Use of Interactive Stretch Text Content to Improve Reading Comprehension Skills among High School Students

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استخدام محتوى نص تفاعلى ممتد لتحسين مهارات فهم القراءه لدى طلاب المدارس الثانويه

مستخلص البحث باللغة العربية

هدف البحث إلى التعرف على كيفية تحسين مهارات التصور، والفكرة الرئيسية، والتفاصيل الداعمة كجزء من مهارات القراءة الاستيعابية لدى طلاب المرحلة الثانوية، وكيفية تصميم محتوى نص تفاعلي ممتد لتحسين مهارات التصور، والفكرة الرئيسية، والتفاصيل الداعمة لدى طلاب المرحلة الثانوية، وقياس فعالية النص التفاعلي الممتد في تحسين مهارات التصور، والفكرة الرئيسية، والتفاصيل الداعمة لدى طلاب المرحلة الثانوية في مصر. اقتصرت الدراسة على طلاب المرحلة الثانوية بمدرسة WE للتكنولوجيا التطبيقية بمدينة الشيخ زايد، محافظة الجيزة، مصر، وتم تنفيذها في الفصل الدراسي الثاني من العام الدراسي 2024-2025. وتوصل الباحث إلى أن استخدام البيئة التعليمية باستخدام النص التفاعلي الممتد زوّد الطالب بالمعنى والمعلومات التي يحتاجها، وجعل الطالب يستمر في القراءة، كما تحسنت مهارات التصور، والفكرة الرئيسية، والتفاصيل الداعمة لدى طلاب المرحلة الثانوية.

الكلمات المفتاحية: محتوى النص التفاعلي الممتد ؛ مهارات القراءة الاستيعابية ؛ التصور ؛ الفكرة الرئيسية ؛ التفاصيل الداعمة ؛ طلاب المرحلة الثانوية

Abstract:

The research aimed to identify how to improve the skills of visualization, the main idea, and supporting details as part of comprehension reading skills for high school students, how to design an Interactive stretch text content to improve the skills of visualization, the main idea, and supporting details for high school students, and to measure the effectiveness of the Interactive stretch text content to improve the skills of visualization, the main idea, and supporting details for high school students in Egypt .The research was limited to high school students at We School of Applied Technology, Sheikh Zayed City, Giza Governorate, Egypt and was implemented in the second semester of the academic year 2024-2025. The researcher concludes that using the educational environment using the stretch interactive text provided the student with the meaning and information he needed and made the student continue reading, and the skills of visualization, the main idea, and supporting details were improved among high school students.

Keywords: Interactive stretch text content – Comprehension Reading Skills – Visualize - Main idea - Supporting details - High school students

1. Introduction

The world is witnessing a rapid change in the use of technology in education, English has become the most widely used language globally. The student needs to be bilingual to raise human awareness of different

cultures and life problems. Thus, learning English is an important tool to communicate with all people around the world because it is the most spoken language in most countries, moreover, it is the actual language of about sixty countries and about fifty-four countries that use English as an official language. Thus, English must be taught to achieve specific language skills using real situations, through Allow students to use English in their future career.

Reading comprehension skills are an important element for the development of reading in general. Reading comprehension includes many key skills and sub-skills such as making details from the text, knowing the author's purpose, citing evidence from the text, finding key ideas and details, and finding the causes and effects of actions. Most students experience difficulties when the text is long and complex with different modified phrases and different structures (Kamal, 2020). As a result, the researcher aimed to improve reading comprehension skills using interactive technologies as stretch textual content.

Modern technologies especially Web 2.0 have provided an essential tool for teachers to facilitate learning. Among the innovative technologies Web 2.0 tools are more interactive and collaborative and are effective in English, Web 2.0 tools can facilitate knowledge building by making the learning environment more interactive and creative. For example, the use of interactive books ensures better interaction with content and provides an immersive experience for readers by stimulating their imagination. Interactive texts help students retain information in long-term memory and entertain themselves while learning (Zhang, 2021). Interactive texts can be a great solution to enhance reading comprehension skills.

Stretch text content is an interactive technique to help the reader understand the text. Enables the user to expand or collapse the content of the page according to his needs. In other words, (Landow, 2006) stated that "stretching" means increasing the amount of writing, or contracting to reduce it gives the advantage its name. This is similar to zoom in for more details. Text extension is the expansion or collapse of content by simply clicking the mouse over the word. (Stash, 2007), stretch text content can help students find synonyms for high-frequency words to

understand reading, so they can better understand the text. Moreover, students can learn a prefix added to the keyword and get its meaning using the stretch text content. The content of the stretch text can identify the main idea of the paragraph and highlight the key details to facilitate full understanding of the text (Abdelhay, 2021). Accordingly, the researcher used the content of the stretch interactive text to improve visualize, main idea and supporting details skills.

2. Research problem

Using Interactive stretch text content can be a highly effective strategy for improving reading comprehension skills among high school students. This approach combines technology-enabled interactive learning tools with traditional text content to engage students more deeply and actively in their reading processes. Interactive stretch text content allows portions of text to expand or reveal additional information when clicked or interacted with. This can include definitions of complex vocabulary, explanations or examples of difficult concepts, summaries, or detailed discussions. Therefore, the researcher took the following steps:

1. Exploratory study:

The pilot study was conducted on 20 high school students at Wei School of Applied Technology Sheikh Zayed during the academic year 2023/2024. Students were divided into 2 groups. The first group will include students who used traditional techniques to answer comprehension questions in the unit test. The second group will include students who used stretch text content to answer comprehension questions in the unit test. The results of the study proved that those who used stretch text content to solve the comprehension question achieved scores High compared to those who used traditional methods to answer comprehension questions in the test.

3. Literature Review:

The researcher reviewed the previous literature to learn about the history of the problem and how the latter researchers addressed the problem. First, (Kline, 2020) found that more than 17.5 percent of learners studied had reading difficulties. Reading difficulty is defined from a normative perspective, how well a child reads compared to their peers or their educational expectations, this is supported by Abu Abeeleh, Al-Ghazo and Al-Sobh (2021) who attributed reading comprehension problems to text complexity, anxiety, and word recognition. Main purpose from reading is to get information in the text they read, but the problem lies in how students understand the contents of the text. So the teacher must have a new strategy or ways to improve visualize, main idea and supporting details skills So that students are interested when learning English.

Through the researcher's work as a teacher of language arts, she found that her students face many difficulties when they try to answer questions improve visualize, main idea and supporting details skills

One of the main problems is that they could not recognize the meaning of high-frequency words that affect their overall understanding of the entire text. The literal texts and stories are very long, and most students could not focus on perceiving all the details woven to create events. Students get confused if the question asks questions of critical thinking regarding citing the basic details of the main idea or finding the subject of the text. Students need to find more than one synonym for high-frequency words or to see an image to understand the text while they do not stop reading to look for the meaning of the difficult word. Students need help answering some indirect questions such as finding context clues or the main idea. Finally, the researcher finds that the content of the stretch text is a suitable solution to solving comprehension problems. Therefore, the researcher is looking at how Interactive stretch text content can be used to improve reading comprehension skills among high school students. Therefore, the researcher is looking at how to design Interactive stretch text content to improve reading comprehension skills among high school students.

4. Research questions

The main question of research is:

How to use interactive stretch text content to improve visualize, main idea and supporting details skills among high school students?

Sub-questions derived from the main question are:

1. What comprehensive reading skills are needed for high school students?
2. What is the proposed design for the content of the stretch interactive text to improve visualize, main idea and supporting details skills in high school students?
3. What is the effectiveness of implementing interactive stretch text content to improve visualize, main idea and supporting details skills in high school students?

5. Research objectives

The general objectives of the research are:

1. Getting to know to improve visualize, main idea and supporting details skills for high school students.
2. Learn about designing interactive stretch text content to improve visualize, main idea and supporting details skills in high school students.
3. Measuring the effectiveness of the content of the stretch interactive text to improve visualize, main idea and supporting details skills for high school students in Egypt.

6. Importance of research

1) Stretch text content Stretch text content facilitates the teaching of reading comprehension skills by providing additional useful information

2) Students and teachers have additional opportunities to observe and interact with their students synchronously and synchronously.

3) Stretch text content develops other areas of specific reading skills and other general language skills through the use of stretch interactive text content.

7. Research scope and delimitations: -

Topic Identification: The topic was selected to use Interactive stretch text content to improve visualize main idea and supporting details skills among high school students.

Time Delimitation: The time will be the second semester of the academic year 2024-2025

Place Delimitation: The research was limited to high school students at We School of Applied Technology, Sheikh Zayed City in Giza governorate , Egypt.

Human Delimitation: Third-year students at the We School of Applied Technology.

8. Search variables: -

Independent: Interactive stretch text content.
Dependent: Visualize main idea and supporting details skills

9. Research Methodology: -

The researcher used descriptive analysis and the quasi-experimental method. Descriptive analysis is used to analyse studies related to research variables. It includes a review of the literature and studies conducted on comprehension skills and stretch text content. The quasi-experimental method of data analysis is used to compare scores for pre- and post-tests of the experimental group after the researcher uses the content of the interactive stretch text with different correlation densities.

9.1 Experimental Design of Research:

Pre-test	Experimental treatment	Post-Test

Visualize , Main idea and supporting details skills to understand English	Use interactive stretch text content with different link densities	Visualize , Main idea and supporting details skills to understand English

9.2 Research tools

1. Skills test visualize, Main idea and supporting details skills to understand English in English.
2. Apply the content of the proposed interactive stretch text.

9.3 Research procedures

1. Review the literature related to comprehension reading skills and extend the content of the text.
2. Design reading comprehension skills list and sub skills ,visualize, Main idea and supporting details, to understand English
3. Stretch text content design
4. Pre-test the group.
5. Conduct treatment for the experimental group. Controlled
6. Conduct a post-test of each group.

7. Analysis the results of pre- and post-tests.
8. Write a discussion of findings and recommendations.

10. Research hypotheses:

1- The existence of statistically significant differences between the average scores before and after the experimental group in the skills test Visualize, Main idea and supporting details skills to understand English in English in favor of the subsequent test.

11. Research terms:

1- Stretch Text content:

The content of the stretch text is that the user interacts with the system by expanding or collapsing parts to display additional information or hide irrelevant details. It gives control to the reader to determine the reading level. It's a zoom for more detail (Czarkowski, 2006). The researcher defines the content of stretch text as adding additional information to the original text that clarifies ambiguous vocabulary or helps answer critical thinking skills questions.

2- Reading comprehension skills:

Readable comprehension is the perception of a written text in order to understand its contents called comprehension, which means extracting the meaning of written material with complete comprehension (Longman Dictionary of Contemporary English). The researcher defines reading comprehension skills as a text that students understand its general meaning and can critically analyze to answer direct and indirect questions.

3- High school students

A high school student or middle school student is a school in the United States and Canada for children ages 14 or 15 to 18 as defined in the Longman Dictionary of Contemporary English. The researcher defines a high school student as students who have completed their primary and preparatory studies and are more than 12 years old.

12. Research Application Procedures:

The researcher built the proposed environment based on the use of interactive stretch text content to improve visualize, main idea and supporting details skills among high school students and because the process of choosing the educational design model must be done well to ensure the maintenance of students' interest and raise their motivations towards learning, so the researcher reviewed a set of educational design models, including "Mohamed Khamis (2005), Mohamed El-Desouky (2012), and the model Nabil Azmi (2016) The researcher chose to use the model of Mohamed El-Desouky (2012) as the main model for designing the proposed environment based on the use of interactive stretch text content to

improve reading comprehension skills among high school students as follows:

When choosing the content of the educational environment, the researcher took into account the availability of the following conditions:

- The educational content should cover the previously defined educational objectives and work to achieve them.
- The content must be scientifically correct.
- The content should be balanced in terms of depth and breadth.
- Taking into account the logical sequence and integration in the presentation of educational content.

To determine the visualize skills, main idea and supporting details skills necessary for students, the researcher prepared a list of visualize skills, main idea and supporting details skills, with the following steps:

1. Steps to prepare a reading comprehension list:

The visualize, main idea and supporting details skills necessary for third grade high school students at the WE School of Applied Technology were limited by reviewing the Arab and foreign literature, research and references in the field of educational technology in general and in the field of reading comprehension skills in particular, and then following the following steps:

1. Select menu content

After reviewing the Arab and foreign literature, research and references in the field of educational technology in general and in the field of visualize, main idea and supporting details skills in particular, which were presented in the theoretical framework of the research

1. The visualize, main idea and supporting details skills necessary for third grade high school students at WE School of Applied Technology were analysed in terms of their concept, objectives, principles, importance, learning competencies resulting from them and the theoretical foundations based on them, which were presented in the theoretical framework of the research (the second axis).

2. Using the opinions of some professors in the field of English language study, and specialists in the field of educational technology. To divide it into main skills, each main skill follows a set of sub-skills related to it and several considerations have been taken into account in building the initial list, and they are:
3. (3) basic skills initially
4. All skills are formulated in a procedural manner, so that they can be observed and measured.
5. All skills have clear and unstructured language formulation so that they are easy to understand.
6. Analyze some complex skills in simple steps for a number of sub-skills, in order to cover all aspects of the main skills identified.

c. Verify the authenticity of the list

1. The researcher referred to the prevailing standards for designing a list of visualize skills, main idea and supporting details skills , and the list was presented in its initial form to a group of experts and specialists in the fields of educational technology and English language experts, to express an opinion on the items of the list in terms of:
2. Accuracy of wording and affiliation of the sub-skill to the main skill.
3. Propose modification by deletion or addition.
4. The amendments were made, which the arbitrators considered necessary, including the following:

Table (1) Examples of some amendments from the arbitrators in the list of skills visualize, main idea and supporting details skills

M	Main skill	Sub-Skill	After modification	Modification Type
1	visualize	Remember details from text	Remember details from the text	**Acceptable**
		and create links between text and personal experience	Translate the text into graphs , tables, figures	**Modulation**

			or decimals, etc.	
2	**The main idea**	Select an object to read, make connections to previous knowledge, and preview text	Identify the main idea of the whole text.	**modulation**
		Use context guides to define meaning	Identify the main idea of a certain paragraph.	**modulation**
		Summarize, reflect on and discuss the text		**Remove**
3	**Support Details**	Distinguish between key points and details used to support them	Distinguish between key points and details used to support them	**Modulation**
		Identify the relationships between the main idea and the details	Identify details that are not related to the main ideas	**Modulation**
		Identify the main idea and supporting details	Infer details based on the information provided in the text	**Modulation**
		Draw conclusions based on the information provided in the text		**Remove**

12.1 Calculation of list stability

The researcher calculated the stability of the list consisting of (3) basic skills and (7) sub-skills by using the equation of the coefficient of

agreement and the coefficient of agreement was calculated between a group of arbitrators has extracted the coefficient of agreement = 0.987, and after obtaining a list of visualize skills, main idea and supporting details skills has been taking into account the formulation of all skills in a procedural manner So that they can be observed and measured and be linguistically clear and not synthesized.

1. Multimedia design suitable for the learning environment

Multimedia has been identified appropriate for the learning environment, including a set of audio media and stretch text to result in multimedia, which is characterized by ease and speed of transferring ideas due to its integration of more than one medium.

2. **Design of activities and learning tasks**

The educational tasks of students are defined so that the student must positively engage in teaching through:

1. Introduce the topic of the next lesson and introduce students to how to deal with stretch interactive text.
2. Presenting the problems faced by students while dealing with the available media and tools.
3. Educational activities offer complete learning experiences.
4. Students have the opportunity to give their opinions on content topics.
5. Set dates for the delivery of activities
6. Simultaneous and asynchronous technical support for students through the learning environment
7. Provide education and present the educational content of topics in a better way for students
8. Effects of motivation among students by introducing learning objectives and appropriate assessment methods
9. Diversity of activities and exercises for each skill while providing feedback to students
10. Activities and tasks based on multiple educational strategies such as individual activities and group practical presentations

3. Design teaching and learning strategies for the learning environment

In order to achieve the proposed educational goals, a plan and strategy for education were prepared as follows:

1. Strategy from simple to complex: The content has been arranged to start with the simple and end with the complex
2. Hierarchical organization strategy: where the content was divided according to the main and sub-topics
3. Strategy from all to part: by giving students a general picture of the content and then diving into the details
4. K.W.L Strategy: It is a strategy based on three main axes:

1. What do I know in advance? They are the previous gains and experiences of students
2. What do I want to learn?
3. What have you already learned? It is the calendar stage.
4. Communicative approach: - The communicative approach is based on the idea that successfully learning a language comes through the need to communicate the true meaning, classroom activities guided by the communicative approach are characterized by trying to produce meaningful and real communication at all levels, and as a result, there may be a greater focus on skills than systems, lessons are more student-centered, and there may be the use of original materials.
5. Pre-reading tasks often aim to raise the level of readers' knowledge of what they are about to read (their schematic knowledge) as this knowledge will help them understand the text, and examples of what can be based on predictions include: Author knowledge visualization title skimmed from the first paragraph A set of keywords from the text read the end and predict the beginning. Read the middle, predicting the beginning and end.
6. During bilateral and individual reading tasks: This method is especially littering to survey because the idea is to encourage students to read as quickly as possible in the race. Divide the class into pairs of students A and students B. Paste the text to read on their tablet Give student A a list of questions. Student A

and student B who find the answer in the text and share it with the class, the same strategy is repeated individually.

7. Post-reading tasks but other ideas I've used include: discussions about text summarizing, texts revise, texts use the "follow-up" speaking task related to the topic Look at the language of the text (such as assemblies).

5. Designing an educational environment (according to Mohamed El Desouky model (2012)

1. Design of interaction interfaces in the electronic environment:

The goal required of it is to help the student use the environment and access the contents in an easy, appropriate and attractive way, and it consists of:

-The main screen of the educational environment, and this screen expresses the subject of the research and is appropriate and attractive and contains all educational tools and educational content, so that it provides a set of features that support interactive education and help organize the content and facilitate access to it.

2. **The first page**: It is the introductory interface in which a quick presentation of the most important information and educational tools that the student needs appears once he enters the system, and the first page includes the following elements:

- **To-do list and upcoming work**: A timeline that shows tasks to be accomplished such as assignments, exam dates, and forum posts, helping the student manage their time efficiently.
- **Instructions:** They are special alerts for students, including reading the passage before moving to the questions section.
- **Volume control buttons**: through which it can control the listening to the clip.
- **Start button**: Used to click to start the test after reading the clip well.
- **Quick Links Button**: It makes it easy for the student to quickly access what he needs.
- **Notifications**: Displays alerts for changes in appointments, or news of interest to students.

- **Support and assistance**: Provides assistance to students in case they encounter any technical or educational problem.

3. **Question page:** When the test starts, the timer starts, and you have to finish the test before the timer ends, when you answer the question, click the Next button to go to the next question, you must answer the question to get the next question.
4. **Results page:** You get the results page after completing all the questions, where you can know the correct and incorrect questions and know the correct answers, and it also contains a note button If the time expires before answering all the questions, this page will appear taking into account that all the unanswered questions are wrong answers and at the end of the page there is a link that takes you to the next section

   - **Identify multimedia production team and individual tasks**

   The multimedia production team and tasks of each individual are determined according to his capabilities.

   - **Define production software and programming languages**

   Identify programs and programming languages, which are as follows:

- Storyline program for the production of interactive content
- MS Word program for the production of text content
- Articulate Studio for the production of interactive testing
- Programming languages HTML, PHP, CSS programming languages for the design of the educational environment.

1. **Design of assessment and evaluation tools**
   - **Cognitive test:**

The researcher is designed for cognitive testing to measure the extent to which cognitive aspects acquire visualize, main idea and supporting details skills.

Included in the curriculum that has been prepared, where the researcher reviewed previous studies that designed and identified a cognitive test, which is represented in the cognitive aspect of the following skills:

- **visualize**
- **main idea**

- **supporting details**

A specification table was prepared to balance the test**,** and the main skills of the skills were identified and included a number (2) text piece containing questions in the form of multiple choice, each piece of text was a total number (20) questions, and the researcher took into account writing instructions properly and far from prolongation until the required arrival of students clearly, namely:

1. How to answer test questions?
2. Where to put the answer to each question
3. The need to answer all questions and not to leave a question unanswered.

A key was prepared to correct the test after estimating its items by giving the question one degree for the correct answer and zero for the wrong answer, and the researcher formulated the test phrases of the type (multiple choice) and then the researcher presented them to a group of arbitrators specialized in the field of educational technology and English language, and in the field of curricula and teaching methods Appendix (1) has been proposed some amendments that the researcher took before the beginning of the application, The test was applied to the survey sample consisting of (20) students from the same research community and from outside the basic research sample on Sunday, 1/10/2024 AD to determine the coefficient of difficulty and differentiation between the members of the sample, where the coefficient of ease and difficulty was calculated in the survey study, and the researcher deleted the statements that obtain an ease coefficient of more than (90%). This was done by applying the test to the survey sample which numbered (20) students, and the calculation of time and the calculation of the coefficient of internal consistency by calculating the correlation coefficient between the degree of each question and the total score of each axis in the test cognitive achievement .The correlation coefficient between the degree of each axis and the total score of the cognitive achievement test, and it turned out that there is a statistically significant correlation between each axis and the test Cognitive achievement, which indicates the sincerity of the internal consistency of the test axes, and after confirming the sincerity of the test, the stability

coefficient was calculated and found The Cronbach alpha coefficient was (0.974) and the half-fractionation coefficient was (0.936), which indicates the stability of the cognitive achievement test.

After the completion of the preparation of the research tools, the stage of applying the educational environment began experimentally, and after ensuring its safety and suitability to work with students, the date of the start of the application was set in the academic year 2024/2025

Publication and availability of application and use: The link was published the group of students prepared by the researcher for teaching **https://classroom.google.com/c/NzA5ODkyNTY1MDgw-Classroom code: -2rsrzpj**

12.2 Basic procedures for carrying out the search experiment:

1. **Pre-measurement: The** pre-measurement of the research sample was conducted on Sunday, 5/11/2023

2. **Basic experiment:** The research experiment was carried out during the period from Sunday, 12/11/2023 to Thursday, 7/12/2023
3. **Dimensional measurement:** The cognitive test was applied on Wednesday, 13/12/2023
   After the completion of the application of the tools on the research sample, the grades were monitored in preparation for conducting statistical treatments.

13. Statistical treatments.

The Statistical Analysis of the Social Sciences (SPSS) software was used. VER 25

View and discuss research results

Presenting the results of the research through the steps of statistical analysis of the data obtained during the research to measure the impact of using interactive stretch text content to improve reading comprehension skills among high school students and the results of the

research were to answer the research questions and verify the validity of its hypotheses as follows:

Answer to research questions:

13.1 First question:

1. **What reading comprehension skills are needed for high school students?**

The first question was answered and after the researcher was briefed on previous studies and research in the field of visualizing educational environments, and the model of Mohamed El-Desouky (2012) was used as a main model to rely on in organizing the steps and implementation of the educational environment using interactive stretch text content to improve visualize, main idea and supporting details skills among high school students, in addition to the survey of arbitrators from specialists in the field of e-learning and the field of teaching English, and the list of skills was reached in its final form from (3) main skills and (7) sub-skills, and it was developed using stretch interactive text content, and this list of skills represents the base through which the application was designed, through which a cognitive achievement test was prepared for those skills.

13.2 Second question:

2. What is the proposed design of Interactive stretch text content to improve visualize, main idea and supporting details skills in high school students?

The researcher reviewed the literature that dealt with the stretch text interactive in teaching in general and in teaching visualize, main idea and supporting details skills, the researcher designed the appropriate tools to develop these skills according to Mohamed El-Desouky (2012), and the installed e-learning environment was implemented using Interactive stretch text content and was presented to a group of arbitrators and experts in the field of e-learning and in the field of teaching English to control the educational content and the arbitrators proposed a set of amendments and the researcher implemented them to reach the final form of the educational environment using interactive stretch text content.

13.3 Third question:

3.What is the effectiveness of implementing interactive stretch text content to improve visualize, main idea and supporting details skills among high school students?

This question was answered by testing the validity of the research hypotheses as follows:

Presentation of the results of the first hypothesis:

To verify the validity of the first hypothesis, which states that "The existence of statistically significant differences between the average scores before and after the experimental group in the skills test Visualize , Main idea and supporting details skills to understand English In English in favor of the subsequent test.**"**

The following is a presentation of the results of the statistical analysis of the scores of the pre- and post-achievement test of the experimental group, by calculating the arithmetic mean and standard deviation of the total scores of the post-achievement test for the cognitive aspect of skills, and the following table shows that:

Table (2)
Arithmetic averages and standard deviations for pre- and post-measurements
In the scores of the achievement test for the experimental research group

skills	Pre		Post		The difference	T value	Significance
	Mean		Std. Deviation				
Visualize	1.15	0.37	4.85	0.99	3.70	15.702	0.000
The main idea	1.85	0.67	3.25	1.12	1.40	4.802	0.000
Supporting Details	2.15	0.93	7.70	1.13	5.55	16.948	0.000

Significance level at (0.05)= 1.725

It is clear from my table (2) the high averages of the post-measurement scores in the achievement test for the experimental group that was studied using the interactive stretch text, and this indicates that the use of the proposed electronic environment using the interactive stretch text has a positive impact on the development of reading comprehension skills, where the values of (T) ranged between (4.802: 16.948) in the test These values are a statistical function at the level of (0.05), which indicates an increase in the cognitive achievement of reading comprehension skills for the experimental research sample.

Table (3)
Improvement rates and effect size between pre- and post-measurements
In the scores of the achievement test for the experimental research group

skills	Control group		Experimental Group		T value	Improvement rates	Impact size η2	
	Mean	.Std Deviation	Mean	.Std Deviation				
Visualize	1.15	0.37	4.85	0.99	15.702	52.86%	0.866	Big
The main idea	1.85	0.67	3.25	1.12	4.802	20.00%	0.378	medium
Supporting Details	2.15	0.93	7.70	1.13	16.948	79.29%	0.883	Big

Impact size 0.01 Weak 0.06 Medium 0.14 Large

It is clear from Table (3) that the improvement rates of the experimental research sample ranged between (20%: 79.29%) in the achievement test, and the high level of impact size in the results of the achievement test for the experimental group, where the values of the

ETA square ranged between (0.378: 0.883)) which indicates a high impact on increasing the cognitive attainment of reading comprehension skills for the experimental group.

The researcher also explains the results of the achievement test for reading comprehension skills among third grade high school students of the experimental group, as the use of an electronic environment using the content of the interactive stretch text led to the development of the skill (Supporting Details) came in first place with an improvement rate (79.29%), followed by the skill (Visualize) with an improvement rate of (52.86%), while the lowest improvement rate was in favour of the skill (The main idea) with an improvement rate of (20.00%), which illustrates the positive impact of using an electronic environment using the content of the interactive stretch text on reading comprehension skills.

These findings are in line with Alrashedi, (2020) which explored the impact of using stretch text techniques that resulted in significant impacts on the development of students' reading skills, stretch text techniques helped to increase students' understanding of texts better, and they also made learning more interesting and interactive, supporting improved reading comprehension among students.

Rizk, J, and Scott, D (2021) also emphasized that the adoption of technology reduces the classroom participation gap. Most of the classrooms around the world have students from different social and economic classes. The adoption of technology in teaching has tried to reduce this gap by providing students with additional content to develop skills.

These findings are in line with (2015 Shang), in investigating the effectiveness of hypertext in the development of reading skills Comparison between hypertext and traditional reading to develop reading skills in addition, these results were in line with Kang, (2014). Both emphasized the adoption of technology in reading skills. Furthermore, both studies have attempted to develop basic information and vocabulary in reading skills.

In the current research, the technique of interactive stretch text has had a positive impact on the development of students' reading skills. It

was proven in the results of the tribal study that the reading levels of students were low and most of the participants were students with low achievement, as the researcher concluded that from discussions with students during the application of the proposed program. In addition, the dimensional research results were consistent with previous studies represents clear evidence of the effectiveness of stretch text in developing English reading skills, as the current research adopted the so-called interactive stretch text using laptops or Android mobile phone systems and the current research application did not require Internet connections unlike other studies, which require the Internet to activate hyperlink or hypertext.

The student was also free to access this learning environment anywhere without the need for any additional resources such as dictionaries or additional information, and this learning environment automatically worked for the reading section when words were pressed. So there was no need to contact the teacher to ask for the correct answer, which gave the students the opportunity to continue reading.

The researcher concludes that students are keen to use the educational environment due to the availability of the element of suspense and attraction to this educational environment, in addition to that this educational environment using the interactive stretch text provided the student with the meaning and information, which he needed and made the student continue reading. These findings are consistent with the results of Kang, 2014, Shang, 2015, Zhang, 2021, Abdel Hay , 2021, Abdul Fattah, 2023, NÖrnberg (2023).

References

Abdel Hay, E. (2021). *The Effectiveness of Designing an Adaptive-Learning system Based on Stretch Text Content in Developing English Reading Skills of EFL University Students in K.S.A.*

Master Thesis. Educational Studies. National Egyptian E *An exploratory study. Computers & Education*Learning University.

Abdul Fattah, S. (2016). The Effectiveness of Using Blogs as an Independent, Learning Tool to Develop Reading Skills for University Students .*Journal of Education and Practice*, Vol.7, No.32.

Abu Abeeleh Tasneem (2021) Reading Comprehension Problems Encountered By EFL Students at Ajloun National University Department of English Language and Literature) Jordan, *International Journal of Language and Linguistics* Vol. 8, No. 1, March 2021 doi:10.30845/ijll.v8n1p2

Alrashedi, N. (2020) Adaptive learning to enhance students understanding in learning technology experience, *Technium Social Sciences Journal, Technium Science*, vol. 9(1), pages 32-42, July.

Kang, H. (2014). *Understanding online reading through the eyes of first and second language readers*: , Volume 73, 2014, Pages 1-8

Landow, George P. (2006). Hypertext 3.0: *Critical Theory and New Media in an Era of Globalization* (3rd. ed.). Baltimore: Johns Hopkins university press. p. 93-98. ISBN 978-0-8018-8257-9.

Mohammad Ibrahim Al-Desouky. (2012). *Readings in Informatics and Education. Faculty of Education.* Helwan University. Cairo.

NÖrnberg. M (2023) *Reading As An Interaction Between The Reader And The Text Conceptions And Practices* In The Pnaic Nonte Books: http://dx.doi.org/10.1590/0102-469837704-

Rizk, J, and Scott, D. (2021). *Can Digital Technology Bridge the Classroom, Engagement Gap? Findings from a Qualitative Study*

of K-8, Classrooms in 10 Ontario School Boards. Social Sciences 10: 12., https://doi.org/10.3390/socsci10010012

Shang, H. (2015). An investigation of scaffolded reading on EFL hypertext comprehension. *Australasian Journal of Educational Technology*,2015, 31(3).

Zhang, D. (2021). Vocabulary and Grammar Knowledge in Second Language Reading Comprehension: a Structural Equation Modeling Study. *The Modern Language Journal*, 96(4), 558-575. doi:10.1111/j.1540-4781.2012.01398.x