mapping aids students in learning the regularity of language usage and in strengthening their thinking ability through interaction, generalizing the text and displaying key phrases in an orderly manner (Liu, 2010). Collaborative digital concept mapping can serve as a learning opportunity for learners and teachers to interact, communicate and exchange their opinions (Liu, 2014). Therefore, using Webspiration could prove highly useful to enhance EFL critical reading skills of preparatory stage pupils.

1. 1 Context of the Problem:

It has been noticed that Egyptian preparatory stage pupils lack the skills needed to critically read in English. They are unable to analyze and evaluate what they read. They cannot differentiate between the main idea of a given text and its supporting details. They have difficulty in distinguishing between facts and opinions. They are incapable of identifying the author's purpose, viewpoint and tone. They cannot recognize cause-and-effect and comparing relationships. Moreover, they are weak in making inferences and predicting outcomes. This inefficiency in EFL critical reading skills of preparatory stage pupils may be due to lack of preparation and practice in terms of critical reading in Egyptian schools (Abdel-Rasoul, 2014; Hassan, 2015; Ibrahim, 2016).

To document the problem, a pilot study was conducted. It consisted of two parts. The first part was a semi-structured interview with some EFL supervisors ($n = 3$) and senior preparatory stage EFL teachers ($n = 11$) from Shebin El-Kom Educational Zone, Menoufia Governorate, during the first semester of the 2016-2017 school year. Results revealed that EFL critical reading skills are important and needed for pupils to learn in order to succeed in their future study and life, which are overlooked. That is because teachers usually do not emphasize critical reading skills when teaching reading in their schools. They would focus more on

word recognition, vocabulary and grammar development, and comprehension skills. The second part was an EFL critical reading skills test. During the same semester, the test was administered to 40 first year pupils from Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate. Results revealed that the pupils lacked EFL critical reading skills where more than 68% of them were poor critical readers.

1. 2 Statement of the Problem:

The problem of the present study was identified in preparatory stage pupils' obvious weakness in EFL critical reading skills. Thus, the present study attempted to help such pupils become good critical readers through using Webspiration.

1. 3 Questions of the Study:

The present study attempted to answer the following questions:

1. What are the EFL critical reading skills required for first year preparatory stage pupils?
2. To what extent do first year preparatory stage pupils master EFL critical reading skills?
3. What are the features of the Webspiration-based program that can be used to develop first year preparatory stage pupils' EFL critical reading skills?
4. To what extent does using Webspiration affect the development of first year preparatory stage pupils' EFL critical reading skills?

1. 4 Hypothesis of the Study:

There would be a statistically significant difference between the study group's mean ranks on the pre- and post administrations of the EFL critical reading skills test in favour of the post administration.

1. 5 Significance of the Study:

The present study is significant for:

1. **Pupils:** as it helps in developing their EFL critical reading skills.
2. **Teachers:** as it helps in providing them with a collaborative web-based concept-mapping tool (Webspiration) that might help develop pupils' EFL critical reading skills.
3. **Curriculum planners:** as it draws their attention to the efficacy of using Webspiration in EFL critical reading skills and incorporating it in the EFL curriculum.

1. 6 Terminology:

1. 6. 1 EFL Critical Reading Skills:

In the present study, EFL critical reading skills are operationally defined as first year preparatory stage pupils' abilities to analyze and evaluate the assigned reading materials.

1. 6. 2 Webspiration:

In the present study, Webspiration is operationally defined as a collaborative web-based concept-mapping tool by which first year preparatory stage pupils can develop their EFL critical reading skills by outlining and summarizing the assigned reading materials in a collaborative manner.

1. 7 Delimitations of the study:

The present study was delimited to:

1. Eighteen first year pupils from Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate.
2. The second semester of the 2016-2017 school year.
3. Some EFL critical reading skills including: identifying the main idea, identifying supporting details, identifying the author's point of view, identifying the author's purpose, distinguishing between facts and opinions, identifying cause-and-effect relationships, making comparisons and

contrasts, predicting outcomes based on evidence, sequencing story events and summarizing.

2. Literature Review and Related Studies:

2. 1 EFL Critical Reading Skills:

According to Betts (as cited in Guzzetti, 2002, p. 113), critical reading is "the process of making judgments in reading by evaluating the relevancy and adequacy of what is read in terms of some norms or standards". King, Ellinger and Wolf (as cited in Guzzetti, 2002, p. 114) defined it as "an analytical and evaluative process that requires the reader to make rational judgments about both the content and style of writing based upon valid criteria". For Webster (2003), it is "the ability to evaluate and judge what has been read using such strategies as comparing and contrasting, analyzing and critiquing" (p. 38). Pirozzi (2003) gave a clear and comprehensive definition of critical reading as follows:

Critical reading can be defined as very high-level comprehension of written material requiring interpretation and evaluation skills that enable the reader to separate important from unimportant information, distinguish between facts and opinions, and determine a writer's purpose and tone. It also entails using inference to go beyond what is stated explicitly, filling in informational gaps and coming to logical conclusions. (p. 325)

Chatel (2002) listed five characteristics of critical readers: (a) using information from the text to make a prediction based on what is read, (b) analyzing the author's craft including use of literary devices, (c) evaluating explicit and implicit information and themes within a written work, (d) selecting, synthesizing and using relevant information within a written work to include in a response to or extension of the work, and (e) demonstrating an awareness of values, customs, ethics and beliefs included in a written work. According to Huijie (2010), critical readers are active readers who question, confirm and judge what they read throughout the reading process.

Abdullah (1998) identified nine core sub-skills that a critical reader should possess: identifying similarities and differences, evaluating inductive inferences, identifying facts and opinions, evaluating generalizations, evaluating strength of arguments, identifying biased statements, identifying relevant and irrelevant materials, identifying the author's motives and recognizing hidden assumptions. In 2002, Garrigus depicted critical reading at two levels: basic critical reading skills and high-level critical reading skills. Basic critical reading skills refer to the ability to (a) distinguish topical organization from organization by ideas, (b) find the main idea of paragraphs, multi-paragraph units and articles, (c) identify idea patterns of organization, and (d) recognize transitions that signal relationships among pattern elements and supporting details. High-level critical reading skills require students to (a) draw inferences and state implied main ideas, (b) synthesize two or more sentences to formulate divided main ideas, (c) distinguish facts from opinions, (d) evaluate evidence, (e) explain figurative language (including analogy), and (f) identify basic logical fallacies and emotional appeals.

Moreover, Huijie (2010) proposed a four-level hierarchical framework of critical reading proficiency: structure analysis level, rhetoric analysis level, social relevance level and holistic evaluation level. At the structure analysis level, students should be able to guess words in context, summarize the main idea of the paragraph and/or the text, deduce sentence inference in context, separate major ideas from minor ideas, recognize the pattern of paragraph organization, distinguish facts from opinions, distinguish among opposing viewpoints and understand graphics. At the rhetoric analysis level, students should be able to recognize text register and genre, recognize the writer's purpose and tone, evaluate word choice, recognize misused and abused language, explain figurative language, recognize and understand the rhetorical devices, assess arguments and recognize logical fallacies.

At the social relevance level, students should be able to relate the text to the author's background and to the situational and inter-textual contexts. At the holistic evaluation level, students should be able to read from critical distance, evaluate the text objectively, critique information presentation channels, examine the source, know who are the intended audience, understand how the author supports the thesis with reason and evidence, perceive how the author hooks the intended reader's interest, read and then write a reasonable brief summary of the text, compare whether the author's basic values, beliefs and assumptions are similar to or different from the reader's own, decide whether the text fits with the reading purpose and express a personal viewpoint (Huijie, 2010).

Recently, Sidhu, Kaur, Lim and Chan (2016) classified critical reading sub-skills as follows:

Understanding texts:

- Reading actively, precisely and purposefully.
- Identifying main points in texts.
- Identifying paragraph topics/subtopics.
- Reading between the lines for deeper meaning
- Relating relevancy of texts to students' study.

Questioning texts:

- Checking claims from primary and secondary sources.
- Questioning reasons and debates in texts Questioning claims made by authors.

Evaluating texts:

- Evaluating strength of arguments in texts.
- Judging texts for facts/opinions/appropriateness.
- Evaluating and linking to other articles .
- Evaluating the usefulness of texts to students' study.

According to Wallace (2003), the purposes of critical reading as an educational project can be viewed as linguistic, conceptual/critical and cultural. Firstly, linguistic aims involve

helping students understand the nature of ideological meanings embedded in texts as indicated by the way language is used. The aim is to draw on students' grammatical knowledge which will be used as a tool in text analysis. Secondly, conceptual/critical aims involve developing epistemic literacy which means being able to move beyond the text to develop a convincing argument around it. It is noted that even young learners can do this if provided with opportunities, for instance, to discuss not just the events, but the implications of those events, as stated in stories. They will make cognitive and critical links to their own lives. Hence, this might be called the beginning of critical literacy in children. Finally, the goal of the cultural implications of a critical reading orientation is not to teach British or American culture but to promote insights into cultural assumptions and practices, similarities and differences across national boundaries.

Therefore, the ability to read critically is widely regarded as one of the most important generic skills that should be gained through elementary education as well as higher education (Kadir, Subki, Jamal & Ismail, 2014; Khonamri & Karimabadi, 2015). It can help students "evaluate textbook materials and other types of reading, uncover motivations, assess arguments, consider options, products, advertisements and commercials, and judge policies and programs offered by the various levels of government" (Pirozzi, 2003, p. 197). Thus, it is essential for teachers of EFL to help their students become critical readers.

Recent Research on EFL Critical Reading Skills:

A number of studies have been conducted to develop students' EFL critical reading skills. Yet, amongst them, few studies have targeted developing preparatory stage pupils' EFL critical reading skills.

Al-Sayed (2010) investigated the effectiveness of a suggested strategy based on three techniques (literature circles, questioning the author and dialogue journal) in developing EFL critical reading skills among 30 sixth year primary school pupils. Participants were chosen from Hassan Abu-Baker Experimental Language School, Al-Qanater Al-Khaireya, Qalubia Governorate.

An EFL pre-post critical reading skills test was developed. The experiment lasted for 6 weeks. It was concluded that the suggested strategy was effective in developing the pupils' critical reading skills.

El-Lehle (2011) examined the effectiveness of the self-questioning strategy in developing EFL critical reading skills of first year secondary stage students. Eighty students were involved in the study. They were divided into two groups: an experimental group ($n = 40$) and a control one ($n = 40$). Both groups were tested prior to and after the experiment using the prepared critical reading skills test. The experimental group was taught using the self-questioning strategy whereas the control group received regular instruction. Results revealed that the self-questioning strategy was effective in developing students' critical reading skills.

Abdullah (2012) studied the effect of a language decision making (LDM) based program for teaching novel on developing secondary experimental school students' EFL critical reading skills. Participants ($N = 62$) were selected from first year students at El-Salam Secondary Experimental School for Girls, Cairo Governorate. They were divided into two groups: an experimental group ($n = 31$) and a control one ($n = 31$). A pre-post critical reading skills test was developed. Results revealed that the proposed LDM program had a positive effect on developing students' critical reading skills.

Esleem (2012) used the story grammar approach to develop EFL critical reading skills of the ninth graders at UNRWA schools. Participants were 78 pupils chosen from Jabalia Preparatory School for Girls in Gaza. They were divided into two groups: an experimental group ($n = 39$) and a control one ($n = 39$). Based on a content analysis, a pre-post test was developed. The experimental group pupils were taught using story grammar whereas the control group pupils were taught using regular instruction. Unlike the control group, the experimental group made significant gains in critical reading skills.

The purpose of Abdel-Rasoul's study (2014) was to develop the necessary critical reading skills and social skills of second year preparatory school pupils through a proposed program based on using reading circles strategy. Participants were 44 pupils from Sohag Experimental Preparatory School, Sohag Governorate. Instruments included a pre-post critical reading skills test and a social skills questionnaire. Results revealed that the use of reading circles strategy increased the pupils' critical reading skills and social skills.

Allam (2014) proposed a blended learning program to enhance first year secondary stage students' EFL critical reading skills. Participants ($N = 48$) were selected from Akhmim Secondary School for Girls, Sohag Governorate, and were divided into two groups: an experimental group ($n = 21$) and a control one ($n = 27$). A pre-post critical reading test was developed. The experimental group was taught using the blended learning program which included: Google Translation Dictionary, interactive Whiteboard activities, YouTube videos, blogs, e-mail and Facebook. Results indicated that the experimental group statistically outperformed the control group in EFL critical reading skills.

Khodary (2014) aimed at investigating the effect of using a WebQuest model on 48 first year secondary stage students' EFL critical reading performance. Participants were from Asmaa' Bint Abi Bakr General Secondary School for Girls, Suez Governorate. Twenty four students participated in each of the experimental and control groups. Both groups were tested before and after the experiment using the developed critical reading performance test. A statistically significant difference was found between the mean score of the experimental group and that of the control group in critical reading performance on the post-test in favor of the experimental group.

Youssif, El-Dib and Abed (2014) used the reciprocal questioning (ReQuest) strategy to develop EFL critical reading skills among first year secondary school students. Participants were 60 students from El-Shomout El-Moshtraka Secondary School, Benha, Qalubia Governorate. They were divided into two groups: an

experimental group ($n = 30$) and a control one ($n = 30$). Both groups were pre-post tested using the prepared critical reading skills test. The experimental group students were taught using the ReQuest strategy. Unlike the control group, the experimental group showed significant improvement in EFL critical reading skills.

Ismail (2015) made use of self-regulated learning strategies (SRLSs) to develop EFL critical reading skills of first year secondary school students. Participants were 28 students from 24th October Experimental Language Secondary School in Ismailia. They were taught eight sessions using SRLSs. Data were obtained from administering a pre-post critical reading skills test. Results revealed that the implemented SRLSs had a significantly positive effect on developing students' critical reading skills.

Recently, Alqatanani (2017) examined the effect of a program based on multiple intelligences on improving Jordanian tenth graders' EFL critical reading skills. Participants ($N = 59$) were chosen from Jabal Tareq Basic School for Boys, AzZarqa First Directorate. They were divided into two groups: an experimental group ($n = 30$) and a control one ($n = 29$). Unlike the control group, the experimental group was taught by using some multiple intelligences strategies. A pre-post achievement test was utilized. Results revealed that the experimental group statistically surpassed the control group in critical reading skills.

2. 2 Collaborative Web-based Concept Mapping:

Chularut and DeBacker (2004, p. 249) delineated concept mapping as "a tool for representing the interrelationships among concepts in an integrated, hierarchical manner". According to Liu, Chen and Chang (2010), concept maps are visual tools to help readers understand material by transferring "the written content into concrete images" (p. 442). Novak and Cañas (2006) defined concept maps as "graphical tools for organizing and representing knowledge. They include concepts, usually enclosed

in circles or boxes of some type, and relationships between concepts indicated by a connecting line linking two concepts. Words on the line specify the relationship between the two concepts" (p. 1).

Traditionally, maps were drawn by hand using paper and pencil where students needed lots of time and effort to construct and revise their work. However, the advent of computers has made the creation of electronic maps possible and the process of revising them more convenient. Yet, students might be frustrated at the beginning because they need time to know how to construct a map on the computer. Digital maps can be created by either using self-contained software that can be installed on desktops/laptops or online options that can be downloaded from or used directly on the Internet (Hanewald & Ifenthaler, 2014; Liu, 2014).

A reasonable way to think about concept mapping is to trace its theoretical foundations. Most discussions of concept mapping have traced the following theoretical bases:

Ausubel's Learning Theory:

Similar to cognitive constructivism, Ausubel (1968) asserted that the learner's prior knowledge is an important factor that influences learning and that meaningful learning occurs only when the new understanding can relate to understanding of concepts that are already in existence in the learner's cognition. The bridging of the old and new concepts learnt can be scaffolded using graphic organizers such as a concept map. Concept mapping programs such as Inspiration, Cmap and Thinkature provide the means to communicate the learner's thinking and understanding visually (Ng, 2104).

Assimilation Encoding Hypothesis:

According to the assimilation encoding hypothesis proposed by Mayer (1979), a concept map is considered as facilitating assimilation of new information. Here, concept maps supply an anchoring structure allowing the encoding of

information on the basis of the structure (Amadiou & Salmerón, 2014).

Dual-coding Model:

According to this model, as described by Paivio (1986), concept maps would mobilize all the available resources in working memory. Maps would be processed in the visual store while texts would be processed in the verbal store, mobilizing more available resources in working memory (Amadiou & Salmerón, 2014).

Schnotz's Model:

Schnotz (2002) proposed that texts are processed verbally and a propositional representation is constructed, while depictive (graphic-based) information is perceived visually and an internal visual image is constructed. The two mental models share information and influence each other. Thereby, concept maps would lead learners to construct a mental model that would contribute to the conceptual organization of information in memory and to the propositional representation built from texts (Amadiou & Salmerón, 2014).

Within concept maps there are variations such as chain (also known as sequential) maps, cyclical maps and hierarchical maps. Chain/sequential maps are used to indicate a sequence of events. Cyclical maps are normally used to show how various aspects are connected and linked together in a closed loop. Hierarchical maps are also called tree structures since concepts shoot off like branches from a tree. These maps are read from the top to the bottom as the most general concept is at the top of the hierarchy or the tree. At the lower part of the hierarchy are more specific concepts. Another type of concept maps is a causal map which provides a way of representing causal relationships (Hanewald & Ifenthaler, 2014).

Dansereau (2005) differentiated three approaches to mapping: information maps, guided maps and free-style maps. Information maps are generated by experts to present

information and orient a subject matter. These maps can be used for teaching and learning as models of a particular concept or topic but also as assessment tools. Guided maps are generated by learners but with the provision of adequate scaffolding such as a number of predefined nodes or concepts and perhaps even some linking phrases that the teachers have created and made available for use. Free-style maps are generated by the learner without any constraint or support.

Hanewald and Ifenthaler (2014) proposed a seven-step process for creating a digital concept map as follows: (a) starting with a key concept, word or idea that is placed in the so-called node, which is usually a shaped box, (b) adding other related concepts in additional nodes, (c) connecting concepts with lines which are known as vectors, (d) labeling the lines linking phrases to further clarify the relationships of the concepts, (e) ordering and organizing the concepts, (f) using colours, different sized fonts, bold or italics, to highlight and differentiate connections, and (g) inserting images, sound files or web-links to add information to the nodes. The map could now be considered complete unless the creator wishes to continue the process by repeating it to elaborate on the map or by inviting other people to collaborate on the extension of that map.

Collaborative learning means that learners share their knowledge and solve problems together (Haugwitz, Nesbit & Sandmann, 2010). Some research shows that collaborative activities can enhance learners' knowledge construction and promote learners' intrinsic motivation more effectively than independent processes (Fischer, Bruhn, Grasel & Mandl, 2002; Kwon & Cifuentes, 2009). The advantages of collaborative learning include heightening self-esteem, creating caring and selfless relationships, and reducing anxiety and prejudice (Oxford, 1997). Moreover, it has been indicated that collaborative work in small groups on concept maps is more

beneficial than individual work (Coutinho, 2009; Hanewald & Ifenthaler, 2014; Hwang, Shiu & Chu, 2010; Kwon & Cifuentes, 2007). Furthermore, numerous studies have proved the positive effect of collaborative web-based concept mapping on students' achievement and motivation (Chu, Hwang & Liang, 2014; Hwang et al., 2010; Keraro et al., 2007; Lin, 2011), group learning and interaction (Wang, Cheng, Chen, Mercer & Kirschner, 2017), EFL reading comprehension (Liu, 2014; Liu et al., 2010; Rosenberg & Saif, 2010) and writing performance (Liu, 2011).

Webspiration:

According to Bray (2010, p. 227), Webspiration, also known as Webspiration Classroom, is a "web-based concept-mapping tool which uses the power of visual learning and outlining to enhance thinking and collaboration skills" (www.webspirationclassroom.com). It is the Web 2.0 "version of Inspiration's popular brainstorming, visual thinking and outlining learning tool. This Flash-based subscription program provides web-based concept mapping, diagramming and outlining for students in grades 5-12" (Holzberg, 2011, p. 1). According to Orhan (2015), Webspiration gives students the opportunity to (a) create a diagram by using visuals or an outline, and they can easily switch between the two, (b) work with a template offered, (c) collaborate with others, and (d) transfer their work to a Word document or Google Docs. It allows students to organize, sort, arrange, rearrange and revise connections in their existing diagrams (Holzberg, 2011).

Since Webspiration is a relatively new technology; minimal studies have been conducted with respect to how it has been used in educational settings. Ching and Hsu (2011) examined 37 online graduate students' use of a concept-mapping application (Webspiration) as a platform for creating concept maps collaboratively of the instructional design processes that depict their understanding of the subject matter. They analyzed the students' group concept maps and found that Webspiration

supported active and focused interaction, communication and achievement of intended learning objectives despite the fact that some of the group processes might not have been entirely smooth or efficient.

Orhan (2015) investigated the effect of three web-based tools (Youtube, Socrative and Webspiration) on students' motivation and learning. Thirty participants, taking English for Academic Purposes course at METU, responded to a questionnaire distributed at the beginning and end of the course. Focus group interviews were held at the end of the course to further learn about students' ideas on the process followed. Students' perceptions about the selected tools revealed that they had positive effect on their motivation and learning and that these tools should be included in their syllabus.

3. Method and Procedures:

3. 1 Participants of the Study:

Participants of the present study included 18 first year pupils chosen at random from Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate, during the second semester of the 2016-2017 school year. They represented one group which was taught using Webspiration. The age of those participants ranged from 12 to 13 years old. Computer inadequacies made the participants' number small as the computer laboratory only suffices 18 computers. All pupils were computer literate and had e-mail accounts and PCs.

3. 2 Design of the Study:

The present study is a pre-post test quasi-experimental study. One study group was tested before and after intervention.

3. 3 Variables of the Study:

- Independent variable: using Webspiration.
- Dependant variable: EFL critical reading skills.

3. 4 Instruments of the Study:

3. 4. 1 The EFL Critical Reading Skills Questionnaire (CRSQ):

3. 4. 1. 1 Aim of the CRSQ:

The EFL critical reading skills questionnaire was developed to determine the most important EFL critical reading skills required for first year preparatory stage pupils and to construct the EFL critical reading skills test.

3. 4. 1. 2 Description of the CRSQ:

The CRSQ contained sixteen EFL critical reading skills. The items of EFL critical reading skills included in the questionnaire were derived from the following:

1. The Ministry of Education's directives for TEFL in the preparatory stage.
2. Pupils' Book: *New Hello! English for Preparatory Schools, Year One.*
3. Teacher's Guide: *New Hello! English for Preparatory Schools, Year One.*
4. Reviewing literature and previous studies related to EFL critical reading skills.
5. Referring to specialists and experts in the field of TEFL.

Each skill of the questionnaire consisted of a 3-point rating system (3 = very important, 2 = important and 1= less important). The respondents were asked to determine the importance of each skill by ticking the appropriate choice (See Appendix A).

3. 4. 1. 3 Validity of the CRSQ:

The CRSQ was submitted to a panel of jurors to determine the appropriateness of these suggested skills to first year preparatory stage pupils. They indicated that the questionnaire was valid, having made the few modifications they required.

3. 4. 1. 4 Administering the CRSQ:

The CRSQ was administered to 7 TEFL university specialists, 3 EFL supervisors and 11 senior preparatory school

EFL teachers from Shebin El-Kom Educational Zone, Menoufia Governorate, during the first semester of the 2016-2017 school year. After administering the questionnaire, the researcher calculated the frequencies and percentages of each skill in light of the jurors' responses. Ten skills were considered the most required EFL critical reading skills for first year preparatory stage pupils.

3. 4. 2 The EFL Critical Reading Skills Test (CRST):

3. 4. 2. 1 Aim of the CRST:

The EFL critical reading skills test was used as a pre-post test. It was used as a pre-test to measure the entry level of pupils in EFL critical reading skills. As a post-test, it was used to investigate the effect of using Webspiration.

3. 4. 2. 2 Description of the CRST:

For constructing the CRST, a series of short paragraphs, sentences and pictures appropriate to the students' level and required skills were chosen to form the questions of the test. They were selected from EDGe's (2002) *High-interest Reading Comprehension Skills and Strategies™ (Levels 3 and 4)*. The test included eight questions to measure the determined EFL critical reading skills (see Appendix B). Table 1 provides the EFL critical reading skills and their items on the CRST.

Table 1. EFL Critical Reading Skills and their Items on the CRST

No	EFL Critical Reading Skills	Q. No	Q. Type	Reading Content	Score
1	Identifying the main idea	1	Completion	3 short paragraphs	3
2	Identifying supporting details	1	Listing two supporting details		6
3	Identifying the author's point of view	2	Multiple-choice	6 sentences	6
4	Identifying the author's purpose	3	Multiple-choice	3 short paragraphs	3
5	Distinguishing between facts and opinions	4	Multiple-choice	6 sentences	6
6	Identifying cause-and-effect relationships	5	Matching	6 sentences (causes) + 8 sentences (effects)	6
7	Making comparisons and contrasts	6	Writing similarities and differences	2 pictures + a Venn diagram	3
8	Predicting outcomes based on evidence	7	Multiple-choice and underlining	2 short paragraphs	6
9	Sequencing story events	8	Ordering	1 long paragraph	6
10	Summarizing	8	Writing a summary		3
	Total				48

3. 4. 1. 3 Validity of the CRST:

To establish the content validity of the CRST- with its scoring rubric- it was submitted to a panel of jurors who indicated that the test can be considered a valid measure of EFL critical reading skills.

3. 4. 1. 4 Reliability of the CRST:

The reliability of the CRST was computed by using the test-retest method. A group of 36 first year preparatory stage pupils- out of the study sample- from Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate took the test twice under the same conditions. The time interval between the two administrations was two weeks to make sure that the pupils would not remember their answers from the first administration. The two administrations were correlated using the Pearson's correlation coefficient. The reliability coefficient was 0.877; thereby reflecting the test reliability.

3. 4. 1. 5 Piloting the CRST:

Piloting was to identify clarity, readability and test time. The estimated time for answering the test questions was 60 minutes. The time was assigned by calculating the means of the time spent by the participants of the pilot study ($N = 36$).

3. 4. 1. 6 Scoring the CRST:

All the items of the CRST were objective in scoring except the items relating to the skills "making comparisons and contrasts" and "summarizing". To score such items in an objective manner, a scoring rubric was prepared (see Appendix B) and two raters (the researcher and another EFL instructor) graded the skills in the pre-post test and the mean was calculated. The two raters had the same experience and qualifications. This two-skill rubric consisted of a 3-point rating system (3 = good, 2 = average and 1 = poor). The score ranged

from 1 to 3 for each skill. As for the rest of the test's items, one point was given for each correct response; zero was given to wrong or left-unanswered questions. The pupils' spelling, grammar and punctuation were disregarded. The total score of the test was 48.

3. 5 The Webspiration-based Program (WBP):

3. 5. 1 Aim and Objectives of the WBP:

For achieving the purpose of the study, the researcher designed a program based on using Webspiration. This program aimed at developing EFL critical reading skills of first year preparatory stage pupils, during the second semester of the 2016-2017 school year. In addition, based on the results of the CRSQ, several objectives to be achieved were determined. By the end of this program, the pupils were expected to:

- Identify the main idea,
- Identify supporting details,
- Identify the author's point of view,
- Identify the author's purpose,
- Distinguish between facts and opinions,
- Identify cause-and-effect relationships,
- Make comparisons and contrasts,
- Predict outcomes based on evidence,
- Sequence story events and
- Summarize a given text.

3. 5. 2 Content of the WBP:

The WBP consisted of six lessons. Lesson 1 was concerned with preparation and orientation. Lessons 2-6 dealt with developing the targeted EFL critical reading skills. Each Lesson contained in-class and out-of-class Webspiration-based activities (see Appendix C). The materials chosen for constructing the program were from EDGe's (2002) *High-interest Reading Comprehension Skills and Strategies™ (Levels 3 and 4)* and

Pelteret's (2016) *New Hello! English for Preparatory Schools, Year One, Second Term: Student's Book and Workbook*. The materials were collected and selected in light of the specified skills. Besides, some of the selected materials were adapted by modifying and simplifying them to suit the pupils' linguistic level. Moreover, a teacher's guide was prepared to facilitate teaching the suggested program to the study group (see Appendix D). It contained the teaching procedures of the program and some sample lesson plans.

3. 5. 3 Duration of the WBP:

The WBP lasted for six weeks. There was one period (two successive sessions) a week. The time allocated for each period was 90 min.

3. 5. 4 Evaluation of the WBP:

The evaluation system used in this WBP consisted of both formative and summative evaluation.

Formative Evaluation:

It was used for assessing the pupils' improvement in critical reading skills and for providing necessary feedback. The one-minute paper card as well as the collaborative concept-mapping scoring rubric used to assess the pupils' Webspiration concept maps (see Appendix C) provided the researcher with information about the pupils' progress in EFL critical reading skills. Moreover, the pupils were offered corrective and positive feedback when needed.

Summative Evaluation:

It was conducted at the end of the experiment through the administration of the CRST to measure the achievement of the intended participants.

3. 6 Experimental Procedures of the Study:

3. 6. 1 Pre-testing:

Having selected the participants of the study, the researcher pre-tested them using the CRST. The pre-testing took

place on 28th February 2017 at Elshaheed Hamad El-Saidy Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate.

3. 6. 2 Preparation and Orientation:

The first week of the experiment was devoted to introducing the WBP to the study group (Lesson 1). A 90-min orientation was given to the pupils during which they were trained and prepared for the suggested program, the conception of concept mapping and the Webspiration tool. A step-by-step PowerPoint presentation was used to facilitate training. This presentation was made available for review purposes. At first, the pupils practiced drawing concept maps by hand. Then, they were trained on how to (a) create a free account and password, (b) log-in, (c) navigate within the Webspiration landscape, (d) identify key functions of the toolbar, (d) locate student help resources, (e) collaborate using the invite, comment and chat tabs, (f) explore various templates, (g) develop a Word document and (h) share a document with both their peers and the teacher. Afterwards, the pupils were engaged in a Webspiration-based reading activity focused on creating webs and concept maps that included images, texts and hyperlinks to connect ideas of the given reading material. They were also trained on how to evaluate their generated concept maps using the prepared scoring rubric.

3. 6. 3 Treatment:

In weeks 2-6, participants were exposed to Lessons 2-6. Each Lesson dealt with two critical reading skills and contained in-class and out-of-class activities based on the use of Webspiration. The researcher implemented the in-class activities through the following stages:

1. Pre-reading stage: The researcher spent some time introducing the topic of the lesson (the targeted skills). Then, when dealing with passages, she wrote their titles on the board and asked the pupils to predict what the passages were about to activate their prior knowledge.

Other times, she revised with the pupils what has been learnt the previous lesson.

2. During-reading stage: The researcher used discussion (whole class and small group) and group work to increase the pupils' participation and motivation. The pupils were divided into small groups of four or five. Each group had a chosen leader to organize the discussion inside the group. The pupils were required to carry out specific Webspiration-based activities related to their lessons. Corrective and positive feedback was offered when needed.
3. After-reading stage: Comprehension questions were asked. Furthermore, at the end of each lesson, each group was given a one-minute paper card and was asked to answer the following question: *"What was the most important thing you learned during this lesson?"* And after writing the answer, one pupil of each group orally delivered it.

For accomplishing the in-class activities, the pupils used Webspiration where they linked graphics to words to show special relationships between ideas and communicated in real time. As groups, they created various types of concept maps using different templates such as General, Essay/Paragraph Planner, Comparison and Summary templates, switching between the Diagram view and the Outline view. They utilized images, pictorial models and hyperlinks to enrich their generated concept maps. Then, they reviewed and reflected on such maps by posting comments and/or chatting messages that addressed how to evaluate and summarize the assigned reading materials as well as how to organize and edit their work. The out-of-class Webspiration-based activities were carried out at home, anytime during the day. The completion of each lesson's out-of-class activities spanned one week. The pupils were engaged in creating more concept maps related to their lessons and reviewing them

collaboratively. This asynchronous reviewing process facilitated a safe environment to share constructive feedback. The researcher also participated in commenting on the pupils' work and engaged in rich discussions with them about their created diagrams. Figure 1 provides some samples of the pupils' Webspiration concept maps.

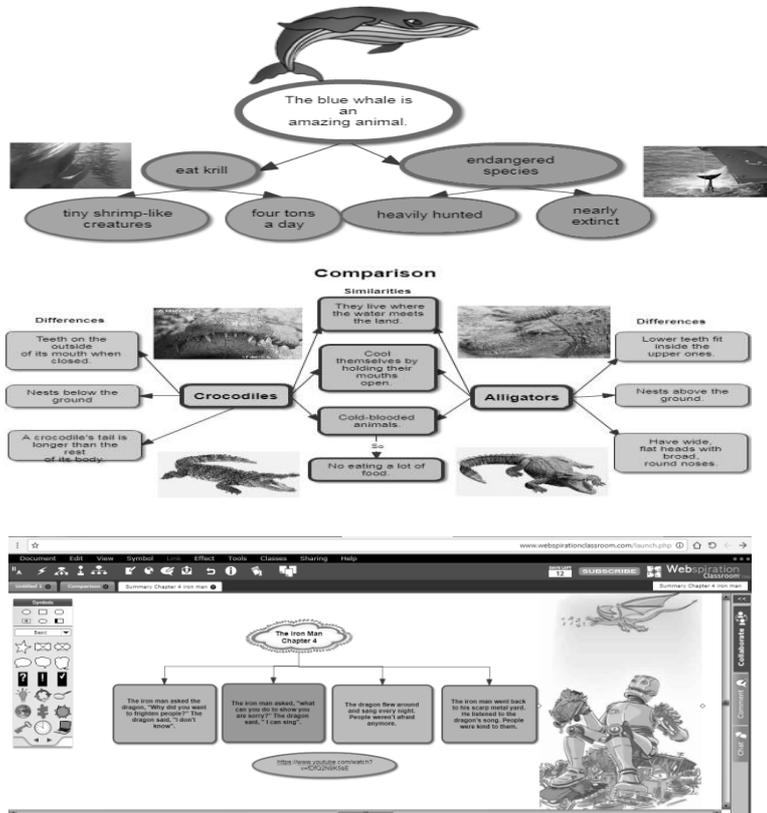


Figure 1. Samples of the pupils' Webspiration concept maps.

3. 6. 4 Post-testing:

After conducting the experiment, the researcher post-tested the study group at the end of the second semester of the school year 2016-2017 using the same instrument. Post-testing aimed to reveal the effect of using Webspiration. The post-testing was carried out on 13th April 2017 at Elshaheed Hamad El-Saidy

Preparatory School, El-May, Shebin El-Kom Educational Zone, Menoufia Governorate.

4. Results and Discussion:

Owing to the small number of participants, the pupils' scores on the pre- and post administrations were statistically analyzed by using the non-parametric Wilcoxon Signed-Ranks test. Furthermore, the effect size was calculated using Cohen's *d* formula to measure the magnitude of the mean differences between the pre- and post administrations of the study participants.

Hypothesis of the Study:

In order to verify the hypothesis of the study, the Wilcoxon Signed-Ranks test was employed to compare the differences between the study group's mean ranks on the pre- and post administrations of the CRST in order to identify the effect of using Webspiration on the development of the pupils' EFL critical reading skills. Table 2 provides the *z*-values for the differences between the study group's mean ranks of the EFL critical reading skills pre- and post administrations.

Table 2 shows that the mean scores were 1.33 (*SD* = 0.71) and 2.78 (*SD* = 0.71) for "identifying the main idea", 2.17 (*SD* = 0.71) and 5.11 (*SD* = 0.71) for "identifying supporting details", 3.39 (*SD* = 0.71) and 5.44 (*SD* = 0.71) for "identifying the author's point of view", 1.22 (*SD* = 1.41) and 2.61 (*SD* = 0.71) for "identifying the author's purpose", 4.00 (*SD* = 0.71) and 5.83 (*SD* = 0.71) for "distinguishing between facts and opinions", 3.22 (*SD* = 1.41) and 5.17 (*SD* = 1.41) for "identifying cause-and-effect relationships", 1.67 (*SD* = 0.71) and 2.72 (*SD* = 0.71) for "making comparisons and contrasts", 2.39 (*SD* = 0.71) and 5.00 (*SD* = 0.71) for "predicting outcomes based on evidence", 2.50 (*SD* = 0.71) and 4.56 (*SD* = 0.71) for "sequencing story events" and 1.44 (*SD* = 0.71) and 2.56 (*SD* = 0.71) for "summarizing" in the pre- and post administrations respectively. In addition, the mean scores for the overall EFL critical reading skills were 23.33 and 41.78 and the *SDs* were 4.24 and 3.54 in the pre- and post

administrations respectively. This signifies that the mean scores on the post assessment were higher than those on the pre-assessment; thereby indicating the existence of significant differences between the pre- and post administrations and the positive effect of using Webspiration.

Table 2. The z-values for the Differences between the Study Group's Mean Ranks of the EFL Critical Reading Skills Pre- and Post administrations

Dimension	Group	N	M	SD	Mean Rank	Sum of Ranks	z	Sig.	Effect Size
Identifying the main idea	Pre.	18	1.33	0.71	-1.67	171	-	0.01	2.0428 Very Large
	Post.	18	2.78	0.71					
Identifying supporting details	Pre.	18	2.17	0.71	-2.83	171	-	0.01	4.1641 Very Large
	Post.	18	5.11	0.71					
Identifying the author's point of view	Pre.	18	3.39	0.71	-2.61	171	-	0.01	2.9069 Very Large
	Post.	18	5.44	0.71					
Identifying the author's purpose	Pre.	18	1.22	1.41	-1.78	171	-	0.01	1.2423 Very Large
	Post.	18	2.61	0.71					
Distinguishing between facts and opinions	Pre.	18	4.00	0.71	-2.00	171	-	0.01	2.5927 Very Large
	Post.	18	5.83	0.71					
Identifying cause-and-effect relationships	Pre.	18	3.22	1.41	0.22	171	-	0.01	1.3749 Very Large
	Post.	18	5.17	1.41					
Making comparisons and contrasts	Pre.	18	1.67	0.71	-0.33	171	-	0.01	1.4928 Very Large
	Post.	18	2.72	0.71					
Predicting outcomes based on evidence	Pre.	18	2.39	0.71	-2.61	171	-	0.01	3.6927 Very Large
	Post.	18	5.00	0.71					
Sequencing story events	Pre.	18	2.50	0.71	-1.50	171	-	0.01	2.9069 Very Large
	Post.	18	4.56	0.71					
Summarizing	Pre.	18	1.44	0.71	-0.56	171	-	0.01	1.5714 Very Large
	Post.	18	2.56	0.71					
EFL Critical Reading Skills (total)	Pre.	18	23.33	4.24	-	171	-	0.01	4.7231 Very Large
	Post.	18	41.78	3.54					

Table 2 also shows that there were statistically significant differences at the 0.01 level between the study group's mean ranks on the EFL critical reading skills pre- and post administrations in each skill in favour of the post administration: "identifying the main idea" ($z = -3.7236, p < 0.01$), "identifying supporting details" ($z = -3.7236, p < 0.01$), "identifying the author's point of view" ($z = -3.7236, p < 0.01$), "identifying the author's purpose" ($z = -3.7236, p < 0.01$), "distinguishing

between facts and opinions" ($z = -3.7236$, $p < 0.01$), "identifying cause-and-effect relationships" ($z = -3.7236$, $p < 0.01$), "making comparisons and contrasts" ($z = -3.7236$, $p < 0.01$), "predicting outcomes based on evidence" ($z = -3.7236$, $p < 0.01$), "sequencing story events" ($z = -3.7236$, $p < 0.01$) and "summarizing" ($z = -3.7236$, $p < 0.01$). Furthermore, there existed a statistically significant difference at the level 0.01 between the study group's mean ranks on the pre- and post administrations in overall EFL critical reading skills ($z = -3.7236$, $p < 0.01$) in favour of the post administration. Thus, the hypothesis of the study was verified reflecting the fact that the study group achieved significant improvement in EFL critical reading skills on the post administration. Such improvement as indicated in Table 2 can be related to the use of Webspiration.

Besides, the mean scores of both administrations in each skill were very different as indicated by the very large effect sizes: "identifying the main idea" ($d = 2.0428$), "identifying supporting details" ($d = 4.1641$), "identifying the author's point of view" ($d = 2.9069$), "identifying the author's purpose" ($d = 1.2423$), "distinguishing between facts and opinions" ($d = 2.5927$), "identifying cause-and-effect relationships" ($d = 1.3749$), "making comparisons and contrasts" ($d = 1.4928$), "predicting outcomes based on evidence" ($d = 3.6927$), "sequencing story events" ($d = 2.9069$) and "summarizing" ($d = 1.5714$). The mean scores of both administrations in overall EFL critical reading skills were also very different as indicated by the very large effect size ($d = 4.7231$). This is shown graphically in Figures 2a and 2b. Thus, using Webspiration proved to have a positive effect on enhancing preparatory stage pupils' EFL critical reading skills.

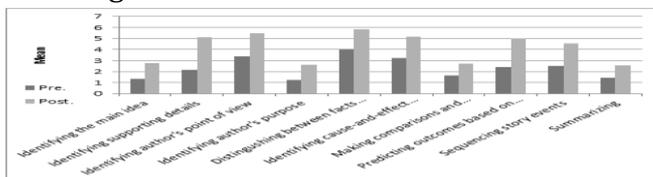


Figure 2a. The mean scores of the EFL critical reading skills pre- and post administrations

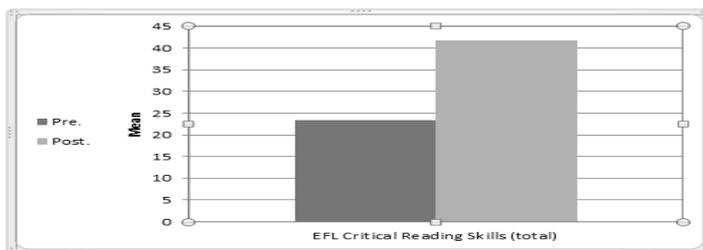


Figure 2b. The mean scores of the EFL critical reading skills (total) pre- and post administrations.

This significant result might be attributed to different reasons. During the experiment, EFL critical reading skills improved because the pupils performed the required in-class and out-of-class Wepsiration-based activities where they functioned as designers, adding and changing information to create their own concept maps that continued to grow and form a network of interconnected ideas. Using Wepspiration was fundamental in helping the pupils plan, organize, take notes, edit and review their work. Also, the pupils were excited and eager to work in a collaborative environment. Such environment increased their participation and motivation because they could share and show how their ideas connected to each other. They also used the synchronous and asynchronous chat and comment features where they appreciated the constructive feedback offered by their peers and the teacher to improve their work before transferring it to a Word document or Google Docs. When coupled with an accompanying rubric, the pupils learnt how to assess their concept maps and collaboration.

In addition, using Wepspiration enabled the pupils to be visually creative as it allowed the insertion of images, pictorial symbols, notes and hyperlinks reflecting their thinking and understanding. Besides, the pupils might have benefited from being exposed to the various reading stages during the in-class activities. The pre-reading stage allowed the pupils to preview the assigned reading materials. The during-reading stage enabled them to read critically and directed their attention. The after-reading stage enabled them to reflect on their learning. The out-

of-class activities gave them more time and practice on EFL critical reading skills.

The pupils' improvement in overall EFL critical reading skills was apparent. The pupils learned to skim the reading selection to find the topic sentence/main idea and the supporting sentences that best describe it. They succeeded in identifying whomever the author is talking about and deciding in which person the sentence is written: first, second or third person. They also succeeded in deciding if the author wrote to entertain, teach or persuade the reader. They learned to distinguish between facts and opinions. As for identifying cause-and-effect relationships, they thought carefully about what causes a reaction. Concerning making comparisons and contrasts, they described accurately how things are similar and/or dissimilar. Moreover, they learned to look clearly at the clues in a given text in order to predict outcomes. Regarding sequencing story events, the pupils succeeded in putting events in the right order so that stories can make sense. Furthermore, their summaries were enhanced because they managed to differentiate between the most important ideas and the less important ones. They omitted unnecessary details and wrote complete sentences reflecting their ability to recapitulate the text.

Such finding is in agreement with the findings of other studies conducted by Ching and Hsu (2011) and Orhan (2015) who concluded that using Webspiration supports EFL learning as it helped students construct knowledge collaboratively to demonstrate their understanding of the subject matter and provided them with opportunities to develop their thinking, communication and collaboration skills. Also, such finding is consistent with the findings of other studies which suggested that collaborative web-based concept mapping provides an effective medium for developing EFL reading abilities (Liu, 2014; Liu et al., 2010; Rosenberg & Saif, 2010). Rosenberg and Saif (2010) asserted that it can aid in the activation of EFL students' prior knowledge, promote internal structuring of new knowledge and thus enhance reading skills. Liu (2014) found that, with the

assistance of collaborative mapping, students could generate and organize their ideas during the reading process, and then use the map as a reference to organize the framework while putting content coherently into different map parts.

5. Conclusion:

Within the limitations of the present study as well as the results obtained, it can be concluded that using Webspiration proved to have a positive effect on enhancing the study group's EFL critical reading skills. During the implementation, some pupils expressed concerns about technological problems and frustration when constructing web-based concept maps at the beginning of the program. Despite such challenges and by the end of the experiment, the pupils became more familiar with the landscape of Webspiraition and reported that they have benefited from using it reflected in their EFL critical reading skills.

6. Recommendations:

Based on the aforementioned result attained, the following recommendations are offered:

1. Using the Webspiration collaborative web-based concept-mapping tool is recommended to be included in teaching EFL critical reading to preparatory stage pupils.
2. More attention and time should be devoted to EFL critical reading skills as they are very important for those pupils. That is because they have to master what they are going to use in their future study and life.
3. Preparatory stage pupils should be encouraged to use Internet resources and be engaged in collaborative reading activities to enhance their EFL critical reading skills.
4. EFL teachers should be familiarized with EFL critical reading skills and how they are taught.
5. EFL teachers should be acquainted with the new methods and technologies in teaching EFL critical reading skills. Besides, they should be trained to employ them.

7. Suggestions for Further Research:

The following topics are suggested for further research:

1. Replicating the present study with different participants.
2. Investigating the effect of using Webspiration on students' (a) writing skills, (b) vocabulary acquisition, (c) reflective thinking, and (d) autonomous learning.
3. Investigating the students' and teachers' attitudes towards the use of collaborative web-based concept mapping in EFL learning, teaching and assessment.
4. Investigating the effect of other Web 2.0 tools on students' EFL learning.

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