ASSESSING IRAQI UNIVERSITY READERS' CRITICAL THINKING DEVELOPMENT THROUGH THE USE READER RESPONSE STRATEGY IN THE INSTRUCTION OF SHAKESPEARE'S LITERARY TEXT

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Abstract

Purpose: This study centers on the significant role of Reader Response theory in instruction literary text, this study also, affirms that there is a useful and progressive influence of the Reader-response strategy in the literary text to enhance and improve the level of EFL Iraqi learners’ critical thinking. This study proves that teaching literature, without Reader response strategies, the level of development of critical thinking becomes very passive and slow.

Methodology: The researcher used one group “pre-post-test”. The study was conducted at the English department, Faculty of Education in Iraq. This study was carried out for fifteen weeks. The researcher administered Cornell Class-Reasoning Test as a pre-test in week 4 while post-test in week 14. The researcher used non-probability convenient sampling because it was probably the most common of all sampling techniques in social sciences and the proximity of the samples to the researchers (Patton, 1990). This test was run twice with intensive interventions for five weeks implemented between the two tests.

Main Findings: Findings showed that there was a statistically significant difference in the EFL Iraqi learners’ critical thinking skills between pre-test scores and post-test scores. There are statistically significant differences at the “p ≤ 0.05” level for the following item groups: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 12. This study confirmed that participants significantly improved their level of critical thinking skills by implementing Reader- Response activities in teaching literary texts.

Implications: This study proposes applying the strategies of reader-response theory as an effective and encouraging concept or stimulating approach to enhance the level of recognition and appreciating of the texts in literature. This experiment could be a positive study and applicable to different educational centers to teach all the texts in English literature. This study helps instructors to change their old-style manners of instructions.

Novelty: The experiment focused on the vital and encouraging role of reader-response theory in fostering EFL Iraqi readers’ capacity to generate multi-layers of versions and meanings during reading literature. The study presents a helpful and successful manner to all the persons who work as teachers in educational systems. The study directs the instructors to follow the modern approaches in explaining the literary text to their learners instead of the old-style manner. EFL tutors should practice these strategies in EFL English classes of literature so that they could make the lecture full of activity and enjoyment throughout the interesting themes of literature.

Keywords: Critical Thinking, Cornell Class-Reasoning Test, EFL, Reader Response Strategy, Iraqi Readers, Literary Text.

INTRODUCTION

Critical thinking has recently become a more important and vital goal of education systems all over the world. According to Fisher, (2011), Robert Ennis (1985), McPeck, (1981), Sternberg, (1986, (Kennedy, 1991) and Anderson, (2001) critical thinking is reasonable and reflective thinking which focuses on deciding what we believe and what we do, and also, critical thinking is the ability of analyzing, synthesizing and evaluating information during the learning process. This study highlights on assessing EFL Iraqi learners’ level of critical thinking skills. “Cornell Class Reasoning Test, Form “X” ran to the learners of the third year at Thiqar University in Iraq. The test was originally developed for use in research (Arter, 1987). Because of the vital and important role of critical thinking abilities for students’ academic studies and qualified vacations, this study focuses on developing these skills and abilities.

Literature reading is the cornerstone to develop and enhance the level of critical thinking (Tung and Chang, 2009). According to Qamar (2016), Stefanova, (2017) and Ganiron, (2014), stressed on the importance of literature reading in stimulating and developing critical thinking skills among EFL learners. The process of reading literature foster and encourages the skills and talents of critical thinking such as remembering, regaining, and producing various interpretations of the texts in literature. According to Khatib & Shakouri, (2012) and Rahman, (2017) students should appear their potential to be insightful of numerous thoughts; to apply what is educated to the real world. Students learn better if they find sympathies between what they learn and their experiences.

The current study stressed the effectiveness and importance of developing critical thinking skills in Iraqi classes. EFL Iraqi learners need the ability to make critical thinking as a vital and essential element of the curriculum, whether by mixing approaches (RRT and literature) or teaching it as a separate activity to enhance their level of critical thinking.
LITERATURE REVIEW

The term “critical thinking” is the capacity to think logically and clearly about what to believe and what to do (Ennis, 1985, Fisher, (2011). Critical thinking is a high skill of rational thoughts that are more suitable and accepted decisions to overcome the hard situations in different fields of life (Arslan, 2012). People with critical thinking skills are capable of doing the following things. Firstly, they can understand the logical links between thoughts. Secondly, they can generate accepted decisions. These forms of dispositions can be presented by people as attitudes and habits of well-mindedness (Halpern, 1999). Thirdly, they can show the conflicts and common faults in reasoning. Fourthly, they can solve all kinds of problems in proper ways. Also, they can identify and differentiate important ideas (Lai, 2011). Critical thinking is not a case of collecting information and thoughts, but, a critical thinker should be able to infer and conclude consequences from what he knows, and how he makes use of this information to solve the problem (AlKhateeb, 2017). A critical thinker should use his cultural and intellectual background so that he can think deeply to display the best solutions and the most accepted decisions and ideas (Guo, 2013). The skills of critical thinking are not focusing one field or in one area, critical thinking should be large in scope and comprehensive in all the fields of life. According to Fisher, (2011), critical thinking is very essential in challenging consensus and following more popular attitudes. We need critical thinking for its great role in evaluating and developing our creative ideas and thoughts (Fahim, 2014). Reading literary texts has great advantages especially in the early years, which makes learners get benefited some new cultural information (Inan, 2018). Literary texts are viewed as cultural worlds since teaching foreign language literature entails teaching the culture of that language (Bellour, 2013). A literary text has a special impact on developing students’ critical thinking skills and they get a wide range of interaction more than any other texts such as scientific and historical topics. Many previous researchers used the activities of Reader-response theory to develop the level of critical thinking skills among their learners such as Tucker, (2000), Garzon and Castenda, (2015), Soiferman, (2016) and Spirovksa, (2019). All these activities encourage the learners’ reflection with the events of the literary text. These activities made them express their own and personal and social experiences and connecting them with the events of the text. In reading literature, students use their personal, historical and cultural background (Kohazadi, 2014). Literature is considered as a mirror for all the learners which reflects the events of life (Khatib, 2012). In the light of the plot of text, students are facing different points of view and situations through the struggles between the characters, after that learners should think, rethink and reflect their ideas with the actions of the text (Das, 2014). Using literary works will gradually enhance the level of critical thinking skills of students’ mental ability (Qamar, 2016).

METHODOLOGY

This study was done at Thiqar University/ English department in Iraq 2018/2019. The researcher used one group, “pre-test and post-test” (intact class) because this design doesn’t contradict an order of syllabus in faculty and also the participants (students) were already assigned as a regular intact group (Creswell, 2012). A quasi-experimental design highlights the treatment of independent variables to notice and influence the level of the dependent variable (Dawson, 2007). The researcher can’t select samples randomly in this design and also, all samples are predetermined or assigned already (Intact class) Creswell, (2012).

Data collection

The author followed the following procedures for data collection. At the start, he took the administrators’ permission to conduct his experiment. Also, he took learners’ permission to take part in the experiment. Then, he used one group pre-test and post-test design. It was a quasi-experimental design, this design doesn’t contradict with the system of the faculty (Campbell, 1969). After that, the researcher adopted a convenient sampling, accidental sampling because of the availability of the samples to the researcher. Finally, the researcher conducted the Cornell Class-Reasoning Test, Form X as “pre-test and post-test”. This text contains twelve item groups; each item group has six questions with different principles of critical thinking. The purpose of this test is not to get high or low scores, but to see if the learners master the principles of critical thinking or fail. (Ennis, 1967)

Implementing Reader response in EFL Literature classes

The researcher implemented several activities of the Reader-response theory in teaching the literary text. The researcher initially combined oral and written instructions to start implementing Reader response activities. Prediction: In this activity, the researcher started making students do predictions before and during the reading of the literary text. This activity made the learners ready to interact with new events of the play. Learners used information from the text and their own experiences to predict what comes next from events. Activating prior knowledge: The researcher practiced this activity by making his learners comprehend the new ideas from the literary text and connect them with the ideas they already have by activating their prior knowledge. Whole-class literature discussion and small class discussion in the literature. These two activities made learners take part in critical literature discussions, highlighting the conflict between the characters in the play and also, expanded the learners’ understanding of the dramatic text by raising questions and challenging classmates themselves. The researcher also, used role-play activity to provide opportunities to assess knowledge mastery and breaking learning into smaller steps.
Data analysis

The data gathered from the “Cornell class-reasoning test, form X” were analyzed in terms of means, standard deviations and percentage using (SPSS). The researcher interpreted all the results by using descriptive analysis and made a comparison between the results of the two tests, “pre-test and post-test” by using “paired samples t-test” to understand if there is a statistically prominent difference between two tests.

RESULTS AND DISCUSSIONS

A. Pre-test

| ITEM GROUP | MEAN | Standard Deviation | Minimum Score | Maximum Score |
|------------|------|--------------------|---------------|---------------|
| Item Group 1 | 3.29 | 1.25               | 0             | 6             |
| Item Group 2 | 2.60 | 1.43               | 0             | 6             |
| Item Group 3 | 1.62 | .88                | 0             | 4             |
| Item Group 4 | 2.36 | 1.08               | 1             | 5             |
| Item Group 5 | 2.55 | 1.74               | 0             | 6             |
| Item Group 6 | 2.98 | 1.04               | 1             | 6             |
| Item Group 7 | 2.21 | 1.24               | 0             | 5             |
| Item Group 8 | 2.17 | 1.32               | 0             | 5             |
| Item Group 9 | 2.81 | 1.23               | 1             | 6             |
| Item Group 10 | 3.86 | 1.26               | 1             | 6             |
| Item Group 11 | 3.90 | 1.21               | 2             | 6             |
| Item Group 12 | 3.14 | 1.03               | 1             | 5             |

The table shows overall mean and standard deviation (from a possible low score of 0 to a high score of 6) for each of the 12 item groups in the pre-test. Minimum and maximum scores indicate the highest and lowest scores participants received across the 12 item groups. The pre-test total mean and the standard deviation is the overall test score (from a possible score ranging from 0-72) in addition to the highest and lowest scores.

B. Post-test

Like the pre-test table, this table shows the post-test total and the overall “mean and standard deviation” for each of the 12 item groups in the post-test, including the lowest and highest scores.

| ITEM GROUP | MEAN | Standard Deviation | Minimum Score | Maximum Score |
|------------|------|--------------------|---------------|---------------|
| Item Group 1 | 4.38 | 1.03               | 2             | 6             |
| Item Group 2 | 3.67 | 1.32               | 1             | 6             |
| Item Group 3 | 3.21 | 1.14               | 1             | 6             |
| Item Group 4 | 3.43 | 1.35               | 1             | 6             |
| Item Group 5 | 3.98 | 1.26               | 2             | 6             |
| Item Group 6 | 4.33 | 1.07               | 2             | 6             |
| Item Group 7 | 3.31 | 1.35               | 1             | 6             |
| Item Group 8 | 3.14 | 1.20               | 1             | 5             |
| Item Group 9 | 4.02 | 1.02               | 2             | 6             |
| Item Group 10 | 3.98 | 1.20               | 2             | 6             |
| Item Group 11 | 4.31 | 1.12               | 2             | 6             |
| Item Group 12 | 4.14 | 0.90               | 2             | 5             |

The first table shows the “pre- and post-test” total means (score range 0-72). The second table shows the results of the paired samples t-test. The test reveals a statistically prominent increase at the “p ≤ 0.05” level between the pre- and post-test scores. The average score of all participants was around 12.4 points higher on the “post-test than on the pre-test” (“p = 0.00”).
Table 3: The average score of all participants was around 12.4 points higher on the “post-test than on the pre-test”

|        | Mean | N  | Std. Deviation | S.E. Mean |
|--------|------|----|----------------|-----------|
| Pre-test total | 33.48 | 42 | 6.31           | .97       |
| Post-test total | 45.90 | 42 | 5.38           | .83       |

The mixing of critical thinking teaching into the educational programs is a very effective and necessary approach not only in Iraq but also around the world. Fisher (1998) claimed that the educational systems should give more attention and consideration to critical thinking amid the educational processes. Taken with the overall test results, we can state that participants significantly improved on their critical thinking test results from the “pre-test to the post-test”. Critical thinking has a significantly positive impact to assist students to resolve their educational and social issues. Moreover, we can confirm that the level of critical thinking abilities can be improved by using the Reader-response strategy in teaching literary texts.

CONCLUSION AND RECOMMENDATIONS FOR FUTURE

Results of the “per-item groups and post-item groups” revealed that there was a statistically prominent difference between them. Most of the “per-item groups” had failed to master the principle. While most of “post-item groups” had neither mastered nor failed the principle. (See the appendix A for pre and post as an example). Secondly, there were statistically significant differences at the “p ≤ 0.05” level for the following item groups: 1, 2, 3, 4, 5, 6, 7, 8, and 9.

Critical thinking is very essential for learners to appear in their potential abilities in educational and social issues. Moreover, it is one of the significant talents that students should be taught and acquired by studying at a higher level. Consequently, the researcher would like to give some recommendations. Firstly, instructors should make careful efforts to enrich their students' critical thinking capability. They should arrange such activities in literature classes that might enhance and develop critical thinking capacities among their students. Secondly, the students should pay full care to be more proficient in developing their critical thinking abilities so that they may overcome challenging concerns in instruction and social life as well.

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**Appendix (A) (Pre-item groups)**

Interpretation by (Mehta, 2018)

- Around 83.3% or higher correct = mastery of the principle
- Around 50.0% or lower correct = failure to master the principle
- Around 66.7% correct = neither mastery nor failure to master the principle
**Item Group 1:** Pre-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 8 | 73.8      | 26.2        |
| Item 35| 52.4      | 47.6        |
| Item 29| 47.6      | 52.4        |
| Item 16| 47.6      | 52.4        |
| Item 22| 61.9      | 38.1        |
| Item 39| 45.2      | 54.8        |
| OVERALL | 54.8     | 45.2        |

**Item group 1** the overall correct percentage for this item group of 54.8% suggests that participants had not failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

**Item Group 2:** Pre-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 7 | 81.0      | 19.0        |
| Item 40| 38.1      | 61.9        |
| Item 27| 23.8      | 76.2        |
| Item 14| 40.5      | 59.5        |
| Item 19| 42.9      | 57.1        |
| Item 31| 33.3      | 66.7        |
| OVERALL | 43.3     | 56.7        |

**Item group 2:** The overall correct percentage for this item group of 43.3% suggests that participants had failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

**Item Group 3:** Pre-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 11| 40.5      | 59.5        |
| Item 24| 19.1      | 80.9        |
| Item 32| 26.2      | 73.8        |
| Item 37| 28.6      | 71.4        |
| Item 30| 21.4      | 78.6        |
| Item 41| 26.2      | 73.8        |
| OVERALL | 27.0     | 73.0        |

**Item group 3:** The overall correct percentage for this item group of 27.0% suggests that participants had failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

**Item Group 4:** Pre-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 9 | 71.4      | 28.6        |
| Item 13| 42.9      | 57.1        |
| Item 26| 26.2      | 73.8        |
| Item 18| 28.6      | 71.4        |
| Item 34| 26.2      | 73.8        |
| Item 23| 40.5      | 59.5        |
| OVERALL | 39.3     | 60.7        |

**Item group 4:** The overall correct percentage for this item group of 39.3% suggests that participants had failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

**Item Group 5:** Pre-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 10| 19.1      | 80.9        |
| Item 17| 57.1      | 42.9        |
| Item 20| 38.1      | 61.9        |
| Item 33| 47.6      | 52.4        |
| Item 38| 61.9      | 38.1        |
| Item 28| 31.0      | 69.0        |
Item group 5: The overall correct percentage for this item group of 42.5% suggests that participants had failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 6: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 12 | 52.4 | 47.6 |
| Item 21 | 54.8 | 45.2 |
| Item 42 | 61.9 | 38.1 |
| Item 25 | 33.3 | 66.7 |
| Item 15 | 42.9 | 57.1 |
| Item 36 | 52.4 | 47.6 |
| OVERALL | 49.6 | 50.4 |

Item group 6: The overall correct percentage for this item group of 49.6% suggests that participants had failed to master the principle. (Al Mahrooqi and Denman, 2020).

Item Group 7: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 44 | 21.4 | 78.6 |
| Item 57 | 33.3 | 66.7 |
| Item 77 | 54.8 | 45.2 |
| Item 70 | 42.9 | 57.1 |
| Item 59 | 33.3 | 66.7 |
| Item 64 | 35.7 | 64.3 |
| OVERALL | 36.9 | 63.1 |

Item group 7: The overall correct percentage for this item group of 36.9% suggests that participants had failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 8: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 48 | 28.6 | 71.4 |
| Item 53 | 40.5 | 59.5 |
| Item 71 | 42.9 | 57.1 |
| Item 68 | 33.3 | 66.7 |
| Item 65 | 35.7 | 64.3 |
| Item 75 | 35.7 | 64.3 |
| OVERALL | 36.1 | 63.9 |

Item group 8: The overall correct percentage for this item group of 36.1% suggests that participants had failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 9: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 45 | 52.4 | 47.6 |
| Item 55 | 54.8 | 45.2 |
| Item 66 | 50.0 | 50.0 |
| Item 52 | 40.5 | 59.5 |
| Item 49 | 40.5 | 59.5 |
| Item 73 | 42.9 | 57.1 |
| OVERALL | 46.9 | 53.1 |

Item group 9: The overall correct percentage for this item group of 46.9% suggests that participants had failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 10: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 43 | 54.8 | 45.2 |
| Item 51 | 59.5 | 40.5 |
**Item group 10**: The overall correct percentage for this item group of 64.3% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

| Item  | % Correct | % Incorrect |
|-------|-----------|-------------|
| Item 62 | 71.4      | 28.6        |
| Item 72 | 69.1      | 30.9        |
| Item 67 | 73.8      | 26.2        |
| Item 76 | 57.1      | 42.9        |
| **OVERALL** | **64.3** | **35.7**    |

**Item Group 11**: Pre-test

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 47 | 47.6      | 52.4        |
| Item 54 | 50.0      | 50.0        |
| Item 63 | 66.7      | 33.3        |
| Item 58 | 66.7      | 33.3        |
| Item 78 | 97.6      | 2.4         |
| Item 60 | 61.9      | 38.1        |
| **OVERALL** | **65.1** | **34.9**    |

**Item group 11**: The overall correct percentage for this item group of 65.1% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

| Item Group 12: Pre-test |
|-------------------------|
| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 46 | 52.4      | 47.6        |
| Item 69 | 61.9      | 38.1        |
| Item 74 | 59.5      | 40.5        |
| Item 56 | 50.0      | 50.0        |
| Item 61 | 66.7      | 33.3        |
| Item 50 | 23.8      | 76.2        |
| **OVERALL** | **52.4** | **47.6**    |

**Item group 12**: The overall correct percentage for this item group of 52.4% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

**Appendix (B) Post - item group**

**Item Group 1: Post-test**

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 8  | 76.2      | 23.8        |
| Item 35 | 71.4      | 28.6        |
| Item 29 | 64.3      | 35.7        |
| Item 16 | 76.2      | 23.8        |
| Item 22 | 76.2      | 23.8        |
| Item 39 | 73.8      | 26.2        |
| **OVERALL** | **73.0** | **27.0**    |

**Item group 1**: The overall correct percentage for this item group of 73.0% suggests that participants had neither mastered nor failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

**Item Group 2: Post-test**

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 7  | 73.8      | 26.2        |
| Item 40 | 81.0      | 19.0        |
| Item 27 | 71.4      | 28.6        |
| Item 14 | 38.1      | 61.9        |
| Item 19 | 59.5      | 40.5        |
| Item 31 | 42.9      | 57.1        |
| **OVERALL** | **61.1** | **38.9**    |

**Item group 2**: The overall correct percentage for this item group of 61.1% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)
Item Group 3: Post-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 11| 57.1      | 42.9        |
| Item 24| 52.4      | 47.6        |
| Item 32| 42.9      | 57.1        |
| Item 37| 69.1      | 30.9        |
| Item 30| 47.6      | 52.4        |
| Item 41| 52.4      | 47.6        |
| OVERALL| 53.6      | 46.4        |

Item group 3: The overall correct percentage for this item group of 53.6% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 4: Post-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 9 | 76.2      | 23.8        |
| Item 13| 50.0      | 50.0        |
| Item 26| 54.8      | 45.2        |
| Item 18| 52.4      | 47.6        |
| Item 34| 52.4      | 47.6        |
| Item 23| 57.1      | 42.9        |
| OVERALL| 57.2      | 42.8        |

Item group 4: The overall correct percentage for this item group of 57.2% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 5: Post-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 10| 42.9      | 57.1        |
| Item 17| 64.3      | 35.7        |
| Item 20| 81.0      | 19.0        |
| Item 33| 71.4      | 28.6        |
| Item 38| 66.7      | 33.3        |
| Item 28| 71.4      | 28.6        |
| OVERALL| 66.3      | 33.7        |

Item group 5: The overall correct percentage for this item group of 66.3% suggests that participants had not failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 6: Post-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 12| 59.5      | 40.5        |
| Item 21| 76.2      | 23.8        |
| Item 42| 71.4      | 28.6        |
| Item 25| 64.3      | 35.7        |
| Item 15| 76.2      | 23.8        |
| Item 36| 85.7      | 14.3        |
| OVERALL| 72.2      | 27.8        |

Item group 6: The overall correct percentage for this item group of 72.2% suggests that participants had neither mastered nor failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

Item Group 7: Post-test

| Item   | % Correct | % Incorrect |
|--------|-----------|-------------|
| Item 44| 40.5      | 59.5        |
| Item 57| 42.9      | 57.1        |
| Item 77| 88.1      | 11.9        |
| Item 70| 47.6      | 52.4        |
| Item 59| 47.6      | 52.4        |
| Item 64| 64.3      | 35.7        |
**Item group 7**: The overall correct percentage for this item group of 55.2% suggests that participants had not failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 48 | 57.1 | 42.9 |
| Item 53 | 52.4 | 47.6 |
| Item 71 | 47.6 | 52.4 |
| Item 68 | 35.7 | 64.3 |
| Item 65 | 61.9 | 38.1 |
| Item 75 | 59.5 | 40.5 |
| OVERALL | 52.4 | 47.6 |

**Item group 8**: The overall correct percentage for this item group of 52.4% suggests that participants had not failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 48 | 57.1 | 42.9 |
| Item 53 | 52.4 | 47.6 |
| Item 71 | 47.6 | 52.4 |
| Item 68 | 35.7 | 64.3 |
| Item 65 | 61.9 | 38.1 |
| Item 75 | 59.5 | 40.5 |
| OVERALL | 52.4 | 47.6 |

**Item group 9**: The overall correct percentage for this item group of 67.1% suggests that participants had neither mastered nor failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 45 | 73.8 | 26.2 |
| Item 55 | 66.7 | 33.3 |
| Item 66 | 66.7 | 33.3 |
| Item 52 | 64.3 | 35.7 |
| Item 49 | 54.8 | 45.2 |
| Item 73 | 76.2 | 23.8 |
| OVERALL | 67.1 | 32.9 |

**Item group 10**: The overall correct percentage for this item group of 66.3% suggests that participants had not failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 43 | 59.5 | 40.5 |
| Item 51 | 64.3 | 35.7 |
| Item 62 | 69.1 | 30.9 |
| Item 72 | 59.5 | 40.5 |
| Item 67 | 57.1 | 42.9 |
| Item 76 | 88.1 | 11.9 |
| OVERALL | 66.3 | 33.7 |

**Item group 11**: The overall correct percentage for this item group of 71.8% suggests that participants had neither mastered nor failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 47 | 64.3 | 35.7 |
| Item 54 | 69.1 | 30.9 |
| Item 63 | 78.6 | 21.4 |
| Item 58 | 57.1 | 42.9 |
| Item 78 | 85.7 | 14.3 |
| Item 60 | 76.2 | 23.8 |
| OVERALL | 71.8 | 28.2 |

**Item group 12**: The overall correct percentage for this item group of 55.2% suggests that participants had not failed to master the principle. ([Al Mahrooqi and Denman, 2020](#)) and ([Mehta, 2018](#))

| Item | % Correct | % Incorrect |
|------|-----------|-------------|
| Item 46 | 59.5 | 40.5 |
| Item 69 | 57.1 | 42.9 |
| Item 74 | 78.6 | 21.4 |
Item group 12: The overall correct percentage for this item group of 69.0% suggests that participants had neither mastered nor failed to master the principle. (Al Mahrooqi and Denman, 2020) and (Mehta, 2018)

| Item | Percentage Correct | Percentage Incorrect |
|------|--------------------|----------------------|
| Item 56 | 57.1               | 42.9                 |
| Item 61 | 78.6               | 21.4                 |
| Item 50 | 83.3               | 16.7                 |
| OVERALL | 69.0               | 31.0                 |