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The Effectiveness of the Carousel Method in Enhancing Students' Understanding and Engagement in Lower Secondary Islamic Education

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ABSTRACT

The Carousel Method is an active learning strategy designed to address challenges in Islamic Education at the lower secondary level, where conventional approaches often result in limited comprehension, passive participation, and student disengagement. This study employed a mixed-methods design, combining qualitative and quantitative approaches to evaluate the effectiveness of the method. Research instruments included pre- and post-tests, questionnaires administered to 30 students from a lower religious secondary school in Besut, and structured observation checklists to ensure a holistic assessment of learning outcomes. The Carousel activity was implemented through five learning stations, each focusing on a specific Sirah (Prophet Muhammad SAW) subtopic. Students rotated across stations to read materials, assess tasks, collaborate with peers, contribute ideas, and complete scaffolded exercises designed to progressively measure comprehension. This rotational process sustained student focus and encouraged active physical and cognitive engagement, thereby reducing the static nature of traditional learning that often hinders participation. Findings from the pre- and post-test scores revealed that 90% of students demonstrated improvement following the implementation of the Carousel Method, 6.7% maintained their performance, and only 3.3% recorded a decline. These results highlight the method's effectiveness in enhancing student engagement and achievement. Beyond academic gains, the Carousel Method fostered improvements in interest, group collaboration, self-confidence, and factual recall in Sirah. Teachers also benefited from clearer insights into student understanding through stationbased tasks, supporting more authentic and valid assessment practices. Overall, the study demonstrates that the Carousel Method has strong potential to serve as a catalyst for more dynamic, inclusive, and experiential teaching and learning practices in Islamic Education. By shifting the focus from teacher-centered instruction to student-centered exploration, the method promotes active participation and deeper comprehension. Proposed enhancements include the integration of interactive digital tools, differentiated tasks across varying levels of complexity, and audio-visual resources to accommodate diverse learning styles. These improvements would further strengthen the pedagogical effectiveness of the Carousel Method, ensuring that Islamic Education becomes more engaging, meaningful, and aligned with contemporary educational needs.

Keywords:

Carousel Method; active learning; Islamic education; Sirah (Prophet Muhammad SAW)

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1. Introduction

Islamic Education plays a highly significant role in shaping students' moral values and strengthening their spiritual understanding at the lower secondary level. However, conventional teaching approaches in this subject still rely heavily on teacher-centered methods, which often result in passive learning and limited comprehension among students [1]. This lack of active engagement not only affects students' mastery of the subject matter but also weakens their motivation to participate constructively in classroom activities. In line with current developments, educational trends emphasize the importance of active learning strategies as a medium to foster deeper understanding and sustained engagement. One promising approach is the Carousel Method, which involves students moving from one learning station to another to complete tasks collaboratively. This method not only encourages physical movement but also strengthens peer interaction and cognitive involvement, thereby transforming the learning environment from static to dynamic [2]. Although its benefits have been acknowledged, empirical studies on the effectiveness of the Carousel Method in the context of Islamic Education remain limited, particularly at the lower secondary level [3]. Addressing this gap is essential, as innovative strategies such as the Carousel Method can enhance students' comprehension of Sirah Nabawiyah (the biography of Prophet Muhammad SAW) and related Islamic values. Furthermore, this approach can cultivate collaborative learning, boost self-confidence, and create a more inclusive classroom environment [4]. Therefore, this study was conducted to evaluate the effectiveness of the Carousel Method in improving students' understanding and engagement with Islamic Education content at the lower secondary level. Specifically, it aims to determine whether this approach can serve as a catalyst for a more meaningful, dynamic, and student-centered learning experience [5].

Station-based teaching approaches such as the Carousel Method are becoming increasingly relevant in the context of Islamic Education teaching and learning (T&L) as they emphasize active, collaborative, and student-centered learning [13]. A study by Bond [6] shows that learning activities involving movement, interaction, and a variety of tasks can enhance students' interest and engagement, aligning with the requirements of Islamic Education, which emphasizes conceptual understanding, discussion, and the meaningful internalization of values. In classroom practice, an OECD report [7] found that active learning strategies, such as group work and station rotation, can improve students' motivation and focus, making content delivery more engaging and effective. Cooperative learning approaches have also been proven effective in strengthening social interaction and communication among students. Van Ryzin *et al.*, [8] reported that cooperative learning enhances peer connectedness and positive interactions, which are crucial in group discussions and collaborative problem-solving activities in the classroom. Similarly, Fatima *et al.*, [10] emphasized that collaborative learning strategies increase students' willingness to share ideas, interact effectively with peers, and actively participate in group discussions. From an academic achievement perspective, Akinoso [9] reported that the station rotation method can improve conceptual understanding as students are given opportunities to explore topics through different tasks at each station. This aligns with the requirements of Islamic Education T&L, which involve concept explanation, application exercises, situational analysis, and the internalization of teachings. Tokiman and Mohd Zubir [14] found that interactive teaching strategies can stimulate student motivation and reduce boredom in the classroom, while Ahmad Narzaray and Ariffin [15] emphasized that experience-based, active learning approaches are more effective in fostering deep understanding of content.

In line with these findings, Aguipe *et al.*, [11] discovered that the Carousel Learning Strategy can enhance student engagement and academic performance through structured, station-based learning activities. These findings reinforce the argument that the Carousel Method not only increases student

engagement but also supports deep understanding of Islamic Education content through collaborative activities, structured tasks, and systematic station rotations. Therefore, the literature review demonstrates the suitability of the Carousel strategy as an effective intervention in Islamic Education T&L, particularly for enhancing motivation, active participation, and conceptual understanding among students. Despite the importance of Islamic Education in shaping students' values and character, many classrooms still rely heavily on traditional teaching methods, which often result in passive learning and limited engagement. This approach may hinder students' deep understanding of the subject matter and reduce their motivation and interest in learning. Innovative strategies such as the Carousel method, which emphasizes active participation and collaborative learning, have the potential to enhance comprehension and involvement. However, there is limited empirical evidence on its effectiveness in improving students' understanding, engagement, and motivation compared to conventional methods. Therefore, it is crucial to investigate whether the Carousel approach can significantly impact these aspects in Islamic Education.

The objectives of this study are: i) to assess students' understanding of Islamic Education content before and after the implementation of the Carousel; ii) to analyze the level of student engagement in learning activities using the Carousel method compared to traditional methods; iii) to identify the impact of the Carousel method on students' motivation and interest in the Islamic Education subject.

2. Methodology This study employed a quasi-experimental design using pre-tests and post-tests to evaluate the effectiveness of the Carousel Teaching Method on the achievement and engagement of Form 1 students in an Islamic Secondary School in Besut. A total of 30 students were selected through purposive sampling, representing various academic levels, while the research location was chosen based on the suitability of facilities and the cooperation of the school. Data were collected through pre and post-tests, a Likert-scale perception questionnaire, and an observation checklist assessing students' behaviour during Carousel activities, with a pilot test conducted to ensure the validity and reliability of the instruments. The use of both quantitative data and observational evidence indicates that this study adopted a mixed methods approach with a quantitative-dominant design to obtain more comprehensive and integrated findings. The research procedure involved a preimplementation phase for preparation and baseline assessment, an intervention phase conducted over several instructional sessions using station-based activities, and a post-implementation phase to measure students' achievement and perceptions. Data analysis was carried out using descriptive statistics and min score comparisons to identify changes, supported by triangulation across instruments to strengthen the conclusions. Ethical considerations were upheld through obtaining school consent, ensuring student confidentiality, and maintaining voluntary participation. Overall, this methodology ensured a well-structured research process and produced valid and reliable data to evaluate the impact of the Carousel Teaching Method.

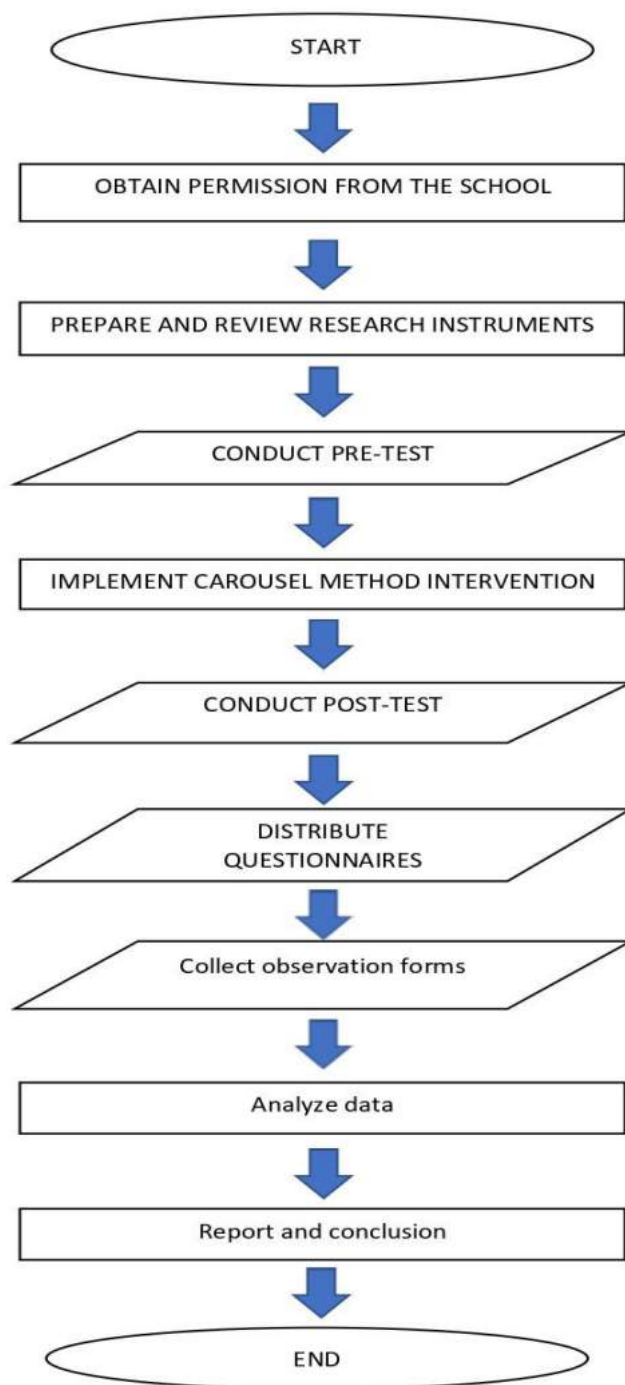


Fig. 1. Research flow chart

2.1 Research Instruments

This study utilised three main instruments to collect comprehensive data, namely the pre-test and post-test, a questionnaire, and an observation checklist.

2.2 Pre-Test and Post-Test

The pre-test and post-test were constructed based on the Form 1 Dokumen Standard Kurikulum dan Pentaksiran (DSKP) to ensure alignment between the content and learning objectives. The pre-test was used to measure students' initial level of knowledge, while the post-test assessed the extent of improvement after the intervention. The test items were developed in both objective and subjective formats according to the suitability of the topic and were reviewed by expert teachers to ensure strong content validity.

Name: _____ Class: _____ Date: _____

PRE-TEST: Biography of Prophet Muhammad (PBUH)

Instructions: Answer all questions.

Section A: Objective (5 Marks)

1. Prophet Muhammad (PBUH) was born in..... .

- A. Madinah B. Makkah C. Taif D. Yemen

2. The name of Prophet Muhammad's mother is..... .

- A. Halimah al-Sa'diah B. Fatimah binti Muhammad
C. Aminah binti Wahab D. Khadijah binti Khuwailid

3. The title of the Prophet before becoming a Messenger..... .

- A. Al-Faruq B. Al-Ameen C. As-Siddiq D. Ar-Rashid

4. The age of the Prophet when he received the first revelation..... .

- A. 25 years B. 30 years C. 40 years D. 50 years

5. The first wife of the Prophet (PBUH) was..... .

- A. Aisyah r.a B. Khadijah r.a C. Hafsa r.a D. Ummu Salamah r.a

Section B: Fill in the Blanks (5 Marks)

6. Prophet Muhammad (PBUH) was born in the year _____ known as the Year of _____.
7. The Prophet's grandfather was _____.
8. The Prophet's foster mother was _____.
9. The Prophet's father was _____.
10. The first Surah revealed was Surah _____.

Section C: Short Subjective (10 Marks)

11. State two morals of the Prophet (PBUH).

Answer: _____

12. Why did the people of Makkah respect the Prophet before he became a Messenger?

Answer: _____

13. Who was the Prophet's foster mother?

Answer: _____

14. Why was the Prophet called "Al-Amin"?

Answer: _____

15. Give one importance of studying the Prophet's biography.

Answer: _____

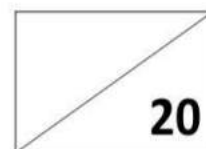


Fig. 2. Pre- and post-test questions

2.3 Student Perception Questionnaire

The questionnaire used in this study consists of four-point Likert scale items designed to assess students' perceptions of the effectiveness of the Carousel method. The items were developed based on four main constructs: interest and motivation, understanding of lesson content, active engagement, and collaborative learning environment. The selection of these constructs aligns with the emphasis on diverse instructional strategies that enhance students' motivation and participation in the learning process [14].

To ensure the validity of the instrument, the questionnaire underwent an expert review process to establish face validity and to confirm the appropriateness of the language for Form 1 students. In addition, a pilot study was conducted to evaluate the reliability of the instrument, ensuring that the items were stable and consistent in measuring the intended constructs. This procedure is consistent with recommended assessment practices in the secondary school curriculum, which emphasize content suitability and measurement reliability [15].

STUDENT MOTIVATION SURVEY FORM

Title: Carousel Method – Biography of Prophet Muhammad SAW

Section A: Experience During the Activity

Instructions: Tick (✓) your level of agreement for each statement below.

NUMB	Statements	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
1	I enjoyed learning using the carousel method.				
2	The activities at each station were easy to understand and enjoyable.				
3	I was able to learn more actively and did not feel bored.				
4	I understood the biography of the Prophet SAW better after this activity.				
5	I was able to cooperate with my group members.				
6	I had the opportunity to share my opinions and ideas during the activity.				
7	The teacher provided guidance and encouragement throughout the activity.				
8	This activity helped me remember the facts of the Prophet’s sirah better.				
9	I feel confident answering questions related to sirah after this activity.				
10	I would like to learn using this method again in the future.				

***Score Analysis (For Teacher)**

30–40 = High Motivation

20–29 = Moderate Motivation

10–19 = Low Motivation

Fig. 3. Student motivation survey form

2.4 Observation Checklist

The observation checklist was used to assess students’ learning behaviours throughout the Carousel activities. Observations were conducted on seven student groups and covered several indicators such as participation in discussions, turn-taking, completion of station tasks, time management, communication, interaction, discipline during station transitions, and adherence to teacher instructions. Each indicator was rated on a scale of 1 to 4, ranging from “Very Weak” to “Very

Good.” This instrument helps complement the quantitative data from the pre- and post-tests and the questionnaire by providing insights into students’ actual behaviours during the learning process.

ASSESSMENT CHECKLIST FORM FOR CAROUSEL ACTIVITY

Title: Biography of Prophet Muhammad SAW

Class: _____ Date: _____ Student Name: _____

Group: _____

***No. | Assessed Aspect | Descriptor | Score (1–4) | Teacher’s Notes**

1. Sirah Knowledge

States accurate facts about the biography & major events before prophethood

1 2 3 4

2. Understanding of the Prophet’s Character

Explains the meaning of the Prophet’s traits & gives current real-life examples

1 2 3 4

3. Islamic Values Appreciation

Shows awareness & is able to relate sirah to daily practices

1 2 3 4

4. Group Cooperation

Works together, discusses & respects peers’ opinions

1 2 3 4

5. Active Participation

Actively engages in tasks at each station (writing, arranging, answering)

1 2 3 4

6. Creativity & Presentation

Demonstrates creativity in work produced (mind map, puzzle, reflection)

1 2 3 4

*Achievement Level Score

Score | Level | Description

4 | Excellent (High) | Mastery is very good and able to explain confidently

3 | Good (Moderate-High) | Mastery is good but needs minimal guidance

2 | Satisfactory (Moderate-Low) | Shows basic understanding but inconsistent

1 | Needs Guidance (Low) | Weak in understanding and participation

Teacher's Comments:

.....
.....

Teacher's Signature: _____ Date: _____

Assessment Notes (Teacher's Guide)

Station | Assessment Focus | Evidence / Observation

1 | Knowledge of Prophet's biography | Accuracy of facts in mind map

2 | Understanding of sirah | Sequence of timeline & explanation of events

3 | Prophet's character | Correct matching of situations & clear reasoning

4 | Thinking skills | Ability to correctly assemble sirah puzzle

5 | Appreciation | Reflection demonstrating values and self-improvement

Fig. 4. Assessment checklist form for Carousel activity

3. Results and Discussion

This section discusses the main findings obtained from the quantitative and qualitative data analysis related to the implementation of the Carousel Teaching Method in Islamic Education learning among Form 1 students. The results include academic achievement through pre and post-tests, students' level of engagement during station-based activities based on the observation checklist, as well as their motivation levels measured through the questionnaire. These findings aim to present a comprehensive overview of the effects of the Carousel Method on students' understanding, active participation, and interest in learning, while establishing the foundation for subsequent discussion on the effectiveness of the intervention.

3.1 Analysis of Pre-Test and Post-Test Scores

Table 1
 Pre-test and post-test scores

Score Range	Pre-test	Post-test	Average improvement (%)
0-29	5	0	52.00
30-49	8	0	53.75
50-69	7	2	33.57
70-89	6	7	15.83
90-100	4	21	12.14

Based on Table 1, the analysis of pre-test and post-test scores indicates that the study objective of assessing students' understanding of Islamic Education content before and after implementing the Carousel Method was successfully achieved. On average, the pre-test scores were 56.0%, with the majority of students falling within the low to moderate categories. Thirteen students scored between 0 and 49%, reflecting a significant weakness in initial understanding of the topics taught. Following the intervention using the Carousel Method, the average post-test score increased significantly to 88.17%, representing an improvement of 32.17 percentage points. The distribution of scores also showed a notable shift, particularly the increase in students achieving excellent scores (90–100) from only 4 students to 21 students, while no students remained in the low score range. Analysis by score ranges indicated that the greatest average improvements occurred among lowperforming students, particularly within the 0–29% and 30–49% ranges.

These findings demonstrate that the Carousel Method, a collaborative learning strategy based on movement and group interaction, effectively enhances students' understanding of Islamic Education content. Elements of movement, discussion, and active participation in structured learning activities help improve focus, interest, and concept mastery, consistent with Bond [6] and the OECD report [7], which emphasize that learning activities involving interaction, group work, and station rotation can enhance student motivation and engagement. Furthermore, cooperative learning has been reported to strengthen social interactions and communication among peers, increasing connectedness and students' willingness to share ideas during group discussions, aligning with Van Ryzin et al., [8] and Fatima *et al.*, [10].

The shift in score distribution from predominantly low to predominantly excellent aligns with Aguipto *et al.*, [11], who noted that active student engagement positively affects concept mastery and academic performance. The pronounced improvement among low-performing students also suggests that the Carousel Method effectively reduces achievement gaps, supporting Akinoso [9], who highlighted that station rotation enhances conceptual understanding through exposure to varied tasks at each station. These findings are further consistent with Yusrizal *et al.*, [12], Tokiman and Mohd Zubir [14] Ahmad Narzaray and Ariffin [15], who reported that structured, interactive, and experience-based learning strategies can enhance understanding, critical thinking, motivation, and academic performance. Overall, the study confirms that the Carousel Method effectively supports the achievement of Islamic Education learning objectives while fostering a collaborative learning environment aligned with 21st-century educational aspirations.

3.2 Analysis of the Teaching Checklist for the Carousel Method

Table 2
 Analysis of six assessment aspects

Assessment Aspect	Min Score	Interpretation
Group Cooperation	3.86	Excellent
Sirah Knowledge	3.71	Excellent
Islamic Values Appreciation	3.57	Good
Active Participation	3.57	Good
Creativity and Presentation	3.43	Good
Understanding of the Prophet's Character	3.43	Good

The analysis of six assessment aspects shows that all seven groups consistently achieved scores within the range of 3 (Good) to 4 (Excellent), indicating strong mastery and active participation throughout the implementation of the Carousel method. The overall group averages ranged between 3.17 (GP3) and 4.00 (GP6). Among the six aspects evaluated, Group Cooperation recorded the highest min score of (3.86), followed by Sirah Knowledge (3.71) and Islamic Values Appreciation (3.57). Meanwhile, Understanding of the Prophet’s Character (3.43) and Creativity and Presentation (3.43) showed slightly lower scores but still remained within the good category, reflecting stable comprehension with room for improvement in creativity and the articulation of moral values. The dimension of Active Participation recorded a min score of (3.57) demonstrating high and consistent participation across all learning stations during the Carousel sessions. These findings are summarized in Table 2: Carousel Teaching Checklist Analysis, which illustrates balanced and stable scores across all assessment aspects.

The study’s findings indicate that the Carousel Method effectively enhances student engagement and mastery across various learning aspects, particularly in group collaboration, Sirah knowledge, and internalization of Islamic values. The high score in Group Collaboration reflects the effectiveness of structured movement and interaction in supporting collaborative learning. This aligns with Bond [6] and the OECD report [7], which emphasize that active learning involving movement, group work, and station rotation can enhance students’ interest, motivation, and focus in the classroom. The high level of active engagement (min = 3.57) supports Aguipeo *et al.*, [11], who found that the Carousel Learning Strategy enhances engagement, group interaction, and academic performance through structured activities. Increased collaboration also aligns with Van Ryzin *et al.*, [8] and Fatima *et al.*, [10] highlighting that cooperative learning strengthens peer connectedness and students’ willingness to share ideas. In terms of content understanding, high scores in Sirah Knowledge and Internalization of Islamic Values support Akinoso [9], who reported that station rotation allows students to explore content progressively and meaningfully. Overall, these findings confirm that the Carousel Method not only enhances engagement but also supports meaningful learning and holistic concept mastery in Islamic Education.

3.3 Analysis of Student Motivation Questionnaire on the Carousel Method

Table 3 shows consistently high results across all questionnaire items, with min scores exceeding 3.50. This indicates that the Carousel Method effectively fostered a high level of motivation among Form 1 students while learning the life of Prophet Muhammad (SAW). The item with the highest mean score was group collaboration (min = 3.80), suggesting that students were more motivated when given opportunities to interact and cooperate within their groups. Conversely, the item with the lowest min score, although still high, was confidence in answering Sirah-related questions (min = 3.53), indicating that this aspect may require ongoing reinforcement.

Table 3

Min level of student motivation for each item

Statement	Min	Interpretation
Enjoy learning using the Carousel method	3.60	Very high
Activities at each station are easy to understand and enjoyable	3.63	Very high
High Learning actively and not feeling bored	3.77	Very high
Better understanding of the life of the Prophet (PBUH)	3.70	Very high
Collaborating in groups	3.80	Very high
Opportunity to share opinions	3.70	Very high
Teacher guidance and encouragement	3.63	Very high
Better retention of Sirah facts	3.70	Very high

Confident in answering Sirah-related questions	3.53	High
Interested in learning using this method again	3.73	Very high

Table 4 provides an overall depiction of students’ motivation levels towards the Carousel Method. The vast majority of students, 93.3%, demonstrated a high level of motivation, while only 6.7% were at a moderate level, and no students fell into the low motivation category.

Table 4

Overall student motivation level

Motivation Level	Score Range	Number of Students	Percentage (%)
High	30-40	28	93.3
Moderate	20-29	2	6.7
Low	10-19	0	0
Total	-	30	100

The study findings indicate that the Carousel Method effectively enhances motivation and engagement among Form 1 students in learning the life of Prophet Muhammad (SAW). The highest min score was recorded in the group collaboration aspect (min = 3.80), while confidence in answering Sirah-related questions (min = 3.53) suggests the need for ongoing reinforcement. These results align with Bond [6] and the OECD report [7], which emphasize that learning activities based on interaction, group work, and station rotation can increase students’ interest, focus, and engagement. Additionally, the high level of active participation supports Aguipeo *et al.*, [11], who reported that the Carousel Learning Strategy improves engagement, group interaction, and academic performance through structured activities. The findings also correspond with Van Ryzin *et al.*, [8] and Fatima *et al.*, [10] indicating that cooperative learning strengthens peer connectedness and students’ willingness to share ideas meaningfully.

In terms of content understanding, high scores in understanding the life of Prophet Muhammad (SAW) and the opportunity to share opinions suggest that station rotation allows students to explore topics progressively and in depth, consistent with Akinoso [9]. Furthermore, Tokiman and Mohd Zubir [14] and Ahmad Narzaray and Ariffin [15] emphasize that interactive and experience-oriented teaching strategies can enhance motivation, reduce boredom, and foster deep understanding of the subject matter. Overall, these findings confirm that the Carousel Method not only boosts individual motivation but also fosters a collaborative learning environment that supports 21st-century educational aspirations, consistent with previous literature.

4. Conclusions

This study demonstrates that the Carousel Method is highly effective in enhancing students’ comprehension of Islamic Education content, particularly in the domain of Sirah Nabawiyah. The improvement in min scores from 56.0% in the pre-test to 88.17% in the post-test provides clear evidence that this approach can elevate students’ performance from low and moderate levels to an excellent standard. This finding underscores that a station-based methodology, incorporating physical movement, collaborative tasks, and peer interaction, effectively addresses the limitations inherent in traditional, passive teaching approaches. In addition to academic achievement, data from the motivation survey and observational checklist reveal that students were significantly more active, engaged, and confident when participating in Carousel activities. They not only demonstrated enhanced focus but also exhibited notable improvements in group collaboration, self-confidence, and the ability to retain Sirah knowledge. Furthermore, teachers were afforded the opportunity to evaluate students’ understanding more authentically through station-based tasks, thereby rendering

the assessment process both more valid and comprehensive. Overall, the Carousel Method holds considerable potential as a catalyst for dynamic, inclusive, and student-centered Islamic Education pedagogy. Recommended enhancements include the integration of interactive digital tools, task differentiation aligned with cognitive levels, and the incorporation of audio-visual resources to support diverse learning preferences. Consequently, this method is not only relevant within the contemporary educational context but also contributes meaningfully to the attainment of 21st-century educational objectives.

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