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The Role of AI Tools on The Retention of EFL College Students' Reading Comprehension

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Abstract

Nowadays, students feel free to apply various sources of obtainable online information because of their ease of access and availability. Any source of AI tools for EFL students is allowed to be used by students .These new tools help students develop their academic accomplishment and expertise. The study aims to show whether AI tools have a negative or positive impact on students' retention of reading comprehension. 80 Third- year non-English students at Al Mustansiriyah University participated in the study .They were assigned into two groups: the first is the experimental group, and the second is the control group. The experimental group was taught reading using SQ3R (survey, question, read, recite ,and review)strategy along with AI tools, while the control group was taught using SQ3R strategy and too a test without the use of AI tools .In the current study, a one way ANOVA was used. The study follows a quasi-experimental design, which is a non-randomized control group posttest design. It is hypothesized that there is no statistically significant difference in the mean score of the students' retention of reading comprehension who are taught using AI tools and those who are taught according to the traditional method. The study's results indicated that students in the experimental group achieved better outcomes than the students in the control group as shown by evaluation of their test scores .In addition ,the study revealed that combining AI tools demand not only information of technological tools but educational orientation that connects them with learning results .The study concludes that applying AI tools inside class draw a pedagogical tool that motivates students' psychological aspects to find out the most suitable answer as soon as possible .At the end of this current study, recommendations concentrate on future researches should be put forward.

Keywords: AI tools, college students', EFL, reading comprehension, retention

Introduction

As a skill, retention of reading comprehension occupies essential part in ELT, especially in understanding the written passages, textbook information, retention of vocabulary items, answering the questions, and writing literary texts. In this skill, teachers gauge how much of the textbook the students recollect later. The skill is not a sign of understanding, but developing active readings skills to the best recall what students just read and comprehend. It refers to students' capability to store, recall, and apply information taken from reading passages. The incorporation of technological tools inside class develops text understanding and strengthens the progression of students' creative reading skills (Seban, 2025, p.337).

Strong (2023, p.185) presents that retention signifies the description how much of the reader can recall ideas and concepts in the text. It focuses on the capability of students to remember, store, and recall knowledge. It demands training and active reading activities. Teachers supply chances by permitting students to use their phones to solve classroom practices and develop retention. Additionally, retention of reading comprehension requires many pedagogic steps or instructions, first, discussing the text. This step can assist students to read and comprehend the text successfully. Repeatedly, teachers notice what students retain and don't retain, then they have the chance to spend time with them for certain details and clarifications .Second, motivating the students to read the text more than once, they read and involve with many banks of words. Repeating reading will assist students retain what they have just read and comprehend. In answering selected reading text, they skim then scan the passage to gain a concept of what it is about. Later, students read the text precisely from the beginning to end. Then, students read the text whereas they take notes to record and help in retention. Third, taking notes encourage students recollect what they read. Teachers apply this step to college students to facilitate retention process. Fourth, taking a pause to write what they read. Writing notes enable students to arrange their ideas into comprehensive structures and organize textual themes. This leads to associating ideas among the structures of the text with clarified meaning as a completed unit. Fifth, jotting down slowly make more challenging for students to retain what they have read. Teacher motivates students to read attentively and divide long texts into short parts. Students read this part, take notes, and write a thought. After these practices, students go on to the next part. Then, students will arrange the key concepts of each section of the long text to develop retention of ideas. And sixth, improving a challenge in students' responses. Teachers try to make students feel confident in what they

read. At the same time, students must enjoy comprehending and discussing what they read in order that they can train retention of reading comprehension. Students orient their ideas towards improving reading comprehension practices.

Currently, the scenery of teaching regulation evolves gradually because of elevating of different technological progression. It is significant that teachers should avoid conventional pedagogical approaches by accepting new trends and adjusting modifications in learning operation (Radvensky, 2021, p.39). To attain the aims of renewing digital technological and stimulating to produce students who are active in acquiring new technological tools of learning, teachers ask them to apply new technical revolution towards AI technological equipment to improve their level of technological learning and create new competency to be an electronic learner autonomy depended on AI digital technology. This learning tool can provide students' with key answers of retention of reading test because the importance of AI tools successfully increases and supplies new comprehensive information day after day as seen recently. Thus, it is necessary to focus on modern orientations and studies on the AI tools in education to stimulate EFL students' retention of reading comprehension.

Nebieridze (2024, p.77) focuses on that AI tools play a pivotal role in revolting conventional teaching approaches. They work as a teacher role, facilitating students' electronic autonomous study through responding to their questions. These online devices can stimulate group negotiation by starting a conversation. They can create positive educated learning environment.

Pankaew (2025, p.4) indicates that retention of students' reading comprehension focuses on several intellectual regions working simultaneously to operate and comprehend the text. The occipital lobe aids in understanding vocabulary, whereas the temporal lobe operates tongue and meaning. The prefrontal cortex has a significant role in thinking, associating, and drawing conclusions from what has read. It helps in memory retention, permitting students to render prior knowledge and use it to new knowledge.

Naznin (2025, p.53) elucidates that the ability to remember information over time is known as memory retention. Depending on the type of information, it may be short-term or long-term. Because retained knowledge is stored in human memory stores, retention and memory are related. Therefore, there is no possibility of content retention in the absence of human memory functions. Both memory and the learning process are connected. Memory serves as a location for storing information and facilitates its retrieval and encoding, both of which are essential for learning. Due to previously stored

knowledge serves as a frame in which subsequently learned information can be connected. Learning is dependent on memory processes .Through engaging in learning, a variety of techniques are employed to enhance human memory and retention capacities. These depended on how knowledge was mostly encoded into memory storage and whether or not the information was organized, retrieved, and retained. The fact that many students have trouble remembering what they read is one of the biggest problems in education. Even when students perform well on reading assignments, they frequently quickly miss the key concepts and specifics. Academic performance, long-term learning outcomes, and the capacity to apply knowledge in practical settings are all adversely impacted by this poor retention. It's possible that traditional teaching approaches don't always offer enough individualized practice or feedback to improve retention and recall. Retention of reading comprehension can be enhanced with the use of artificial intelligence AI. AI-powered tools can create tests that gradually improve memory, highlight important concepts, and offer tailored reading workouts. Additionally, by monitoring students' progress and pinpointing their areas of weakness, adaptive learning systems can provide tailored help and reminders to improve retention. Students can improve their comprehension of reading materials and prolong their retention of the information by utilizing artificial intelligence AI tools like spaced repetition systems, text summarizers, and clever tutors.

The study aims to show whether AI tools have negative or positive impacts on retention of students' reading comprehension. In order to realize this aim, the researcher tries to answer the following research questions:

RQ1/: What is the nature of AI tools in EFL classes?

RQ2/: What are the methodological affairs and major findings of AI tools as a successful orientation to the future of researches?

R Q3/: How does the researcher compare the important effect of two groups on EFL students' retention of reading?

Literature Review

Significance of AI Tools in Improving Students' Achievement

Educationally, Adler (2025, p.77) explains that high achievement of students in testing considers an important reason that requires strength in retention skill affects the future of college education through using AI tools. Students experience reduced retention during examination periods. The psychological circumstances of the exam affects their content comprehension. Low comprehensible input influences their actual responses. Students attend learning lessons, but they are afraid of tests. It seems that educators have not capable of taking out the beneficial material from the

students' because many students seem not to have learned the material fully. In fact, they lack the learning skills that make them organize and sequence knowledge accurately. They lack thinking skills that enable them think critically. Therefore, students prone to learn by heart to pass the exam. In this condition, students cannot be able to retain the learned material .So many students perform poorly in badly scheduled exams, whether monthly or termly. Students do not remember what they have learnt specifically in these exams. The reason behind this fact is that comprehensible inputs were not meaningfully learnt and stocked in the mind. Another reason is that students have not been effectively used modern thinking tools that are essential for fully content retention. This is related to the fact that educators in class apply traditional methods of asking and answering questions in teaching reading comprehension texts .In reality, these methods motivate rote memorization rather than acquire new trends or skills that are vital for the consolidation of materials in learners' remembrance.

Castell (2022, p.800) illustrates that students don't prefer to read frequently. They read to attend an exam or short test. Some students prone to read course material regularly. To stimulate students to retain what they have read, short quizzes and assignments are applied to make students focus and comprehend learning contents in class. More complexity of this aspect, students have the capability to attain success in exams without finishing prescribed content material. Off course, reading solutions are provided by AI tools can draw the successful future perspective. Furthermore, stimulating students to read is not sufficient. Teachers must apply new retention reading skills and new online media to foster students' retention knowledge memory for increasing their classroom productivity. Ulaywi (2017) clarifies the bad conduct of AI in reading course as well as incomplete assignments produced by AI tool. The study focused on possible abuse and academic roguery that might use for AI capability to come across respectable tests.AI tools do not prop genuine learning, like copying correct responses with no engaging in real understanding, and relying on clarifications instead of training reading practices .This consists of submitting AI tools contents as students' own activities such as creating and processing texts. This poor or inaccurate productivity will reflect on students' progress or achievement. Therefore, these tools can be easily facilitating misuse, consisting of cheating because the capability to produce high-quality texts. This causes problems in student production, thinking, and ethical concerns.

In literature, several studies demonstrate that AI tools are concerned with the retention of EFL students' reading comprehension. The researcher found

out that her study corresponds with previous studies, such as Gloria's study (2020).She examined the effects of retention in reading comprehension skills by comparing a control group taught with read- re-read approach. The study adopted a quasi-non randomized pre-test, post-test control group design. The instrument for data collection was a reading comprehension achievement test. An ANCOVA test revealed a significant difference in the retention of students taught reading comprehension indicating that they achieved better results in this skill.

Similarly Silberglitt, Appleton, Burns, and Jimerson (2022) examined the impacts of grade retention on student reading performance. Their findings showed that retained students made less progress and lack of positive effects in reading retention compared to the randomly selected control group. In another related study, Thongsan (2023) focused on vocabulary uptake and retention from reading a graded reader. In this study, 35 students were participated in three tests: word-form recognition, meaning recognition, and translation. The results indicated that words could be learned incidentally, as the majority of the words were not acquired directly from reading practice. Words with higher frequency were more likely to be retained and more resistant to forgetting. Data indicated that the meaning of only three out of the 20 target words could be recalled two months later suggesting limited long-term retention. Findings indicated that just a little amount of new vocabulary is remembered after first reading, and that substantial amounts of reading are required to increase students' vocabulary.

While Banditvilai's study (2022) investigated the effectiveness AI tools on retention of reading comprehension. The data were collected from a questionnaire, reading tasks, and semi-structured interviews. The findings were AI tools had a negative effect on the students' retention of reading strategies. This tool didn't help the student to comprehend the text better.

Recent research conducted between 2023 and 2024 explored the impact of AI tools on retention of reading comprehension skills among EFL college students. One notable study by Syifanddin and Yuliansyah (2023) examined how artificial intelligence tools influence retention of reading in EFL classes. Their findings showed that the use of AI tools in English classes significantly decreased their students' retention skills especially for those who are less familiar with the technology. This study concluded that AI may not suitable for encouraging retention of reading comprehension for students at certain level and under particular academic circumstances (Baars, 2022, p.77).

Roles of AI tools in Education

AI tools have begun to appear and rapidly increase in importance taking a key role in education over the past two decennium. They are relatively new and widely available through electronic devices connected to the internet. To support educational operation and content, both educators and learners frequently rely on these tools (Amiruddin, 2022, p.60). For teachers, one of the essential responsibilities is integrating technology to enhance students' learning. Educators should adjust their teaching methodology to meet the requirements of both current and future educational contexts. To do so effectively, they must understand students' technological skills and preferences. This knowledge enables teachers to select the most appropriate devices and podiums, which can range from basic tools to advanced applications that stimulate linguistic skills. Moreover, educators need to align these technologies with students' existing expertise to ensure meaningful and productive learning experiences (Cloke, 2025, p.32). As for students, the application of AI tools addresses their concerns by supporting participation and stimulating cooperation among peers, which contributes to the development of learning skills. Educators integrate electronic tools with their students to enrich linguistic abilities effectively. To increase students' learning expertise, teachers must motivate them to apply recent technological devices, techniques, and tools .In this way, students in the classroom become more engaged and motivated to access information provided through AI tools (Ali,2023,p.10).Innovative technology occupies a vital position in promoting cooperative learning conditions .When students are involved actively in learning technological tools, they tend to feel more relaxed and confident in their linguistic progress .Eventually, adopting online tools in teaching and learning proves significant in ensuring dynamic and reliable retention with comprehensible outcomes(Lee,2023,p.32).Another important aspect of using AI tools in the classroom is their ability to replace outdated traditional methods that rely heavily on old teaching techniques. AI tools stimulate students to personalize their individual learning patterns and strategies. This supports the development of linguistic production in a more intelligent manner (Mohammed, 2025, p.3). Moreover, the new technology provides effective solutions to students' academic challenges. It allows teachers to identify students' strengths and areas for development. In addition, AI tools provide these students with new vocabularies, idioms, questions and answers, offering flexible learning opportunities that are easily accessible. These tools can also assist in exam preparation and assessment. Consequently, AI tools

are regarded as part of the students' technological revolution, often described as their "Golden age" (Baskara, 2023, p.17).

AI Tools for Comprehension and Retention

Pratiwi (2023, p.66) suggests that a rich banks of words is necessary for good reading texts. By developing students' vocabulary and good reading strategies, they may structure strong vocabulary basis that results vital retention as follows:

- Generating personal vocabularies: It starts by making student own bank of vocabularies. Set down modern vocabularies, the student locates in a pocket book or tablet. Observe the definition, contextual relationships, and an instance sentence. This individual dictionary will assist the students' progress their banks of words (Kadhim, 2024, p. 10).
- Using flashcards and memory strategy: Flashcards consider notable way used for learning modern words. Teacher sets down word(s) on one direction of the card. On the second direction, he writes down the definition of the word(s).He repeats them to save the words in students' memory. Teacher tries to apply such rigs or images for recalling words. These images enable students to remember readily.
- Applying modern vocabularies in daily negotiation: Applying innovative words everyday considers the successful method for recollecting and accumulating words. Teacher stimulates students to create new vocabularies through reading and discussing a text. This activity aids students recall vocabularies quickly and develop their learning skills .It is a core for increasing their retention reading comprehension (Noor, 2024, p.95).
- Active reading for better comprehension and retention: This strategy assists students to generate and keep on learning content successfully. It motivates profound comprehension of students by negotiating with the lesson content in an organized and meaningful way. Employing certain strategies enable retention reading more significant and develop remembering of main concepts.

SQ3R Strategy along with AI Tools

Pankaew (2025, p.57) argues that the application of SQ3R involves several steps such as Survey, Question, Read, Recite, and Review. Students begin to skim the passage to acquire common meaning of the reading texts. Thereafter, teacher questions them about what are their opinions about what they have read. While reading the text, they try to find answers for teacher's questions. Next reading, epitomize or sum up the key areas publicly. Teacher might ask students to write answers to test their comprehension. Lastly, they repeat what they have learnt to stimulate the lesson content. This constructed

approach motivates students to divide or split complicated contents into meaningful subdivision constituents to produce flexible learning. Additionally, this method provides students with a superb chance to take notes in their own words. This will encourage learners to engage with the material they read. According to Flynn (2025, p.58), this method "lessens the need for instructor monologues (passive learning) to cover information." Students will become active readers as a result of this method, which will also motivate them to apply their reading abilities in systematic ways. Furthermore, by storing the most crucial knowledge and resources in long-term memory to help students save time when studying for their exams. It therefore has a significant impact on their learning outcomes.

Retention and Memory

The central nervous system plays a crucial role in managing three different types of memory: sensory, short-term, and long-term memory. Each type has its unique function, but they all work together to help us process and retain information. Memory and retention go hand in hand; everything we remember is stored in our memory systems. Researchers have studied memory in great detail because they want to learn more about how it functions (Mihret, 2025, p.4). Fundamentally, memory enables us to use past experiences to acquire new knowledge. It functions as a system for keeping and accessing knowledge that has already been acquired (Gasaymeh, 2024, p.82). Declarative memory, which contains information and facts that we can consciously recall and communicate, and procedural memory, which refers to abilities and tasks that we carry out automatically, are the two types of memory that are necessary for learning. The brain needs to form new neural connections in order to retain information as best it can. Successful learning and memory depend on assimilation, which is the process of combining new information with what learners already know. They can integrate new information into our existing memory systems with the help of these brain circuits. By strengthening these connections, repetition facilitates the transfer of information to long-term memory (Lee, 2024, p.53).Also, the chunking technique is a great way to improve your memory retention. This approach includes grouping information into meaningful categories whether they are similar or different. Information is much easier to remember when it is broken up into smaller, more manageable chunks because our short-term memory can only store so much at once. Chunking allows us to store and retrieve more data (National University, 2025, p.46). Furthermore, the development of long-term memories depends on our capacity to remember what students have learnt. It becomes more embedded in our memory the

more we retrieve that information. In addition to fortifying the connections in our brains, repetition makes sure that knowledge students have acquired remains consistent and accessible over time (Ozek, 2023, p. 132).

Methodology

When applying research study, selecting the right design is one of the important decisions that require to be made. The experimental study is a research method that is specifically beneficial for studying the impacts between variables and discovering their positive and negative areas .The study provides a construct and evidenced-based scope for progressing retention of reading comprehension (Gall, 2007).

Study Design

To achieve the aim of the current research, quasi-experimental design, namely a non-randomized control group posttest design, is used. Two groups are randomly selected: the first is experimental extraditing teaching instructions by AI tool to notice the effect of this tool on the students' retention of reading comprehension. Whereas the second is the control group, which follows the dependent variable of the conventional instruction.

Population and Sample of the Study

The population of the study involves (415) undergraduate university non-English specialized Iraqi students of both female and male distributed into four colleges of education as shown in Table one

Table 1: Total Population

Colleges	Male	Female	Total		
College of Education/AlMustansiriyh University	30	50	80		
College of Basic Education /AlMustansiriyah University	40	50	90		
College of Education for Human Science/ Babel University	50	64	114		
College of Education /Diyla University	60	71	131		
Total			415		

The study sample included (80) male and female undergraduate university students at the College of Education, Al-Mustansiriyah University. They

were all third-year college students who were studying English for the whole academic year (2023- 2024). Their age ranged between 22 and 25 years old .Quasi-experimental design was used for the two groups ,which randomly chose and included(40) participants for each. SQ3R strategy was applied to teaching both groups, whereas AI tool is the treatment. This technique applied to only the experimental group to measure students' retention of reading improvement. Participants were provided with clear instructions. The experiment started on 10/10/2023 and ended on 4/5/2024. Data collection instrument was testing students to answer reading comprehension questions taken from Liz and Soars book (2019) entitled '*New Headway Plus'*, *intermediate level*.

Equalization

Variables involve age, gender, parents' level of education, and pretest are taken into consideration to equalize the two groups. By using ANOVA for age variable, the computed F-ratio is (0.621), that is lower than the tabulated F-ratio, that is (4.001) at 2 and 116 freedom degrees, and 0.05 significance level. Therefore, there is no numerically notable distinction between the two groups at the age variable as shown in Table Two.

Table 2: ANOVA Statistics of Equalization among the two groups in the age variable

Variance	Sum of squares	D.f	Mean square	F-ratio	Level of significance
Between groups	263.22	2	181.19	0.621	0.05
Within group	335.11	116	213.16		
Total	598.33	118			

By using Chi-square formulation, it is found that there is no numerically notable difference between the two groups because the computed x^2 value which is 0.134 is lower than the tabulated X 2 value which is 4.88 at 2 freedom degrees and 0.05 significance level as shown in Table Three

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Table 3: X2 Statistics of the Equalization between the two groups in the gender Variable

Groups	Gender		Total	X2 value		D.f	Level of
Experimented	Female	Male		Computed	Tabulated		significance
Observed	25	15	40	0.134	4.88	2	0.05
Expected	20	20					
Control							
Observed	22	18					
Expected	20.5	19.5					
Total	47	33	80				

Using the Chi-square formulation, it is found that there is no numerically notable variation between the two groups in the academic level of mothers' variable because the computed ^{x2} value, which is 2.32 is lower than the tabulated $^{x^2}$ value which is 7.22 at four degrees of freedom and 0.05 significance level as shown in Table Four.

Table 4: x^2 statistics of the Equalization of the two groups in the Academic level of Mother Variable

Groups	Primary ,read, illiterate and write level	Intermediate and secondary level	College and higher studies	Total	$X^{2\ value}$ Computed	X2 value Tabulated	d.f	Level of significance
Experimented							2	
Observed	14	12	14	40	2.32	7.22		0.05
Expected	13	19	8					
Control								
Observed	10	13	17	40				
Expected	15.20	17.40	7.40					
Total				80				

There is no statistically notable differences between the two groups in the academic level of fathers' variable because the computed x^2 merit which is 2.22, is lower than the tabulated x^2 merit which is 8.19 at 4 degree of freedom and 0.05 significance level as shown in Table Five.

Table 5: Statistics of the Equalization of the two groups in the academic level of father variable

Groups	Primary level	Intermediate and secondary level	college and higher studies	Total	X^2 Computed	Tabulated	d.f	Level of significance
Experimented								
Observed Expected	19 19.14	12 9.88	9 11.99	40	2.22	8.19	4	0.05
Control								
Observed Expected	17 20.71	13 11.01	10 8.25	40				

Pretest Variable

The pretest includes six questions. They are subjective and objectives. Face validity of the pretest has achieved by exposing it to jury members in the field of ELT. The agreement percentage of the suitability of the test items is 100% .ANOVA formulation for two independent samples was applied finding that the computed F-ratio is 2.81 that is lower than the tabulated F-ratio 3.95 with 2,116 freedom degrees and 0.05 significance level .Thus, there is no numerically notable distinction between the two groups in the pretest variable. This shows that the two groups are equal according to pretest variable as shown in Table Six.

Table 6: ANOVA Statistics of the equalization between groups in the pretest variable

Groups	Sum of squares	d.f	Mean square	F-ratio Computed	Tabulated	Level of significance
Between groups	20.44	2	9.19	2.81	3.95	
Within groups	435.32	116	4.31			
Total	455.76					

Study Instrument

To attain the aims of the present study, posttest is applied to measure students' retention of reading achievement. It was the instrument applied to both groups to discover results. The posttest included 8 passages. Question one contains 10 items of multiple choice questions .Question two consists of

10 true/false type items .Question three involves 10 matching items .Question four deals with 10 vocabulary items .Question five includes 10 fill in the blanks items .And question six involves 5Answer the following questions. The time required for the test is decided by counting mean time .The mean time is counted by the quickest and the tardiest student occupied time in answering the test. It showed that the time required to respond the test was 45 minutes. The test was regulated in terms of its validity and reliability.

Test Validity

To assure the validity of the test, it has been reviewed by a jury of specialists in the field of ELT and methodology, consisting of seven university professors and superintendent of English language teaching. They validate the research face validity by testing the pretest posttest exam. The six questions achieve the aims of the current study and gain 100% agreement of the total jury members.

Pilot Administration

In order to verify that test items and instructions were obvious, a pilot study was conducted. The researcher calculated the rate of time necessary to manage an instrument. Forty third- year undergraduate students from Baghdad University, College of Education for Women who were not involved in the foremost sample were selected randomly to participate in this research study on October 9, 2023. Findings of the pilot study showed that there is no fundamental suspicion concerning the given test items and instructions, and that the time assigned to attain the retention of reading comprehension test ranges from twenty five to thirty minutes. Depending on correcting the exam papers, the outcomes are arranged from high to low. The test scores are divided into two groups, un upper group including 27% of the total group attained the highest scores of the test items, and a lower group including an equal number of papers from those who attained the lowest scores. Every group includes (55) points. This is carried out to verify the degree of difficulty and discrimination power of each test item. The level of difficulty of assorted items, that measures retention of reading ranges between (0.40 - 0.90) and has a discrimination power ranges between (0.50 - 0.80).

Reliability

Gay et al. (2012, p. 144) define reliability as the degree in which a test permanently indicates whatever it is referred to assess. To calculate the reliability of the achievement posttest, Alpha - Cronbach method is used. The reliability coefficient is found out to be (0.90).So, all of the test items are dependable and appropriate.

Teaching Material for Al Tool

The teacher starts the lesson time by presenting SQ3R strategy (Survey, Question, Read, Recite, and Review) by orienting students to apply AI generated tools. Then AI tools are applied to clarify every step in plainer tongue suitable for the students' standard. The teacher asks students to listen attentively while reading a text by using the AI tools focusing on particular areas during reading. Later, they are given innovative reading text from academic textbook. By instructions, students follow the SQ3R steps applying AI features: creating questions, examining responses, summing up material. The teacher reads and upholds as necessary as possible the students. Then, they independently listen and understand a printed passage on their prescribed textbook, make a copy of reading passage on their phones and apply AI tools on their own. They use the AI tool to give them fast assistance and feedback. Then, after reading, the teacher asks them the meaning of certain words .In this step, they are allowed to use their mobiles and open any AI application to type or copy any test items given by teacher in class. While reading, they highlight unfamiliar words, answering certain questions, and filling the blanks by using AI tool. AI tool draws the way to their correct reading, create questions and answers and suggests corrections, predict answers, modifications, and refinements. Students finish answering comprehension test and apply AI tools to complete test applying AI tools to evaluate their written performance of the retention of reading passage by applying AI tools. They discuss where AI assisted correct responses. They reflect on pros and cons of applying AI in retention of reading .AI tool provides instant feedback by orderly examining students' answers, AI accurate proposals, and how students apply the devices. Next lesson, teacher asks for another passage and uses AI tool to make students ready for six comprehension questions .Thus, applying AI stimulates their retention of reading texts (Costa, 2024,p.50),see Appendix A.

Final Administration of the Posttest

Next to validity and reliability evaluations, on May 5, 2024 the experimental and control groups gain the similar administration of the posttest on retention of reading comprehension. The test is time scheduled, i.e., finished in 50 minutes. Achievement posttest questions are objective and subjective. Question one consists of (10) MCQ items. Students have to write the most suitable answer for each item. The total score of this question is 10. The second question is (10) true/ false items, each has one score. The total score is 10. The third question is (10) matching items. Each has one score. The total score is 10. The fourth question includes (10) items of vocabulary. Each has

one score. The total score is 10. The fifth question involves 10 items of filling the blanks. And, the sixth question contains (5) Answer the following type. Each has 4 scores. The total score is 20.

Table 7: Divisions of pre - posttest details

Question No.	Type	No .of items	Category	Total score
1	MCQ	10	Objective	10
2	True/False	10	Objective	10
3	Matching	10	Objective	10
4	Vocabulary	10	Objective	10
5	Fill in the blanks	10	Objective	10
6	Answer the following	5	Subjective	20
Total				70

Findings

This part illustrates students' findings of AI tools on the retention of reading comprehension. The researcher focuses on answering the following three research questions.

RQ1/ What is the Nature of AI Tools in EFL Classes?

This question focuses on the role of AI tools on the retention of students' in EFL classes. In Gloria's study (2020), literature on this study depends on read-reread approach. The study concentrates on stimulating students to read literary texts by using AI tools. The study results that their posttest scores reflect their successful achievement or progress .In addition, the study of Silberglitt, Appleton, Burns, and Jimerson (2022) addresses that AI tools deem significant and innovative ones that prone to use as a new trend of 21st century digital technology. Thongsan's study (2023) states that retention of vocabulary items occupies a vital role to EFL students. This study points out that the students retain more frequent and familiar words than rare and unfamiliar ones. On the contrary, Banditvilai's study (2022) examines the negative and ineffective applications of AI in retaining students' comprehension .AI tools consider invalid to EFL students' retention .Similarly, Syifanddin and Yaliansyah study (2023) found out that AI tools reduce students' negotiation in class since every student is busy with his own phone to solve the questions. Some of them cannot answer the text questions because they are incompetent in using technology .As a result their academic performance is low.

RQ2/ What Are The Methodological Issues And Major Findings of AI Tools As A Significant Innovative Trend In The Future of Researches?

To answer this research question, the notion of applying AI tools utilizes by the researcher to illustrate methodological affairs in this research study .Many of the literary studies do not indicate any methodological shortcoming, for instance, Gloria (2020), Silberglitt, Appleton, Burns, and Jimerson (2022), and Thongsan (2023) suggest that AI tools are significant and advantageous to the retention of EFL students reading comprehension. Whereas, Banditvilai (2022),and Syifanddin and Yuliansyah (2023) elucidate that according to students' scores on the posttest, AI tools minimized retention of EFL students reading comprehension. Thus students' academic performance is low.

Major Findings

This part transacts with the dissection of outcomes gained from the students' answers of the posttest. A distinction is directed towards the aim of research questions to apply rigid rationalization that confirms the hypothesis declared at the starting of the current study.

Results and Discussion

Results Related To Retention of Reading Comprehension Posttest

Numerical treatment of the results of the two groups of the research study has indicated that the mean score of the experimental group is 41:33, whereas 26. 56 for the control group. 5.31, and 7.23 are respective standard deviations for the two groups as shown in Table Eight.

Table 8: Mean scores and standard deviations of the two groups on the retention of reading posttest

Group	Sample size	Mean	Standard Derivation
Experimental group	40	41.33	5.31
Control group	40	26.56	7.23
Total	80	87.89	12.54

To find out the value of numerical variation between the two groups, analysis of variance (ANOVA) is applied as shown in Table Nine.

Table 9: ANOVA results of the two groups on retention of reading posttest

Source of variance	Sum of squares	Degree of freedom	Mean square	F. ratio computed	Level of significance
Between groups	5132.11	2	20.11		0.05
Within group	2111.32	116	27.13	99.25	
Total	7243.43	118			

Table Nine indicates that the computed F-ratio that is 99.25 is greater than the tabulated one that is 3.07 at 2,116 freedom degrees and 0.05 significance level. This suggests that there is a numerically notable distinction between the two groups on retention of reading posttest.

RQ3/ How Does The Researcher Compare The Important Effect of Two Groups on EFL Students' Retention of Reading?

The third research question is to distinguish the source of variance between the two groups in the retention of students reading comprehension, thus Scheffe test is applied as shown in Table Ten.

Table 10: Scheffe merits for the comparison between the two groups on retention of reading posttest

Group	Mean Difference	Critical Scheffe
Experimental control	13.12	4.22

The computed Scheffe value for the variance between experimental and control groups is 13.12 which is upper than the critical Scheffe merit which is 4.22 at 0.05 significance level. This shown that there is a numerically notable variance for the benefit of the experiment group which is taught by AI tools. This finding shows that there is a statistical difference between the experimental group and the control group for the benefit of the experiment one. Thus educators who are asking their students to apply Al tools to solve comprehension questions gain positive results. From the study results scrutinized formerly, the current study examines the role of Al tools on the retention of EFL college students in reading comprehension. With respect to the technological role of AI tools, it is discovered that technological devices gifted a vital role to EFL college students on the retention of reading comprehension at AlMustansiriyah University. Results of the current study is in line with the results achieved by Gloria (2020), Silberglitt et al. (2022) , and Thongsan (2023) who clarified that educators claim students to use AI

tools to measure their retention on reading comprehension questions. On the country, the study of Banditvilai (2022), and Syifanddin and Yuliansyah (2023) has different results .In this study, the students follow teaching instructions offered by teacher as accurately as possible. In addition, the study examines the results applying numerical computation value of ANOVA. It indicates that the null hypothesis that points out that there is no numerically notable distinction between reading mean score of the students who are taught using AI tools and that of the students who are taught according to the traditional method is rejected. In accordance with the results, it demonstrates that the role of AI tools occupies a good effect on the retention of EFL college students' in reading comprehension. Using AI tools help students to read, comprehend and solve literary reading questions easily and speedily.The composite contrasts are applied between groups to discover the numerical variation. To compare between the two groups, the highest mean score is for the experimental group which is 41.33 whereas it is 26.56 for the control group. The mean difference between experimental and control group is 14.22. The critical Scheffe value is 3.44 whereas the mean difference is 14.22 that is upper than the critical Scheffe value. Therefore, there is a numerically significant variation for the benefit of the experimental group which is taught by the AI tool, as shown in Table Eleven

Table 11: Composite contrasts between groups by Scheffe test

Groups	Mean	Mean difference	Scheffer critical value
Experimental	41.33	14.22	3.44
Control	26.56		

The above table indicates that participants in the experimental group are numerically attained the highest refinement and progression in reading retention test by using AI tool. There is a numerical difference between the two groups in the mean scores which inverted grade of dependability in variation of results. Therefore, applying Al tool has the highest effect on the experimental group retention of reading among non-English specialized Iraqi university students.

Discussion of Results

The outcomes attained from students' scores of the posttest reveal that AI tools influence the retention of EFL college students' specifically in reading comprehension questions. After analyzing the results of current study, common beneficial trends and new literary studies examine the key role of AI tools to EFL college students inside class. AI tools have great influences the

teaching classroom skills as reading comprehension. These receptive skills occupy a beneficial instrument to foster students' competencies to create autonomous readers. Moreover, teaching skills stimulate not only pedagogical but also technological learning as illustrated in Silberglitt, Appleton, Burns, and Jimerson study (2022). The current study locates the role of AI tools and their effect on comprehending literary texts as a modern and creative learning technology (Rad, 2025, p.77).

Future study will explore how generated AI devices assists learners retain complicated concepts more successfully.

Conclusion

Based on the results, the present study infers that students of the experimental group achieve high scores in retention of reading test by applying AI tools. This conclusion draws that this technique considers an independent and progressive in retention of reading by AI tools. Another conclusion is that using Al tools can save time and effort to experimental group students to answer the test items and questions quickly and easily. Moreover, EFL students require to comprehend the most considerably used vocabularies well. To sum up, this study proved that AI tool has a positive and successful effect on answering reading questions, specifically if the student is proficient in applying these instruments (Baskara, 2023, p.17).

Another conclusion is that incorporating spaced repetition and self-quizzes could aid knowledge consistent in brain for more time. Also applying AI tools for stable feedback, vocabulary building, and practical questions encourage retention of comprehension.

Recommendations

1-To attain autonomous reading experiences, educators should incorporate AI-based platforms

2- To enhance retention, reading programs must have interactive, visual, and textual elements (dual coding)

3-EFLstudents should gain training in metacognitive strategies backed by AI feedback, such as summarizing and self-questioning

4- Measuring the long-term effects of AI on reading memory and comprehension should be the main goal of future research.

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Appendix A
Typical Lesson Plan for Experimental Group/ *Headway Intermediate Level*
Researcher: Raghad Khalaf Date: Oct .10, 2023
Topic: The painter and the writer Third year, Lesson.3 Unit 3, p.26-27
-The teacher (researcher) reads the passage, then asks the students to read.
-The teacher asks about the meaning of certain words such as: blown into, lapis, thoroughly, spoiled, lifelike, cubist, records, bombing, accidently, spilled, and so on.
-Students are allowed to use their mobiles and open any AI application or tool to answer the meaning of words (such as Google Translate).
-After completing the reading of this passage and reaching to discussing the (8) reading comprehension questions on page 27.

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دور ادوات الذكاء الاصطناعي في الاحتفاظ بالقراءة الاستيعابية لطلبة الجامعة دارسي اللغة الانكليزية لغة اجنبية

مستخلص البحث:
في الوقت الحاضر، يشعر الطلاب بالحرية في تطبيق مصادر مختلفة من المعلومات التي يمكن الحصول عليها عبر الإنترنت بسبب سهولة الوصول إليها وتوافرها. يسمح للطلاب باستخدام أي مصادر لأدوات الذكاء الاصطناعي لطلاب اللغة الإنجليزية لغة ثانية. تساعد هذه الأدوات الحديثة الطلاب على تطوير إنجازاتهم وخبراتهم الأكاديمية. تهدف الدراسة إلى إظهار ما إذا كانت أدوات الذكاء الاصطناعي لها تأثير سلبي أو إيجابي على احتفاظ الطلاب بالقراءة الاستيعابية . شارك 80 طالبا في السنة الثالثة من اقسام غير اللغة الإنجليزية في الجامعة المستنصرية في الدراسة. تم تقسيمهم إلى مجموعتين: الأولى هي المجموعة التجريبية، والثانية هي المجموعة الضابطة. تم تدريس المجموعة التجريبية القراءة باستخدام استراتيجية SQ3R جنبا إلى جنب باستخدام أدوات الذكاء الاصطناعي، في حين تم تدريس المجموعة الضابطة باستخدام استراتيجية SQ3R واختبار أيضا بدون استخدام أدوات الذكاء الاصطناعي. في الدراسة الحالية، تم استخدام تحليل التباين الاحادي. تتبع الدراسة تصميما شبه تجريبيا، تصميم شبه تجريبي ذو الاختبار البعدي والمجموعة الضابطة الواحدة. تم وضع الفرضية التالية: أنه لا يوجد فرق كبير ذات دلالة إحصائية في متوسط درجة احتفاظ الطلاب بالقراءة الاستيعابية الذين تم تدريسهم باستخدام أدوات الذكاء الاصطناعي وأولئك الذين تم تدريسهم وفقا للطريقة التقليدية. أشارت نتائج الدراسة إلى أن الطلاب في المجموعة التجريبية حققوا نتائج أفضل من الطلاب في المجموعة الضابطة كما هو موضح من خلال تقييم درجات الاختبار الخاصة بهم. بالإضافة إلى ذلك، كشفت الدراسة أن تطبيق أدوات الذكاء الاصطناعي لا يتطلب معلومات عن الأدوات التكنولوجية فحسب، بل يتطلب أيضا التوجيه التعليمي الذي يربطها بنتائج التعلم. استنتجت الدراسة إلى أن تطبيق أدوات الذكاء الاصطناعي داخل الفصل الدراسي يعتبر وسيلة تربوية ناجحة لتحفيز الجوانب النفسية للطلاب لايجاد الإجابات الصحيحة في أقرب وقت ممكن. واعتمادا على نتائج الدراسة الحالية، تم وضع التوصيات التي تركز على الأبحاث المستقبلية لاثراء مجالات البحث الحالي.

الكلمات المفتاحية: ادوات الذكاء الاصطناعي ،طلاب الجامعة،اللغة الانكليزية لغة اجنبية ،الاستيعاب القرائي،الاحتفاظ