

The Impact of Association Techniques in Enhancing Reading Skills of Iraqi EFL Fourth Preparatory School Learners

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Abstract

This study examines the effect of association techniques on enhancing the English reading skills on students' academic performance using an experimental design. The study was conducted with a total of 82 students which applies a pre-test/post-test model to measure changes in reading proficiency. The students were given a reading skills test before and after a two-month instructional intervention focused on enhancing reading strategies such as skimming, scanning, and inferencing. The data were analyzed using paired sample t-tests to assess the statistical significance of the improvement. Results showed a notable increase in students' reading skills scores after integrating association techniques with the educational material, indicating the effectiveness of targeted reading instruction. The findings highlight the value of structured reading programs in

improving language learning outcomes. It is recommended that educators adopt these techniques in other educational settings to support students with low reading proficiency.

Keywords: association techniques, reading skills

تأثير تقنيات الارتباط في تعزيز مهارات القراءة لدى متعلمي اللغة الإنجليزية لغة
أجنبية في الصف الرابع الإعدادي العراقي

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المستخلص

تبحث هذه الدراسة في تأثير استخدام تقنيات الربط على تعزيز مهارات القراءة باللغة الإنجليزية على الأداء الأكاديمي للطلاب باستخدام تصميم تجريبي. تم إجراء الدراسة على اجمالي 82 طالبًا، وقد طبقت الباحثتان نموذج اختبار (قبلي- بعدي) ما بعد لقياس التغيرات في إتقان القراءة. خضع المتعلمون لاختبار مهارات القراءة قبل وبعد تدخل تعليمي لمدة شهرين إذ ركز على تحسين استراتيجيات القراءة مثل القراءة السريعة والمسح والاستنتاج. وتم تحليل البيانات باستخدام اختبارات t للعينات المزدوجة لتقييم الدلالة الإحصائية للتحسن. وقد أظهرت النتائج زيادة ملحوظة في درجات مهارات القراءة لدى الطلاب بعد دمج تقنيات الربط مع المادة التعليمية، مما يشير إلى فعالية تعليم القراءة المستهدف. إذ تسلط النتائج الضوء على قيمة برامج القراءة المنظمة في تحسين نتائج تعلم اللغة. وتوصي الباحثتان بأن يستخدم المعلمون هذه التقنيات في بيئات تعليمية أخرى لدعم الطلاب ذوي إتقان القراءة المنخفض.

الكلمات المفتاحية: تقنيات الارتباط، مهارات القراءة

1. Introduction

1.1 The problem of the Study and its Significance

Despite the widespread acknowledgment of modern teaching methods in language education, association techniques remain underutilized in Iraqi EFL classrooms. Traditional instruction in these settings often emphasizes rote memorization, grammar drills, and surface-level vocabulary learning, rather than encouraging deeper cognitive engagement. This reliance on outdated methods limits students' ability to develop critical reading comprehension skills and hampers their capacity to interact meaningfully with English texts (Nation, 2001). As a result, many Iraqi fourth-grade preparatory students struggle to apply their vocabulary and grammar knowledge in real reading situations, leading to slower reading speeds, reduced comprehension, and lower academic outcomes.

This is particularly concerning given the increasing role of English in global academic and professional domains. Iraqi students at the fourth-grade preparatory level study English through an organized curriculum that aims to develop vocabulary, grammar, listening, speaking, reading, and writing skills. To enhance comprehension and retention, this curriculum integrates interactive games, group discussions, and multimedia presentations. It also includes cultural components to help students grasp the global importance of English. However, the limited use of associative learning strategies undermines the effectiveness of these efforts.

Association techniques, such as semantic encoding, visualization, and mnemonic devices, are proven tools for enhancing language retention and understanding. They allow learners to connect new vocabulary with prior knowledge, making the learning process more meaningful (Clark & Paivio, 1991; Atkinson & Raugh, 1975). Specifically, for reading development, these techniques support word recognition, improve reading subskills, and help learners retain contextual meaning without constant decoding (Baddeley, 2000). Without such strategies, students face significant difficulties in comprehension, engagement, and knowledge transfer.

Reading comprehension challenges among EFL learners have been widely documented. Westwood (2008) identifies eight major obstacles, including limited vocabulary, weak fluency, unfamiliar content, poor strategy use, and cognitive processing issues. These problems are particularly evident when association techniques are absent from instruction. Consequently, Iraqi students are at risk of falling behind in reading proficiency, which can negatively affect their academic progression and limit future career opportunities in an English-driven world.

1.2 Aims

This study aims to:

1. Assess the impact of using the association techniques on developing Iraqi EFL 4th Preparatory School students' reading skills.

1.3 Hypotheses

The aim of the study is supposed to be achieved through verifying the following hypotheses:

1. There is no statistically significant difference between the results of the experimental group, which is taught by association techniques, and the control group, which is taught by the traditional method, in the post-test.
2. There is no statistically significant difference between the mean scores of the experimental group in pre- and post-tests.

1.4 Limits

This study is limited to:

1. The use of association techniques in enhancing Iraqi EFL 4th. Preparatory School Learners ' Reading Skill.
2. Fourth preparatory school learners in Diyala General Directorate of Education
3. The Academic year 2024-2025.

1.5 Value

The value of the study is

1. The study explores novel teaching strategies for Iraqi EFL learners, with the potential to improve reading skills.
2. The research seeks to improve reading skills for EFL learners, promoting academic performance and self-learning.

3. The findings add value and new teaching approaches by providing evidence-based if these strategies can improve student involvement and interaction, or not.

4. The study's findings on the usefulness of association methods can guide curriculum development and teacher training, including them in instructional materials and professional development efforts.

1.6 Definition of the Basic Terms

1.6.1 Association technique

According to Woolfolk (2010), association techniques are a collection of strategies that learners use to connect different concepts of words or reactions. these methods are frequently employed in learning and memory studies to assess how associations are created and remembered.

1.6.2 Reading Skills

Reading abilities, as mentioned by Anderson et al. (1985), are the mental operations that allow people to decode written symbols, comprehend text, and extract meaning through engagement with the content. Decoding, fluency, vocabulary, and reading comprehension are all involved in these abilities.

2. Theoretical Framework

2.1 Association Techniques

The Association Method was developed by Mildred McGinnis (1963) to help children with communication difficulties learn reading, writing, and speaking simultaneously through a deliberate, step-by-step process integrating attention, retention, and recall. Memory development plays a critical role in this learning process (Schunk, 2020).

Association techniques are considered effective strategies that contribute to enhancing productivity and personal growth by linking new information to prior knowledge. This connection facilitates learners' understanding, recall, and application of concepts in various contexts. Additionally, such techniques stimulate creative thinking and support the development of practical solutions to everyday problems, thereby promoting the improvement of study habits, overall productivity, and personal development (Schunk, 2020).

Association strategies are methods for establishing mental links between various concepts, events, or experiences. These approaches, which belong to the discipline of cognitive psychology, are based on the notion that our brains automatically connect concepts. For example, when someone thinks of "ocean," they may also think of "waves," "beach," or "sand." This natural relationship might be leveraged to boost memory and accelerate the learning process (Santoso, 2021).

Cognitive psychology serves as the foundation for the effectiveness of association techniques. When we encounter new knowledge, our brains connect it to previously learnt material, allowing us to remember it later. This process includes memory encoding, storage, and retrieval. When we meet new information, our brains instinctively hunt for associations and relate to relevant memories. People who understand this cognitive function will be better able to apply these tactics (Hedge et al. 2018).

The following are various sorts of association strategies, each of which provides a unique mechanism for making mental connections. One of the most effective tactics is presented by Anderson et al. (2024):

1. **Visual Imagery:** This strategy includes establishing powerful mental images of the subject to be recalled. For example, while learning a new word in a foreign language, students may come across a picture that depicts the term's meaning. For example, the image of a bright red apple may be associated with the word "apple," reinforcing the association between the word and its description.

2. **Mnemonic Devices:** Associating knowledge with memorable words, phrases, or acronyms improves memory retention. The shorthand ROYGBIV (Red, Orange, Yellow, Green, Blue, Indigo, Violet) is a frequent example for recalling the rainbow's colours. Making links between the content to be remembered and well-known concepts is the core of various mnemonic approaches.

3. **Contextual cues:** Placing knowledge in a certain place or context might aid memory retention. For example, returning to

the exact location where one studied may evoke memories connected with that area.

2.2 The Role of Association Techniques in Enhancing Reading Skills

Association methods are critical tools for enhancing reading skills, particularly in vocabulary acquisition, reading comprehension, and memory and recall. These tactics help students learn, retain, and apply what they read by connecting new and current knowledge. The following discussion focuses on how association methods assist these fundamental features of reading. Association methods assist kids learn new words by connecting unfamiliar words to concepts they already comprehend. Contextual association, which uses the surrounding text to infer the meanings of new words, is an effective method. Learners may rely on contextual signals, such as sentence structure or related language, to help them understand unfamiliar terminology.

According to McKeown et al. (1985), linking concepts to explanations helps pupils gradually improve their vocabulary. Association methods aid students' comprehension of texts by linking new information to prior knowledge. Students with a basic understanding of planets and gravity may benefit from connecting new concepts to what they already know when learning about space exploration. According to Al Roomy (2022), this technique enhances readers' comprehension of the book and simplifies complicated concepts.

Associative techniques help students understand and make sense of texts by making connections between new information and what they already know. For instance, students who already know a lot about planets and gravity might understand a subject like space travel better if they can find links between new ideas and things they already know. According to Al Roomy (2022), this process helps readers understand the book better and make sense of difficult ideas.

Effective reading requires both comprehension and the ability to retain information over time. Associative learning strategies play a key role in this process by creating strong mental links

between new material and previously acquired knowledge. Techniques such as repetition help reinforce these connections, making information easier to recall. Furthermore, spaced retrieval—reviewing material at intervals—has been shown to significantly improve long-term retention. Visualization also enhances memory by allowing learners to attach new concepts to vivid mental images. These strategies collectively support deeper learning and more effective recall (Woolfolk, 2019). Feng et al. (2023) found that EFL learners who used mind-mapping techniques significantly outperformed control groups in vocabulary recall, retention, motivation, and willingness to communicate."

Another effective strategy for enhancing recall and retention is mind mapping, which enables learners to visually organize and connect related concepts. By grouping key ideas from a text in a structured, graphical format, learners can strengthen cognitive associations, making it easier to retrieve information later. Likewise, the technique of chunking, breaking down information into smaller, more manageable units, facilitates processing and enhances memory retention by reducing cognitive load (Ormrod, 2020).

2.3 Importance of Reading Skills

Reading not only makes learning possible, but it also helps people grow in a variety of ways. It guides their actions and interpersonal interactions, develops their inner world, broadens their viewpoint, allows them to view their surroundings objectively, raises their degree of appreciation, helps them develop the habit of thinking, creating, and assessing, and improves their language skills. Since reading is more crucial than any other ability, particularly in academic contexts, it is the one that students learning English as a second language place the most value on. In this view, it makes sense for students to be aware of some of the elements that affect their reading processes and to take charge of them. For instance, increasing students' vocabulary and grammar knowledge, emphasizing their reading comprehension, and using more thorough reading strategies are

all ways to help them become proficient in the target language overall (Celik, 2019).

According to Rumelhart (2022), reading is composed of two parts: reading instruction and the capacity to identify words and understand what is read. Reading comprehension is essential, so once understanding occurs, students expand on what they already know. During the reading process, students often come across new terms. Exposure to unfamiliar words frequently results in familiarity.

Peregoy and Boyle (2000) remark that "reading comprehension is enhanced by an understanding of the text types". Repetition is essential, and learning will be improved if the new words are encountered in many contexts. When students encounter new terms in the course materials, they will recognize them and gain comprehension that leads to vocabulary growth.

Similarly, Day and Bamford (1998) hypothesized that ER plays a crucial role in language component acquisition. New terms are efficiently taught by lengthy reading, and students will encounter new words throughout the course. According to Flanagan and Custance (2018), learners who read may easily enhance their vocabulary growth. Extensive reading is valuable because it allows students to meet terms they have never heard before. According to Grabe (1991), "Longer focused duration of silent reading introduces more vocabulary and structural elements, facilitates the development of automaticity, boosts background knowledge, improves comprehension, and encourages pupils.

2.4 The Significance of Reading in Academic Achievement

Reading is a fundamental activity that allows individuals to acquire information and interpret messages. Beyond gaining knowledge, reading enhances comprehension, which contributes to future learning and cognitive development. It fosters critical thinking, expands vocabulary, soothes the mind, and stimulates intellectual engagement, positively affecting both mental and emotional well-being. According to Kendeou et al (2014), reading comprehension is a cognitive process that involves constructing meaning through the integration of prior

knowledge, word decoding, and inference-making. In contrast, writing relies more on the visual representation of language. Thus, reading serves not only as a means of information intake but also as a vital exercise in mental processing and intellectual growth.

Reading is important for learning and understanding. It helps people learn and grow mentally by making things easier to understand and learn. Reading is good for your mental and emotional health because it helps you think critically, learn new words, stay calm, and become smarter. According to Kendeou et al. (2014), understanding what you read takes a lot of different mental processes, such as decoding, semantic integration, and making inferences. Writing needs both visual and motor skills that are related to language production. Reading is a way to learn new things and a way to work your brain, which makes you smarter.

Academic performance is the result of intelligence. Academic success, according to Ayesha and Khursid (2013), is a product of students' intellect and study skills. Numerous factors can affect pupils' performance, according to the National Center for Education (2009). These include the kids' backgrounds, the school's organizational features, the instructors' professional traits, the school's perceived atmosphere, and the students' knowledge of reading and math. knowledge and proficiency in studying (Ayesha & Khursid, 2013).

Reading is undeniably a key factor in academic success, particularly in higher education and specialized fields of study. In an academic context, reading is a dominant instructional approach by which learners gain knowledge, interact with academic writing, and display knowledge. For EFL learners, reading competence is crucial to understanding course content and to dealing with academic reading, writing, research, and problem solving. Education heavily depends on a person's capacity to read and understand literary materials, including scholarly ones. Students are required to read books, research papers, lecturer notes, as well as any other material to grasp the concept being taught (Kahu & Nelson, 2018).

Students who struggle with reading will find it extremely difficult to comprehend key ideas that are essential for tests and homework. As a result, reading involves more than just taking in information from the book; it also involves challenging its ideas. Integrating and evaluating the material that is often performed in academic reading is part of understanding. Students who read critically can formulate and address arguments, identify presumptions, and assess the evidence that is offered. Since it facilitates discussion, paper writing, and even argument, this way of thinking is crucial for kids to succeed academically and earn high marks (Greenleaf et al., 2023).

3. Methodology and Procedures

3.1 Population and Sample of the Study

The population in the current study includes Diyala school, which is located in the center Baqubah District. During the academic year 2024-2025. A sample refers to a small amount of something that gives information about the thing it is taken from. In the current study, the sample has been chosen randomly from the 4th-year preparatory school. 40 Forty students have been chosen to be the experimental group, and 42 students have been chosen to be the control group. The researcher excluded the repeaters and older students, the largest age group. So, the total number of the main sample is 82 students.

3.2 Instrument

An instrument is a tool used by researchers to collect, measure, and analyze data related to study variables (Creswell, 2012). In this study, a quasi-experimental pre-test/post-test design was employed to investigate the effect of association techniques on EFL students' reading skills, involving 82 participants from two intact classes at a preparatory school in Diyala. One group (n=40) received the treatment, while the other (n=42) served as the control group, following standard instructions. Two-month instructional program was developed based on strategies such as visual imagery and mnemonic devices, including reading tasks and comprehension items, totaling 20 points. Scores were analyzed using paired-sample t-tests and independent-sample t-tests, with statistical significance set at $p < .05$. This approach

ensured both external relevance and internal control while allowing an investigation of the causal relationship between association strategies and reading performance.

1.2 Equivalence of the Two Groups

To ensure equivalence between the experimental and control groups, critical variables such as their 2024–2025 academic year GPA and pre-test scores were controlled. Statistical analysis was conducted using the chi-square test for categorical variables and the independent-samples t-test for continuous measures, both evaluated at a significance level of $\alpha = 0.05$ (Turney, 2023).

1.2.1 Students' Scores in English Language Academic Year (2024-2025)

In reviewing students' achievement in English during the previous academic year (2023-2024), the mean value of the experimental group is 73.78, and that of the control group is 72.31, with standard deviations of 15.248 and 13.802, respectively. The computed t-value is (0.458), which is less than the tabulated t-value of (1.99) with (80) degrees of freedom at the 0.05 level of significance. Therefore, there is no statistically significant difference between the students' scores of the control group and the experimental group, indicating that both groups started from a comparable level before any treatment or intervention was applied, as shown in tables 1 and 2.

Table 1:
Students' Scores in English Language Academic Year (2024-2025)

Group Statistics							
Groups	No.	mean	SD	T-Value		DF	Level of Significance
EG.	40	73.78	13.802	Computed	Tabulated		
CG	42	72.31	15.248	0.458	1.99	80	0.05

1.2.2 Students' Scores in the Pretest

The pretest has been conducted, and both the EG and CG submitted the same pretest. The mean scores of the pretest for the EG are 8.30, while the mean scores for the CG are 7.88, with standard deviations of 2.672 and 2.109, respectively, for the two

groups. The calculated t-value is 0.788, lower than the tabulated value of 1.99 at the DF of 80, and the significance level is 0.05. This result indicates that there is no statistically significant difference between the two groups in the pretest, as shown in table 2

**Table (2):
 Final result of Students' Scores in the Pre-test**

Group Statistics							
Groups	No. of students	Mean	SD	T-Value		DF	Level of Significance
EG.	40	8.30	2.672	Calculated	Tabulated	80	0.05
CG.	42	7.88	2.109	0.788	1.99		

4. Results and Discussion

4.1 Results Related to the First Hypothesis

To analyze the data related to the first hypothesis, there is no statistically significant difference at a significance level of (0.05) between the results of the experimental group, taught using association techniques, and the control group, taught using the traditional method, in the post-test. The independent samples t-test was used for this analysis. The first aim of the study, which is to determine if there is a significant difference between the achievement of the experimental group and the control group in the post-test, was achieved. The researcher administered the reading skills post-test to both groups after the experiment, corrected the students' answers, and organized the scores in a designated table. To determine the difference between the two groups, an independent samples t-test was employed, and the results are presented in table (3).

Table (3)
Results of the Independent Samples t-test for the
Experimental and Control Groups on the Post-Test of
Reading Skills.

Group Statistics							
Group	N.	Mean	S.D.	T-Value		DF	Level of Sig.
				Calculated	Tabulated		
Experim ental	40	13.725	1.739	8.688	1.99	80	0.05
Control	42	9.809	2.298				

According to the results in Table (6), the mean score of the experimental group is (13.725) with a standard deviation of (1.739), while the mean score of the control group is (9.809) with a standard deviation of (2.298). The calculated t-value of 8.688 is higher than the tabulated t-value of 1.99 with a degree of freedom of 80 at a significance level of (0.05). The calculated t-value indicates that there are statistically significant differences between the mean scores of the experimental group, taught using association techniques, and the control group, taught by the traditional method. Consequently, the first hypothesis is rejected, and the alternative hypothesis, which suggests a statistically significant difference in the reading abilities in favor of the experimental group, is approved. The learners in the experimental group benefited from this difference.

4.2 Results Related to the Second Hypothesis

To analyze the data related to the second hypothesis, which posits that there is no statistically significant difference at a significance level of (0.05) between the mean score of the experimental group in the pre-post achievement test, the paired samples t-test statistics have been used. This analysis aims to determine the impact of association techniques on Iraqi EFL preparatory students' performance in the pre- and post-achievement tests. The researcher collected the pre-test and

post-test results of the experimental group in reading skills. To determine the difference between the two tests, a paired samples t-test was employed, and the results are presented in Table (4).

Table (4)
Students' Mean Scores, Standard Deviation, and T-Value of the Students' Performance in the Pre- and Post-Achievement Test

Group Statistics							
	N.	Mean	S.D.	T-Value		DF	Level of Sig.
				Calculated	Tabulated		
Posttest	40	13.725	1.739	15.473	2.021	39	0.05
Pretest	42	8.300	2.672				

According to the results in Table 4, the mean score of the experimental group in the pretest is 8.300 with a standard deviation of 2.672, while the mean score in the posttest is 13.725 with a standard deviation of 1.725. The calculated t-value of 15.473 is higher than the tabulated t-value of 2.021 with a degree of freedom of 39 at a significance level of 0.05. This indicates a significant difference between the students' performance in the pre- and post-achievement tests. Therefore, the second hypothesis is rejected, and the alternative hypothesis, which indicates a significant difference between the pre-test and post-test in reading skills, is accepted, with the difference in favor of the post-test.

The average score on the pretest for the EG was 8.300, and the average score on the posttest was 13.725. The results went against the null hypothesis because there was a big difference in reading ability between the pre- and post-tests. The results of the post-test were better, which means that the experimental group used active learning techniques (AT) better than the control group. This backs up earlier studies that show that fun and interactive ways of teaching work better. The EG students did better all the time, which suggests that AT may have helped them learn the material more evenly.

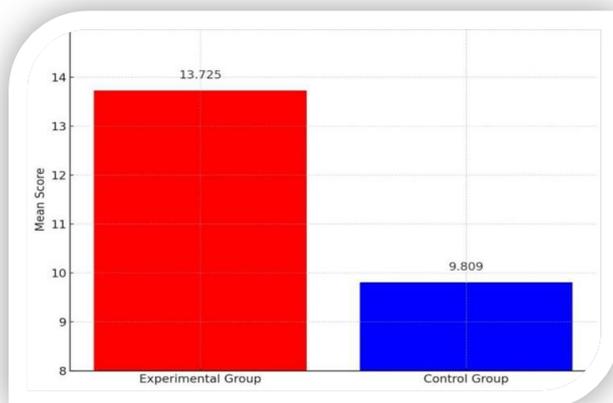


Figure 1 Mean scores of the Two Groups in the Achievement post-test

The second hypothesis's data show how ATs help Iraqi students get ready for the English test. To find out if there was a big difference between the two performance test scores of the EG given before and after the study, the researchers used the "paired samples t-test."

Figure 2 shows that "the EC's average score went up from 8.300 on the pre-test to 13.725 on the post-test." The t-value of 15.473 was a lot higher than 2.021. This big difference, "which shows that the students' performance was significantly affected by their teaching methods," goes against the null hypothesis. "The students' average scores went up from the pre-test to the post-test," which means that ATs helped them learn. "The higher mean of the post-test shows that the students understood and remembered the material better."

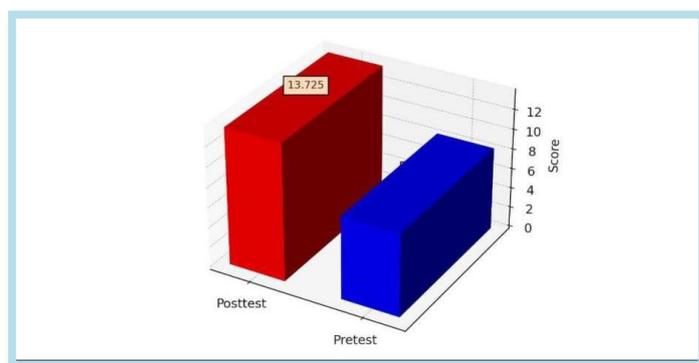


Figure 2 Mean scores of the experimental Groups in the pre- and post-test Achievement

The study's conclusions demonstrate that employing linking and ATs improves and significantly impacts Iraqi EFL fourth-year secondary school students' reading and comprehension abilities. On the post-test, students in the experimental group who received instruction using these techniques scored considerably higher than those in the CG. This implies that these methods enhance students' comprehension of written materials, vocabulary retention, and ability to extract meaning from context. Thus, using linking and ATs in EFL reading education can improve secondary school students' comprehension skills as well as their overall reading performance.

The current study revealed that using ATs significantly improved” the reading skills of Iraqi EFL 4th preparatory school students”. The EG, which received instruction through these techniques, achieved a higher post-test mean score (13.725) in contrast to the control group (9.809), a statistically significant difference. These results suggest that AS enhanced students' ability to interpret and understand written texts, promoted better vocabulary retention, improved contextual understanding, and increased motivation and engagement in reading activities.

These results are similar to Mahmood's (2024) results, which showed that the SQ4R method helped people read out loud better. Mahmood's study showed that students who learned with SQ4R did much better than those who learned with traditional methods. The effect size was moderate ($d = 0.56$). Both studies show how important it is to use cognitively engaged and context-based methods to help people read better and understand what they read.

The current study also backs up Hameed's (2020) findings, which show that the peer tutoring method helped Iraqi EFL college students understand what they were reading much better. Hameed's study showed that” the EG did better than the CG”. This shows that association-based and cooperative learning strategies, like peer tutoring, can lead to big improvements in reading scores.

Additionally, the results are compatible with those of Abdul-Majeed et al. (2015), who confirmed the effectiveness of

scaffolding strategies in improving reading comprehension, particularly for expository texts. Scaffolding, like AP, utilizes metacognitive methods, graphic organizers, and modeling, all of which are inextricably linked to the mental connections and structured support provided in this study.

Dhumad (2024) found that mind mapping greatly improved students' grammar success, even though he was more interested in grammar than reading. This shows how important it is to use interactive, student-centered, and visual methods. These strategies are conceptually similar to AS in that they encourage long-term retention and active participation. Additionally, Asaladi et al. (2018) found that the Three-Step Interview (TSI) technique was more effective than Talking Chips in enhancing students' speaking abilities, even though the two techniques were primarily focused on speaking rather than reading. Their results underscore the necessity of organized and collaborative strategies to enhance the memory-based and collaborative components of associative learning.

Conclusions

ATs improved academic performance and focus by promoting a goal-oriented way of learning. This led to better memory retention and long-term success than traditional study methods.

1. Students' comprehension, reading comprehension, and grammatical knowledge gaps are improved by reflective learning strategies, such as mind mapping, abbreviations, and pictures. These methods foster metacognitive reflection, which allows students to modify their study habits.

2. ATs greatly improve the English reading skills of Iraqi EFL learners by linking new and old information. This shows how important it is to include these cognitive methods in language programs.

3. Performance is improved by encouraging students to identify and apply their preferred techniques, which in turn improves reading aptitude, cognitive strengths, retention, and independence, as a result of memorization style awareness.

4. ATs improve group and individual learning by encouraging students to work together and be independent, allowing them to

take part overhearing and inter-brainstorming, encouraging empowerment for lifelong learning, and adjusting to different learning environments.

5. ATs improve group and individual learning by encouraging students to be independent and work together, letting them take part and come up with their strategies, giving them the tools they need to learn for the rest of their lives, and being able to adapt to different learning environments.

6. ATs help both groups and individuals learn better by encouraging student independence and teamwork, letting students take part and come up with their strategies, encouraging lifelong learning, and being flexible in different learning environments.

7. ATs have numerous applications in educational contexts, including syllabus creation, material production, and test construction. Curriculum writers and policymakers should consider implementing ATs for other language skills.

8. Active student participation in ATs helps acquire English language skills, develop self-awareness, and become effective lifelong learners. Further research could explore its impact on learning outcomes and attitudes.

9. Raising students' awareness of independent learning beyond classrooms is crucial for continuous skill development. Future studies should explore strategies to sustain these habits.

10. The study suggests incorporating association techniques into teaching methods and material development to enhance reading abilities and address learners' needs, with further research focusing on systematic curricula and materials.

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