

# THE EFFECT OF AN INSTRUCTIONAL PROGRAM BASED ON AN ELECTRONIC INTERACTIVE APPROACH IN IMPROVING ARABIC LANGUAGE CREATIVE READING SKILLS

**MANAL, MOHAMMAD. ALBADER**

PhD Candidate, Yarmouk University, Irbid, Jordan. Email: manalcial1@gmail.com

**MOHAMMAD F. HAWAMDEH**

Professor, Faculty of Education, Yarmouk University, Irbid, Jordan. Email: Mohammad.f@yu.edu.jo,  
ORCID ID: <https://orcid.org/0000-0001-6711-3956>

## Abstract

The study aimed to investigate the effectiveness of an educational program based on the interactive electronic approach in enhancing creative reading skills among tenth-grade female students in Qatar. A quasi-experimental design was employed, and an educational program grounded in the interactive electronic approach was developed to teach reading skills. The list of creative reading skills included twelve indicators distributed across four domains: fluency, flexibility, originality, and elaboration. The study participants consisted of 50 tenth-grade female students from Qatar Foundation School, divided equally into two groups: experimental (taught with the educational program based on the interactive electronic approach) and control (taught with the conventional method). After implementing the educational program, conducting pre-post tests, and analyzing the data, the results indicated statistically significant differences in the average scores of the experimental and control groups in the creative reading skills test. These differences were attributed to the teaching strategy used, favoring the experimental group. Based on the study's findings, it is recommended that Arabic language teachers' should consider incorporating the interactive electronic approach into the educational process and leverage its benefits to enhance creative reading skills.

**Keywords:** Interactive Electronic Approach, Creative Reading Skills, Tenth Grade.

## INTRODUCTION

The Arabic language stands out as one of the richest languages globally in terms of vocabulary and meanings (Alhumaid et al., 2020). It possesses unparalleled expressive capabilities and is particularly distinctive due to its status as the language of the Holy Quran. Furthermore, Arabic ranks second in its eloquence and mastery of grammatical, syntactical, and phonetic systems. Teaching and learning Arabic, therefore, necessitate various skills and resources to encompass all its fundamental and subsidiary aspects. The Arabic language is often perceived as an identity marker of the Arab nation and the repository of its thought and culture. It is an existential value through which an individual Arab learns the principles of faith, derives values, receives the foundations and types of knowledge, and practices multiple thought patterns. It is the mean for performing rituals of worship and a way of self-expression and communication. The Arabic language is seen as the repository of the Arab nation's repertoires and heritage; thus, it is cherished as an instrument that bridges the gap between past and present, connecting the Arab nation's present with its future and defining the nation's traits, identity, and the inclinations, tendencies, and objectives of its individuals (Al Khazaleh & Hawamdeh, 2023).

Usually, students begin learning the skill of reading in the early stages of their educational journey. This is because reading serves as a fundamental key to acquiring other language skills. It involves learning the correct pronunciation of letters, understanding the meanings of words and phrases, and discovering the relationships between words, structures, and their implications. These aspects enable students to quickly gain control over their vocabulary, select appropriate words to express their desires, and engage in effective communication with others. Therefore, reading is not only an instrument for learning and research but also a catalyst for cognitive growth. It serves as the student's key to transcending the boundaries of time and space, providing insights into the customs and traditions of diverse cultures. Through this process, students enrich their minds with various forms of knowledge, contributing to the development of their personalities. Reading becomes their instrument for connecting with the broader human community (Asr, 2019). Reading is defined as a complex mental process intricately linked to thinking and cognitive skills, requiring comprehension, connection, and inference (Hawamdeh, 2015). It is a linguistic process through which the reader reconstructs the meaning expressed by the author in the form of written symbols, namely words. The reader then extracts meaning from these words, understands them, analyzes, interprets, critiques, and utilizes them in addressing life matters and problems. Reading is portrayed as an interactive and constructive process, demanding diverse levels of understanding from the reader. This includes literal comprehension, implicit understanding, reading between the lines, inference, criticism, appreciation, interaction, and innovation (Shehata, 2000; Follmer, 2017). Reading is a psychological and linguistic activity that involves navigating through the layers of language, requiring the reader to engage with the text on various levels.

Effective reading, according to Goodman (1995), is the process of constructing meaning from the written text, extending beyond the mere identification of word meanings.

The goal of teaching reading is to cultivate students' skills, empower them in understanding and thinking, encourage critical analysis, activate their mental processes, and assist them in discovering their linguistic abilities and problem-solving skills. This aligns with global trends and modern theories regarding the objectives of reading instruction (Abdulhamid, 2006). According to Madkur (2009), reading is not a mechanical, performance-based process limited to visual perception and symbol decoding. Instead, it is a complex mental process with a hierarchical structure, intertwining various thinking skills. Reading combines processes of understanding, connection, analysis, and inference, extending beyond the mere recognition of letters and pronunciation by students. It has evolved into a diverse and multifaceted set of mental operations and levels, including understanding, criticism, expressing opinions, judging presented information, and introducing new ideas. Therefore, reading can be viewed as having multiple levels, depending on the reader's proficiency and capabilities. The initial interpretation of reading involved a mechanical process of decoding symbols without much thought, focusing on enabling the reader to pronounce letters correctly, recognize them, understand the explicit meanings of terms, and acquire essential vocabulary, structures, ideas, and meanings for communication in their daily lives (Mustafa, 2007). Hawamdeh and AlBulayhid (2016) have pointed out that there are several levels of reading comprehension, ranging from easy to difficult, and simple to complex. These levels are categorized into four progressive and logical

levels: the literal level of reading, the inferential level of reading, the critical level of reading, and the creative level of reading.

Creative reading, as clarified by Salah and Al-Mahboub (2003), is a mental and emotional process where the reader interacts with the written text. This interaction goes beyond understanding and comprehending the text, delving into predictions of events, generating new ideas not presented in the text, solving problems within the text, and creating new connections between ideas inside and outside the text. Mustafa (2007: 31) defines it as "a purposeful and directed new production that involves the reader's ability to form new relationships that bring about a change in reality." Shhata (2017: 221) describes it as "an interactive process between the reader and the text, relying on the information provided within the text and the reader's previous experiences, linking them to reach new meanings and conclusions that can be applied. It also leads to new ideas that were not previously present (Habes, Salous, et al., 2022)."

The significance of creative reading lies in its role in finding solutions to the challenges individuals face in the 21st century and the era of technology. It aims to prepare a generation of creative individuals capable of adapting to their time and possessing advanced skills in making the text a source of thought. Creative reading also plays a crucial role in deepening and developing individuals' creative thinking (Shabraq, 2017).

Salah and Al-Mahboub (2003) outlined that creative reading opens the door to connecting experiences, discovering relationships in the written text, using higher-order thinking skills, and employing creative imagination extensively. Khalafallah (2005) added that it contributes to expanding the reader's awareness, increasing their ability to understand and comprehend, providing problem-solving skills, and contributing to students' success in their learning process and general life. Over time, regular reading transforms into creative reading, enabling students to delve into the text, establish new relationships, generate new ideas, and propose solutions to problems.

The focus on creative reading has been highlighted for its role in expanding students' perspectives, enhancing their mental abilities, developing critical thinking and problem-solving skills, and enabling them to offer diverse solutions. Creative reading helps students pose deep questions about information in the text, develop the ability to anticipate outcomes based on available data, and, most importantly, boosts their confidence, aiding them in generating new ideas in their lives.

Creative reading involves several skills, including Originality: this refers to the seriousness and uniqueness of ideas and the ability to provide skillful or uncommon responses suitable for the nature of the presented problem. It involves presenting unconventional ideas on a given topic. Flexibility: the capacity to generate diverse and unconventional ideas, the ability to change one's line of thinking automatically according to the situation, and possessing a greater number of varied ideas that facilitate easy change of mental state. Fluency: the ability to generate alternatives, synonyms, and ideas related to the topic. It involves responding quickly to stimuli, producing rich ideas in a specific time frame, and giving new, contextually linked ideas. Expansion: the ability to integrate different parts into a cohesive and interconnected intellectual

unit. It involves adding new and varied details to a specific topic, presenting complementary assumptions that contribute to improving the readability of the text, or integrating several similar topics into one, forming a new, more detailed intellectual structure.

These skills are considered essential for exercising the mind and practicing high-level mental processes, contributing to the development of creative thinking. (Alsaybyya 2020; Thompson, 2000; Plakans, 2009).

Ahmedi (2012) linked creative reading to the extent of the reader's interaction with the text. According to Ahmedi, creative reading is what prompts the reader to ask multiple questions to reach logical answers. This engages the reader's cognitive abilities, leveraging their prior experience and knowledge of the text to derive new ideas. Examining the characteristics of creative reading and its concept reveals that interaction with the text is a crucial aspect of creative reading. This leads us to one of the approaches and theories of teaching reading that focuses on the interaction between the reader and the text, known as the interactive theory.

The interactive theory is also associated with the interactive approach, as the foundation of both lies in interaction in an educational setting. Zaitoun (2002) defines the term interactive as active engagement in the lesson and controlling the educational sequence of the curriculum through the learner's responses to the provided information.

According to this approach and theory, the reader attains meaning by utilizing information from multiple sources, balancing between the reader's prior experiences and knowledge and the information obtained from the written text. This balance reflects the two theories of learning in reading, the top-down and bottom-up theories (Al-Salem, 2022).

Kareem (2011) emphasizes that an individual learns through social interaction, highlighting the importance of an interactive context for learning. Learning and knowledge-building occur within an interactive context where the learner interacts and communicates with others, impacting and influencing each other. The acquisition of values, knowledge, and skills grows through interaction with others or interaction with the context. This interaction affects and develops cognitive processes, and cognitive growth begins externally and moves inward. The learner observes the interaction among people and interacts with those around him.

The interactive approach suggests that acquiring the skill of understanding written texts creatively requires lively and natural situations that allow learners to interact with peers, express judgments, adopt positions, and express opinions within an interactive social context (Cooter & Reutzler, 2004).

However, with time, the evolution of knowledge, and the emergence of new issues in the field of education and learning, especially with the rise of e-learning, interaction has taken various forms. This includes interaction between knowledge and students, teachers and the text, and students and the text. One of the challenges faced by education, particularly in the era of technology and remote learning, is maintaining interaction between the parties involved in the educational process. To reconcile this vision with the urgent necessity of e-learning in the current time, especially after the COVID-19 pandemic, experts have turned to leveraging the

features of e-learning to enhance interaction. This involves integrating traditional and electronic learning, increasing interactive electronic activities, and utilizing diverse educational programs that promote student activity and interaction.

Singh (2003) points out that education that combines connected (online) and disconnected (traditional classroom) models aims to achieve specific learning outcomes. This approach provides greater flexibility in learning, enhances motivation toward activities and exercises, and is seen by some as more effective than traditional methods. Al-Halawi (2011) adds that e-learning increases the effectiveness of education and elevates students' academic achievement. Traditional methods relying on memorization and rote learning are perceived as inadequate in the face of increasing knowledge flow for both teachers and learners. Therefore, leveraging modern technology in the education process has become essential to accommodate the current knowledge and technological advancements.

The importance of this blended learning approach is evident in meeting the diverse needs of students, considering their differences and learning styles. This approach improves educational outcomes by introducing diverse learning strategies and instruments that stimulate students' learning. Presenting material through various methods contributes to the development of higher-order thinking skills and ensures continuous communication between students and teachers. Additionally, it enhances students' digital skills by utilizing the internet, searching for information from reliable sources, and developing the ability to use collaborative software, multimedia, virtual libraries, email, educational programs, and games, as well as educational websites.

Therefore, a combination of traditional teaching, interactive reading theory principles, and diverse e-learning modalities have been integrated. This approach offers sufficient flexibility to meet individual needs and learning styles, fostering interaction between students and teachers, among students themselves, and enhancing human and social relationships among learners and teachers. Moreover, for many subjects that are challenging to teach entirely online, blended learning is considered a proposed solution (Krause, 2007).

The researchers agree with the utilization of the electronic interactive approach to develop creative reading skills among students, considering it a crucial necessity. Al-Husayni (2021) emphasizes that developing creative reading skills is an essential requirement in our complex and knowledge-expanding era. It is a vital part of the Arabic language education system, given the need to create a generation of creative readers for whom reading is a source of critical thinking. The tenth grade represents a crucial stage in enhancing these skills among students. It falls within the phase of middle adolescence, as highlighted by Hamdawi (2015), spanning between the ages of 14 and 18. This period marks a comprehensive transformation in all aspects of growth. Adolescents' goals shift in emotional, social, and intellectual maturity, identity development, and a drive toward independence. They exhibit significant energy and vitality, transitioning from abstract to logical thinking. During this phase, adolescents acquire mechanisms for reasoning, thinking, exploring, and deducing, along with a greater capacity for imagination, memory, and creativity.

The potential of this transformative period can be harnessed to link it with creative reading skills. Guiding all these changes and energy towards fostering students' love for reading is essential, making it a growing life habit and an integral part of their lives. The ultimate aim is to prepare a generation that recognizes the importance of reading and practices it creatively.

Researchers have sought to develop creative reading skills among students by conducting studies that explore various strategies to achieve this goal. Abu El-Rous (2015) conducted a study aiming to determine the effectiveness of integrated education in developing creative reading skills for Arabic language learners among non-native speakers in Egypt. A quasi-experimental approach was employed, including a diagnostic test to assess participants' levels of creative reading skills. The study was conducted on a sample of 30 learners, and the results revealed statistically significant differences in the average scores of learners in the creative reading skills test, attributed to the teaching strategy favoring the experimental group.

Moedt and Holmes (2020) investigated the impact of purposeful play based on shared short stories on the comprehension of creative reading and language abilities among kindergarten children. A quasi-experimental design was utilized, and the study sample consisted of 42 culturally diverse kindergarten students in the northeastern United States. The findings indicated that purposeful play based on shared short stories had a positive effect on children's understanding of creative reading and language test scores.

The study by Al-Husseini (2021) aimed to assess the effectiveness of differentiated instruction in enhancing the acquisition of creative reading skills and comprehension strategies among ninth-grade students in Oman. A quasi-experimental approach was employed, using instruments such as a test for creative reading skills, a test for comprehension, an attitude scale, and a differentiated instructional program. The study included a sample of 61 male and female students in the control group and 63 students in the experimental group. The results revealed statistically significant differences between the average scores of the two groups in the comprehension and creative reading tests, attributed to the teaching strategy, favoring the experimental group. The results also showed a statistically significant interaction effect between the two groups and gender on the attitude scale toward reading.

Ocak and Karşlı's (2022) study aimed to explore the relationship between critical reading skills and creative reading perceptions among fifth-grade students in Turkey. A correlational research design was used, along with the Critical Reading Skills (CRS) scale and the Perception of Creative Reading (PSCR) scale. The study involved a sample of 446 students, and the results indicated a positive and significant relationship between critical reading skills and levels of creative reading perception among fifth-grade students. Critical reading skills were found to be a significant indicator of creative reading perception. The study also revealed that gender did not significantly impact the relationship between critical reading skills and creative reading perception, while variables such as average daily television viewing time and the number of books read per month had a significant impact on this relationship.

The study by Al-Bastawi and Mubarak (2022) demonstrated the impact of a proposed electronic environment based on digital game stimuli on the development of creative reading skills for the novel among secondary school students in the United Arab Emirates. The experimental design was quasi-experimental, and the study instruments included a proposed electronic environment based on digital game stimuli, an achievement test, and a final product evaluation card. The study included a sample of 66 students, and the results indicated statistically significant differences in the average scores of students in the creative reading skills test, attributed to the teaching method and in favor of the electronic learning environment.

Most previous studies have examined creative reading as a dependent variable, with researchers exploring various independent variables. For example, Moedt and Holmes (2020) investigated the effectiveness of play strategy as an independent variable in enhancing creative reading comprehension and language abilities among preschool children. The current study aligns with previous research methodologies, utilizing a quasi-experimental approach similar to studies by Al-Qarni (2018), Al-Husseini (2021), and Al-Bastawi and Mubarak (2022). Some studies, such as Al-Shbuli and Ahmed (2022), employed a mixed-methods approach.

The instruments used in these studies varied, encompassing tests to measure creative reading skills, such as those used by Al-Qarni (2018), Al-Husseini (2021), and Al-Bastawi and Mubarak (2022). The current research benefited from these previous studies by selecting appropriate methodologies, preparing study instruments, addressing the research problem, establishing connections between results, and leveraging insights gained from previous research. However, the current study distinguishes itself by evaluating the effectiveness of the interactive electronic approach in developing creative reading skills among tenth-grade female students in Qatar, an aspect not previously explored by researchers.

### **The Problem of the Study**

Despite the crucial role of reading skills in students' lives, complaints persist about students' weaknesses in reading skills. The issue is particularly pronounced in creative reading, as highlighted by studies like Al-Hassan (2017) and Al-Shawabkeh (2018), which pointed out students' weaknesses in creative reading and interaction with written texts. Additionally, Al-Siyabi (2020) identified teaching methods as a contributing factor to students' reading weaknesses. The researcher, who has experience as an Arabic language teacher in Qatar's secondary education, observed students' deficiencies in creative reading. This observation was supported by existing studies, leading to the identification of a gap in addressing students' weaknesses in creative reading through appropriate teaching methods. Recognizing the significance of modern technology and its potential to enhance student motivation and provide diverse learning resources, the researchers aimed to integrate traditional teaching with modern technology. This led to the development of an interactive electronic approach to improve students' creative reading skills.

## Objectives and Questions of the Study

The research addressed the following question:

- Are there statistically significant differences at a significance level of ( $\alpha = 0.05$ ) between the average scores of the experimental and control groups in the test of creative reading skills, collectively and individually, attributed to the teaching strategy (electronic interactive approach, conventional approach)?

## Significance of the Study

**The importance of the research lies in both theoretical and practical aspects, as follows:**

### First: Theoretical Significance

Motivating Student Interest: The research aims to find ways to increase students' motivation for reading in general and enhance their creative reading skills. It provides a theoretical framework for education based on the electronic interactive approach, contributing to the enrichment of Arabic literature with a new study and theoretical framework.

### Practical Significance

The program based on the interactive electronic approach may develop creative reading skills in the Arabic language for students, contributing to achieving educational objectives more effectively. It is expected that the program will provide an education that aligns with the advancements of the era and rapid technological progress. This includes supplying curriculum developers and teachers with one of the modern education methods: using education based on the interactive electronic approach to teaching reading. It aims to capitalize on students' love for modern technology to enhance their creative reading skills and increase their motivation for it.

## Study Approach

The current study used a quasi-experimental approach with a pre-post design of two unequal groups (Alhawamdeh et al., 2020; Elbasir et al., 2020; Habes et al., 2020; Habes, Ali, et al., 2022; Tahat et al., 2020) They were selected intentionally from the Qatar Foundation School for Girls of the Ministry of Education of Qatar. Students were distributed randomly into two study groups. The first group is the control group while the second group is the experimental group for 25 female students for each group. The researchers of the present study designed an educational program based on an electronic interactive approach according to the standards for the design of educational programs. The educational program consisted of four creative reading skills: originality, fluency, flexibility, and expansion. the general objectives, the importance, the activities, and the necessary procedures to apply each skill (Tahat et al., 2023). The educational program aimed to improve the creative reading skills of female tenth graders, and the suitability of the program was verified by presenting it to a jury specializing in the fields of Arabic language curricula, teaching methods, and educational psychology. One of the jury's opinions and observations was to reconsider the linguistic formulation of some skills and increase the number of examples for each skill (Tawafak et al., 2023). To achieve the objectives



of the study, the definition of a list of creative reading skills included the following dimensions: Authenticity: presenting new and unconventional ideas in the text. Generating original ideas for a situation or event in the text proposing unconventional and unfamiliar endings for the text. Fluency: provide many synonyms and antonyms for a specific word mentioned in the text. Offering the maximum possible number of ideas instead of those presented in the text. Extracting evidence or clues confirming an idea or opinion in the text. Flexibility: proposing the maximum possible number of suitable titles for the text. Transforming the text from one literary form to another while retaining the meaning suggests solutions and endings for the text.

### **Expansion:**

Developing the general idea in the text by adding new and diverse details.

Developing a main idea in the text by adding new and diverse details.

Adding new elements (characters and events) and anticipating the resulting outcomes the final test consists of 24 constructive-type questions, equally distributed among the dimensions of creative reading.

### **The Validity of the Test (Content)**

To ensure the validity of the content, the test was submitted to a validation jury, and their opinions were taken into consideration. The necessary changes were made, considering their opinions.

### **Test Reliability**

To verify the validity of the creative reading skills test, it was piloted and re-applied two weeks after the first application to a sample of 30 female students from the population of the study, and those students were excluded from the sample. The researcher calculated the Pearson correlation coefficient between the degree of the paragraph and the total score of the skill. Then, the researcher calculated the corrected correlation coefficient between the degree of the paragraph and the total score of the skill (corrected item-total correlation).

The results showed that the Pearson correlation coefficient between the degree of the items and the total score of the skill ranged between (0.69) and (0.88) for the originality skill, between (0.57) and (0.84) for the fluency skill, between (0.42) and (0.89) for the flexibility skill, and between (0.47) and (0.89) for the expansion skill.

All the aforementioned skills have statistical significance ( $P < .05$ ) and are higher than the threshold value (.35), which indicates the reliability of the creative reading skills test.

### **Test Consistency**

To verify the consistency of the creative reading skills test, the researchers calculated the Cronbach's alpha coefficients (internal consistency) of the test domains, the test, and the stability of the consistency coefficient (re-applied).

The results showed that Cronbach's alpha coefficients ranged between (0.81) and (0.86) for the four test dimensions and were (0.93) for the whole test. All of the above were higher than the threshold value (0.70), and therefore the creative reading skills test has a high degree of stability.

### Equality of Research Groups

To verify the equality of the two research groups (experimental and control) in the preliminary performance on creative reading skills, both individually and collectively, an independent sample t-test was employed. Table 1 illustrates the results.

**Table 1: Test Results to Assess the Equality of Research Groups in Preliminary Performance on Creative Reading Skills, Individually and Collectively**

Dependent Variable	Group	Mean	S. D	Test-t	Degrees of Freedom	Statistical Significance
Authenticity	Experimental	4.42	1.77	0.989	48	0.328
	Control	3.88	2.08			
Fluency	Experimental	2.44	1.42	1.112	48	0.272
	Control	2.90	1.51			
Flexibility	Experimental	2.86	2.04	0.447	48	0.657
	Control	3.10	1.75			
Expansion	Experimental	2.66	1.73	0.634	48	0.529
	Control	3.00	2.05			

It is observed from Table 1 that there are no statistically significant differences between the means of the experimental and control groups in the four skills, individually and collectively. This indicates the equivalence of the research groups before the intervention.

### RESULTS AND DISCUSSION

The results of the first question, which states: "Are there statistically significant differences at a significance level of ( $\alpha = 0.05$ ) between the mean scores of the experimental and control groups in the collective and individual creative reading skills test attributed to the teaching strategy used (interactive electronic approach, conventional)?" To answer this question, the mean scores and standard deviations for the pre-test and post-test performance of the research participants were calculated for creative reading skills individually, according to the teaching strategy variable (educational program based on the interactive electronic approach and the conventional method). Table (2) shows the results.

**Table 2: Mean Scores and Standard Deviations for the Pre-Test and Post-Test Performance of Research Participants in Individual Creative Reading Skills According to Teaching Method**

Creative Reading Skills	Maximum score	Group	test-Pre		test-Pro	
			Mean	S. D	Mean	S. D
Authenticity	12.5	Experimental	4.42	1.77	10.06	1.40
		Control	3.88	2.08	6.40	2.63
		Overall	4.15	1.93	8.23	2.79
Fluency	12.5	Experimental	2.44	1.42	9.38	2.20
		Control	2.90	1.51	6.44	2.69
		Overall	2.67	1.47	7.91	2.85
Flexibility	12.5	Experimental	2.86	2.04	9.72	2.10
		Control	3.10	1.75	6.32	2.79
		Overall	2.98	1.88	8.02	2.99
Expansion	12.5	Experimental	2.66	1.73	9.84	1.94
		Control	3.00	2.05	6.88	1.67
		Overall	2.83	1.88	8.36	2.33

From Table (2), there are significant differences in the mean scores between the experimental and control groups in the post-test performance of individual creative reading skills, according to the teaching method variable, in favor of the experimental group. The average performance of individuals in the experimental group was (10.06) in the authenticity skill, (9.38) in the fluency skill, (9.72) in the flexibility skill, and (9.84) in the expansion skill. In contrast, the average performance of individuals in the control group was (6.40) in the authenticity skill, (6.44) in the fluency skill, (6.32) in the flexibility skill, and (6.88) in the expansion skill.

**Table 3: Hotelling's Trace Test for the Effect of Teaching Method on Creative Reading Skills**

Variable	Value	F Value	Degrees of Freedom	Degrees of Freedom	rError	Significance	Eta Square
Teaching Methods	1.169	11.983	4000	41.000		0.000	0.539

The results of Table 3 indicate a statistically significant effect of the teaching method on creative reading skills (linear combination). The eta squared value of 0.539 suggests that the teaching method explains 53.9% of the variance in performance on creative reading skills (linear combination). To test the statistical significance of observed differences in the post-test performance on reading skills (individual), adjusting for the pre-test performance, a one-way ANCOVA was conducted. Table 4 illustrates these results:

**Table 4: One-Way ANCOVA for Testing the Statistical Significance of Differences in Post-Test Performance on Creative Reading Skills (Individual) After Adjusting for Pre-Test Performance**

Source of Variation	Creative Reading Skills	Sum of Squares	Degrees of Freedom	Mean Square	F Value	Statistical Significance	Eta Squared
Pre-Originality = Authenticity	Authenticity	1.755	1	1.755	0.385	0.538	0.009
Pre-Fluency = Articulation	Fluency	0.001	1	0.001	0.000	0.990	0.000
Pre-Flexibility = Flexibility	Flexibility	8.134	1	8.134	1.302	0.260	0.029
Pre-Expansion = Expansion	Expansion	0.853	1	0.853	0.245	0.623	0.006
Teaching Method	Authenticity	171.592	1	171.592	37.606	0.000	0.461
	Fluency	109.076	1	109.076	17.235	0.000	0.281
	Flexibility	143.217	1	143.217	22.925	0.000	0.343
	Expansion	106.997	1	106.997	30.735	0.000	0.411
Error	Authenticity	200.769	44	4.563			
	Fluency	278.467	44	6.329			
	Flexibility	274.878	44	6.247			
	Expansion	153.177	44	3.481			
Total Average	Authenticity	380.605	49				
	Fluency	398.845	49				
	Flexibility	437.980	49				
	Expansion	266.520	49				

From Table 4, statistically significant differences are observed between the mean scores of the experimental and control groups in individual creative reading skills in favor of the experimental group. Eta Squared values (0.461, 0.281, 0.343, 0.411) indicate that the teaching method explains 46.1%, 28.1%, 34.3%, and 41.1% of the variance in authenticity, fluency, flexibility, and expansion, respectively. Accordingly, the teaching method has the greatest impact on the skill of authenticity. This result is attributed to what electronic education provides to students in terms of the ability to retrieve information and texts, repeated readings at any time, reflection, and thinking supported by images, sound, and colors that focus on important issues. This approach may lead to a new perspective on the text. Additionally, emphasizing mental brainstorming, posing questions, and activities that invoke students' previous experiences helps them provide better answers. The skill of expansion came in second, and this result is attributed to the diversity of sources through interactive electronic education, including paper and electronic sources that are easily accessible. This diversity adds more experiences to students, contributing to creativity and creative reading skills. These experiences and additional readings provide students with ideas and details related to the reading, enabling them to see the meaning from multiple perspectives, integrate and analyze, and facilitate the process of analysis, interpretation, criticism, and expressing opinions.

Furthermore, flexibility is attributed to the fact that creative reading involves skills at multiple levels, transitioning from easy to difficult, consistent with the principles of programmed learning (the basis for designing lesson-teaching steps). This approach considers individual differences and adapts teaching to students' abilities, interests, and preferences. Students have enough time for reading and greater flexibility in dealing with the reading material. The questions requiring interaction from students also contributed to developing flexibility. The flexibility of the presented educational content was also a factor. Lastly, fluency is attributed to the use of dialogue, discussion, and expressing opinions during interactive electronic education. Providing students with the freedom to express opinions, diverse ideas, and varied questions that enhance thinking skills contributes to flexibility. The questions also encouraged students to express opinions freely, fostering diverse thinking skills and enriching the classroom with various experiences, both within and outside the classroom. This leads to diversifying the direct and indirect educational experiences provided to students. For the comparison between the mean performance of the experimental and control groups on each of the four creative reading skills (individual), the modified means, standard deviations, and standard errors were calculated according to the teaching method before and after adjusting for pre-existing differences. Table 5 illustrates this:

**Table 5: Modified Means, Standard Deviations, and Standard Errors for the Experimental and Control Groups on Each of the Four Creative Reading Skills (Individual) Before and After Adjusting for Pre-existing Differences**

Creative reading skills	group	Before modification		After modification	
		Arithmetic mean	standard deviation	Arithmetic mean	Standard error
Originality	Experimental	10.06	1.40	10.17	0.438
	Female officer	6.40	2.63	6.29	0.438
Fluency	Experimental	9.38	2.20	9.46	0.516
	Experimental	6.44	2.69	6.36	0.516
Flexibility	Experimental	9.72	2.10	9.80	0.512
	Experimental	6.32	2.79	6.25	0.512
Expansion	Experimental	9.84	1.94	9.89	0.382
	Experimental	6.88	1.67	6.83	0.382

Table (5) shows differences in the performance of the experimental and control groups on each of the four creative reading skills (individual), favoring the experimental group. Therefore, the educational program based on the interactive electronic approach statistically influences the improvement of creative reading skills in Arabic for tenth-grade female students. This result is attributed to the features provided by e-learning, including increasing students' motivation towards reading and active participation in the presented activities. Additionally, the blended learning features, presenting educational material through multiple means, stimulate various senses for learning, such as hearing and sight. The program's positive interaction with the students, combined with the teaching strategy based on the interactive approach, enhances the student's ability to understand the text creatively.

Moreover, the program encourages students not to settle for superficial reading and a simple understanding of meanings. The quality of questions presented through interactive electronic-based education pushes students to contemplate the texts carefully for effective answers. These findings align with studies by Al-Qarni (2018), Al-Bustawi and Mubarez (2022), and Al-Shubuli and Ahmad (2022), demonstrating the effectiveness of e-learning in developing creative reading skills.

### Recommendations

- Encourage Arabic language teachers to incorporate the interactive electronic approach in the educational process and utilize it to enhance creative reading skills. Conduct training courses to achieve this goal.
- Organize seminars and meetings with Arabic language teachers to highlight the interactive approach to teaching Arabic language skills and emphasize the importance of technology integration in education.
- Guide Arabic language teachers to focus on fostering creativity in students, adopting creative instruments, creating a suitable and encouraging classroom environment, and implementing teaching strategies based on dialogue, discussion, and critical thinking.

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