andikaharuddinunismuhmks@gmail.com 1

Delia+et+al..pdf

Kwame Nkrumah University of Science and Technology - no repository 27

Class C

Kwame Nkrumah University of Science and Technology

Document Details

Submission ID
trn:oid:::1:3390542235

Submission Date
Oct 29, 2025, 2:05 AM GMT

Download Date
Oct 29, 2025, 2:07 AM GMT

File Name
Delia_et_al..pdf

File Size
388.3 KB

12 Pages

6,466 Words

37,014 Characters

15% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography

Match Groups

81 Not Cited or Quoted 13%
Matches with neither in-text citation nor quotation marks

3 Missing Quotations 1%
Matches that are still very similar to source material

3 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

10% Internet sources
10% Publications
3% Submitted works (Student Papers)

Match Groups

- **81** Not Cited or Quoted 13%
  Matches with neither in-text citation nor quotation marks
- **3** Missing Quotations 1%
  Matches that are still very similar to source material
- **3** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

10% Internet sources
10% Publications
3% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	
repository.upi.edu		1%
2	Publication	
Suprapto Endah Retnowati, Jerusalem Mohammad Adam, Kristian Sugiyarto, Wag...		1%
3	Internet	
ebin.pub		<1%
4	Internet	
mrspolandsmath.weebly.com		<1%
5	Internet	
docplayer.net		<1%
6	Internet	
sipeg.unj.ac.id		<1%
7	Publication	
Sitti Aisa, Asmah Akhriana, Ahyuna Ahyuna, Andi Irmayana, Irmawati Irmawati, ...		<1%
8	Publication	
Anna Cabigiosu. "Innovation in Knowledge Intensive Business Services - The Digit...		<1%
9	Publication	
Maila D.H. Rahiem. "Towards Resilient Societies: The Synergy of Religion, Educati...		<1%
10	Internet	
jurnal.ulb.ac.id		<1%

11 Student papers

Podar International School <1%

12 Internet

meadowscenter.org <1%

13 Publication

Miller, Avery. "Deterministic neighbourhood learning in ad hoc wireless radio net... <1%

14 Publication

N. M. Bogoliubov. "Four-vertex model and random tilings", Theoretical and Math... <1%

15 Internet

ecogreenjournals.com <1%

16 Publication

Yuli Rahmawati, Peter Charles Taylor. "Empowering Science and Mathematics for ... <1%

17 Internet

e-journal.hamzanwadi.ac.id <1%

18 Internet

www.journal.staihubbulwathan.id <1%

19 Publication

Wayan Pudma Febby Mandalika, Maria Melani Ika Susanti, Andreas Erwin Prasety... <1%

20 Internet

arlenec.edublogs.org <1%

21 Internet

ejeset.saintispub.com <1%

22 Internet

forum.skype.com <1%

23 Internet

humanfactors.jmir.org <1%

24 Internet

www.embibe.com <1%

25 Internet
www.mdpi.com <1%

26 Internet
eprints.uny.ac.id <1%

27 Internet
jurnal.unsil.ac.id <1%

28 Internet
listens.online <1%

29 Internet
tvet-online.asia <1%

30 Internet
www.atlantis-press.com <1%

31 Publication
Muhammad Sofwan Mahmud, Ming Lei Law. "Mathematics Teachers' Perceptions... <1%

32 Internet
docshare.tips <1%

33 Internet
ia800502.us.archive.org <1%

34 Internet
jodel.or.id <1%

35 Internet
text-id.123dok.com <1%

36 Publication
Ade Gafar Abdullah, Tutin Aryanti, Agus Setiawan, Maizam Binti Alias. "Regionaliz... <1%

37 Publication
Ahmad Zainal Ihwan, Rusnilawati Rusnilawati. "Problem Based Learning Model w... <1%

38 Publication
Andi Alim Syahri, Abdul Gaffar, Ma'rup. "EFFECTIVENESS OF LEARNING MEDIA BA... <1%

39	Publication	M Dwi Wiwik Ernawati, Sudarmin Sudarmin, Asrial Asrial, Haryanto Haryanto, Mif... <1%
40	Publication	Subhan Zein, Fuad Abdul Hamied. "The Routledge International Handbook of Eng... <1%
41	Student papers	Texas A&M University, College Station <1%
42	Student papers	Tower Hamlets College <1%
43	Internet	bmcnurs.biomedcentral.com <1%
44	Internet	ejournal.unwaha.ac.id <1%
45	Internet	journal.upy.ac.id <1%
46	Internet	jurnal.peneliti.net <1%
47	Internet	jurnal.stkippgritulungagung.ac.id <1%
48	Internet	www.ivis.org <1%
49	Publication	Nadiya Mutiara Farikhatuzzaeniti, Kristi Liani Purwanti. "Development of Fraction... <1%
50	Publication	Ade Gafar Abdullah, Vina Adriany, Cep Ubad Abdullah. "Borderless Education as a... <1%
51	Publication	Charles P. McKeague. "WITHDRAWN: Basic Properties and Definitions", Elsevier B... <1%
52	Publication	Darliana Sormin, Mira Rahmayanti, Dani Hasanah. "Strategies for Promoting Edu... <1%

EduTransform
Multidisciplinary International Journal

Vol. 1 No. 1. Juny 2025
p-ISSN : XXXX XXXX
e-ISSN : XXXX XXXX

Analysis of Students' Learning Interest in Mathematics on Integer Numbers Material Using the Quizizz Application

Delia Pratiwi[1*], Salmawati[2], Andi Kaharuddin[3]
[1,2,3] Mathematics Education, Universitas Lakidende Unaaha, Southeast Sulawesi

*Correspondence: deliapratiwi@gmail.com

Received: [April, 7, 2025]	**Accepted:** [Jun, 13, 2025]
Published: [Juli, 1, 2025]	**DOI:**

Abstract

This study aimed to analyze the level of students' learning interest in Class VIIE of Islamic State Junior High School in Indonesia on integer material before and after using the Quizizz application, and to determine whether its use increased student engagement. The research employed a qualitative descriptive approach and was conducted at Islamic State Junior High School in Indonesia. Subjects were selected through purposive sampling, consisting of one student with high, one with moderate, and one with low learning interest. Data were collected through questionnaires, observations, and interviews, and analyzed using the stages of data reduction, data display, and conclusion drawing.The findings revealed a significant improvement in students' learning interest after the integration of Quizizz into mathematics learning. Before using Quizizz, 50% of students were in the moderate interest category, 26.66% in the high category, and the rest in the low category. After the implementation, the proportion of students with high learning interest increased to 76.66%, while moderate and low interest decreased to 16.66% and 6.6%, respectively. These results demonstrate that Quizizz effectively enhances students' enthusiasm and participation in mathematics learning by making lessons more interactive and enjoyable. Therefore, the study recommends that teachers incorporate technology-based applications like Quizizz alongside conventional teaching methods to foster greater engagement and improve learning outcomes. Integrating digital tools within mathematics instruction can create more meaningful, motivating, and effective learning experiences for students.

Keywords: *Interest; Mathematics Education; Quizizz Application; Interactive Learning; Student Engagement*

1. Introduction

Education stands as the most crucial foundation for developing students' knowledge and skills. In Indonesia, the education system continues to undergo improvements and yield positive results. Enhancing the quality of education is a vital objective mandated by the Regulation of the Government of the Republic of Indonesia Number 57 of 2021 concerning National Education Standards, which necessitates a curriculum to serve as a reference for national standards in the implementation of learning.

Education plays a significant role in developing high-quality human resources. Within the Indonesian education system, Mathematics is one of the core subjects taught at every educational level. Mathematics holds a fundamental role in developing logical thinking, analytical abilities, and problem-solving skills. However, in practice, Mathematics is often perceived as difficult and

boring by most students, which consequently leads to low interest in learning.

According to Slameto (in Akbar Hanipa et al., 2019:317), interest is a feeling of preference and attraction toward a particular matter or activity, based on one's own self-awareness. Learning interest is one of the primary factors influencing student learning outcomes. If students possess a high interest in learning, they will be more motivated and strive to understand the material better. Conversely, low student interest can cause them to become passive in their studies and struggle to comprehend the concepts being taught.

One of the topics in Mathematics that frequently poses a challenge for students is integers. This topic is highly important because it serves as the basis for understanding more complex mathematical concepts, such as arithmetic operations, equations, and functions. According to research conducted by Nur Indah Rahmawati (2020), many students experience difficulties in understanding the concept of integers, especially concerning addition and subtraction operations involving negative numbers. This difficulty can be caused by several factors, including unengaging teaching methods, minimal use of interactive learning media, and low student interest in the material. In the learning process, interest plays a vital role; students with high interest will be more motivated to understand the material and be active in class. Therefore, innovation in learning strategies is needed to effectively boost student interest, particularly in the topic of integers.

One approach to increasing student learning interest is leveraging technology in education, such as using the Quizizz application. Quizizz is an interactive, quiz-based learning application that can be used both online and offline. This application is designed to make the learning process more enjoyable through various gamified features like points, rankings (leaderboards), and time limits, thereby creating a competitive yet fun learning atmosphere.

Digital platforms like Quizizz are designed to make the learning process more engaging and interactive. Generally, the features of this digital platform are as follows: a) User-Friendly Interface: Quizizz has a simple and easy-to-use interface for both teachers and students. It includes a dashboard for creating quizzes, viewing student reports, and managing classes. The interface supports various devices such as laptops, tablets, and smartphones, b) Interactive Quiz Features: Teachers can create quizzes with multiple-choice, fill-in-the-blank, and open-ended questions. Quizizz also provides a question bank that can be used directly or customized. Each question can be supplemented with images, audio, or video to make it more engaging, c) Gamification: Gamification features make learning more enjoyable, incorporating elements such as: (1) Points and Leaderboards (for score tracking), (2) Timers for question completion, (3) Instant Feedback (provided automatically after a student answers), and (4) Avatars and fun memes (which appear after answering). d) Game Modes: Quizizz can be used in two modes: (a1) Live mode: used directly during the lesson, similar to an interactive quiz in class, and (2) Homework mode: assignments can be given to be completed at home, with a specific deadline, e) Reports and Analysis: After a quiz is completed, teachers can view a comprehensive report detailing: (1) The score of each student, (2) The questions most frequently answered incorrectly, and (3) Statistics to assess overall student comprehension, f) Integration with Other Platforms: Quizizz can be integrated with Google Classroom, Microsoft Teams, or other Learning Management Systems, making it easier for teachers to manage classes and assignments.

Several previous studies have shown that using Quizizz in learning positively impacts student motivation and comprehension. Suryani and Putra (2021) found that the implementation of Quizizz in Mathematics learning increased student discipline and made them more active in class.

Based on observations at Islamic State Junior High School in Indonesia) and an interview with a mathematics teacher at the school, it was found that many students still do not understand integers well. This contributes to students' low interest in their Mathematics classes. Furthermore, research by Prasetyo, S (2024:37) and Tarantalo & Arzarello (2020) indicates that modern students tend to be more engaged and enthusiastic when technology is utilized in learning. Technology is considered capable of making the learning process more meaningful and enjoyable, thereby increasing student interest and motivation in the classroom. Although various studies have proven the effectiveness of Quizizz in increasing motivation and learning outcomes, there is limited research specifically discussing student learning interest in

the topic of integers at the junior high school (MTs) level. Therefore, based on this background, the researcher chose the title, "Analysis of Student Learning Interest in the Topic of Integers Using the Quizizz Application in Class VII at Islamic State Junior High School in Indonesia."

2. Literature Review

2.1. The Concept of Learning Interest

According to the Great Dictionary of the Indonesian Language (KBBI) (online), learning interest is defined as "a strong inclination of the heart towards something; passion or desire." According to Santi Octaviana & Yohana Setiawan (2019:1152), interest is fundamentally an attraction to something that can encourage a person to carry out an activity with a feeling of pleasure and happiness. This aligns with the opinion of Slameto (2013:180), who states that interest is a feeling of preference and attachment to an item or activity, without being coerced.

According to Mardapi (2012), learning interest is a person's attention or attraction to an activity or subject. Djaali (2009) states that learning interest is influenced by two main factors:

- Internal Factors: These include feelings of pleasure, attraction, attention, and involvement.
- External Factors: These include family support, the school environment and teaching methods, learning facilities, and social participation and interaction.

From the various opinions above, it can be concluded that learning interest is an individual's tendency or attraction to pay attention to learning activities. The presence of student interest in the learning process will enhance their engagement in studying. The main factors influencing learning interest are internal and external factors.

The following table summarizes the indicators of learning interest:

Table 1. Factors Influencing Learning Interest

Factor	Indicator
Internal Factors	- Feeling of Pleasure: Students have a liking or enjoyable feeling towards the subject being studied, so learning is done without coercion. - Attraction: The driving force that encourages students to feel interested in the object of learning or the activity - Attention: The concentration and mental activity of students focused on the learning object, disregarding other matters. - Involvement: The attraction that makes students happy and interested in carrying out or completing activities related to the learning.
External Factors	- Family Support: The attention and family atmosphere that are conducive to studying. - Learning Facilities: The availability of adequate tools and infrastructure that support student involvement and attention in studying. - Participation and Social Interaction: Positive relationships with teachers and peers that encourage students to be active in learning.

Source: Azmi Faisal Journal (2019).

2.2. Gamification and the Quizizz Application

In the context of Integer material, Quizizz helps mitigate the abstract nature of the material by presenting it in a fast, repetitive, and visually supported *multiple-choice* format, making it easier for students to practice and master various integer operation rules repeatedly without feeling bored.

Gamification is the use of game mechanics, aesthetics, and thought patterns to engage people, motivate action, promote learning, and solve problems (Mulyati & Evendi, 2020). The core of gamification in education is to utilize the elements that make games appealing—such as challenges, rewards, competition, and status—and apply them to the learning process, which is typically considered monotonous.

Quizizz is a gamification platform that functions as a tool for formative assessment and interactive learning. Its strength lies in features that increase student interest in learning:

- Competitive Mode (Leaderboard): Student rankings are displayed in real-time, triggering a sense of healthy competition and intrinsic motivation.
- Instant Feedback: Students immediately know whether their answers are correct or incorrect after each question, allowing for the quick correction of misunderstandings.
- Self-Paced Learning: Each student can answer questions at their own speed, reducing the pressure and anxiety often present in traditional quizzes.
- Visual and Audio Elements: The use of memes and visually appealing themes adds an element of fun and reduces learning-related tension (Suryani & Putra, 2021).

In the context of the topic of integers, Quizizz helps mitigate its abstract nature by presenting concepts in a fast, repetitive, and visually supported multiple-choice format. This makes it easier for students to master integer operation rules through repeated practice without feeling bored.

2.3. Integer Material

According to Dewi Nuharini et al. (2008:5), the set of integers consists of the set of negative integers {…,−3,−2,−1}, zero {0}, and the set of positive integers {1,2,3,…}. On a number line, the numbers 1, 2, 3, 4, 5, … are called positive integers, while the numbers −1, −2, −3, −4, −5, … are called negative integers.

Positive integers are located to the right of zero, while negative integers are located to the left of zero. On a number line, the farther to the right a number is located, the greater its value. Conversely, the farther to the left a number is located, the smaller its value. Thus, for any two integers and:

- If is located to the right of, then.
- If is located to the left of, then.

There are four main operations on integers, which are as follows:

1. If p is located to the right of q, then p>q.
2. If p is located to the left of q, then p<q.

There are four main operations on integers, which are as follows:

2.3.1. Integer Addition

Adding two integers with the same sign (both positive or both negative) results in an integer with that same sign. For example, adding two positive integers always yields a positive integer. Addition of integers can be performed as follows:

a) Addition with Visual Aids

When calculating the sum of two integers, a number line can be a helpful visual tool. Each number in the sum is represented by an arrow. A positive number corresponds to an arrow pointing to the right, while a negative number corresponds to an arrow pointing to the left.

b) Addition without Visual Aids (Using Properties)

While a number line is useful for small integers, it becomes impractical for larger numbers. In these cases, it is necessary to perform addition using its properties. The properties of addition for integers are as follows:

Table 2. Integer Addition

Property	Description
Closure Property	For every integer a and b, a + b = c, where c is also an integer.
Commutative Property	For every integer a and b, a + b = b + a. (The order of addition does not change the result).
Associative Property	For every integer a, b, and c, (a + b) + c = a + (b + c). (The grouping of numbers does not change the result).
Identity Element	For every integer a, a + 0 = 0 + a = a. (The number 0 is the identity element in addition).

Property	Description
Inverse Property	The opposite of a is − a, and the opposite of − a is a. (For every integer a, there exists an inverse such that a + (−a) = (−a) + a = 0).

2.3.2. Integer Subtraction

Similar to integer addition, the number line can be used to calculate the result of subtracting two integers. However, for large numbers, it should be noted that the subtraction operation is equivalent to the addition of the inverse of the subtrahend.

Table 3. Integer Substraction

Principle	Formula
Subtraction Principle	For every integer a and b, a−b=a+(−b).

Based on the explanation above, it can be concluded that the Closure Property applies to the subtraction operation on integers.

2.3.3. Integer Multiplication

Integer multiplication is a basic operation of repeated addition of a number to itself a certain number of times to produce an integer. The following properties apply to the multiplication of integers:

Table 4. Integer Multiplication

Property	Description
Closure Property	For every integer a and b, if a × b = c, then c is also an integer.
Commutative Property	For every integer a and b, a × b = b × a. (Changing the order of the factors does not change the result).
Associative Property	For every integer a, b, and c, (a × b) × c = a × (b × c). (Changing the grouping of the factors does not change the result).
Distributive Property	For every integer a, b, and c: 1. a × (b − c) = (a × b) – (a × c), distributive property of multiplication over subtraction. 2. a × (b + c) = (a × b) + (a × c), distributive property of multiplication over addition.

2.3.4. Integer Division

Division in integers is a mathematical operation that divides one integer by another integer, with the condition that the divisor cannot be zero.

Table 5. Integer Division

Principle	Formula
Division Definition	Formally, if a, b, and c are integers and b□=0, then the division a ÷ b = c holds if and only if a=b × c.

2.3.4. *Framework*

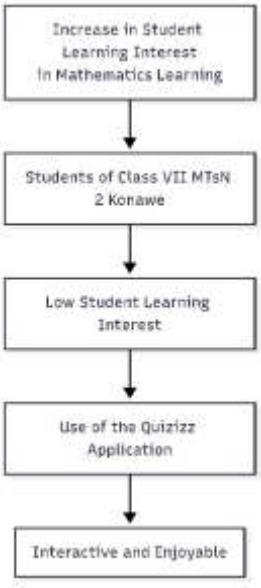

Figure 1. Conceptual Framework

Based on the conceptual framework diagram above, the situation begins with Class VII students at Islamic State Junior High School in Indonesia experiencing a decrease in learning interest due to the lack of interactive and engaging elements in the conventional learning process. Therefore, a learning method that is more attractive, fun, and less boring is needed.

One such technology-based learning method that is more engaging and interactive is the use of the Quizizz application. By utilizing this application, students will be more enthusiastic to participate in the learning because the application allows them to play while learning (gamification). This intervention is expected to lead to a significant increase in student learning interest, particularly in Mathematics learning.

3. Method

3.1. Research Type and Approach

This research employs the descriptive method with a qualitative approach. The descriptive method was chosen because its primary objective is to provide a clear, systematic, and accurate description of the phenomenon being studied—namely, the level of student learning interest in Integer material following the intervention of the Quizizz application—without any manipulation of existing variables. In other words, this research attempts to capture the condition of the subjects and objects at the time the activity is carried out (Sugiyono, 2022).

The qualitative approach is utilized to understand the phenomenon of increased learning interest holistically and in depth. According to Sugiyono (2022), descriptive qualitative research yields data in the form of sentences, words, or images, which carry meaning and can trigger a more genuine understanding than mere numbers. This approach focuses on the meaning constructed by the research subjects (students) regarding their experience using Quizizz. Therefore, the data collected are not limited to questionnaire scores but also include rich and detailed interview transcripts and observation notes, which allow the researcher to describe the "why" and "how" Quizizz affects student learning interest from their own perspective.

In the context of this study, the descriptive-qualitative approach is highly relevant because learning interest is a complex psychological concept, involving feelings (pleasure/boredom), motivation, and behavior. Statistical figures from the questionnaire (quantitative data) only show the magnitude of the change in interest, while the qualitative data from interviews and observations serve to strengthen (triangulate) and explain the meaning behind those numbers. For instance, qualitative data can explain why Subject A shows high interest (due to competition and the *leaderboard* factor), while Subject B remains low (due to feeling pressured by the time limit)—a detail that cannot be revealed solely through statistical calculations.

Thus, this combination of the descriptive method and qualitative approach allows the researcher to achieve the research objectives optimally: to objectively describe the condition of student learning interest while simultaneously analyzing and interpreting the deep reasons underlying that condition.

3.2. Setting and Research Subjects

The research setting is the location or object where the study will be conducted. This research will be carried out at Islamic State Junior High School in Indonesia, located in Inalahi, Konawe District, Konawe Regency, Southeast Sulawesi. This location was chosen because it aligns with the case study or the phenomena observed regarding student learning interest.

The subjects of this study are seventh-grade students at Islamic State Junior High School in Indonesia who participate in Mathematics learning on the Integer material using the Quizizz application.

The determination of subjects was performed using the purposive sampling technique, which is the selection of subjects based on specific criteria that fit the research objectives. The criteria used for subject selection include (a) Students of Class VII at Islamic State Junior High School in Indonesia. (b) Students who actively follow the learning process. (c) Students who are capable of providing accurate information regarding the learning objectives and experience. (d) Students who show

varying levels of interest (e.g., students with high, medium, and low interest identified through initial observation).

3.3. Instruments and Data Collection Techniques

Data collection employed three main techniques:

a. Observation: Conducted during the learning process (both before and after the Quizizz intervention) using an observation sheet. The observation focused on four indicators of learning interest: Attention, Activeness, Participation, and Enthusiasm of the students.
b. Questionnaires (Angket): Used to measure the level of learning interest quantitatively. The questionnaire consisted of 10 statements (5-point Likert Scale, from Strongly Disagree to Strongly Agree) distributed in two phases:
    1) Pre-Questionnaire: Distributed before the Quizizz implementation to determine the initial interest level.
    2) Post-Questionnaire: Distributed after the Quizizz implementation to measure the change or increase in interest.
    3) The validity and reliability of the questionnaire instrument were tested (instrument trial data included in the thesis)
c. Interviews were conducted with three key subjects who were selected before the implementation of Quizizz, based on their initial learning interest levels identified through preliminary observations.

3.4. Data Analysis Techniques

The collected data were analyzed using two methods:

a. Questionnaire Analysis (Descriptive Quantitative Data):
    1) Questionnaire scores were calculated for each student and converted into percentages.
    2) The percentage scores were then classified into three interest categories (High, Medium, Low) based on predetermined percentage ranges (e.g., High: 75%-100%; Medium: 50%-74%; Low: <50%).
    3) Pre-test and post-test results were compared to measure the overall level of interest increase.
b. Qualitative Data Analysis (Observation and Interview):
    1) The qualitative analysis technique used was the Miles and Huberman model (Sugiyono, 2022), which includes three flows:
        - Data Reduction: Summarizing, selecting main points, focusing on the increase in interest, and discarding irrelevant information.
        - Data Display: Presenting the reduced data in the form of matrices, flowcharts, or descriptive narratives to facilitate understanding.
        - Conclusion Drawing/Verification: Formulating the final conclusions based on the findings from data reduction and display.
    2) Source Triangulation (comparing questionnaire results, observation, and interviews) was conducted to validate the findings and ensure data authenticity.

4. Results and Discussion

This section presents the data obtained from the three main instruments observation, questionnaire, and interview and comprehensively reviews these findings to address the research objectives regarding the increase in student learning interest in Integer material through the Quizizz application in Class VIIE at Islamic State Junior High School in Indonesia.

4.1. Research Results

4.1.1. Observation Results

Observation in this study was conducted to observe changes in student behavior during Mathematics learning, specifically on the Integer material, after using the Quizizz application. The indicators focused on by the observer were attention (students focusing on the teacher and the Quizizz application display), activeness (students actively answering questions and participating in activities), and enthusiasm (students appearing excited, smiling, and participating joyfully).

The following is a summary of the observation results conducted by the researcher on 30 students in Class VIIE:

Tabel 6. Qualitative Description of Observation Results

Interest Category	Qualitative Description of Observation Results
High	The majority of students showed a high level of interest in learning Mathematics. They actively gave their full attention, were actively involved in learning (trying to answer quickly and accurately), and displayed clear expressions of enthusiasm while using the Quizizz application for Integer material.
Medium	A small number of students showed a medium level of interest in learning Mathematics. They were quite focused and active in the learning process, but did not always show consistent or prominent enthusiasm, especially when facing difficulties
Low	A few students still had a Low level of interest in learning Mathematics. These students tended to follow the lesson half-heartedly, their attention seemed superficial, and they did not show much excitement or desire to participate actively.

Overall Observation Findings: Overall, the observations clearly showed that most students in this class thoroughly enjoyed learning Mathematics when using the Quizizz application. The application was quite successful in getting them excited and maintaining their high interest while learning Integer material. Although there were still a few students whose interest remained average or even low, indicating that they still need more attention or alternative teaching methods to become more involved and enthusiastic.

4.1.2. Questionnaire and Interview Results

The learning interest questionnaire was given to the 30 Class VIIE students present during the research after the learning using Quizizz. The results of the questionnaire analysis were categorized into three classifications (High, Medium, Low) which were then reinforced by in-depth interviews with three selected subjects (HS, MS, and LS).

a. Questionnaire and Interview with Subject HS (High Interest)

Subject HS obtained an interest percentage of 94%, which is included in the high interest category. This percentage was obtained from a score of 47 (Maximum Score 50):

$$HS\ Percentage = \frac{Score\ Obtained}{Maximum\ Score} \times 100\% = \frac{47}{50} \times 100\% = 94\%$$

The questionnaire answers were dominated by the "Strongly Agree" responses *(5 points)*, indicating that the student was highly interested, enthusiastic about using the Quizizz application, felt ease in understanding the material, and appreciated the game features available on Quizizz.

The interview results reinforced this finding:

1) Initial Feeling vs. After Quizizz: HS expressed that regular Mathematics felt confusing (*"it sometimes makes my head spin, especially the Integer material with positive and negative signs"*). However, when using Quizizz, his feeling dramatically changed: *"When using Quizizz, I am very happy, I am more enthusiastic to learn as if there is new energy, especially with the challenge of the score like just now it makes my heart pound but it's exciting, Sir/Ma'am."*
2) Attraction: HS liked Quizizz because of the elements of *"the game, it also has points."* He felt that the instant feedback feature helped: *"the question immediately shows the answer if it's wrong or right, Sir/Ma'am, so I'm not curious anymore whether my answer is correct or wrong."*
3) Long-Term Motivation: HS felt an urge for independent learning at home, even often using his mother's phone to *"open Quizizz, look for practice questions, it feels like I'm not studying but playing a game. Sometimes my mother scolds me that I'm playing a game when I'm actually studying."*

Conclusion for Subject HS: This subject expressed very high enthusiasm, pleasure, and motivation. He felt the significant benefits of Quizizz in facilitating understanding, increasing competitive spirit, and eliminating boredom. The subject has a strong preference for continuing to use Quizizz.

b. Questionnaire and Interview with Subject MS (Medium Interest)

Subject MS obtained an interest percentage of 66%, which is included in the medium interest category. This percentage was obtained from a score of 33 (Maximum Score 50):

$$MS\ Percentage = \frac{Score\ Obtained}{Maximum\ Score} \times 100\% = \frac{33}{50} \times 100\% = 66\%$$

The questionnaire showed a combination of "Agree" responses on some positive aspects, but accompanied by a dominance of "Slightly Disagree" responses on other statements, indicating that the involvement and preference were not yet optimal, and that Quizizz was not yet a strong magnet for this student.

The interview results for Subject MS:

1) Feeling towards Quizizz: MS admitted: *"when using Quizizz it's moderately fun, different from usual."* He felt motivated because *"it has points and I can see the results immediately."*
2) Limitations: MS felt that Quizizz *"doesn't really help, Sir/Ma'am"* in aiding comprehension. This was reinforced when MS gave a suggestion: *"Hmm, it depends on the material, Sir/Ma'am. If the material is very difficult, it's better to explain it on the whiteboard to be more detailed. But for practice questions and to avoid boredom, just use Quizizz. So, it depends on the situation."*

Conclusion for Subject MS: This finding highlights an important pedagogical implication: while Quizizz effectively increases student engagement, it may not automatically enhance deep conceptual understanding. As the medium-interest student (MS) noted, complex mathematical concepts may still require traditional board-based explanations. Therefore, combining gamified tools like Quizizz with conventional methods can balance engagement and comprehension.

c. Questionnaire and Interview with Subject LS (Low Interest)

Subject LS obtained an interest percentage of 32%, which is included in the Low interest category. This percentage was obtained from a score of 16 (Maximum Score 50):

$$LS\ Percentage = \frac{Score\ Obtained}{Maximum\ Score} \times 100\% = \frac{16}{50} \times 100\% = 32\%$$

Subject LS's questionnaire was dominated by negative responses, such as "Strongly Disagree" and "Disagree", indicating dissatisfaction, lack of interest, and the failure of the Quizizz application to increase enthusiasm or understanding.

The interview results for Subject LS:

1) General Feeling: LS expressed a strong negative feeling towards Mathematics: *"learning Mathematics is boring, Sir/Ma'am, and makes my head spin, especially the positive and negative signs are what make it difficult for me, it doesn't sink into my brain."*
2) Reaction to Quizizz: LS stated: *"I don't really like it, Sir/Ma'am, I feel it's just normal,"* and *"I don't think it's too different because it's still learning Mathematics and it's still difficult and confusing."*
3) Involvement: LS admitted, *"I rushed through the Quizizz just now, Sir/Ma'am, I didn't care if it was right or wrong,"* showing a lack of motivation by the score challenge. He preferred learning *"on the whiteboard, as long as I understand. If it's an application like that (Quizizz), I don't really like it, Sir/Ma'am."*
4) Conclusion for Subject LS: This subject clearly expressed feelings of dissatisfaction and disinterest towards Mathematics that did not change even when using Quizizz. He felt pressured by the speed and received no help in understanding from the application, and had no desire to use Quizizz at home at all.
5) Overall Class Interest Classification. The data from all questionnaires (N=30)

showed a change in the classification of student learning interest after using the Quizizz application

Interest Category	Students (n)	Percentage Calculation	%
High	23	$\frac{23}{30} \times 100\%$	76.66%
Medium	5	$\frac{5}{30} \times 100\%$	16.66%
Low	2	$\frac{2}{30} \times 100\%$	6.66%

Overall Questionnaire Conclusion: The percentage of students with high interest (76.66%) became the majority in Class VIIE after the implementation of Quizizz. This is a significant increase compared to the initial condition (pre-questionnaire data from the thesis shows that high interest before the intervention was lower).

4.2. Discussion

Based on the results of observations, questionnaires, and interviews with Class VIIE students at Islamic State Junior High School in Indonesia, the use of the Quizizz application in Mathematics learning, particularly for Integer material, had a positive impact on student learning interest. During the learning process, the majority of students showed a high level of attention, were active in answering questions, and displayed high enthusiasm. Student interaction with the various features in Quizizz also indicated their interest in a more interactive and enjoyable way of learning. This proves that the implementation of gamification-based educational technology can create a more lively and engaging learning atmosphere.

The questionnaire data distributed to 30 students showed a significant change after using Quizizz. Previously, only 8 students (26.66%) had high learning interest, but after using Quizizz, this increased to 23 students (76.66%). Students with medium interest decreased from 15 students (50%) to 5 students (16.66%), while students with low interest dropped from 7 students (23.33%) to only 2 students (6.66%). With the classification based on a 0–100% scale into three categories (high, medium, low), this data shows that the majority of students responded positively to the use of Quizizz.

The in-depth interviews conducted with three students representing each interest category yielded findings that reinforced the qualitative data:

1. Subject HS (High Interest) stated that Quizizz makes learning fun, challenging, and helps to understand the material more easily.
2. Subject MS (Medium Interest) felt that Quizizz gave a slight boost to enthusiasm, although it did not fully make him interested or help him understand the material well.
3. Subject LS (Low Interest) showed that the use of Quizizz had not succeeded in changing his negative view of Mathematics, as he still felt bored and disinterested.

These findings are consistent with Slameto's theory (2013:180), which states that interest is a feeling of liking and attraction towards something without coercion. Through the interactive features, competitive scores, and ease of access provided by Quizizz, most students were driven to learn voluntarily.

Overall, the use of the Quizizz application in Mathematics learning on Integer material proved capable of significantly increasing student learning interest. This is supported by data from questionnaires, observations, and interviews which show an increase in several indicators of learning interest such as student attention, enthusiasm, and activeness during the lesson. Furthermore, Quizizz encourages students to be more active in answering questions independently, where the time limit makes them focused and concentrated. The element of competition also adds to the learning spirit due to the desire to achieve high scores. Thus, it can be concluded that the Quizizz application is effective in enhancing student learning interest in Integer material and is worthy of being an alternative, more engaging method for teaching Mathematics, particularly at the Junior High School (SMP/MTs) level.

5. Conclusion and Recommendations

5.1. Conclusion

Based on the analysis of quantitative and qualitative data, the research on the analysis of student learning interest in Mathematics Integer material using the Quizizz application in Class VIIE at Islamic State Junior High School in Indonesia concludes that:

1. There was a notable increase in learning interest among Class VIIE at Islamic State Junior High School in Indonesia students after the application of the Quizizz application, where students in the high-interest category jumped from 26.66% to 76.66%.
2. The Quizizz application is effective in enhancing learning interest indicators, particularly in the aspects of Feeling of Pleasure, Active Involvement, and Attention, driven by gamification elements (competition, *leaderboard*, and instant feedback).
3. Although effective, the application should be used as a supplementary medium combined with strong conventional methods to ensure deep conceptual understanding for abstract material like Integers.

5.2. Recommendations

Based on the research conclusions, several recommendations can be made:

1. For Mathematics Teachers: It is recommended to regularly integrate the Quizizz application as a tool for formative assessment and practice. Teachers need to ensure that the questions prepared in Quizizz align with learning objectives and are preceded by adequate conceptual explanation.
2. For School Management: Principals and the curriculum team are advised to support and facilitate training for teachers in utilizing technology-based and gamified learning media, and to ensure the availability of adequate digital facilities.
3. For Future Researchers: Further research is needed with an experimental design that statistically compares the learning outcomes of the Quizizz group with a control group, as well as research that tests the influence of Quizizz on other aspects such as problem-solving ability or critical thinking in Mathematics.

References

Akbar Hanipa, A., Rahmawati, N., & Supriyadi, S. (2019). Minat belajar siswa: Pengaruh terhadap prestasi akademik. *Jurnal Pendidikan*, 7(2), 317-324.

Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.

Fatikhasari, D., Haq, M. M., Rosyidi, O. J., Sadieda, L. U., & Avivah, N. (2024). Penerapan Media Interaktif Quizizz Untuk Membangkan Minat Belajar Siswa Pada Materi Barisan dan Deret Aritmetika. *ELIPS: Jurnal Pendidikan Matematika*, *5*(2), 232-241.

Hitt, F., Saboya, M., & Cortés Zavala, C. (2016). An arithmetic-algebraic work space for the promotion of arithmetic and algebraic thinking: triangular numbers. ZDM - Mathematics Education, 48(6), 775–791.

Hollebrands, K. F., & Lee, H. S. (2020). Effective design of massive open online courses for mathematics teachers to support their professional learning. ZDM - Mathematics Education, 52(5), 859–875.

Khasanah, U., & Nugraheni, E. A. (2022). Analisis Minat Belajar Matematika Siswa Kelas VII Pada Materi Segiempat Berbantuan Aplikasi Geogebra di SMP Negeri 239 Jakarta. *Jurnal Cendekia*, *6*(1), 181-190.

Lidu, M., Simarmata, J. E., & Delvion, E. B. S. (2023). Analisis minat belajar siswa pada pembelajaran matematika berbantuan aplikasi geogebra. *Jurnal Penelitian Pembelajaran Matematika Sekolah (JP2MS)*, *7*(3), 395-402.

Mardapi, D. (2012). Pengukuran penilaian dan evaluasi pendidikan. *Yogyakarta: Nuha Medika*, *45*.

Mulyati, S., & Evendi, H. (2020). Pembelajaran matematika melalui media game quizizz untuk meningkatkan hasil belajar matematika SMP 2 Bojonegara. *Jurnal Pendidikan Matematika*, *3*(01), 64-73.

MUZAKI, F. I. (2018). *Membelajarkan Generasi Digital di SD*.

Nuharini, D., dkk. (2008). *Matematika untuk SMP/MTs Kelas VII*. Jakarta: Pusat Perbukuan Departemen Pendidikan Nasional.

Nurfaeda, P., & Kurnia, I. R. (2025). Analisis Minat Belajar Siswa pada Pembelajaran Matematika di SD Negeri Mekar Mukti 01. *Jurnal Ilmiah Pendidikan Dasar (JIPDAS)*, *5*(1), 388-395.

Octaviana, S., Setiawan, Y., Pgsd, J., Kristen, U., & Tengah, J. (2019). Meningkatkan minat belajar kelas IV sekolah dasar menggunakan media powerpoint

berdasarkan kerangka kerja TPACK. *Jurnal Pendidikan Tambusai*, *3*(5), 1150-1159.

Prasetyo, S., Sumarno, S., & Khasanah, S. K. (2024). Analisis Pembelajaran Matematika Materi FPB menggunakan Media Quizizz untuk Meningkatkan Minat Belajar Siswa. Kognitif: Jurnal Riset HOTS Pendidikan Matematika, 4(1), 377 - 383.

Purnomo Sidi. (2008). *Matematika untuk Sekolah Dasar Kelas 2*. Jakarta: Pusat Perbukuan, Departemen Pendidikan Nasional.

Rahmawati,N. (2020). Analisis Kesulitan Belajara Berdasarkan Gaya Berpikir Siswa Melalui Pendekatan Matematika Realistik (PMRI) Berbantukan Kertas Berwarna. Jurnal Pendidikan Matematika, 7(2), 123-130

Sidik, G. S., Maftuh, A., & Salimi, M. (2021). Analisis kesulitan belajar matematika pada siswa usia 6-8 tahun. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*(2), 2179-2190.

Slameto. (2013). Belajar dan FaktorFaktor yang Mempengaruhinya.Jakarta:PT Bina aksara.

Soenarjo. (2008). *Matematika untuk SD/MI Kelas 5*. Jakarta: Pusat Kurikulum dan Perbukuan, Balitbang, Kemdikbud. Halaman 6.

Sugiyono. (2020) *Metode Penelitian Kuantatif, Kualitatif, PTK, Mix Metod, R & D*. Sukoharjo: CV Jasmine.

Sugiyono. (2022). Metode Penelitian Kuantitatif. Bandung: Alfabet

Sugiyono. (2018). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung

Suryani,N. & putra,I. (2021). Penerapan Quizizz dalam Pembelajran Matematika untuk Meningkatkan ketertiban dan Aktivitas Siswa. Jurnal Teknologi Pendidikan, 14(1), 45-53.

Ulum, M. B. (2023). *Analisis Kemampuan Pemahaman Konsep Matematika Siswa Berbasis Media Youtube Pada Materi Operasi Bilangan Bulat* (Doctoral dissertation, UNIVERSITAS ISLAM SULTAN AGUNG).

Yeni, Z. F. (2024). Upaya Meningkatkan Hasil Belajar dengan Model Cooperative Learning Tipe Student Teams Achievement Division Kelas VII SMP Negeri 6 Rokan IV Koto. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, *2*(3), 270-276.