

THE IMPACT OF SQ4R STRATEGY ON DEVELOPING ORAL READING SKILLS FOR FIRST INTERMEDIATE GIRLS STUDENTS

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Abstract

This study aimed to investigate the effect of the SQ4R strategy on the development of oral reading skills among for first Intermediate Girls Students at the preparatory school. The total number of students was 62, who were first randomly divided into two groups, 32 students forming the experimental group and 30 the control group. The study was conducted according to the experimental method of research which compared both groups that underwent it in order to reveal the impact on the strategy. In order to avoid bias and for reliability, some matching was done between the groups: intelligence, pre-test scores in oral reading skills, chronological age in months, and educational attainment of parents. Before application, the SQ4R strategy was also controlled for additional external factors identified in previous studies and in the literature. The results were analyzed statistically through tools like Chi-square test, t-test, difficulty and discrimination indices, alternative effectiveness calculations, Kuder-Richardson formula, Cohen's d, Eta-squared (η^2). The findings revealed that students in the experimental group had done better in oral reading skills than those in the control group, which may be taken to indicate that the SQ4R strategy is good for improving speed in these aspects. In view of these results, it is recommended that an instructional booklet on the SQ4R strategy, containing its steps and ways of application, should be published. It can be distributed in the educational directorates in Iraq to be of benefit in the interest of teachers and students. The other alternative is recommending the incorporation of the SQ4R strategy into the teacher's guide as one of the development programs for teachers. Further studies could be conducted on the effect of the SQ4R strategy in other educational variables regarding the development of critical reading skills in middle school students. As well as its effect on cultivating an interest in reading on the part of learners.

Keywords: Strategy, SQ4R, OralReading, Skills Development.

INTRODUCTION

First Research Problem

Technological advancement has expanded educational concepts. It leads to new teaching strategies that alter traditional education approaches. In traditional strategies, information is

delivered by the teacher. The students then memorize the provided information. The researcher perceives that the teaching of Arabic language subjects hovers around memorization without inculcating the learners with critical thinking. Moreover, the strategies used in teaching Arabic are conventional and do very little to affect the mental development of the student. Several studies raised the need for more research on the SQ4R strategy as a way of giving important educational content to students. For instance, Mohammed in 2019 and Al-Zubaidi in 2015 proposed that teachers be equipped with contemporary means of instructing the Arabic language. Because of these findings, the researcher applied a modern teaching approach (the SQ4R strategy) in improving first-grade middle school students' Arabic reading skills, which places the learner in the center of the educational process. The research question can thus be restated as follows: "Does the SQ4R strategy have an impact on the development of oral reading skills among first-grade middle school students?"

Second Importance of the Research

The author posited that education is meant to foster scientific progress, shape the behavior and attitude of learners, and instill an optimistic focus on life rather than mere content-saturation of the mind (Salman, 2016, p. 301). It serves as such an important tool in society by ensuring continuity and retention of societal values and norms (Hassan, 2020, p. 86). Education drives students into adopting scientific methods of thinking; this helps them understand their immediate environment and appreciate the essence and value in their own lives and those of others (Ali, 2010, p. 23). Language is thus a communicative phenomenon of great importance for all those social interactions that have marked human history (Zair & Dakhil, 2013, p. 19). It offers another collective learning for countries since it is a means of knowledge acquisition and idea exchange (Al-Qalamji, 2016, p. 293). In connection with the aforementioned—a view that is well-appreciated by the researcher himself—the Arabic language emerges as one of the most powerful vehicles for the expression of ideas and emotions. Besides, it is through Arabic that education finds expression and support, especially in the fundamental stages of knowledge acquisition and intellectual growth (Al-Hallaq, 2010, pp. 28-40). The richness and precision provided by the Arabic language are the factors responsible for placing it among the important languages of the world, and these characteristics make it more effective emotionally and hence more communicable. Reading, in essence, forms one of the vital activities in Arabic through which information in the world can be tapped. More so, through oral reading, students can find a good reason for making it interesting and love invigorating the children to read with interest and for pleasure—thus learning; this makes it a pedagogical objective (Al-Harthi, 2017, p. 133). Using the SQ4R strategy will help students maintain information and, as a result, have a more meaningful comprehension of reading materials, enabling retrieval (Khusniyah & Lustyantje, 2017, p. 55). With the above, the content in this research paper is of: Value to the role education plays in getting individuals ready for life and building up their characters, Importance of language as a vehicle for the articulation of thought and cross-cultural exchange facilitation among societies, The value oral reading has as a basic educational goal throughout the world, Importance of the SQ4R strategy in fostering comprehension among the reading audience.

Third: Research Objectives and Hypotheses

The research objective was to determine the impact of the SQ4R strategy in developing the oral reading skills of first-grade middle school students. The following hypotheses were formulated to guide the study:

Hypothesis One:

No statistically significant difference at the level of ($\alpha \leq 0.05$) was between the average scores of the experimental group, which used the SQ4R strategy, and the control group, which followed traditional classroom methods, in the post-test of oral reading skills.

Hypothesis Two:

There is no statistically significant difference at the level of ($\alpha \leq 0.05$) in the oral reading skills test scores within the experimental group before and after the application of the SQ4R strategy.

Fourth: Research Boundaries

The sample was first-grade middle school girls from public schools in Baghdad during the academic year 2023–2024. Six topics were selected from the Arabic Language Curriculum for First Grade Middle School Students in Iraq for the academic year 2023–2024.

Fifth: Definition of Terms Effect (Impact)

Linguistically, it means the result or trace that has remained from something According to Al-Bustani (1987), the term denotes the output or product brought forth by something, termed frequently as an evaluation by Another essential factor that affects the results of the study. Positive outcomes are expected, but its non attainment may have negative repercussions.

The observed change between the experimental group using the SQ4R strategy and the control group following traditional methods in the oral reading skills test by the end of the first semester. According to Abu Al-Reesh (2015, p. 11), the SQ4R strategy is a metacognitive method for reading-comprehension enhancement that encourages learners to be responsive to text in extracting meaning from it. Operational Definition: A procedure followed by the researcher to direct the students in the experimental group in their reading activities Linguistically: "Development" comes from the Arabic term "namā" (نَمَى) which means growth or expansion and also from referring to someone gaining higher status or improving over time (Ibn Manzoor, 2003).

Zayer and Sama (2013) defined it conceptually as the progress and improvement an individual achieves due to exposure to effective educational variables. Khalil (2013) described it as a process of developing human potential to expand available options for individuals.

Skill:

Badeer (2018) defines a skill as the ability to perform complex motor tasks efficiently, smoothly, and adaptively under changing conditions. Zayer and Sama (2016) describe it as high-quality, consistent performance with minimal effort and time, whether mental or manual.

Oral Reading:

It is the translation of written symbols into spoken words with meaning. Acting, according to Ashour (2003), means reading the text correctly, with proper pronunciation and delivery, and having sense expression. Operational Definition: In this study sample, oral reading is the translation of symbols from the provided reading material into audible words by first-year middle school students while maintaining proper pronunciation and text understanding. This is a three-year junior middle school program, laying emphasis on students' ideological education, and enhancing their morality, intelligence, and physical fitness (Ministry of Education, 2008).

Chapter two

SQ4R Strategy:

This strategy is based on constructivist theory, which posits that learning takes place through the building of knowledge by individuals based on their experiences and that knowledge is not transmitted passively. The raw material for constructing new knowledge is provided for the learner through his or her experiences. It stresses that individuals transform stimuli from the environment into knowledge actively, based on past experiences.

Psychological process:

Expectations and mental frameworks from previously formed bases build knowledge. Resistance to change: The established cognitive structures tend to resist change; they affect the process through which students learn new information (Shakir, 2011). The SQ4R strategy was derived from Robinson's SQ3R strategy in the 1930s. Its purpose is to ensure that students improve their understanding by linking reading material to what has been read before, clarifying, and solving ambiguities within the text (Mohammed, 2019):

Survey:

Look over the title, author, and main headings and try to guess what the reading is about.

Question: Turn subheadings and some keywords into questions.

Read: Read to answer questions made from subheadings and keywords.

Record: Write a few sentences summarizing key points and answers just under this.

Recite: Stop periodically to discuss, think about how it applies, or explain these things to someone.

Review: At some other convenient time, quickly go back through the text.

In this strategy, information is repeated and dependence is encouraged. It enables students to review material independently and quickly adjust to a fast pace of learning, which improves exam scores. This technology also provides flexibility in that it can be used at all levels of education (Khusniyan & Lusty, 2017).

Oral Reading Benefits:

Indeed, according to both Al-Eisawi et al. (2005) and Madkoor (2006), one important benefit of oral reading is that it helps detect pronunciation errors ensuing in fluency. It perfects the

connection between spoken words and their symbols in writing, thus enhancing the confidence of the readers. Past Studies:

Al-Zu'bi's Study (2020): It aimed to investigate the effect of the SQ4R strategy on reading comprehension among first-year students at Al-Balqa Applied University. It revealed that the experimental group's comprehension, when treated with this strategy, had reached significant levels. Al-Hayali and Hindi's Study (2011): This was a study on utilizing peer teaching in developing oral reading skills among special education students. There were improvements in reading speed and better comprehension with peer teaching, though the same did not significantly influence accuracy. The experimental group retained reading skills better over time compared to the control group.

Chapter three

Method and Procedures

First: Research Methodology

The researcher has, therefore, adopted the experimental approach due to its suitability for the nature of the problem. This approach involves measuring certain traits, mental abilities, or motor skills under controlled conditions in a psychology lab using specific measurement devices (Khalil and Tarawneh, 2009: 233). It represents a deliberate and controlled change in the specific conditions of the reality or phenomenon being studied observing the resulting effects on this reality and phenomenon (Qandilji, 2014: 108).

Second: Experimental Design

The research design used is a partially controlled design that includes an experimental group and a control group with a post-test. Figure (1) shows this.

Figure (1): Experimental Design of the Research

Group	Equivalence	Independent Variable	Dependent Variable	Test
Experimental	A- Intelligence.	Strategy SQ4R	Reading skills	Post-test for reading skills
	B- Pre-test for reading skills			
	C- Age of students calculated in months			
	D- Academic achievement of parents			
Control		Traditional method		

Third: Research Population and Sample Needed for The Study to Work With Population of the study included all first-grade intermediate students in day secondary and intermediate schools for girls in Baghdad Governorate for the academic year (2023-2024). The researcher chose General Directorate of Education in Baghdad / Karkh First (the site). The researcher visited this directorate (Statistics Department) based on the letter of "Facilitation of Task"

(Appendix/1) to learn about the information related to the research population regarding names and locations of secondary and intermediate schools for girls in Baghdad / Karkh First. The researcher selected Al-Irfan Intermediate School for Girls in Baghdad / Karkh First (intentionally) to apply the experiment for the following reasons:

- The school's nearness to the researcher's home allowed easy observation of research procedures.
- Several classes in the school permit haphazard selection between classes.
- The cooperation of the school administration and Arabic language teachers with the researcher for completing the requirements of the research
- The majority of students live in one geographical area and belong to one cultural and economic level, which makes them mostly homogeneous and simplifies equality between research groups.

After deciding to which school the research would take place, throughout the second half of the academic year (2023-2024), the researcher visited the school and introduced the matter to an administering body that welcomed collaboration for carrying out the research. The total number of first- grade intermediate students was (265) distributed in (8) classes: (A, B, C, D, E, F, G, H). The researcher randomly selected research groups from the six groups and chose classes (A and G), with a number of (62) students. Class (A) was the experimental group chosen at random, with (32) students, and class (G) formed the control group, which's also random and had (30) students. Information collected by means of the information form in Appendix (2) and interviewing the students of the research sample, as well as verifying records from the school administration to confirm the accuracy of the information, revealed no student to have failed in the first intermediate grade. No student was, therefore, excluded from the research sample.

Equivalence of the Research Groups

Before starting the experiment, the researcher provided statistical equivalence of the research sample students on several variables that might affect the results of the experiment. The researcher randomly selected the experimental and control groups, which is sufficient to achieve equivalence between both groups. However, the accuracy of the equivalence on the variables that could affect the results needed to be verified. For this reason, she designed an information form distributed to the students and additional information from official records and student cards for each member of the research sample. So the following factors that aid in the experiment's progress were ensured: (intelligence, pre-test for reading skills, age of students calculated in months, and parents' academic achievement) and so on (Appendix/3). Equivalence between the research samples was achieved at the start of the second semester during the first week of the application of the experiment on Tuesday, (20/2/2024). The equivalence of the two groups was checked by a t-test for two independent samples and by statistical conditions, the frequency distribution of the scores of the research groups was found to be approximately normal. This was confirmed by calculating the skewness coefficients for both the experimental and control groups as in Table (1):

Table (1): Skewness Coefficients for the Experimental and Control Groups for Equivalence Variables

Variable	Group	Mean	Median	Standard Deviation	Skewness
Intelligence	Experimental	33.63	33	8.06	0.23
	Control	31.4	32.5	7.59	-0.43
Pre-test for Reading Skills	Experimental	8.75	7	6.69	0.79
	Control	6.77	5.5	5.82	0.65
Age	Experimental	154.75	155.5	16.75	-0.13
	Control	155.2	151.5	17.12	0.65

From Table (1), the skewness values for both groups are appropriate, as skewness can be either positive or negative and ranges from -3 to $+3$ on the skewness scale. The closer the skewness is to zero, the closer the frequency distribution is to normality. One of the conditions for applying the t-test is the homogeneity of the two samples, which is calculated using the ratio of variances between the larger and smaller variances and determining the significance level of this ratio (Murad, 238, 2000), as shown in Table (2):

Table (2): The Ratio of Variance Between the Experimental and Control Groups for Equivalence Variables

Variable	Groups	Variance	Degrees of Freedom	"F" Value	Statistical Significance
Intelligence	Experimental	64.95	31	1.13	Not statistically significant
	Control	57.56	29		
Pre-test for Reading Skills	Experimental	44.71	31	1.32	Not statistically significant
	Control	33.91	29		
Age	Experimental	280.52	31	1.04	Not statistically significant
	Control	292.92	29		

The above table Calculates that the value "F" is not Significant Statistically, that is an indication of homogeneity between the two groups. In this research, "t" test for means may apply for homogeneous samples independently at a level of significance (0.05). When applying the t-test to two independent homogeneous samples, there were no significant differences because the calculated value t is less than the tabulated t-value (2) at a level of significance (0.05) and 60 degrees of freedom for the variables (Age in months, Pre-test for reading skills, Age in months). Therefore, ' equivalence is no in doubt since the groups are given as equivalent in Table (3):

Table (3): Mean, Standard Deviation, Variance, Calculated and Tabulated T-Values for the Research Groups

Variable	Group	Sample Size	Mean	Standard Deviation	Variance	Degrees of Freedom	Calculated T-Value	Tabulated T-Value	Statistical Significance
Intelligence	Experimental	32	33.63	8.06	64.95	60	1.12	2	Not statistically significant
	Control	30	31.4	7.59	57.56				
Pre-test for Reading Skills	Experimental	32	32	8.75	44.71	60	1.97	2	Not statistically significant
	Control	30	30	6.77	33.91				
Age in Months	Experimental	32	154.75	16.75	280.52	60	-0.11	2	Not statistically significant
	Control	30	155.2	17.12	292.92				

Academic Achievement of Parents

1. Level of Academic Achievement of Fathers: Data related to the academic achievement of fathers was obtained by the researcher from an information form (Illiterate – Primary – Intermediate – Preparatory – Institute – Bachelor's – Graduate Studies), as shown in Appendix (3). It was reorganized as in Table (4):

Table (4) Frequencies of Academic Achievement of Fathers of Students in Research Groups

Research Groups	Sample Size	Level of Achievement	Chi-Square	Statistical Significance
		Illiterate	Primary	Intermediate
Experimental Group	32	1	12	8
Control Group	30	1	6	7
Total	62	2	18	15

The Chi-Square formula (χ^2) was used in testing the statistical equivalence of results in the academic achievement of fathers in the two research groups (experimental and control). The calculated value of χ^2 was 4.63 (<12.59) at 6 degrees of freedom and level of significance 0.05, which indicates the hypothesis results are not statistically significant and, hence, rejects the equivalence of results in the academic achievement of fathers in the experimental and control groups.

Level of Academic Achievement of Mothers: Illiterate – can read and write – Primary – Intermediate – Preparatory – Bachelor's. The following data has been recorded according to this scale, as illustrated in Table (5) after reorganization:

Table (5) Frequencies of Academic Achievement of Mothers of Students in Research Groups

Research Groups	Sample Size	Levels of Achievement	Chi-Square	Statistical Significance
		Illiterate	Primary	Intermediate
Experimental Group	32	0	9	11
Control Group	30	4	8	6
Total	62	4	17	17

To test the statistical equivalence of the two research groups (experimental and control) with respect to mothers' academic achievement, the Chi-Square formula (χ^2) was used. The obtained value of χ^2 was 9.68, which is less than the table value 11.07 at 5 degrees of freedom and at a significance level of 0.05. This shows that the results were not statistically significant and, in turn, indicates that the experimental and control groups are equal in mothers' academic achievement.

Control of Some Extraneous Variables (External Validity of Experimental Design)

Variables are factors that should be considered from the beginning of the experiment through all its phases by the researcher, such as sample selection, representativeness of the community, experimental procedures, measurement, equivalence between groups, among others. All these variables can be controlled by using methods of control and adhering to objectivity in all procedures of the experiment (Atiah, 2009: 180).

For research integrity, a researcher has to consider controlling every extraneous variable that might be a factor influencing the dependent variable, as well as the validity of the experiment and the level of reliability of its results, and the possibility of generalizing them later to the population from which the sample was selected. This is achieved by applying control procedures and being objective in all operations of the experiment. The following were the major extraneous variables and means through which each was controlled:

1. Sample Selection: It was tried to control the differences among the sample students by applying equivalence operations concerning certain variables that might interact with the independent variable of the study and influence the dependent variables. Also, sample member homogeneity was ensured in social, economic, and cultural aspects because all the members come from a similar social environment, thus this factor was negated.
- 2.Events Accompanying: Members of both groups were not subjected to any events that may disrupt the course of the experiment; hence, this factor was avoided and controlled.
- 3.Experimental Attrition: Since the onset of the experiment, students' absences were kept under observation and noted down by the researcher in both research groups. It was found that among students in the research groups, besides individual absences (with a minimum contribution and almost equal in both groups), no dropout case or transfer case occurred.
- 4.Maturation: This factor was controlled by subjecting both research groups to similar conditions over a predetermined period. The researcher also ensured age equivalence among the students in both groups, which helps reduce the effect of this factor. Consequently, the researcher did not observe any impact from this factor on the research groups.
- 5.Measurement Tools: The researcher applied this by using a measurement tool featured in the reading skills test of both study groups that had been previously validated as reliable and

objective. The researcher made the measurement tool and gave it to both study groups at the same time under similar conditions, and corrected the answers by hand.

6.Effects of Experimental Procedures: The researcher tried to control this by the following: The Researcher-teacher Agreed With The School Administration And All Its Teaching Staff Not To Inform The Students About What Was Specifically Being Researched Until The Commencement Of The Second Semester Of The Academic Year 2023-24. This was essential to get precise findings and be sure that the students interacted normally with the experiment.

- **Study Material:** The study material related to the experiment was common for both groups and included the following topics (The Kingdom of the Universe, Imam Ali's (PBUH) letter to Muhammad bin Abu Bakr (RA), The Wise Merchant, Time Among Arabs Before Islam by Abdul-Ilah Al-Saigh, Arabic Numbers, Baghdad, City of Peace) from the second-semester books of the academic session 2023-2024.
- **Instructor:** The researcher personally taught the experimental group on Tuesday to offset this variable and taught the control group on Thursday as per the subject teacher's schedule, due to one-day research leave of the researcher, which provided objectivity and accuracy to the results of the experiment.
- **Learning Environment:** The two research groups had their lessons in a nearly uniform learning environment, with the classroom environment in the first group similar to that of the second group with respect to lighting, temperature, ventilation, number of doors, and windows, and other conditions of the environment.
- **Duration of the Experiment:** It was equal and the same for both groups (experimental and control). The experiment began on Tuesday, February 20, 2024, and ended on Thursday, March 28, 2024. Both started and finished at the same time.
- **Distribution of Lessons:** The researcher coordinated with the school administration to schedule classes for both the experimental and control groups so that both groups were taught an average of two lessons per week at the same time and, hence, this variable could be controlled. The researcher ensured equivalency for both groups and that an average of two lessons per week were taught at the same time to both groups. The control of this variable was ensured by coordinating with the school administration so that an average of two lessons per week at the same time were taught to both groups. This was done to ensure equivalency for both groups and control this variable.

Table (6) Distribution of Arabic Language Lessons Between the Research Groups

Day	Group	Lesson	Time
Tuesday	Experimental	Second	8:45
	Experimental	Third	9:40
Thursday	Control	Second	8:45
	Control	Third	9:40

Sixth: Research Requirements

Current research requires the following: One A4 page. Double-spaced, 12-point font detailing what would be required to accomplish all that was not possible to finish during this project. The paper must be submitted within two weeks of returning from the trip.

A- Identifying the Educational Material: The researcher began running the experiment after defining the educational content as follows: second-semester subjects for the academic year 2023-2024 (The Kingdom of the Universe, Imam Ali's (Peace Be Upon Him)) Letter to Muhammad ibn Abi Bakr (May God Be Pleased with Them), The Wise Merchant, "Time" among Arabs before Islam by Abdul Ilah Al-Saigh, Arabic Numbers, Baghdad: The City of Peace. The researcher kept to the book's content without adding anything not mentioned to ensure pre-reading skills' equivalence for both groups.

B- Formulating Behavioral Objectives: After identification of educational material and determination of lessons and number of classes for each topic in Arabic language for the first intermediate grade, the researcher formulated behavioral objectives related to vocabulary included in the experiment on the light of Bloom's taxonomy for cognitive domain of learning. These were distributed across the six cognitive levels (remembering, understanding, application, analysis). A total of 36 preliminary behavioral objectives were made to a group of specialists in educational and psychological sciences to obtain their opinions concerning the accuracy of the behavioral objectives. Formulations were made by their nature to the content of the education. After their comments, some minor adjustments were made by the researcher, and no objective was removed.

C- Researchers prepared 6 teaching plans for the experimental group and 6 for the control group, based on SQ4R strategy and for the control group traditional methods were used. A model of both the experimental and control plans was introduced to a jury of experts to hear their reflections on whether these plans are valid or not towards ensuring the experiment's success. There were some minor modifications after which it was prepared for implementation.

Seventh: Research Tools

It is one thing to prepare a reading skills test for the measurement of the dependent variable. The researcher developed a test that had three questions. The student answers the first question by underlining the appropriate word from the options provided and must not leave any paragraph unanswered. For the second question, words are to be placed in their correct positions within the text. The third question summarizes the wisdom one can get from reading the story of "The Wise Merchant" in three lines. The test was reviewed by specialists in a number of fields related to the Arabic language and its teaching methods. Items having an agreement rate of 80% or more at 0.05 were considered valid and necessary modifications were made based on their comments and suggestions. Test Instructions: The researcher formulated the test instructions at the right and proper sample level, explaining its concept and how to answer it. Test instructions included:

1. Answering Instructions:

- Read the entire question before answering.
- No paragraph should remain unanswered.
- It is preferable to use pen while answering.
- In multiple-choice questions, circle the option considered correct.
- Answer on your test sheet.

2. Correction Instructions:

The first and second questions were scored by giving one point to each correct answer and zero to incorrect ones. Unanswered items and those with multiple answers were considered wrong. The third question was valued two points if correct and zero in the case of an incorrect answer, with one point for a mediocre answer. Therefore, a student could get a maximum of 20 or a minimum of zero marks. An answer model was also prepared by the researcher.

3. Pilot Testing of the Exam:

The researcher administered the test as a pilot sample to check the time needed by students to solve it and to check the clarity of its items and instructions to 30 first intermediate grade students from Al-Firdous Secondary School for Girls, Directorate of Education Al-Karkh, Baghdad. It was found out that the test items were understandable and answering instructions were clear. The average time for completing the test was 45 minutes.

Chapter four

This chapter presents the results obtained concerning the research objectives and hypotheses, followed by an interpretation of these results based on the theories reviewed, previous studies, and community and sample characteristics studied in this research.

First: Research Result

The present research was aimed at identifying the effect of the SQ4R strategy in developing oral reading skills among first intermediate grade female students. The following hypothesis was formulated to fulfill this objective:

Null Hypothesis One:

“The means of the post-test scores of oral reading skills for the first intermediate grade female students, both for the experimental group which have been taught according to the SQ4R strategy and for the control group which have been taught according to traditional classroom methods, are not significantly different at $\alpha \geq 0.05$.”

To compare the mean scores of the experimental and control groups in the post-test after applying the t-test for two independent samples with unequal sizes at the $\alpha = 0.05$ level of significance, the following hypothesis was formulated: $H_0: u_1 = u_2$, which reads as, there is no effect of achievement motivation on oral reading skills. The results of the statistical treatment using the SPSS program are as in Table (7):

Table (7) Results of t-test for significance of differences between mean scores of experimental and control groups in the post-test of oral reading skills

Group	Sample Size	Mean	Standard Deviation	Variance	Degrees of Freedom	t-value	Statistical Significance
Experimental	32	27.53	5.78	33.35	60	2.22	Statistically Significant
Control	30	24.13	6.26	39.15			

From Table (7), it is observed that the calculated t-value (2.11) is greater than the tabulated t-value (2) at 60 df at 0.05 level of significance, which indicates a statistically significant difference at the level of $(0.05 \geq \alpha)$ favoring the experimental group in post-application. That is the performance of students in the experimental group, who were taught using SQ4R strategy, was better than that of the control group students who were taught using the traditional method in the post-test of oral reading skills. So, this hypothesis is rejected; the alternative hypothesis is accepted.

For the effect size of the independent variable (SQ4R strategy) on the dependent variable (oral reading skills), the researcher used the Eta-squared value from the calculated t-value since Eta-squared indicates the percentage of variance in the dependent variable that can be attributed to the independent variable; The effect size indicates the percentage of difference between the means of the two groups in standardized units. as shown in Table (8)

Table (8) Values of "t", h^2 , d, and effect size for the achievement test

t-value	h^2	d	Effect Size
2.22	0.07	0.56	Medium

Hypothesis Two: There is no statistically significant difference at the level of $(0.05 \geq \alpha)$ between the mean scores of the first intermediate grade female students on the oral reading skills test in the experimental group before and after applying the SQ4R strategy. To test this hypothesis, the researcher used the t-test for paired samples. The results of the statistical treatment using the SPSS program are shown in the following Table (9):

Table (9) Results of the t-test for the significance of differences between the mean scores of the research groups on the oral reading skills test before and after applying the SQ4R strategy.

Group	Sample Size	Mean	Standard Deviation	Variance	Degrees of Freedom	t-value	Statistical Significance
Post-Test	32	8.75	6.69	44.71	31	-11.26	Statistically Significant
Pre-Test	32	27.53	5.78	33.35			

It is evident from Table (10) that the calculated t-value of (1.61) is less than the tabulated t-value of (2) at a significance level of (0.05) and degrees of freedom (62); thus, the null hypothesis cannot be rejected. This indicates that there is no statistically significant difference at the level of $(0.05 \geq \alpha)$ between the mean scores of first intermediate grade

female students on the oral reading skills test in the experimental group before and after applying the SQ4R strategy. The mean after the experiment was (26.06), while the mean before the experiment was (23.63). Thus, the null hypothesis is accepted, and the alternative hypothesis is rejected.

Second: Interpretation Of the Research Result

It is quite obvious from the test that the students in the experimental group performed better than those in the control group test, and it emerges that there is a difference between groups that is statistically significant in oral reading skills test in favor of the experimental group. The latter fact may be explained by the strategy of SQ4R, which lets students learn and construct knowledge by themselves in an atmosphere of freedom of thought with different attitudes and provided psychological safety for app development of their oral reading skills. It made a significant contribution to the development of students both cognitive and behavioral apparatus, freed their ideas from the conventional way of handling educational content, and equipped them with browsing, questioning, reading, recording, recalling, reviewing, acquiring information and sharing knowledge schintegratedatellens. It developed as well oral reading skills, providing significant cognitive value to the process of education. The experiences and knowledge gained by the students helped them build personal aspects within daily life contexts through creating an interactive learning environment to increase their motivation and stimulate them to choose impactful and effective activities in their daily life. It remains clear that their role was directed, as they did not intervene directly in the students' cognitive choices.

Recommendation

Recommendations Based on the findings of the present research, it is recommended that: 1. An educational booklet on the SQ4R strategy, its steps, and how it is implemented should be prepared and distributed to all directorates of education in Iraq. For the benefit of those engaged in the education process 2. The SQ4R strategy should be incorporated in the teacher's guide for better professional performance.

Adopt the SQ4R strategy as a primary approach in teaching Arabic language units because it is most suitable for use with almost all the topics in the syllabi. Integrate the SQ4R strategy with particular teaching methodologies in the Arabic language subject. Programs for training teachers on the SQ4R strategy and how to apply it in the case of teaching Arabic language units.

Suggestions

for Future Studies The researcher suggests the following for upcoming studies that could be conducted: To conduct a study aimed at identifying the effect of the SQ4R strategy on developing critical reading skills among intermediate stage students. To conduct a study aimed at identifying the effect of the SQ4R strategy on other dependent variables, such as developing reading tendencies. Creative reading skills evaluation for high school students.

Comma splices may be corrected by other means: such as making each subject a separate sentence, or by inserting coordinating conjunctions.

References

1. Ibn Manzoor, J. D. A. F. M. B. M. (2003). *Lisan al-Arab* (Vol. 1, A-B). A. A. Haider (Ed.), A. M. K. Ibrahim (Rev.). Dar Al-Kutub Al-Ilmiyyah.
2. Abu Al-Rish, M. (2015). The effect of using the SNIPS and SQ3R strategies on reading comprehension, achievement, and vocabulary acquisition among sixth-grade students in Palestine (Unpublished doctoral dissertation). The University of Jordan, Amman, Jordan.
3. Ahmed, G. M. S. (1989). *Statistics and measurement in social research*. Dar Al-Ma'rifah Al-Jami'iyyah, Alexandria.
4. Al-Bajja, A. F. H. (2000). *Principles of teaching Arabic between theory and practice* (1st ed.). Dar Al-Fikr for Printing, Publishing, and Distribution, Amman, Jordan.
5. Bdeir, K. M. (2018). *Active learning*. Dar Al-Masirah for Publishing and Distribution, Amman.
6. Al-Bustani, B. (1987). *The ocean of the ocean* (2nd ed.). Tebyubir Press, Lebanon.
7. Al-Harthi, I. B. A. M. (2017). *Encyclopedia of teaching reading and literacy at all educational stages*.
8. Hasan, A. F. (2020). The effectiveness of the PDEODE strategy in acquiring historical concepts in the subject of history among fourth-grade students. *Journal of the College of Education for Girls, University of Baghdad*, 31(3).
9. Al-Hallaq, A. S. (2010). The reference in teaching the skills of the Arabic language and its sciences. *Al-Muassasah Al-Hadithah for Books, Tripoli, Lebanon*.
10. Al-Hiyali, A., & Hindi, A. (2011). The effect of using peer learning strategies in developing some oral reading skills and retention among special education students in the reading subject. *Research Journal of the College of Basic Education, University of Mosul*, 11(2).
11. Al-Khalidi, J., Al-Awamrah, M. A., Hijazi, H., & Ziadat, M. (2014). The effect of using the SQ4R strategy on raising first-grade secondary students' awareness of themselves as skilled readers in Islamic culture. *Al-Manarah*, 20(2b), 165-178.
12. Al-Khateeb, A. H., & Hussein, M. D. (2009). *Measurement and diagnosis in special education* (2nd ed.). Dar Safa for Publishing and Distribution, Amman, Jordan.
13. Khalil, S. M. (2013). The concept of human development and self-development. *Al-Rakawiya Journal, Khartoum, Sudan*.
14. Al-Dulaimi, I. A., & Al-Mahdawi, A. M. (2005). *Measurement and evaluation* (2nd ed.). Ahmad Al-Dabbagh Library, Baghdad, Iraq.
15. Rawashdeh, I., & Others. (2000). *Teacher's guide to building achievement tests*. Ministry of Education, General Directorate, Amman, Jordan.
16. Zayer, S. A., & Torki, S. D. (2013). *Modern trends in teaching the Arabic language*. Dar Al-Murtadha for Printing, Publishing, and Distribution, Baghdad, Iraq.

17. Zayer, S. A., & Torki, S. D. (2016). Language skills between theory and practice (1st ed.). Al-Dar Al-Manhajiyyah for Publishing and Distribution, Amman, Jordan.
18. Salman, E. J. (2016). The effect of the Tanala Al-Qamar strategy on metacognitive skills in biology among fourth-grade scientific students. *Journal of Educational and Psychological Research*, Baghdad, 51.
19. Suleiman, A. A., & Abu Alam, R. M. (2010). Measurement and evaluation in the humanities: Foundations, tools, and applications (1st ed.). Dar Al-Kitab Al-Hadith.
20. Shakir, H. M., & Zainah, S. M. (2016). Evaluating the performance of first intermediate-grade students in oral reading skills. *Journal of Educational and Psychological Research*, Baghdad, 49.
21. Shakir, M. (2011). The effect of the original and developed Robinson strategies on developing reading comprehension and motivation among upper primary stage students in Jordan (Unpublished doctoral dissertation). The University of Amman, Jordan.
22. Saber, F. A., & Khafaja, M. A. (2002). Principles of scientific research (1st ed.). Al-Ishaa Art Library and Press, Egypt.
23. Ashour, R. Q. (2003). Methods of teaching the Arabic language between theory and practice (1st ed.). Dar Al-Masirah for Publishing and Distribution, Amman, Jordan.
24. Abdullah, N. B. K. (2022). The effect of the problems tree strategy on the achievement of human rights material among students at Ibn Rushd College of Human Sciences. *Journal of Educational and Psychological Sciences*, Baghdad, 148.
25. Obaid, K. J. (2020). The effect of the one-minute paper and developed jigsaw strategies on the achievement of Kurdish grammar material and inferential thinking among students at Ibn Rushd College of Education. *Al-Astaz Journal of Humanities and Social Sciences*, 59(4).
26. Al-Izawi, R. Y. (2008). Measurement and evaluation in the teaching process (1st ed.). Dar Dijlah, Amman.
27. Atiyah, M. A. (2009). Total quality and the new in teaching (1st ed.). Dar Safa for Publishing and Distribution, Amman, Jordan.
28. Alam, S. D. (2006). Educational and psychological tests and measures. Dar Al-Fikr, Amman.
29. Ali, S. I. (2010). Principles of general education. Dar Al-Masirah for Publishing and Distribution, Amman, Jordan.
30. Awda, A. S. (2010). Measurement and evaluation in the educational process (2nd ed.). Dar Al-Amal for Publishing and Distribution, Amman.
31. Al-Eisawi, J. M., Mousa, M. M., & Al-Shizawi, A. M. (2005). Methods of teaching the Arabic language in the basic education stage between theory and practice (1st ed.). Al-Ain: Dar Al-Kitab Al-Jami'i.
32. Al-Qalamji, A. R. M. (2016). Building a standard for measuring oral expression among primary school students. *Journal of the College of Education for Girls*, University of Baghdad, 48.
33. Qandijli, A. I. (2014). Scientific research and the use of traditional and electronic information sources (5th ed.). Dar Al-Masirah, Amman, Jordan.

34. Muhammad, I. F. (2019). The effectiveness of the developed SQ4R strategy in developing the necessary summarization skills for student teachers. *Educational Journal*, 61, 28-69.
35. Madkour, A. A. (2006). Teaching the arts of the Arabic language. Nasr City, Cairo: Dar Al-Fikr Al-Arabi.
36. Murad, S. (2000). Statistical methods in psychological, educational, and social sciences. Anglo-Egyptian Library, Egypt.
37. Al-Wali, A. (2015). The effect of the constructivist learning models (Dey and Shayer) on developing mathematical thinking skills among tenth-grade students in Gaza (Unpublished master's thesis). Islamic University of Gaza, Palestine.
38. Ministry of Education, Republic of Iraq. (2008). General Directorate of Curricula and Educational Aids, Curriculum Directorate, 3rd ed. Ofis Press, 2008 Primary School Curriculum, Baghdad.
39. Al-Yaqoubi, H. (2013). Evaluation and measurement in educational and psychological sciences: A practical vision. Al-Kafil, Iraq.
40. Aizuabi, M. (2020). The effect of using the SQ4R strategy on freshmen students' reading comprehension at Al-Balqa Applied University. *Jordan Journal of Modern Languages and Literatures*, 12(4), 531-545.
41. Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
42. Khusniyan, N., & Lustyantje, N. (2017). Improving English reading comprehension ability through the Survey, Questions, Read, Record, Recite, Review strategy (SQ4R). *English Language Teaching*, 10(12), 202-211.
43. Kiess, H. O. (1989). Statistical concepts for the behavioral sciences (4th ed.). Bonnie A. Green, East Stroudsburg University of Pennsylvania.