

The Effect of Guided Free Writing Strategy on Enhancing Critical Writing Skills Among Eighth Grade Female Students in Jordan

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Abstract

The present study was intended to examine the impact of the guided free writing technique on enhancing critical writing ability of female students in the eighth grade in Jordan. In order to accomplish this aim, a test that assesses the performance in specific critical writing skills was developed: inference and argumentation. The study sample comprised of (73) female students from the eighth grade at Al-Karameh Basic Co-educational School and Ruqayya Bint Al-Rasool Basic Co-educational School for the second semester of the 2025/2026 school year, using a convenience sampling technique. Two sections were randomly selected, one section of (38) students were taught the guided free writing strategy, while the second section of (35) students were taught the conventional method and served as the control group for the study at Ruqayya Bint Al-Rasool Basic Co-educational School. The results of the study showed that there was a significant difference in the improvement of the experimental group's Critical Writing skills individually and together compared with the control group. Based on the results of this study, it was recommended to integrate the guided free writing strategy into the teaching of the critical writing skills (inference and argumentation) and training the teachers of Arabic language in the implementation of this strategy.

Keywords: Guided Free Writing Strategy, Critical Writing Skills, Eighth-Grade.

Introduction

Language is considered as a cognitive system, a system which corresponds to the mechanisms of human thinking. It is a basic tool for organizing ideas and communication, and it is also a vehicle for the mental and creative processes (Chomsky, 2006). It involves four different skills, listening, speaking, reading and writing, which are not presented individually but integrated in a holistic approach taking into account cultural, social and educational backgrounds of the learner (Brown, 2021; Qamili, 2023; Rost, 1990).

Writing is regarded as the most advanced skill of them all: it is a complex cognitive process in which planning, organizing, and linguistic production interweave to allow for adaptations as the goal shift through the writing process (Flower & Hayes, 1981). Moreover, writing encourages critical thinking which involves analysing, organising and evaluating ideas, making the learner a producer of knowledge rather than a receiver of knowledge (Hyland, 2003; Wallace & Wray, 2016). Writing styles move from descriptive to critical argumentative writing, based on building, interpreting, and refuting evidence (Wallace & Wray, 2016). It is an advanced style of writing that is clear, precise and objective (Cottrell, 2017; Bailey, 2018), and helps in decision-making and problem solving (Aveyard, 2023).

The age group of 13-14 years has been found to be ideal for abstract thinking and critical capacities in learners (Santrock, 2017; Martorell, 2021; Martorell, 2007). Instructional strategies that develop critical thinking, identify fallacies, assumptions, and detect fallacies can be used to develop these skills, and eventually will result in well-structured argumentative texts (Bailey, 2018; Cottrell, 2017).

One strategy that is particularly successful is the guided free writing, which will help build fluency and intellectual originality. It frees students up from having to correct themselves immediately and can spark ideas (Elbow, 1998;

Kaufman & Baer, 2006). This approach is in line with the constructivist approach that points to the learner's role in creating knowledge and connecting his previous experiences with following ones (Wallace & Wray, 2016). This method has been found to be effective in empirical studies for years. For example, a quasi-experimental study conducted in Nigeria by Kwoku and Okpala (2025) with a sample of 322 students found that free writing decreased anxiety, stimulated idea generation, and improved writing fluency. The study suggested, the incorporation of free writing in the English language programs and to train the teachers on its use.

It is further supported by previous literature that the free writing strategy is effective in improving students' ability in writing skills and ideational fluency. Alharthi (2021) gave a study in Saudi Arabia with eighty students, who were divided into experimental and control groups, and concluded that the experimental group enjoyed greater language fluency, accuracy, and psychological well-being than the control group. According to this study, it is recommended that free writing be integrated into the English language instruction as a technique and emphasis on immediate error correction need to be minimized. Likewise, John (2019) showed that the free writing strategy improved students' fluency, reduced psychological barriers, promoted idea generation and increased students' self-confidence in Indonesia and emphasized the need for students to practice writing every day and refrain from correcting their grammar when they first start writing.

Asraf and Tan (2018) suggested that focused free writing helped learners to generate ideas quickly and promoted their autonomy, fluency and critical thinking, and they suggested the use of visual materials and writing circles after the writing task. Al-Dulaimi and Al-Masri (2016) statistically significantly different results between the control and experimental groups in the context of Jordan favoring the experimental group in the reverse thinking skills and fluency in writing, and they recommend using educational programs based on free writing and training the teacher. In addition, Li's (2007) study in Australia verified that free writing has positive effects on writing identity construction, self-confidence, writing anxiety reduction, and idea flow, suggesting that it can be incorporated into academic writing instruction.

A review of these previous studies revealed a range of motivations for the use of the free writing strategy. Kwoku and Okpala (2025) attended to the Academic competence while John (2019) was concerned with the writing fluency. Al-Dulaimi and Al-Masri (2016) associated free writing with reverse thinking skills while Li (2007) studied how free writing affected the development of a writing identity.

The methodologies used were also different; some studies used a quasi-experimental design to prove the effectiveness of the strategy empirically, for example, Alharthi (2021) and Al-Dulaimi and Al-Masri (2016). Others used qualitative methods as in the case of Li (2007), and Asraf and Tan (2018) which centred on the students' subjective experience.

These studies show that free writing is a flexible tool to apply in different educational contexts and in different cultures, from those carried out in Jordan, Saudi Arabia, Malaysia, Indonesia and Australia at different levels of education. The broad usage reflects its versatility and effectiveness in promoting fluency, critical thinking, and argumentative skills. Last but not least, the results suggest that the focus on fluency does not influence the linguistic exactness of the writing, but it supports the linguistic exactness to gradually enhance it, while fostering creativity, self-confidence and decreasing writing anxiety. Therefore, the results of these studies all support the incorporation of free writing in curricula and the training of teachers to use free writing as an ongoing cognitive activity that fosters thinking and creativity.

Statement of the Problem

Critical writing is a complex cognitive process that demands largely higher-order executive processes including working memory, cognitive flexibility, and attentional control (Diamond, 2013). Despite that, it has not yet been developed within the educational context because of the rote learning and the cognitive load that occurs due to it (Alidmat & Ayassrah, 2017). This requires the use of strategies that promote metacognition and improve the quality of students' writing (McQuillan, 2020). In the 2024/2025 national assessment, the mean score of 8th-grade female students in writing at the field level shows a lack of the skill, at 53% of the maximum score. Based on the findings of previous studies (Elbow, 1998; Wallace & Wray, 2016) which identified that guided free writing is effective in helping students develop their ideas and determine the position they will defend in writing, the following study was initiated to examine the impact of guided free writing on the critical writing of female students in grade eight in Jordan.

Research Questions and Hypotheses

The First Question:

"Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the mean scores of the two study groups' performance in critical writing skills combined, attributable to the teaching strategy (conventional vs. guided free writing)?"

- **The Main Null Hypothesis derived from this question states:**

"There is no statistically significant difference at the significance level ($\alpha = 0.05$) between the mean scores of the two study groups' performance in critical writing skills combined, attributable to the teaching strategy (conventional vs. guided free writing)."

The Second Question:

"Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the mean scores of the two study groups' performance on each individual critical writing skill, attributable to the teaching strategy (conventional vs. guided free writing)?"

- **This question yielded the following two sub-null hypotheses:**

1. **The First Sub-Null Hypothesis:** "There is no statistically significant difference at the significance level ($\alpha = 0.05$) between the mean scores of the two study groups' performance in the individual critical writing skill of **inference**, attributable to the teaching strategy (conventional vs. guided free writing)."
2. **The Second Sub-Null Hypothesis:** "There is no statistically significant difference at the significance level ($\alpha = 0.05$) between the mean scores of the two study groups' performance in the individual critical writing skill of **argumentation**, attributable to the teaching strategy (conventional vs. guided free writing)."

Objectives of the Study

The objectives of the current study could be summarized as follows: To find out the degree of effectiveness and impact that using guided free writing strategy has on the fifth grade female basic school students' performance in critical writing skills, and to verify whether there are statistically significant differences arising from the implementation of the steps done in the study.

Significance of the Study

The importance of this study lies in consideration of the interrelated psychological, educational, and applied variables. It is an attempt to understand the problem of students' critical writing skills due to the lack of some executive functions like working memory and cognitive flexibility, and because of this weakness, some students have problems organizing ideas and analysis text (Diamond, 2013). Moreover, it emphasizes on the teacher role and teaching methods in developing students' critical thinking and writing ability (Alidmat & Ayassrah, 2017). The applied significance of the study is that the results can be used as a guideline for the Arabic language teachers to make use of the guided free writing method and help curriculum developers and educational policy makers in developing a curriculum for the Arabic language in light of modern cognitive psychology.

Limitations and Delimitations of the Study

- **Objective Delimitations:** The study was delimited to the writing lessons in the textbook "*Arabic My Language*" for eighth-grade students in Jordan during the second semester of the (2025/2026) academic year. It focused on critical writing skills and their behavioral indicators: **inference and argumentation**, utilizing the specific instrument designed to measure these skills, including its psychometric properties.
- **Human and Geographic Delimitations:** This study was delimited to eighth-grade basic school female students in two schools: Al-Karameh Basic Co-educational School (representing the experimental group) and Ruqayya Bint Al-Rasool Basic Co-educational School (representing the control group). The findings cannot be generalized to male students or schools outside the geographical area of these two schools. The potential confounding variable of the teacher was controlled for by aligning both teachers' scientific qualifications and years of experience.
- **Temporal Delimitations:** The actual experimental treatment was implemented over a period of eight (8) weeks during the second semester of the (2025/2026) academic year, at a rate of three sessions every two weeks, interspersed with specific writing tasks.
- **Methodological Delimitations:** The study utilized an experimental approach with a **quasi-experimental design**, selecting equivalent groups upon which pre- and post-tests were administered.
 - **Independent Variable:** The study exclusively measured the impact of the **guided free writing strategy**.
 - **Dependent Variable:** The measurement of impact was delimited to two critical writing skills: **inference and argumentation**.

Limitations on Generalizing the Findings (Instrumentation & Evaluation):

Measurement Instruments: The results are constrained by the psychometric characteristics of the instruments given—critical writing test and its analytical rubric. Validity and reliability were checked only in the scope of the study sample.

Nature of Evaluation: The evaluation was only quantitative data based on the results of the post test to assess the effectiveness of the guided free writing strategy.

Terminology and Operational Definitions

Guided Free Writing Strategy:

An operational approach that involves structured and timed writing to develop idea generation. It is designed to help free the learner from self-censorship and helps to reduce the interference of the "inner editor" so that ideas can flow freely without being immediately distracted by spelling, grammatical, or logical errors. At the same time, it guides students to focus their mind on organizing the text into the central elements (introduction, body, and conclusion) and to connect the text to higher-order thinking skills like inference and argumentation.

This approach progresses sequentially through timed stages:

1. **Writing for (10) minutes** to deconstruct the initial idea and reduce self-censorship.
2. **Free writing for (7) minutes** to deepen comprehension and construct personal meaning.
3. **Writing for (5) minutes** to predict outcomes and infer implications.
4. **Writing for (10) minutes** to critically examine ideas and identify weaknesses.
5. **Final writing for (20) minutes** to integrate outputs into a cohesive, evidence-based text grounded in persuasion and argumentation.

Critical Writing:

The total scores of the female students in the study sample on the critical writing post-test. This test is evaluated via an analytical rubric that assesses the higher order thinking skills and stylistic elements of critical text—content and form. This score is a measure of the student's ability to make inferences and to build arguments in a logical manner. Inference: Making conclusions from premises in the text; using logical transitioning to make valid conclusions. Logical Structuring of Argument: Ability to make a claim with justifications and evidence in a sequenced and structured writing format.

Conventional Method:

The teaching procedures officially recommended by the Ministry of Education to be used in teaching writing skills to the female students in the control group according to the Teacher's Guide of the Arabic Language textbook for eighth basic grade (2025/2026). It consists of the following:

- **Reference:** Completely following the approved Teacher's Guide with no additional strategies added. Instructional Procedures: Direct instruction, lecturing and providing writing models from the text, then providing a specific writing topic to the student.
- **Instructional Procedures:** Reliance on direct instruction, lecturing, and demonstrating writing models from the textbook, followed by assigning a specific topic to the student.
- **Interaction:** The student is only an observer, notator, and then an individual performer of the writing task. Evaluation and Feedback: Correcting errors and giving an overall grade without giving specific formative feedback.
- **Evaluation and Feedback:** Correcting errors and giving an overall grade without giving specific formative feedback.
- **Measurement:** The effect is assessed by a post test which is marked using the standard answer key approved.
- **Eighth-Grade Basic School Female Students:**

All the female students of 8th grade at Al-Karameh Basic Co-educational School & Ruqayya Bint Al-Rasool Basic Co-educational School. The two schools are affiliated to Directorate of Education for Qasabah Irbid District in Jordan during the academic year of 2025/2026. The two schools were selected using a convenience sampling and one class section from each school was selected randomly.

The impact of the Guided Free Writing Strategy:

The levels of increase of the experimental group (female eighth-grade students) in critical writing skills following the treatment. This treatment consisted of eight (8) weeks of learning using the guided free writing strategy during the second semester of the (2025/2026) academic year. This effect was operationalized and measured with the scores obtained by the students on the pre/post measurement tool specifically developed for this effect.

Methodology and Procedures

Research Design

The study used an experimental technique with quasi-experimental design is the most suitable design for the nature and purpose of the study, since it is used to study the effect of the guided free writing technique on increasing critical writing skills among eighth grade basic school female students in Jordan.

Population and Sample of the Study

The Effect of Guided Free Writing Strategy on Enhancing Critical Writing Skills Among Eighth Grade Female Students in Jordan

The population and the sample of the study are displayed. The study was conducted on (73) female students in grade eight of Al-Karameh Basic Co-educational School and Ruqayya Bint Al-Rasool Basic Co-educational School during the second semester of the academic year 2558/2557. Both schools were chosen through a convenience sampling technique because of the administrative facilities and availability of the required resources for conducting the study. The sample consisted of two groups: (35) students in the conventional instructional method and (38) students in the guided free writing strategy. The class sections were taken at random from each school.

Research Instrument

This study aimed to fulfill objectives, an essay based test was developed to measure the improvement of the participants' critical writing skills. The test items were spread over two major skills: inference and argumentation. The instrument was developed in the following steps: The procedures for preparing the instrument were determined following a systematic scientific sequence that started with reviewing the theoretical literature for critical writing and the developmental characteristics of eighth-grade female students, and then the general structure of the Arabic language curriculum in Jordan. Next, the critical writing skills were recognized and categorized into inference and argumentation (Facione, 2013). To ensure alignment of items and instructional objectives, a table of specifications was created (Secolsky & Denison, 2018) and authentic writing tasks were crafted that would encourage students to take a critical stance when writing (Elbow, 1998). The skills and indicators for each skill were developed from a review of the literature, with inferences (drawing conclusions, using logical transitions) and argumentation (formulating claims, constructing justifications) indicators. A critical prose text was chosen and the test items were developed based on the above-mentioned skills, considering the three dimensions of assessment: contents, form and style. To ensure accuracy and objectivity in assessment, and to minimize assessment bias, an analytical rubric was prepared (Secolsky & Denison, 2018). Last, the effectiveness of the instrument was tested by giving it a pre-test and a post-test to the students to eliminate the influence of factors other than the learning effect, so that the difference in students' performance was caused only by the learning effect.

Validity of the Critical Writing Skills Test

Content Validity (Face Validity):

In order to check the validity of the test, it was shown to a panel of competent and experienced referees who are experts in Arabic language curricula and instruction, Arabic language and literature department of Jordan's universities, Arabic language supervisors and teachers at the Ministry of Education. The referees assessed the test with respect to: the suitability of the proposed subject, the clarity of the requirements of the test, its consistency with the sub-skills of critical writing, and the suitability and precision of the marking standards. Some changes were made in the test based on their suggestions: The prose text was altered in a way that would be appropriate for the study participants, and the wording of some of the questions was changed.

Construct Validity:

The test was given to a pilot sample to validate the construct of the test. The corrected item-total correlation coefficients were computed to gauge the correlation between each item and each skill and the correlation among the items and the overall score on the test (Table (1)). Note: This is a 'snapshot' of a larger table in the dissertation which includes several skills.

Table 1

Construct Validity Indicators for the Critical Writing Production Test

Skill	Indicator No.	Correlation Coefficient (Indicator Score vs. Total Skill Score)	Pearson Correlation Coefficient (Indicator Score vs. Total Test Score)
Inference	1	0.695	0.598
	2	0.793	0.530
	3	0.755	0.628
	4	0.338	0.257
	5	0.560	0.389
	6	0.880	0.840
	7	0.553	0.392
	8	0.872	0.837
Argumentation	1	0.707	0.678
	2	0.786	0.667
	3	0.894	0.488
	4	0.918	0.377

	5	0.884	0.394
	6	0.805	0.267
	7	0.858	0.293

Statistical Commentary on Table 1

The Pearson correlation coefficients for the items and the total score for the skills ranged from 0.338 to 0.880 for the Inference skill, and from 0.707 to 0.918 for the Argumentation skill (see Table 1). The correlation coefficients between the item score and the overall test score were in the range of 0.257 - 0.840 for the Inference skill, and 0.267 - 0.678 for the Argumentation skill. The calculated coefficients have all surpassed the cut off value of 0.20 thereby indicating a high and acceptable construct validity for the test.

Scoring Criteria

The researcher created the scoring criteria by making the scoring rubric in three parts, namely introduction, body, and conclusion. The rubric was then broken down into two sections. The first part assessed the selected critical thinking skills, inference and argumentation. The second portion of the scoring criteria was dedicated to writing style and the student writer's ability is identified by behavioral indicators of content, form and style.

Nature of the Criteria

These criteria were developed using the criteria for writing and critical writing skills: Inference and Argumentation. The criteria were drawn from the documented scholarly works done by Peter Facione (2013), Ken Hyland (2003), Mike Wallace & Alison Wray (2016) and previous research conducted by Abu Jabal (2020) and Asraf & Tan (2018).

Steps for Constructing the Criteria

The criteria were conceptualized in a systematic process starting with the identification of learning outcomes for critical writing as found in the study of the educational literature. This was followed by identifying the main areas in which students would be evaluated and creating a graduated rating scale to minimize inconsistencies in evaluation. The skills were broken down into measurable indicators, with two indicators given to each skill in the inferential and argumentative domains, and specific scores given for each indicator. The instrument was examined by the specialized experts to guarantee the validity and internal consistency was examined. Also, a pilot study was carried out to assess reliability and inter-rater reliability. Next, the scores were computed both overall and item-by-item to ensure an accurate evaluation of the critical writing.

Inter-Rater Reliability of the Critical Writing Test Skills

The test was administered to the pilot sample to assess the inter-rater reliability for skills of inference and argumentation. Reliability coefficients for the agreement were then computed for each skill that was part of the critical writing test.

$$\text{Agreement Reliability Coefficient} = \frac{2 \times \text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}}$$

Table (2) presents the inter-rater reliability coefficients for each skill of the critical writing test and for the skills collectively.

Table (2)

Inter-Rater Reliability Coefficients for Each Critical Writing Skill

Critical Writing Skills	Inter-Rater Reliability Coefficient
Inference	0.92
Argumentation	0.88
The Three Skills Combined	0.90

Table (2) shows that inter-rater reliability coefficients for the writing test skills were within the range of 0.86–0.94 and the test as a whole was 0.90. The values of all coefficients were found to be satisfactory for the present study.

Test–Retest Reliability of the Critical Writing Test

For test–retest reliability, the test procedure was repeated two weeks after the first application using the pilot sample. Two administrations of the test were used to determine the test–retest reliability for each skill and for the test as a whole through Pearson's test–retest reliability. Table (3) presents these results.

Table (3)

Test–Retest Reliability Coefficients for Each Critical Writing Skill and the Test as a Whole

Critical Writing Skills	Test–Retest Reliability Coefficient
Inference	0.87

Argumentation	0.84
Test Skills Combined	0.91

Table (3) reveals test-retest reliability coefficients for the critical writing test skills vary from 0.84 to 0.87 and the test overall reliability coefficient was 0.91. No values were deemed to be a problem for this study.

Test Administration

The pre-test and post-test were given to the students who took part in the present study after asking the students to write on the topic of critical writing test following the instructions given with the test.

Test Scoring

The critical writing scoring rubric contained major sections and related sub-skills (behavioral indicators that demonstrate these skills). The responses were then marked using the agreed upon marking criteria and the data analysed statistically to derive the results.

Equivalence of the Study Groups on the Pre-Critical Writing Test

Means and standard deviations were computed for the performance of the participants in the control and experimental groups to ensure that both groups had the same performance. An independent samples t-test was used to see if the differences in mean scores were statistically significant as a function of group variable. These results are shown in Table (4).

Table (4)

Results of the Independent Samples t-Test for the Pre-Performance of the Study Groups in Critical Writing According to Group Variable

Group	Mean	Standard Deviation	t-value	Degrees of Freedom	Statistical Significance
Control Group (Traditional Method)	43.49	15.12	-1.562	71	0.123
Experimental Group (Guided Free Writing)	48.31	11.15			

The results of the independent samples t-test in Table (4) showed that the t value of the teaching strategy was (-1.562) at a statistical significance level (0.123) which is larger than the level of $\alpha=0.05$. This means that the difference(s) between the performance of the control and experimental groups on the critical writing skills test was not statistically significant. The two groups were matched on the pre-test for the critical writing skills (experimental control). To provide additional statistical control, a One-Way ANCOVA was used after testing the assumptions. Furthermore, a One-Way MANCOVA was also employed after establishing the assumptions for the MANCOVA were met.

Implementation of the Study

Implementing the study was done on the experimental group students in the second semester of the 2025/2026 academic year. Twelve interactive instructional sessions (3 sessions per two weeks) were used as an intervention over 8 weeks. The session was 45-minutes long. Because the targeted writing skills were higher-order cognitive skills and were required to have enough time to incubate thoughts before generating and refining texts, the researcher used an integrated guided-task approach. A strategy used was to assign purposeful extra curricular writing after the interactive session to have more time in school for academic writing and more opportunities for distributed practice. These activities were under strict educational control, as they were directly related to the results of the classroom activities. Comments on these tasks were given in the planned teaching time. This procedure helped to maintain the experimental treatment throughout the short time period of the classroom and helped to provide enough exposure to the independent variable, the teaching strategy in both its forms Gary Borich (2017).

The official facilitation letter from Yarmouk University dated 1st February 2026 is in Appendix (A) and the official facilitation letter from the Jordanian Ministry of Education dated 11th February 2026 is attached as Appendix (B). The procedures for implementing the study started on Tuesday, 11th February, 2026 and ended on Thursday, 14th May, 2026, which is equivalent to 8 weeks and 12 interactive instructional sessions with each session lasting 45 minutes. The experimental group was taught with the Guided Free Writing Strategy while the control group was taught in the conventional teaching method as in the eighth grade teacher's guide.

Study Variables

This study included the following variables: Independent Variable: The teaching method of two types: conventional method and guided free writing. Dependent Variable: Critical writing skills (two dimensions:

- Overall performance on the test skills combined, overall critical writing skills.
- Each individual critical writing skill individually (inference and argumentation) as depicted by the performance of the participants on the items related to each individual skill.

Statistical Analysis

- For the first research question and to test its primary hypothesis, the means, standard deviations, and adjusted means for the performance of both study groups on the critical writing skills test overall were computed. Assuming the one-way ANOVA model, a One-Way ANCOVA was used to test the apparent differences between the teaching strategy post-test means.
- For the purpose of answering the second research question and for testing their main and subsidiary hypotheses, the performance of both groups was calculated for each critical writing skill separately, along with their means and standard deviations. Assumptions were verified and a One-Way MANCOVA was used to determine the statistical significance of the apparent differences between the means according to the teaching strategy.
- Partial Eta Squared was calculated to determine the effect size of the teaching strategy variable Jacob Cohen (1988). The effect size was considered small when the value of Partial Eta Squared was less than $\eta_p^2 < 0.01$, medium when it was less than $\eta_p^2 < 0.06$, and large when it exceeded $\eta_p^2 > 0.14$.

Results of the Study

To answer the first research question, which states:

"Is there a statistically significant difference at $\alpha=0.05$ between the mean scores of the two study groups in critical writing skills collectively attributable to the teaching strategy (conventional method versus guided free writing)?"

and to verify its main null hypothesis, which states:

"There is no statistically significant difference at $\alpha=0.05$ between the mean scores of the two study groups in critical writing skills collectively attributable to the teaching strategy (conventional method versus guided free writing)."

Means and standard deviations were calculated for the participants' pre-test, post-test, and adjusted post-test performance in critical writing skills collectively according to the teaching strategy (conventional method and guided free writing), as shown in Table (5).

Table (5)

Means and Standard Deviations of the Study Groups' Pre-Test, Post-Test, and Adjusted Post-Test Performance in Critical Writing Skills Collectively According to Teaching Strategy

Teaching Strategy	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Adjusted Test Mean	Post-Test Standard Error
Conventional Method	43.49	15.12	51.17	5.92	51.35	1.42
Guided Free Writing	48.31	11.15	73.42	10.08	73.26	1.37

From Table (5) it is noted that there is a difference in the pre-test and post-test means for the experimental group that was taught with guided free writing. It also shows a difference between the post test means of the control group and experimental group, which is apparent. Table (6) presents the results of the One-Way ANCOVA that was conducted to determine the statistical significance of the post-test differences according to the teaching strategy, which were controlled for pre-test differences in critical writing skills together.

Table (6)

Results of the One-Way ANCOVA for the Post-Test Mean Scores of the Study Groups in Critical Writing Skills Collectively According to Teaching Strategy

Source of Variance	Sum of Squares	df	Mean Square	F-value	Statistical Significance	Effect Size
Pre-Test (Covariate)	62.623	1	62.623	0.897		
Teaching Strategy	8452.319	1	8452.319	121.103*	0.000	0.634
Error	4885.611	70	69.794			
Corrected Total	13967.562	72				

* Statistically significant at $\alpha=0.05$

The data obtained from the analysis of variance in Table (6) showed that the teaching strategy used was statistically significant at a value of $\alpha=0.05$ or <0.05 . The result represents rejection of the main null hypothesis and acceptance of the alternative hypothesis which implies that the means of the two study groups in critical writing skills collectively attributed to the teaching strategy (conventional method versus guided free writing) are statistically different.

From the adjusted means shown in Table (6), the difference between the two groups was statistically significant in favor of the experimental group which was taught with guided free writing. The effect size obtained was 0.634

which is a large effect size based on Jacob Cohen 1988. This means that the variance (improvement) in the participants' post-test scores in critical writing skills can be explained by the guided free writing strategy as a whole. The guided free writing strategy therefore had strong effect as shown across the writing skills as a whole with a contribution of 63.4% of the improvement.

To answer the second research question, which states:

“Is there a statistically significant difference at $\alpha=0.05$ between the mean scores of the two study groups on each individual critical writing skill attributable to the teaching strategy (conventional method versus guided free writing)?”

and to verify the following subsidiary null hypotheses:

- The first subsidiary null hypothesis states: “There is no statistically significant difference at $\alpha=0.05$ between the mean scores of the two study groups in the critical writing skill of inference attributable to the teaching strategy (conventional method versus guided free writing).”
- The second subsidiary null hypothesis states: “There is no statistically significant difference at $\alpha=0.05$ between the mean scores of the two study groups in the critical writing skill of argumentation attributable to the teaching strategy (conventional method versus guided free writing).”

Means, standard deviations, and adjusted post-test means were calculated for the pre-test and post-test performance of both study groups on each critical writing skill separately.

Table (7)

Means and Standard Deviations of the Study Groups' Pre-Test, Post-Test, and Adjusted Post-Test Performance on Each Critical Writing Skill According to the Teaching Strategy

Skill	Teaching Strategy	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD	Adjusted Post-Test Mean	Standard Error
Inference	Conventional Method	7.77	3.08	9.43	1.75	9.73	0.48
	Guided Free Writing	8.66	2.80	13.37	2.97	13.09	0.46
Argumentation	Conventional Method	7.63	4.78	10.17	2.57	10.30	0.45
	Guided Free Writing	11.84	3.29	17.13	2.16	17.01	0.43

Table (7) shows apparent differences in the means of the pre-test and post-test measurement in the experimental group and apparent difference between the experimental and control groups in the post-test measurement. The statistical significance analysis of these differences after the pre-test scores were controlled for the effect on the five critical writing skills was analyzed by using the One-Way MANCOVA as illustrated in Table (8). It should be pointed out that in the dissertation five skills of critical writing are present.

Table (8)

Results of the One-Way MANCOVA for the Post-Test Mean Scores of the Study Groups on Each Critical Writing Skill According to the Teaching Strategy

Source of Variance	Skill	Sum of Squares	df	Mean Square	F-value	Statistical Significance	Effect Size
Covariate (Pre-Analysis)	Analysis	5.464	1	5.464	1.576		
	Interpretation	2.792	1	2.792	0.739		
	Inference	2.414	1	2.414	0.381		
	Refutation and Evaluation	2.500	1	2.500	0.548		
	Argumentation	2.250	1	2.250	0.400		
Covariate (Pre-Interpretation)	Analysis	0.052	1	0.052	0.015		
	Interpretation	14.747	1	14.747	3.904		
	Inference	0.109	1	0.109	0.017		
	Refutation and Evaluation	0.820	1	0.820	0.180		

	Argumentation	0.471	1	0.471	0.084		
Covariate (Pre-Inference)	Analysis	0.649	1	0.649	0.187		
	Interpretation	8.826	1	8.826	2.337		
	Inference	0.430	1	0.430	0.068		
	Refutation and Evaluation	18.287	1	18.287	4.006		
	Argumentation	15.864	1	15.864	2.821		
Covariate (Pre-and Refutation Evaluation)	Analysis	0.057	1	0.057	0.017		
	Interpretation	4.849	1	4.849	1.284		
	Inference	1.070	1	1.070	0.169		
	Refutation and Evaluation	3.004	1	3.004	0.658		
	Argumentation	17.761	1	17.761	3.158		
Covariate (Pre-Argumentation)	Analysis	4.122	1	4.122	1.189		
	Interpretation	0.267	1	0.267	0.071		
	Inference	8.444	1	8.444	1.331		
	Refutation and Evaluation	1.692	1	1.692	0.371		
	Argumentation	1.039	1	1.039	0.185		
Teaching Strategy	Analysis	147.245	1	147.245	42.456*	0.000	0.391
	Interpretation	109.728	1	109.728	29.050*	0.000	0.306
	Inference	132.354	1	132.354	20.863*	0.000	0.240
	Refutation and Evaluation	131.689	1	131.689	28.847*	0.000	0.304
	Argumentation	529.632	1	529.632	94.180*	0.000	0.588
Error	Analysis	228.898	66	3.468			
	Interpretation	249.297	66	3.777			
	Inference	418.710	66	6.344			
	Refutation and Evaluation	301.298	66	4.565			
	Argumentation	371.159	66	5.624			
Corrected Total	Analysis	536.164	72				
	Interpretation	501.370	72				
	Inference	714.219	72				
	Refutation and Evaluation	597.562	72				
	Argumentation	1279.918	72				

Hotelling's Trace = 1.519, Statistical Significance = 0.000*

* Statistically significant at $\alpha=0.05$

Based on the analysis of variance in Table (8) the following findings can be noted:

Based on the results, the value of the statistical significance obtained from the Hotelling's Trace variable from the teaching strategy was 0.000 which is lower than $\alpha=0.05$. This means that there are statistically significant differences in at least one of the critical writing skills that can be related to the teaching strategy. Concerning the inference skill the value of the significance was $0.000 < \alpha=0.05$, so that the value showed statistically significant differences in the positive direction for the experimental group.

The effect size was 0.240, which was declared as a large effect, it indicated that 24% of the variance of the skill post-test performance was due to the Guided Free Writing Strategy. In terms of the argumentation skill, the significance value also obtained is 0.000, indicating that it is lower than $\alpha=0.05$, and the experimental group is superior to the control group. This had an effect size of 0.588, and a large effect size. This means that 58.8% of the variance in the post test were explained by the strategy that was implemented, validating the effectivity of the strategy in developing the ability to infer and argue.

Discussion of Results and Recommendations

This result can be ascribed in terms of the higher mean scores obtained by the experimental group after the test than pre-test. This improvement was made possible by the effectiveness of the Guided Free Writing Strategy in teaching students which created an environment for learning without restrictions or fear of making errors in their free writing. This helped to decrease anxiety and enhance language production.

This approach also helped to build students' ability to plan and develop ideas gradually, and to elaborate and fluently express each idea over time. This was apparent in post-test application written performance, in terms of quality and coherence. It can also be attributed to the gradual process of activities, which shifted from idea generating to organizing and connecting ideas in a logical manner, creating an enabling learning environment which boosted students' confidence and helped to encourage freer expression.

In addition, the strategy encouraged them to be more adventurous in their ideas, increased their language skills, and enhanced their skills in elaborating and clarifying their ideas with various examples. This was noted in the qualitative improvement in the post test writing performance in comparison with the pre test performance which was characterised by caution and limitation of the range of ideas. This result is in line with that of Elbow (1998) who emphasized on free writing in liberating thoughts and facilitating creative fluency.

This finding could also be understood within the framework of Lev Vygotsky's theory (1978) which states that the learning of writing skills is not individual but rather through the interaction of the person and the social context of the school. Support and a slow progression over time turns ideas into organised written production.

The results are also similar to those of other studies. Alharthi (2021) found that free writing had the positive effect on writing skills and linguistic accuracy. John (2019) also pointed out its effect on decreasing psychological barriers and increasing idea generation and Ashraf & Tan (2018) confirmed its contribution on accelerating idea production and promoting intellectual independence. There was also some good feedback between pupils which helped to build awareness of strengths and weaknesses and helped to improve performance slowly over time.

Further, the ANCOVA results revealed that the experimental group $Sig=0.000<0.05$ with a high effect size $\eta_p^2=0.634$ was different. This shows that the progress in writing was not due to chance, but was due to the effectiveness of the Guided Free Writing Strategy as compared to the traditional writing strategy that restricted student interactions and reduced students' role in building writing knowledge.

The high effect size $\eta_p^2=0.634$ could also be attributed to the improvement of students' attitudes towards themselves and the decrease in their anxiety in writing, as evidenced in the quality of the writing, language use, depth of ideas and coherence.

Based on the high amount of variance explained (63,4%), the strategy can be interpreted due to the use of integrated activities that involve continuous practice of the skills (discussion, writing, revision, evaluation). The activities carried out helped to reinforce the ability to write critically gradually and systematically, which was an effective implementation of the strategy in developing the students' critical writing ability comprehensively.

This result confirms theoretical research that guided free writing will help to overcome the psychological inhibition and intellectual rigidity of learners when generating ideas freely, particularly when the topic is complex such as Peter Elbow (1998) and Seieh et al. (2011). It also mirrors previous studies; Alharthi (2021) showed that it could improve fluency and accuracy, John (2019) showed that it could boost students' confidence and remove psychological barriers, and Ashraf & Tan (2018) showed that it could support students to build their argument and develop their thinking skills. Furthermore, the study conducted by Al-Dulaimi and Al-Masri (2016) highlighted its use to promote development of various thinking skills, which is the reason for the large effect size in the current study.

The results to the second research question can be understood by the students' growing perception of the causal relationships between ideas and linking them with logical explanations and justifications. This indicates the shift from the fragmented to the meaningful knowledge structure in information processing.

The heavy writing practice also gave students several opportunities to compare and analyze, ideas to choose for positions they were writing, and also enhanced their capacity to use evidence consciously and coherently. This added to the cohesion and strength of the written products. The repetitions of activities over time helped build precision and clarity in the ability to make inferences and connect them to conclusions.

This finding aligns with theoretical work that argues that creating logical connections to the efficiency of executive brain functions, namely cognitive control and mental flexibility, as highlighted by Adele Diamond (2013). The authors also noted that the findings presented by Alharthi (2021) showed that the application of modern strategies was beneficial to students' writing performance, in which the students could present ideas by justifying and inferring in a logical manner.

The results revealed statistically significant differences in the argumentation skill in favor of the experimental group. This improvement could be understood as:

The students' awareness of the importance of providing their ideas with proper arguments and evidence seems to have contributed to the improvement. This helped transform an expression of self into an organized persuasion, which is the heart of critical writing and argumentation.

This may also reflect that students were now able to plan and organize ideas and give evidence and explanation to make their texts more persuasive. Pupils' writing was beginning to be more coherent and purposeful with ongoing practice, with the aim being to persuade the reader rather than to convey ideas.

The results of this study align with the theoretical research which has focused on the critical writing as the process of making a claim and providing evidence to support that claim, as noted by Mike Wallace and Alison Wray (2016). In addition, Peter Elbow (1981) maintained that free writing is a first step in developing ideas for critiquing and developing them. In addition, executive functions play a role in structuring thoughts and inferring a logical order to enhance the argument, as highlighted by Adele Diamond (2013).

Unlike previous research, the current study combined the Guided Free Writing Strategy with the development of higher order thinking skills in an integrated approach. In addition, it provides a balance of writing freedom and focused direction in writing organized argumentative texts, allowing for the development of these skills in early education at a level appropriate to the students' characteristics. This, in turn, makes the study conclusions apply to practice.

Recommendations of the Study

Based on the findings of the study and the demonstrated effectiveness of the Guided Free Writing Strategy, there is a clear need to activate these findings within the educational field. Accordingly, the following recommendations are proposed:

1. Employ the Guided Free Writing Strategy in teaching writing skills.
2. Train Arabic language teachers on how to apply the strategy systematically and effectively.
3. Incorporate activities based on free writing into school curricula.

Suggestions for Future Research

1. Conduct studies investigating the effect of the Guided Free Writing Strategy on the development of other language skills.
2. Examine the effectiveness of the strategy among different age groups.
3. Conduct comparative studies between the Guided Free Writing Strategy and other instructional strategies.

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