

**The Effectiveness of Web-based Critical Reading
in Enhancing Physiotherapy Students' English
for Academic Texts**

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ABSTRACT:

Purpose: This paper investigates the effectiveness of web-based critical reading, Egyptian Chinese university, first year Physiotherapy students' in enhancing their academic scientific texts. This study was conducted in a quantitative design with many participants, first year physiotherapy students (English for specific purpose).

Methodology: The study used a quantitative approach. a survey, a pre and a posttest were used to collect data.

Findings: The results revealed that web-based critical reading was affective for physiotherapy students (English for specific purpose students) in enhancing their English for academic texts.

Practical implications: Web-based critical reading was approved for English for academic language teaching and learning.

Keywords: Web-based critical reading, English for academic purposes, Academic reading texts.

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1-Introduction:

ESP (English for Specific Purposes) is an approach to language teaching that focuses on the specific needs of learners in particular contexts. It focuses on language instruction to meet the requirements of specific professional or academic domains. **EAP (English for Academic Purposes)** is a subset of ESP that specifically targets language skills needed for academic settings. It involves teaching students to use language appropriately for study and research courses focus on the language, skills, and genres relevant to academic activities. Research into learners' needs and the nature of academic practices is essential in EAP. In summary, EAP is a type of ESP that caters to the language needs of students in academic contexts, ensuring they acquire the skills necessary for successful study and research. One of the most important needed skills for EAP students is improving "reading skills" through a balance between skills and language that affects the teaching of reading in English for academic Purpose. Adopting a range of reading styles, strategies and techniques in English for academic purposes language classroom is necessary for successful interaction with the authentic texts in English for academic purpose implying more efficient second language readers. Some of the crucial skills to be learnt or transferred into the new language are,; selecting what is relevant for the current purpose; using all the features of the text such as headings, layout; skimming for content and meaning; scanning for specifics; identifying organizational patterns; understanding relations within a sentence and between sentences; using cohesive and discourse markers; predicting, inferring and guessing; identifying main ideas, supporting ideas and examples; processing and evaluating the information during reading; transferring or using the information while or after reading Most of these skills are composed of several processes, of which skimming and scanning are useful first stages for determining whether to read a text or which parts to read carefully. Then EAP readers need to read carefully, extract meaning and consider the author's attitude. The following types of reading are important to discuss: search reading - locating information on predetermined topics; skimming - reading for gist; scanning - reading selectively to achieve very specific reading goals; careful reading. The reader may choose kind of reading according to the perceived demands

of the learning task. Adopting a range of reading styles during pre-reading (predicting, word association, discussions, text surveys), while-reading (a list of questions, scanning and skimming activities, working out the meaning of unfamiliar words, pattern study guides, summarizing, clarifying, questioning, predicting, etc.) and post-reading activities (review of the content, work on grammar, vocabulary in context or word roots, discourse features, consolidation of what has been read by relating the new information to the students' knowledge, interests, and opinions through a writing assignment, discussions, debates, role-plays, project work) in second language classroom is necessary for successful interaction with the authentic texts. This is why the researcher concluded that "web critical reading" may be totally effective for English for academic purposes students, as critical reading affects all aspects of people's life especially academic achievement. The purpose of critical reading process is not only focus on memorizing patterns and practicing fluency. However; it is a visual and cognitive process to extract meaning, processing information, and relating it to existing experience (Millrood, 2001). Critical reading, which is one of the high levels of reading comprehension, is a necessary activity that should be practiced by readers to enable them to understand the message to analyze and to evaluate the component (Esleem, 2012). Therefore, the aim of this study is to determine the impact of web-based critical reading in enhancing physiotherapy students' English for Academic Texts, this study was conducted on Egyptian Chinese University Physiotherapy Students through a quantitative design with a large number of participants, first year physiotherapy students (English for academic purpose).

2-Literature Review

2.1. Critical Reading: According to Anderson (2003), Crystal (2007), reading is an active and fluent process that involves both the reader and the reading material in a journey of constructing the meaning. Thus, the reading process crucially involves appreciating the meaning of what is written. Given that reading is a process of meaning formation, during the reading process, information from visual, semantic, conceptual, and linguistic sources is combined in such a way as to make it possible to figure out the sense of sentences and phrases. According to Sengupta (2002, p. 2), academic reading is appropriate and students need to undertake "critical reading of several lengthy academic texts to

complete the study of specific major subjects." A fluent reader must therefore be able to "recognize word forms, graphic form and phonological information, activate appropriate semantic and syntactic resources, recognize morphological affixing in more complex word forms, and access his or her mental lexicon" (Grabe 2009, p. 27). Critical reading and thinking are key to academic achievement in higher education and the development of critical thinking skills among students is seen as a very important educational goal in many societies around the world (Zin et al. 2014, Davies & Barnett 2015, Wilson 2016, Stupplea et al. 2017, Larsson 2017, Khamkhong 2018). Critical reading requires readers to go beyond the literal and interpretive comprehension of reading texts. Readers need to judge the authenticity of the ideas expressed in the writings by the writers. They do not necessarily agree with the opinions of the authors in the text for granted. It is because critical reading refers to reading the passage skeptically and analytically, and then assessing the value of the version (Douglas, 2000). Throughs with critical reading skills is not ignored in building a society where people are reading, thinking, critic, questioning, and writing (Güneş and Güneş 2014). Students are required to synthesize, evaluate, interpret and selectively use the information in the texts they read to help them become successful students in this digital age (Walz 2001). The readers need to view the writers' point of view of the passage critically in the reading activity. It is performed by exploring the implied primary idea, defining the purposes, separating the facts and opinions, recognizing the tone of the writers, taking inference and conclusion to effectively grasp the information from the texts (Bowen et al., 1985). Critical reading skills are important to students because they affect the critical thinking skills that are needed today and, in turn, help them to be critical citizens and critical readers (Par 2018). There are multiple meanings of the term critical reading, but it can be split broadly into two different traditions: reading for academic success and reading for social engagement. According to Manarin, et al. (2015, p. 4), the following key skills consist of reading critically for academic success: 1) identifying textual element patterns, 2) distinguishing between the main and subordinate ideas, 3) assessing credibility, 4) making judgments on how to argue a text, and 5) making relevant inferences regarding the text. Critical thinking is the

ability to ask and/or answer insightful questions in the most productive way to reach a comprehensive understanding (Hilsdon, 2010). One of the most important elements of the critical reading is “Critical thinking” which is probably the most recent label for what many call for analytical reasoning, synthesis, problem-solving, or higher mental processes (Scriven & Paul, 1992). Much of the confusion surrounding the definition of higher-order thinking stems from the inconsistent use of the term critical thinking (Lewis and Smith, 1993). Critical thinking consists of interpretation, analysis, evaluation, explanation synthesizing, inference, and self-regulation. Empowering critical thinking skills among higher education students, particularly in academic writing, through the integration of critical thinking into the learning process, is essential to develop student problem-solving, decision-making, and communication skills (Abdullah, 2014; Adege, 2016; McLean, 2005).

2.2. Difference between Critical and Literal Reading:

According to Huijie (2010), in the past, the definition of critical reading had to do with the readers’ ability to discuss and question the written materials for analysis and evaluation. Later, the definition of critical reading turned to focus on viewing reading as an active and interactive process that requires a dialogue between the reader, text, and author at different levels using different higher order thinking skills. Considering reading as an active process requires readers to take active positions by being involved in the reading process. Readers should develop a distance between the writer’s arguments and the written materials after making a rigorous analysis to reach sound conclusions (Pennycook, 2000; Priozi, 2003). One thorough and clear definition is given by Priozi (2003): Critical reading can be defined as a very high-level comprehension of written materials requiring interpretation and evaluation skills that enable readers to separate important from unimportant information, distinguishing between fact and opinions, and determine the writer’s purpose and tone. (p. 325) For Wallace and Wray (2011), critical reading is about being to examine how the author can justify his or her argument or if the reader knows more about a given topic. The above definition clarifies that critical reading is different from literal reading which focuses only on surface meaning to find out the main ideas and supporting details. Critical reading is more complex and requires the

readers to read the lines, between lines, and beyond lines, employing different skills several times to approach the texts (Huijie, 2010).

2.3. Critical Reading Skills: Many researchers give diverse descriptions on approaching critical reading proficiency and assure that there is a necessity for systematic explicit teaching aimed at improving students' critical reading abilities. For example, Wallace and Wray (2011) recommended five questions to gauge students' critical reading. These five critical synopsis questions are as follows: 1. Why am I reading this? 2. What are the authors trying to do in writing this? 3. What are the authors saying that is relevant to what I want to find out? 4. How convincing is what the authors are saying? 5. In conclusion, what use can I make of this? DiYanni (2017), give descriptions to approach critical reading proficiency by offering checklists containing descriptions of how to teach critical reading. DiYanni added that by teaching students how to know what the text says and how it transmits these pieces of information, students move to achieve the larger goals of critical reading, i.e., to assess the author's purpose, to identify the tone, evaluate the evidence, and the assumptions underlying the author's position and grasp the point of view of the author. Similarly, Carrigus (2002) suggested two levels of skills needed for approaching critical reading. The first is basic critical reading skills at the paragraph level focusing on how to get the main ideas, how to identify idea patterns, and how to know transitional signals in sentences and paragraphs. The second is higher-level critical reading skills focusing on making inferences, synthesis, summarizing, and evaluation of the materials. Huijie (2010) provided a hierarchical framework of critical reading proficiency consisting of four levels: structural analysis, rhetoric analysis, social relevance, and holistic evaluation. The first and the second levels are similar to what DiYanni (2017) and Carrigus (2002) have proposed in that they deal with understanding the paragraph and evaluating the text. The third level activates the social relevancy with cultural background knowledge of the reader and writer with the text and the situational context and intertextual context with the text as well. The fourth refers to reading from a critical stance, including weighing the pieces of evidence, examining the sources and the text's ideology, and distinguishing between materials representing facts and opinions. However, there are some important

factors that teachers have to reconsider, i.e., the way they test students' reading ability. Huijie (2010) asserted that the items of the test that focus on facts and memorizing details do not encourage students to read between and beyond lines and do not call for higher order thinking ability. Another important factor that enables students to foster critical thinking is the way teachers perceive and demonstrate critical thinking while they teach, within a systematic framework of teaching (Paul & Elder, 2005).

Critical reading is often considered to be the most advanced level of reading. Dechant (1991) calls critical reading "evaluative comprehension" and views this type of reading as the one that involves the higher order cognitive processes of analysis, synthesis and evaluation. Dechant (1991) claims that "critical readers are as much interested in why something is said as in what is said" (p. 454). Therefore, the scholar underlines the importance of sensitizing learners to the language of the text. Paying attention to how words are used enables readers to recognize oversimplification, overgeneralization, inaccuracy and distortion in the text. Wallace (1993) and McCormick (1997) suggest that critical readers should act as interrogators or detectives of texts and of their reactions to reading. They think that one of the most effective technique of teaching critical reading is to instruct learners to ask questions while reading. To sum up, developing critical reading skills seems an important part of reading instruction, especially the one directed to more advanced learners. This type of reading is a prerequisite for successful participation in contemporary social life, where reading printed and online texts is an everyday activity. Although the value of critical reading has been recognized in literature and critical reading has become a subject of many reading studies (e.g. Skopinskaja, 2011; Kaura & Sidhub, 2013, Weninger & Kan, 2013), the researcher think it is still a neglected skill which deserves more attention in the university instruction.

2.4. Web -Based Critical Reading; In recent studies, the importance of fostering students' critical thinking and reading skills at a higher education level has been stressed (Atkinson, 1997; Lin, 2018), and a variety of teaching approaches for critical thinking and reading have been considered in practice. For instance, Ozturk, Muslu, and Dicle (2008) suggest that problem-based learning can be effective for fostering

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critical thinking skills. Paul and Elder (2007a) advocated that asking students essential analytic and evaluative questions can promote students' critical thinking skills which is considered, the most important element for critical reading. The technological advances have created high hopes among many teachers, administrators, researchers, and policy makers, who believe that the digital devices offer great promise as instructional tools for language education. Simple applications of existing e-reading technology such as changing font size on-screen, using text-to-speech features to provide dual input of text, or using the Internet to collaborate on learning activities may substantially improve the learning of many students according to the previous studies. At the 2011 annual International Conference on Computers in Education, researchers from around the world met to exchange ideas on more advanced uses of e-reading technology, ranging from providing individualized feedback through artificially intelligent animated avatars, to foster critical thinking skills through computer-supported collaboration, to predict students' interest or frustration. Several major analyses of the impact of education technology on reading have been conducted in the past two decades (Becker, 1992; Blok, Oostdam, Otter, & Overmatt, 2002; Fletcher-Finn & Gravatt, 1995; C. L. C. Kulik & J. A. Kulik, 1991; J. A. Kulik, 2003; Ouyang, 1993; Soe, Koki, & Chang, 2022). Probably the most often-cited review in education technology was conducted by Kulik and Kulik (1991), who viewed computers as valuable tools for teaching and learning. Specifically, they claimed that: 1. Education technology was capable of producing positive but small effects on student achievement. 2. Education technology could produce substantial savings in instruction time. 3. Education technology fostered positive attitudes toward technology. 4. In general, education technology could be used to help learners become better readers, calculators, writers, and problem solvers. So, the researcher integrate technology through web-based critical reading to enhance English for academic scientific texts.

2.5. Critical Thinking: One of the important elements of the critical reading is the critical thinking. Improving the critical thinking ability of students has become more than just a fad, it has become central to their learning. Edman (2008) pinpointed that although faculty members see

the need for teaching critical thinking to their students in different institutions and see it as an important educational goal, they do not state exactly what they mean by “critical thinking.” Students must be able to think critically inside the classroom for academic purposes and outside the classroom as well. Students are exposed to a vast volume of authentic materials, most noticeably, while surfing the net. Students also need critical thinking to deal with the challenges they encounter in their workplace after graduation or in their daily lives. Another benefit of introducing critical thinking is that it can enable students to deal with the technological world and keep up with emerging trends in technology (Edman, 2008; Ennis, 2018; Hervás & Miralles, 2006; Huijie, 2010; Wade, 2008). Several definitions have been provided by various authors to define critical thinking. For example, Facione (2011) defined critical thinking as “purposeful, self-regulatory judgment which results in interpretation, evaluation, and inference as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which judgment is based” (p. 826). A similar definition is suggested by Astleitner (2002), who viewed critical thinking as a higher-order thinking skill which includes evaluating arguments, and is a purposeful, self-regulatory judgment that ends in interpretation, analysis, evaluation, and inference. It is clear from the two definitions that critical thinking requires many things to be achieved. This is shown by Halonen & Gray (2000), who maintain that critical thinking is not one activity; rather, the term refers to a collection of thinking skills that advance intellectual focus, motivation, and engagement with new ideas. These thinking skills include the ability to recognize patterns; to solve problems in practical, creative, or scientific ways; to engage in psychological reasoning; and to adopt different perspectives when evaluating ideas or issues. Teaching students to think critically inside or outside the classroom improves their abilities to observe, infer, question, decide, develop new ideas, and analyze arguments. However, students have to be involved in different activities to hone their critical thinking skills. Astington and Olson (1995) asserted that it is hard to tell how students process thinking in their minds because thinking has no behavioral standards, but rather you can deduce how students process thinking by observing their actions as they are involved in different tasks. In the case of reading, critical thinking considered to be one of the most

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important elements through implementing critical reading strategies, as both of them share same skills like, the ability to recognize patterns; to solve problems in practical, creative, or scientific ways; to engage in psychological reasoning; and to adopt different perspectives when evaluating ideas or issues, also, the abilities to observe, infer, question, decide, develop new ideas, and analyze arguments.

2.6. English for Academic Purposes: English for Specific Purposes distinguishes itself from more general language study through a focus on particular, purposeful uses of language, or what Cummins (1982) refers to as 'context-reduced' language. ESP's aims to explore and explain the academic and professional genres that will enhance learners' career opportunities. Genre analysis has thus become the principal by which ESP practitioners identify the features that distinguish the texts most relevant to students (Cheng, 2021; Hyon, 2018; Tardy, 2017). English for specific purposes (ESP) and the subsidiary field of English for academic purposes (EAP) have gotten progressively significant. EAP and ESP can be recognized from universally useful courses by their considerable accentuation on the need to set up and address the issues of students. ESP and EAP courses might be confined to just a couple of the four abilities; they are likewise normally shorter and regularly more propelling for students than broadly useful courses. ESP and EAP are basically practical in their interests; learning and research are robustly related to pragmatics. English for academic purposes (EAP) has emerged out of the broader field of English for specific purposes (ESP), defined by its focus on teaching English specifically to facilitate learners' study or research through the medium of English (Flowerdew & Peacock, 2001, p. 8; Hyland & Hamp-Lyons, 2002, p. 1). EAP is separated from ESP by the concentration on academic structure, however among the applied linguistics and English language instruction fields more generally the perspective on EAP as a sub-discipline inside ESP. EAP - English for Academic Purposes - alludes to the language and related practices that individuals need so as to embrace study or work in English medium advanced education. The goal of an EAP course, at that point, is to enable these individuals to get familiar with a portion of the linguistic and social – basically institutional and disciplinary - rehearses associated with considering or working through English. EAP is frequently viewed

as a part of ESP (English for Specific Purposes). According to Scarcella (2003), Academic English is “a variety or register of English used in professional books and characterized by the linguistic features associated with academic disciplines” and in the same way, Chamot and O’Malley (1994) define it as “the language that is used by teachers and students for the purpose of acquiring new knowledge and skills, imparting new information, describing abstract ideas, and developing students’ conceptual understanding”; While recognizing settings of utilization and proposes is significant, an extensive meaning of academic language needs further identification. As indicated by Scarcella (2003), there are three dimensions needed for academic language proficiency: linguistic, cognitive, and socio-cultural/psychological. Generally, EAP teachers provide grammar instruction, vocabulary, sentence structures including the four language-skills (LSRW-listening, speaking, reading and writing) as well as pronunciation and phonetics; however, they frequently attempt to tie these to the particular study needs of learners; for instance, a lesson may be composed highlighting writing essays as opposed to business letters. In the same way, the words and language terminology selected for study will be inclined to be on academic texts. Furthermore, EAP professionals frequently find that, either straightforwardly or by implication, they are providing study skills and regularly handling different cultures in education.

2.7. English for Academic Reading Texts: Academic reading is an active process of reading where the reader interacts with a text through taking notes, making connections between the text through what they already know and what other texts have said, and asking critical questions about the content they read. Academic reading involves a multi-faceted approach of engagement where the reader uses a range of reading strategies (prediction, surveying, skimming, scanning, analysis, reading in detail and summarizing) to determine the scope and relevance of a piece and deciding which parts should be read in more depth (Wilson, 2022). Grabe (1991) argued that some knowledge areas that have bearing on the efficiency of reading process are structural and vocabulary knowledge. That is, readers with less command of such areas of knowledge will get into trouble processing written texts. In their reading comprehension, ESP students face challenges that may impede their understanding of the reading material assigned in their EFL

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curriculum and so postpone or deter their reading comprehension skills development. For instance, according to Abdul-Hamid and Samuel (2012), known scientific terminology in a complex sentence was much easier to comprehend compared to complex English sentences with only general English words. Researchers are also in agreement that the use of higher level cognitive strategies such as inferring, synthesizing information, and referring to prior knowledge most often lead to better comprehension (Hamada, 2009; Phakiti, 2004) while lower cognitive strategies such as translating and decoding will not. Yet, little is known about the reading struggles faced and strategies used by readers reading scientific texts in English (Abdul-Hamid & Samuel, 2011). More research is needed to look into how EFL readers read academic scientific texts Journal of Applied Linguistics and Language research, written for native speakers and navigate through its scientific terminology and syntactic complexity. There is a need for teachers in various areas of instruction to be able to simplify the reading materials for their learners (Coxhead & Boutorwick, 2018; Galloway et al., 2017). For example, in ESP areas, students need to learn how to enhance the accessibility of their future professional communication (Ishihara & Prado, 2021) Although all language skills are important to successfully pursuing higher education, in ESP courses, reading proficiency is the keystone of students' academic success. At the university level, reading receives incomparable importance among all other language skills. Considering the importance of reading skills, students need to be equipped to handle reading tasks for future higher educational settings. Despite the increased interest in English reading, students still face substantial challenges in reading the vast academic texts at the tertiary level; to them, reading is a complex skill which, despite its importance, is not easily acquired. In countries where English is a foreign language, textbooks designed for native speakers of English are used by college professors; hence, students must be proficient in both the English language and their subject areas to achieve the desired success. However, numerous challenges are faced by English language learners and teachers in all levels of education. These challenges were found to result from the weakness of the educational system The ability to successfully read, comprehend, synthesize, and reproduce the ideas presented in academic texts is central

to university students' success in their studies. According to Rose (2018a), students are generally left to work out the meanings of these complex texts on their own, which may lead them to avoid readings and consequently miss out on critical understandings of course content and the academic language necessary to produce assignments effectively. Thus, students must grasp this language and knowledge to engage profoundly and successfully in their coursework and professional lives (Rolls & Wignell, 2018). Previous studies on academic reading suggest that students struggle with digesting the meaning of academic reading texts (Anwar & Sailuddin, 2022; Dardjito, 2019; Erten, 2018; Fitriana, 2018). In this regard, many English classrooms in higher education are organized for academic or specific purposes, emphasizing English grammar and reading skills (Solikhah, 2020; Yulia et al., 2020). Some studies also explore instructional models to facilitate academic reading, highlighting the need for a reading support system (Ismail & Edi, 2022; Pustika & Wiedarti, 2019). Previous studies conducted in the support these observations, revealing that students often lack enthusiasm when reading academic materials in English (Sholah, 2021; Wijayanti, 2020; Yulia et al., 2020). This implies that acquiring comprehension of English academic texts will be a long journey for students and staff. Reading comprehension of academic texts in English is essential to the study, these barriers create anxiety. These tensions then become a barrier for the students to engage with their academic texts (Rafik-Galea, 2010; Wu, 2011), and many students respond by avoiding English academic texts and all English texts altogether (Dardjito, 2019). For instance, Rahmat et al. (2020) and Anwar and Sailuddin (2022) found that university students experienced problems translating and comprehending difficult academic words. Thus, students experienced frustration in comprehending English academic texts and understanding the language (Habibian et al., 2015; Masduqi, 2014). This lack of engagement inhibits students' potential to enhance their ability to critically engage with the discourse in their discipline and actively contribute to advance knowledge in their discipline. According to all these academic students' needs previous studies, which requires the academic needs for the students to enhance the students' academic texts, the researcher find it is essential to investigate the effectiveness of web-based critical reading, Egyptian

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3-Problem identification

3.1. Purpose of the Study: The purpose of the study was to investigate the effectiveness of web-based critical reading to foster physiotherapy students' English for academic texts.

3.2. Objectives of the Study: 1- Enhancing and promoting first year, physiotherapy students' reading academic texts.

2-Developing web-based critical reading to Foster Physiotherapy students' English for academic texts

3.3. Statement of the Problem: The problem of the present study was that first year at the faculty of the physiotherapy, Egyptian Chinese university are weak in their academic reading texts skills, so the researcher made an attempt to investigate the effectiveness of web-based critical reading to foster physiotherapy students' English for academic texts.so the following main questions was tried:

-What is the effectiveness of web-based critical reading in enhancing physiotherapy students' academic reading texts?

This question can be divided into the following sub questions:

1-What are the web-based critical reading academic skills needed for physiotherapy students?

2- How far do EAP physiotherapy students acquire their web-based critical academic reading skills?

3-What is the effect of the web-based critical reading in fostering the first year, physiotherapy students' academic texts?

3.4. Limitations of the Study: The present research limits first year students', EAP students, Faculty of physiotherapy, Egyptian Chinese University. Students were assigned to two groups randomly; one group was considered as an experimental group and the other one is considered a control group. each group consisted of 100 students.

4-Methodology

4.1. Research Design: This study was conducted quantitatively to collect data from a large number of participants according to Heale and Twycross (2015), a quantitative research design allows researchers to generalize the findings from vast data. For this current study which includes 100 participants, participants in this current study: EAP

students, Faculty of physiotherapy, Egyptian Chinese University. Students were assigned to two groups randomly; one group was considered as an experimental group and the other one is considered as a control group. each group consisted of 100 students.

4.2. Research Tools and Data collection procedures: Research tools which are used to collect data can be considered as follows:

1-Needs analysis critical reading skills Questionnaire. (Appendix 2).

2- Pre-and post-academic reading Skills Test. (Appendix 3).

4.3. Instrument and Experiment: The study had a pre-post groups design. An experimental and a control group were pre- posttests “pre and post academic reading skills test”. The experimental group was instructed and trained in an EAP web-based critical reading instruction while the control group received no such training. Pre-needs-analysis skills questionnaire was used to measure the students’ selected critical reading skills which are needed for their academic life.

4.4. Needs Analysis Critical Reading Skills Questionnaire :(Appendix 2)

4.4.A The objective: The questionnaire was designed for the purpose of:

- Surveying the physiotherapy students’ needs for the most needed academic critical reading skills

4.4.B. Design: In order to design the questionnaire, the researcher did the following:

- Reviewing the ESP literature that focused on English for academic purposes critical reading skills.
- Reviewing the previous studies that already developed the critical reading skills for academic purposes.

4.4.C. Administration: The questionnaire was administrated to the first year, physiotherapy students’ Egyptian Chinese university, through Microsoft teams (online), to be filled calculated online, the researcher explained the purpose of the questionnaire.

4.4.D. Description: The questionnaire consists of items representing the target critical reading skills “evaluating, analyzing, synthesizing etc. “. Before each item there are three fields to determine the degree of importance (very important - less important-not important).

4.4. E. Validity of Needs Analysis Critical Reading Skills Questionnaire:

To ensure the validity of the questionnaire, the researcher presented it to jury of experts form field of curriculum and teaching methods, Appendix No.(1); In order to explore their opinions about the validity of this questionnaire, the researcher asked them to express their opinion on the questionnaire in terms of the suitability of the skills for what they were developed for, and the extent of the students' needs for them, in addition to determining the extent of their suitability to the level of the students of the research sample, and the clarity of its linguistic formulation, as well as adding, deleting, or Reframing what they see as skills.

4.4.F. Reliability of Needs Analysis Critical Reading Skills Questionnaire:

To verify the reliability of the questionnaire, the researcher used the Cooper equation to calculate the percentage of agreement between the arbitrators. The percentage of agreement between the arbitrators was (92.00%), meaning the reliability value was (0.920); This indicates a high reliability rate for the questionnaire, and also confirms its validity for application to the students in the research sample.

4.4. G. Results of Needs Analysis Critical Reading Skills Questionnaire:

The researcher calculated the percentage of agreement among students on the questionnaire. This is to determine the extent of students' need for critical reading skills, which is evident in the following table (1):

Table (1) Percentage of Agreement Between Students
on Critical Reading Skills Questionnaire

Skills	Percentage of Agreement	Ranking
1-It can help me analyze a scientific text.	92.93%	2
2-It can help me evaluate a text and decipher its meaning.	91.92%	3
3-It can help me connect ideas and thoughts together.	90.91%	4
4-It can help me propose questions and negotiate.	89.90%	5

Skills	Percentage of Agreement	Ranking
5-It can help me to accept or reject an idea or thought.	88.89%	6
6- It can help me to synthesize ideas and dissect it.	85.86%	7
7- It can help me comment a text.	93.94%	1
8-It can help me to form decisions and judgments on a certain text.	82.83%	9
9-It can help me to know the main topic and idea of a text.	68.69%	12
10-It can help me to know the various information within a text.	65.66%	13
11- It can help me to know how to form conclusion.	83.84%	8
12-It can help me critically think.	60.61%	15
13-It can help me critically write.	55.56%	18
14-It can help me with general thinking.	50.51%	19
15-It can help me speak.	62.63%	14
16-It can help me listen.	58.59%	17
17-It can help me learn phrases.	48.48%	20
18-It can help me learn vocab.	59.60%	16
19-It can help me become an active reader.	80.81%	10
20-It can help me become a passive reader.	70.71%	11

It is clear from the results of the previous table (1) that:

The skills agreed to be needed by students were maintained at a rate of (80.00%) and more, and the following is an explanation of those skills:

- **First Rank:** The skill of it can help me comment a text came in first Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (93.94%).
- **Second Rank:** The skill of it can help me analyze a scientific text came in Second Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (92.93%).
- **Third Rank:** The skill of it can help me evaluate a text and decipher its meaning came in Third Rank in the Critical Reading Skills

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Questionnaire; The percentage of students' agreement on their need for it reached (91.92%).

- **Fourth Rank:** The skill of it can help me connect ideas and thoughts together came in Fourth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (90.91%).
- **Fifth Rank:** The skill of it can help me propose questions and negotiate came in Fifth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (89.90%).
- **Sixth Rank:** The skill of it can help me to accept or reject an idea or thought came in Sixth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (88.89%).
- **Seventh Rank:** The skill of it can help me to synthesize ideas and dissect it came in Seventh Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (85.86%).
- **Eighth Rank:** The skill of it can help me to know how to form conclusion came in Eighth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (83.84%).
- **Ninth Rank:** The skill of - it can help me to form decisions and judgments on a certain text came in Ninth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (82.83%).
- **Tenth Rank:** The skill of it can help me become an active reader came in Tenth Rank in the Critical Reading Skills Questionnaire; The percentage of students' agreement on their need for it reached (80.81%).

4.5. Critical Reading Comprehension Test:(Appendix 3)

4.5.A The objective: Critical reading comprehension test was designed for the purpose of:

- Surveying the physiotherapy students' acquisition for their academic critical reading skills.

4.5.B Design: In order to design the test, the researcher did the following:

- Reviewing the EAP literature that focused on English for academic critical reading skills test.
- Reviewing the previous studies for designing academic critical reading tests that already developed academic texts.

4.5.C validity :The test was validated by jury members (appendix1), English language professors and instructors who are specialized in English methodology and EAP course design. Based on the jury members' recommendation, the researcher made the suggested changes and modification to reach to its final form.

4.5.D. Administration: The test was administrated to the first year (the control and the experimental groups), physiotherapy students, Egyptian Chinese university, pre and post teaching the EAP content for the control group through the normal content and for the experimental group through teaching the designed English for academic purpose content based on web critical reading skills to develop academic reading, the researcher explained the purpose of the test.

4.5.E. Description: The test consists of four reading comprehension texts representing the target critical reading skills which is most needed, and which is important for the physiotherapy students' academic life according to the result of the needs analysis critical reading skills questionnaire. Every reading comprehension text consist of 30 questions, every one measure one of the target critical reading skills according to the result of the needs analysis critical reading skills questionnaire. Four reading comprehension texts, everyone is out of 30 marks, so the total of the test is out of 120 marks. Time for every reading comprehension text takes 45 minutes. Total time for the exam is three hours.

4.5.F. Psychometric Properties of Critical Reading Comprehension Skills Test for Physiotherapy Students': The researcher verified the availability of the psychometric Properties (validity, reliability, coefficient of difficulty and ease, discrimination coefficient) of the test as follows:

First: Validity: In this research, the researcher relied on the validity of the jury members to emphasize the validity of the content, also the internal consistency, The following is an explanation for this:

A. Content validity:

The researcher presented the test in its initial on jury of experts form field of curriculum and teaching methods to express their opinions on the appropriateness of items of the test, based on the viewpoints agreed upon by the jury members, the researcher has done the modifications agreed upon by the jury of experts (80.00% and more). Cooper's equation has been used to calculate the percentage of agreement among the jury members.

The rate of agreement among the jurors on skills of test ranged between (80.00% - 100.00%), as the percentage of agreement on the test as a whole reached (91.67%), which is a high percentage indicating the validity of the test, after making the modifications approved by the jury members, which included an amendment to the formulation of some of the questions of the test, The researcher made the modifications referred to by the jury members, which included modifying the wording of test.

B. Internal consistency validity:

Internal consistency was calculated through the application of the test on (77) student during the pilot study as follows:

Calculation of the correlation coefficients among the test items and total test as follows:

Table (2)
Correlation Coefficients between Items of Test and Total Test

Items	Correlation Coefficient of items &Total Test	Items	Correlation Coefficient of items &Total Test	Items	Correlation Coefficient of items &Total Test
1	0.800**	41	0.850**	81	0.802**
2	0.701**	42	0.833**	82	0.716**
3	0.699**	43	0.714**	83	0.580**
4	0.810**	44	0.325*	84	0.812**
5	0.823**	45	0.800**	85	0.563**
6	0.777**	46	0.806**	86	0.805**
7	0.825**	47	0.777**	87	0.818**
8	0.820**	48	0.812**	88	0.855**
9	0.711**	49	0.803**	89	0.870**
10	0.585**	50	0.801**	90	0.715**
11	0.328*	51	0.485**	91	0.690**
12	0.711**	52	0.500**	92	0.330*
13	0.828**	53	0.821**	93	0.820**

Items	Correlation Coefficient of items & Total Test	Items	Correlation Coefficient of items & Total Test	Items	Correlation Coefficient of items & Total Test
14	0.801**	54	0.741**	94	0.712**
15	0.715**	55	0.821**	95	0.580**
16	0.826**	56	0.801**	96	0.813**
17	0.470**	57	0.658**	97	0.811**
18	0.800**	58	0.620**	98	0.740**
19	0.829**	59	0.815**	99	0.829**
20	0.712**	60	0.826**	100	0.325*
21	0.559**	61	0.333*	101	0.325*
22	0.826**	62	0.715**	102	0.718**
23	0.823**	63	0.325*	103	0.826**
24	0.744**	64	0.800**	104	0.873**
25	0.829**	65	0.790**	105	0.870**
26	0.818**	66	0.855**	106	0.779**
27	0.335*	67	0.745**	107	0.827**
28	0.711**	68	0.820**	108	0.581**
29	0.770**	69	0.829**	109	0.360*
30	0.698**	70	0.716**	110	0.800**
31	0.680**	71	0.804**	111	0.499**
32	0.777**	72	0.825**	112	0.350*
33	0.805**	73	0.688**	113	0.825**
34	0.823**	74	0.820**	114	0.774**
35	0.825**	75	0.748**	115	0.801**
36	0.800**	76	0.826**	116	0.873**
37	0.860**	77	0.800**	117	0.800**
38	0.325*	78	0.825**	118	0.823**
39	0.777**	79	0.741**	119	0.870**
40	0.802**	80	0.800**	120	0.820**

* Correlation is significant at the at level (0.05)

** Correlation is significant at the at level (0.01)

The previous table (2) shows the correlation coefficients between the total test and items of the test have ranged between (0.325) and (0.873), all of which are a statistically significant at the level of (0.05) and level of (0.01); this indicates the correlation and coherence of the test items, and the test as a whole, which indicates that the test It has internal consistency.

C-Intrinsic Validity:

Intrinsic validity of the test was also obtained by using the following formula:

$$\text{Intrinsic validity} = \sqrt{\text{Reliability item}}$$

$$\text{Intrinsic validity} = \sqrt{0.827} = 0.909$$

$$\text{Intrinsic validity} = 0.909$$

Intrinsic validity equal (0.91); which confirms that the test is validity.

Second: Reliability

The reliability of the test was calculated in a number of ways, the Cronbach's Alpha, and Split Half, as follows:

A. Cronbach's Alpha: The researcher used this method to calculate the reliability of the test by applying it to a sample of (77) student. The Cronbach's Alpha coefficients for the value of the Cronbach's Alpha for the overall test was (0.827) .

Table (3) Results of the reliability coefficient values
For the Critical Reading Comprehension Skills test

Test	Number of items	Cronbach's Alpha Coefficient
The test as a whole	120	0.827

These values indicate that the test has an appropriate degree of reliability.

B. Split Half: The reliability coefficient of the test was also calculated using the split half method, the scores in the test as a whole were divided into two halves, and then the simple correlation coefficients (Pearson) were extracted between the scores of the two halves, and then corrected using the equation (Spearman-Brown), as shown in the table (3):

Table (4) reliability coefficient using the split half method to
the Critical Reading Comprehension Skills test

The Test	Number of items	reliability using Pearson's coefficient	reliability coefficient after correction (Spearman-Brown)
Critical Reading Comprehension Skills Test for Physiotherapy Students'.	120	0.711	0.878

These values indicate that the test has an appropriate degree of reliability, and this means that the values are appropriate to be reliable and indicate the validity of the test for application.

Third: The Difficulty Coefficient Calculation

The researcher calculated the difficulty coefficient of the items of test. The following table shows the difficulty coefficient of the items as follows:

Table (5) Values of difficulty coefficient of the Critical Reading Comprehension Skills test

Items	Coefficients of difficulty	Items	Coefficients of difficulty	Items	Coefficients of difficulty
1	0.52	41	0.50	81	0.53
2	0.55	42	0.49	82	0.55
3	0.47	43	0.50	83	0.51
4	0.51	44	0.48	84	0.50
5	0.49	45	0.50	85	0.47
6	0.53	46	0.50	86	0.49
7	0.50	47	0.48	87	0.52
8	0.51	48	0.50	88	0.50
9	0.55	49	0.51	89	0.55
10	0.48	50	0.50	90	0.55
11	0.49	51	0.52	91	0.50
12	0.53	52	0.47	92	0.55
13	0.52	53	0.50	93	0.49
14	0.51	54	0.55	94	0.47
15	0.50	55	0.50	95	0.50
16	0.53	56	0.52	96	0.47
17	0.55	57	0.50	97	0.50
18	0.48	58	0.53	98	0.50
19	0.51	59	0.47	99	0.47
20	0.49	60	0.47	100	0.50
21	0.48	61	0.49	101	0.47
22	0.50	62	0.50	102	0.50
23	0.53	63	0.53	103	0.51
24	0.50	64	0.53	104	0.50
25	0.49	65	0.51	105	0.51
26	0.51	66	0.50	106	0.53
27	0.50	67	0.49	107	0.55
28	0.53	68	0.47	108	0.50
29	0.55	69	0.51	109	0.47
30	0.47	70	0.50	110	0.51
31	0.50	71	0.55	111	0.50
32	0.49	72	0.49	112	0.49
33	0.55	73	0.48	113	0.47
34	0.53	74	0.55	114	0.50
35	0.50	75	0.50	115	0.48

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Items	Coefficients of difficulty	Items	Coefficients of difficulty	Items	Coefficients of difficulty
36	0.51	76	0.51	116	0.49
37	0.47	77	0.48	117	0.50
38	0.47	78	0.51	118	0.48
39	0.51	79	0.49	119	0.47
40	0.49	80	0.50	120	0.52

It is clear from the previous table (5) that the difficulty coefficients ranged between (0.47 - 0.55), which are good difficulty coefficients, and the difficulty coefficient for the test as a whole was (0.50). These results indicate the validity of the test for use.

Fourth: Discrimination Coefficient Calculation:

The discrimination is the test's ability to discriminate between the high- ability students and low-ability students. The following table shows the discrimination coefficients of the test:

Table (6) Values of discrimination coefficients of the
Critical Reading Comprehension Skills test

Items	Discrimination Coefficients	Items	Discrimination Coefficients	Items	Discrimination Coefficients
1	0.70	41	0.71	81	0.66
2	0.72	42	0.69	82	0.72
3	0.66	43	0.58	83	0.65
4	0.65	44	0.72	84	0.60
5	0.70	45	0.65	85	0.69
6	0.65	46	0.60	86	0.65
7	0.70	47	0.72	87	0.70
8	0.72	48	0.58	88	0.67
9	0.70	49	0.66	89	0.72
10	0.58	50	0.72	90	0.72
11	0.71	51	0.66	91	0.71
12	0.70	52	0.70	92	0.58
13	0.58	53	0.71	93	0.66
14	0.72	54	0.72	94	0.60
15	0.70	55	0.60	95	0.70
16	0.58	56	0.72	96	0.72
17	0.70	57	0.65	97	0.70
18	0.58	58	0.71	98	0.72
19	0.66	59	0.58	99	0.62
20	0.72	60	0.70	100	0.70
21	0.70	61	0.70	101	0.61
22	0.70	62	0.70	102	0.60

Items	Discrimination Coefficients	Items	Discrimination Coefficients	Items	Discrimination Coefficients
23	0.70	63	0.72	103	0.70
24	0.60	64	0.64	104	0.70
25	0.66	65	0.66	105	0.70
26	0.58	66	0.58	106	0.58
27	0.66	67	0.72	107	0.64
28	0.70	68	0.60	108	0.72
29	0.64	69	0.63	109	0.60
30	0.65	70	0.66	110	0.70
31	0.70	71	0.64	111	0.66
32	0.70	72	0.71	112	0.71
33	0.65	73	0.65	113	0.58
34	0.70	74	0.70	114	0.65
35	0.58	75	0.71	115	0.58
36	0.70	76	0.72	116	0.70
37	0.58	77	0.65	117	0.71
38	0.71	78	0.71	118	0.72
39	0.72	79	0.65	119	0.63
40	0.68	80	0.70	120	0.61

From the previous table (6), it is found that the values ranged from (0.58 to 0.72), which are acceptable values and indicate the ability of the test to distinguish between the students. Then the test became in its final form after the adjustments. The test as a whole discrimination coefficient was (0.67). These results indicate the validity of the test for use.

The Statistical Methods:

The Social Sciences Statistical Package SPSS ver.25 was used to perform statistical analyzes, and the methods used in this research are:

- Cooper's equation to find agreement ratios among jurors of experts.
- Cronbach's Alpha , and Split Half to calculate Reliability of the test.
- Intrinsic Validity to calculate Reliability of the test.
- Pearson correlation coefficient to estimate internal consistency of the test.
- The difficulty coefficient calculation, and discrimination coefficient calculation for the test.
- "t-test" for the independent groups to examine the equivalence in the Critical Reading Comprehension Skills test between experimental students group & control students group, and its significance was verified by the value of (t).

- "t-test" for the independent groups to examine the significance of the differences between the degrees of students (experimental students group & control students group) to determine the difference in the level of the Critical Reading Comprehension Skills test in both groups, and its significance was verified by the value of (t).
- Effect size scale " η^2 " to demonstrate the impact of the experimental treatment on Critical Reading Comprehension Skills test.
- the ratio of Blake to verify of effectiveness.

4.6. English for Academic Purpose Physiotherapy Content: (Appendix 4).

4.6.A The objective:

English for Academic purpose physiotherapy content was designed for the purpose of:

- Developing the physiotherapy students' needs for the most needed academic reading comprehension texts to be developed through the designed critical reading skills content.

4.6.B. Design:

In order to design English for academic critical reading comprehension texts skills, the researcher did the following:

- Reviewing the EAP literature that focused on English for academic critical reading comprehension texts skills
- Reviewing the previous studies that focused on English for academic critical reading comprehension texts skills
- Calculating the students' needs through the needs analysis critical reading skills questionnaire which is most needed to physiotherapy students' academic life.

4.6.C validity:

The content was validated by jury members (appendix 1), English language professors and instructors who are specialized in English methodology and Esp. course design. Based on the jury members' recommendation, the researcher made the suggested changes and modification to reach to its final form.

4.6.D. Administration:

The content was administrated to the first year, physiotherapy students' Egyptian Chinese university, through Microsoft teams (online).

4.6.E. Description:

The content consists of four units representing the target academic critical reading comprehension skills to be practiced through the designed academic critical reading skills tasks. the content is a “task-based content” which is designed for developing the required critical reading comprehension skills to be practiced. the course content is designed according to the needs analysis critical reading comprehension skills questionnaire, faculty of physiotherapy, first year .

4.7. Hypotheses of the Study: -

In the light of the results of the theoretical background, the following hypotheses can be stated:

- 1- There is a statistically significant difference between the mean scores of the experimental and control groups in the post administration of the academic critical reading comprehension test skills test favoring the experimental group.
- 2- There is a statistically significant difference between the mean scores of the experimental group students in the pre and post administrations of the academic critical reading comprehension skills test favoring the post administration.
- 3- Web-based critical reading are effect in enhancing physiotherapy students' English academic texts.

4.8. Results and Discussion:

After the research sample was chosen, the actual implementation of the research experiment has started, and this was represented in the following:

Applying the Critical Reading Comprehension Skills test was prior applied to the research sample students as follows:

4.8.A. Pre- Posttest of the Critical Reading Comprehension Skills Test:

The aim of the prior application of the Critical Reading Comprehension Skills test is to ensure the equality of the two groups in the level of Critical Reading Comprehension Skills before teaching. The prior application of the test was done on the students of the experimental and control groups, and the results were monitored and statistically processed using the (t) test for two independent samples.

the value of (t) was calculated for two independent groups and their significance for the difference between the mean scores of

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experimental students' group and control students' group in the total degree of the Critical Reading Comprehension Skills test, and a table (7) shows that:

Table (7) the value of "t" test and the level of its significance for the difference between experimental group and control group in pre-test of the Critical Reading Comprehension Skills test

Variable	Groups	N	Mean	Std. Deviation	df	t	Sig
Critical Reading Comprehension Skills	Experimental Group	99	33.56	9.913	196	0.093	0.926
	Control Group	99	33.44	6.459			

It is shown from the previous table (7):

- The great Convergence between the mean scores of experimental group students and the mean score of control group students in Total of the Critical Reading Comprehension Skills test, where experimental group students got an mean (33.56) with a standard deviation (9.913), while control group students got an mean (33.44) with a standard deviation (6.459), and the calculated value of (t) for the significance of the difference between the mean scores of experimental group and control group students in Total of the Critical Reading Comprehension Skills test, which reached (0.093) and the significance level is (0.926) which is greater than the level of significance (0.05); Thus, there is no statistically significant difference at the level of significance (0.05) between responses For students of experimental group and control group in pre- application to Total of the Critical Reading Comprehension Skills test.
- This means that the two groups (experimental & control) are equal in the Critical Reading Comprehension Skills test as a whole, and this indicates that there is no difference in scores of Critical Reading Comprehension Skills test as a whole among experimental group and control group in pre-test to the Critical Reading Comprehension Skills test.

This result can be illustrated by the following figure (1):

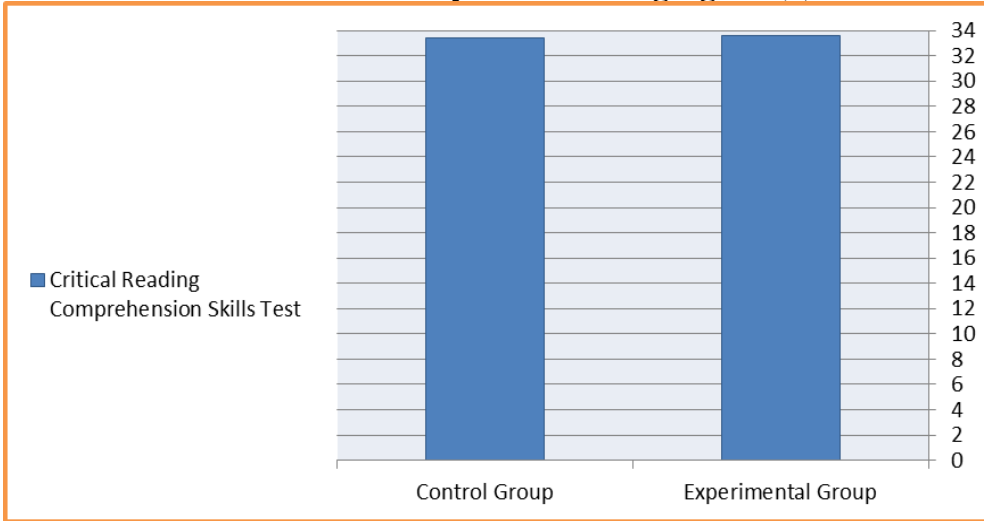


Figure (1) a graph showing of mean scores of experimental group and control group in pre-test to the Critical Reading Comprehension Skills test

Results

In this section, the researcher presents the results of the study by answering the research questions and testing the validity of each research hypothesis, and then the results are interpreted and discussed in the light of the theoretical framework for the research and previous studies.

- **First hypothesis of the research:**

The first hypothesis Stated that " **There is a statistically significant difference between the mean scores of the experimental and control groups in the post administration of the academic critical reading comprehension test skills test favoring the experimental group** ".

To test the validity of this hypothesis, the (t) test was employed to two independent groups the experimental students' group and the control students' group in post-test of the academic Critical Reading Comprehension skills test on the content skills. The results are shown in the following table (8):

Table (8)

the value of “t” test and the level of its significance for the difference between experimental group and control group in post-test of the academic Critical Reading Comprehension skills test

Variable	Groups	N	Mean	Std. Deviation	df	t	Sig
Critical Reading	Experimental Group	99	82.72	7.349	196	20.011	.000
Comprehension Skills	Control Group	99	38.04	3.873			

It is shown from the previous table (8):

- High of mean scores for experimental group students than mean score of control group students in Total of the academic Critical Reading Comprehension skills test, where experimental group students got an mean (82.72) with a standard deviation (7.349), while control group students got an mean (38.04) with a standard deviation (3.873). it's mean the mean scores of experimental group students was higher than the mean scores of control group students in the post-test of Total of the academic Critical Reading Comprehension skills test.
- The calculated value of (t) for the significance of the difference between the mean scores of experimental group and control group students in Total of the academic Critical Reading Comprehension skills test, which reached (20.011) and the significance level is (0.000) which is lower than the level of significance (0.05); Thus, there is statistically significant difference at the level of significance (0.05) between responses For students of experimental group and control group in post- application to Total of the academic Critical Reading Comprehension skills test in favor of experimental group.

This result can be illustrated by the following figure (2):

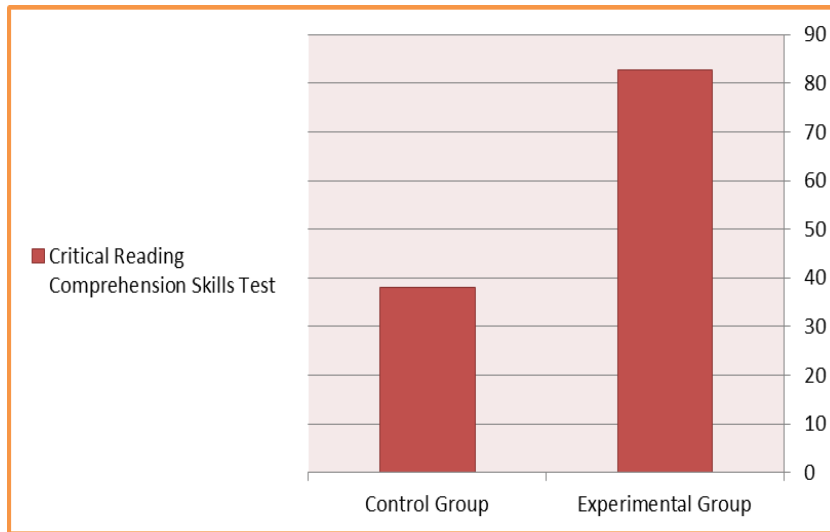


Figure (2)

a graph showing of mean scores of experimental group and control group in post-test of the academic Critical Reading Comprehension skills test

- This means accepting the first hypothesis of research, and this indicates that there is difference at the level of (0.05) between the experimental and control group in the post- test of the academic Critical Reading Comprehension skills test in favor of experimental group.

-The Second hypothesis of the research

The Second hypothesis Stated that " **There is a statistically significant difference between the mean scores of the experimental group students in the pre and post administrations of the academic critical reading comprehension skills test favoring the post administration** ".

To test the validity of this hypothesis, the (t) test was employed to two paired groups in pre and post-test of the academic Critical Reading Comprehension skills test for the experimental students group. The results are shown in the following table (9):

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Table (9) the value of “t” test and the level of its significance for the difference between the experimental group in the pre and post test of the academic Critical Reading Comprehension skills test

Variable	Test	N	Mean	Mean paired differences	Std. Deviation	Std. Deviation paired differences	df	t	Sig
Critical Reading Comprehension Skills	Pre-test	99	33.56	20.14	9.913	20.135	98	24.293	.000
	Post-test	99	82.717		7.349				

It is shown from the previous table (9):

- High of mean scores for post-test about mean score of pre-test for experimental group students in Total test of the Critical Reading Comprehension Skills, where experimental group students got an mean (33.56) in pre-test of Total test, while got an mean (82.717) in post-test of the Critical Reading Comprehension Skills Test. it's mean the mean scores in post-test of the Critical Reading Comprehension Skills Test for experimental group students was higher than the mean scores in pre-test of the Critical Reading Comprehension Skills Test.
- Mean paired differences between the mean scores of the pre-test and post-test of the Critical Reading Comprehension Skills Test was reached (20.14).
- also the calculated value of (t) for the significance of the difference between the mean scores of the pre-test and post-test of the Critical Reading Comprehension Skills Test, which reached (24.293) and the significance level is (0.000) which is lower than the level of significance (0.05); Thus, there is statistically significant difference at the level of significance (0.05) between responses of experimental students in the pre-test and post-test of Total the Critical Reading Comprehension Skills Test in favor of the post test.

This result can be illustrated by the following figure (3):

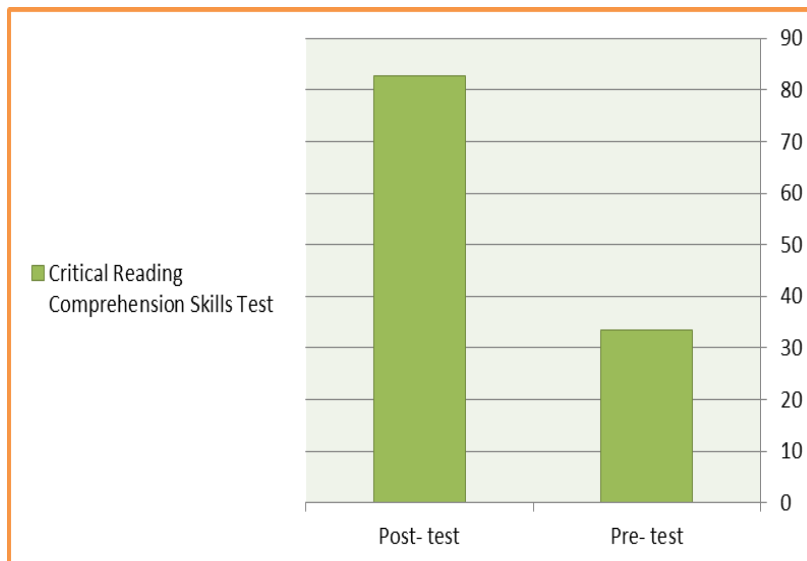


Figure (3) a graph showing of mean scores for pre and post test in the Critical Reading Comprehension Skills Test for experimental group

- **This means accepting the second hypothesis of research, and this indicates that there is difference at the level of (0.05) between the mean scores of the experimental group in the pre-test and post-test of the academic Critical Reading Comprehension skills test in favor of the post test.**

Third hypothesis of the research

The third hypothesis Stated that " **Web-based critical reading are effect in enhancing physiotherapy students' English academic texts** " .

To test the validity of this hypothesis, the effect size of the Web-based critical reading on enhancing the physiotherapy students' academic English academic texts.

The following table (10) illustrates the effect size of the Web-based critical reading on developing the academic English academic texts.

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Table (10)
value of (η^2) and the level of effect size

The Independent Variable	The Dependent Variable	implementation	t	η^2	The Effective Size	d	The Effective
Web-based critical reading	academic English academic texts	Experimental Group - Control Group	20.011	0.671	67.1%	2.859	high
		Pre test - Post test	24.293	0.596	59.6%	2.475	high

The previous table (10) shows the following:

- The value of Eta-square (η^2) for Experimental Group - Control Group in English academic texts was (0.671). This means that (67.1%) of variance in the level of A English academic texts is due to use the Web-based critical reading, The value of (d) equal (2.859) means the effect size of using the Web-based critical reading on students' English academic texts is large, because the value of d is higher than (0.8).
- The value of Eta-square (η^2) for Pre test - Post test in English academic texts was (0.596). This means that (59.6%) of variance in the level of English academic texts is due to use the Web-based critical reading, The value of (d) equal (2.475) means the effect size of using the Web-based critical reading on students' English academic texts is large, because the value of d is higher than (0.8).
- This means accepting the third hypothesis of research, and this indicates that the Web-based critical reading is effect in enhancing physiotherapy students' English academic texts.
- In order to verify the effectiveness of Teaching by using the Web-based critical reading, the modified earning ratio of Blake and its significance was applied for Developing Academic Critical Reading Comprehension Skills for Physiotherapy Students'. The results were as shown in the following table (11):

Table (11)
Blake's modified ratio and its significance for Developing Academic Critical Reading Comprehension Skills for Physiotherapy Students'

Variable	final grade	pre mean	post mean	ratio of Blake	significance
Developing Academic Critical Reading Comprehension Skills for Physiotherapy Students'	100	33.56	82.72	1.232	acceptable

It is clear from the previous table (11) that:

- Teaching by Using the Web-based critical reading effectiveness in developing Academic Critical Reading Comprehension Skills for Physiotherapy Students', as the earning rate reached (1.232), which is considered an acceptable percentage; This indicates that the use of Teaching by Using the Web-based critical reading is effective in developing the Academic Critical Reading Comprehension Skills for Physiotherapy Students' (the research sample).

5-Interpretation, Recommendations and Suggestions:

Throughout the discussion of the previous results, it has become clear that web-based critical reading is effect in fostering physiotherapy students' academic reading skills. Through these results, a number of conclusions can be made:

1. The students tend to be more proficient academic readers through using web-based critical reading
2. Web-based critical reading was effective in enhancing physiotherapy students' academic reading skills.
3. Academic learning language with their target skills can be effectively enhanced through using technology and computer assisted language learning.
4. Web-based critical reading provided the students with positive teaching and learning environment.
5. Web-based critical reading helped the students in being more active, initiative and creative.
6. Web-based critical reading connected the students with academic real-life situations of language use and thus, this made learning more realistic to them.

5.1. Recommendation:

In the light of the results and conclusions of the present study, the following recommendations are recommended:

- 1-Students enrolled in the first year, faculty of physiotherapy should be trained in an effective ESP web-based critical reading content.
- 2- ESP instructors in the faculty of the Physiotherapy should receive training in using effective web-based critical reading to improve the students 'academic reading skills.
- 3-It is recommended that curriculum designers should depend on developing academic reading skills through using technology.
- 4-During performing the program, students should be provided with a relaxing and effective environment.

5.2. Suggestion for further researches:

-Out of the study results, conclusions and recommendations, the following areas of the study may be suggested for further research:

- 1- Developing a program through using web-based critical reading for developing other skills are not dealt with in the present research and then it is needed to investigate its effect on the other communicative language skills.
- 2- Designing an effective web-based critical reading for developing students' speaking skills in the pre- university stage.
- 3- Developing ESP web-based critical reading language programs in different faculties.
- 4- Determing the long-term effect of using the web-based critical reading in effective different strategies.

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