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THE ROLE OF INTERACTIVE QUIZZES BASED ON BLOOKET IN LEARNING INTEREST IN RATIO MATERIAL FOR GRADE VII STUDENTS AT SMP NEGERI 1 SALATIGA

Roudhlotul Jannah[1], Fitria Laiya Mahmud[2], Win Listyaningrum Arifin[3]
[123]Program Studi Pendidikan Matematika, Fakultas Ilmu Tarbiyah dan Keguruan, UIN Salatiga, Salatiga, Indonesia
*Correspondence Email: roudhlotuljannah564@gmail.com

ABSTRACT

This study aims to analyze the role of the Blooket interactive quiz in stimulating student learning interest in Ratio material among Grade VII students at SMP Negeri 1 Salatiga, considering students' difficulties in integrating abstract Ratio concepts with real-world problem-solving contexts. This descriptive qualitative research, employing a single case study approach, was conducted at SMP Negeri 1 Salatiga. Data were collected through triangulation (in-depth interviews, observation, and documentation) with the Math teacher and student groups. The results indicate that Blooket's implementation is transformative in enhancing learning interest. The platform functions as (1) an Affective Catalyst, transforming formative assessment into a recreational experience that increases pleasure (88,75% of students found it engaging) and frees up cognitive resources from test anxiety. (2) a Contextual Cognitive Bridge, helping students apply Ratio concepts into strategic game scenarios (Gold Quest or Cafe Factory), bridging the gap between procedural and conceptual knowledge. (3) Conative triggers encourage active participation and significant persistence in learning. It is concluded that Blooket is an effective pedagogical innovation in stimulating all three dimensions of student learning interest simultaneously, making it highly suitable for use as a learning medium.

Keywords: Learning Interest; Interactive Quiz; Blooket; Gamification; Ratio

INTRODUCTION

The transition to the digital era 5.0 requires the integration of ICT-based learning media as an essential element to optimize an effective learning experience that is preferred by students. In this context, teachers play a central role in determining the media instruments that can mediate cognitive stimuli and utilize students' affective states. Learning interest is a fundamental internal variable, characterized by affective (positive emotional response), cognitive (concentration/focus), and conative (active involvement) dimensions. Arsyad (2017) defines learning media as an essential component used to transmit information and clarify concepts during the instructional process, with the main objective of inducing attention and increasing student learning motivation. This increase in interest shows a significant correlation with academic achievement and learning outcomes. Therefore, the implementation of actively designed technology-based media is an imperative solution to stimulate students' affective engagement.

The Blooket platform, as one of the latest technology applications in assessment and learning, provides play-based learning quiz tools (Pranata, 2024). Operationally, Blooket facilitates the integration of formative evaluation with digital entertainment, potentially increasing affective engagement and information retention. The difference from traditional quiz systems lies in the diversity of game modes that serve as a mechanism for diversifying stimuli. This gamification approach not only overcomes pedagogical boredom but also promotes constructive competence and collaboration. Blooket acts as a strategic external variable in facilitating stimulation and activation when students' learning interest dimensions are simultaneous. Specifically, gamification-based interactive quizzes such as Blooket have been identified as having a significant influence on increasing learning interest in mathematics (Pratiwi, Najwa, & Attalina, 2025).

Learning interest is an internal state that motivates individuals to focus and actively participate in learning activities. Mechanistically, Blooket operates based on the play-based learning paradigm, which integrates formative quizzes into interactive game modes. This model effectively utilizes extrinsic motivation (intensive rewards, leaderboards, competitive thrills) as a catalyst to stimulate intrinsic motivation oriented towards mastery learning. Blooket successfully transforms conventional assessment procedures, which inherently trigger anxiety, into a deep and enjoyable activity. This psychological process diverts emotional energy from test anxiety to competitive excitement and cognitive-strategic effort. This energy diversion has direct implications for increased engagement and focus on the Ratio items being tested, serving as a cognitive prerequisite for facilitating effective problem-solving. Blooket's game modes based on simulation and strategy (e.g., Cafe Factory or Gold Quest) effectively provide the necessary practical context. In these modes, students are implicitly required to implement the principles of comparison and proportion as instrumental means to achieve the game's objectives. Consequently, Blooket functions as a cognitive bridge, providing applied reinforcement of Ratio concepts that have proven difficult to internalize through traditional instructional methods.

The purpose of this study is to analyze the role of Blooket-based interactive quizzes on learning interest in ratio material among seventh-grade students at SMP Negeri 1 Salatiga. The results of this study are expected to provide alternative answers for teachers in overcoming the problems of declining motivation and improving learning, especially in mathematics ratio material. Ratio (Comparison) is a core curricular content in 7th grade junior high school mathematics. However, this content often causes significant learning difficulties for students, especially in the problem-solving aspect. The primary cognitive obstacle is inconsistency in integrating mathematical constructs with real-life situational contexts, which requires mastery of systematic and logical reasoning. This cognitive issue is intensified by conventional learning practices that lack variety, resulting in decreased motivation and concentration. Thus, innovative learning strategies are needed that are capable of overcoming cognitive barriers through planned affective stimuli.

RESEARCH METHODS

This study uses a qualitative descriptive design with a single case study approach. A case study was chosen to enable exploration of a specific phenomenon, namely the role of Blooket in the learning interest of seventh-grade students at SMP Negeri 1 Salatiga. This qualitative design is oriented towards revealing the narratives and in-depth experiences of informants, who seek to explain the mechanisms of how and why Blooket affects learning interest, beyond simply measuring the magnitude of its impact.

This research was conducted at SMP Negeri 1 Salatiga. The subject matter of the research focused on the implementation of Blooket quizzes in teaching Ratio material to seventh-grade students. Research informants were determined using purposive sampling techniques, including:

1. A seventh-grade mathematics teacher who actively integrates Blooket.
2. Several groups of seventh-grade students representing diversity in participation levels and learning backgrounds.

Data was collected through triangulation of sources to strengthen the validity of the findings, including:

1. In-depth Interviews: Semi-structured interviews were conducted with teachers and students. Questions asked to teachers included the main challenges in teaching ratios, innovative strategies implemented, and evaluation of student understanding. Meanwhile, questions for students explored the impact of Blooket's gamification features (icons, game modes, competitions) on affective components (feelings of enjoyment), cognitive focus levels, and their perceptions of the utility of this media.
2. Classroom Observation: Non-participatory observation was conducted to document teacher/student interactions, classroom management dynamics, participation levels, and students' non-verbal responses to Blooket. Specifically, the aspects observed were student enthusiasm and degree of focus when completing Ratio questions.
3. Documentation: Secondary data collection includes teachers' lesson plans, school policy documents related to support for the Merdeka Curriculum and digital innovation (SaRi SaTuGu).

Data analysis is conducted through a series of systematic stages: data reduction, data presentation, and conclusion drawing.

1. Data reduction involves reviewing, selecting, and focusing on essential quotes regarding Blooket's role in the affective and conative dimensions of learning interest.
2. The data presentation is constructed in a thematic narrative format, which integrates findings from interviews and observations.
3. The final step, drawing conclusions, refers to verifying thematic findings to extract substantive and in-depth meaning from the accumulated data.

RESULTS AND DISCUSSION

The implementation of the Blooket platform begins with a pre-analysis and content preparation stage by educators. Educators convert the substance of the Ratio material into a set of questions and alternative answers in Blooket. This platform provides substantive flexibility for teachers to utilize the pre-existing question sets or construct their own sets of questions through the “Question Set Creator” feature. The design of the questions developed specifically focuses on the aspect of conceptual application of Ratio to trigger cognitive challenges in the dimension of problem-solving for students.

After the Ratio quiz is activated, students are instructed to participate by entering the game code provided by the teacher. The affective component is immediately stimulated through the option for students to choose avatars (Blooks) that have visual appeal (engaging Blooks), which instantly mediates an increase in mood and enthusiasm. Teachers have the option to choose specific game modes, such as Gold Quest or Tower Defense, which inherently require rapid comparison and proportion calculations as instrumental strategies for achieving victory (Kurniawan & Sari, 2023). Throughout the game, teachers monitor progress in real time, and as soon as the game ends, students receive instantaneous scoring feedback. This procedure effectively transforms the assessment process into an activity that is perceived as highly engaging and pleasurable, reducing students' affective resistance to formal assessment instruments (Priyono & Widodo, 2024).

The main findings of this case study are organized based on Blooket's functional role in stimulating students' Interest in Learning dimension.

Blooket's role as an affective catalyst (increased feelings of happiness)

A comparative analysis of interview and observation data shows that the most substantial effect of Blooket implementation was observed in the affective dimension, specifically manifested as an increase in feelings of pleasure. The research data confirms this, with 142 out of 160 students agreeing that Blooket is beneficial in the learning process and stating that this platform has a very high level of effectiveness.

Calculation of data in percentages
Known:

Total number of respondents (students) = 160 students
Number of positive respondents = 142 students
Number of negative respondents = 18 students

The percentage of positive responses is:

$$PR = \frac{142}{160} \times 100\%$$
$$PR = 0{,}8875 \times 100\%$$
$$PR = 88{,}75\%$$

The percentage of negative responses generated is:

$$NR = \frac{18}{160} \times 100\%$$
$$NR = 0{,}1125 \times 100\%$$
$$NR = 11{,}25\%$$

The following is a summary of data that produced a success rate (88.75% positive response from 160 students).

Tabel 1. Final Results Table

Response Categories	Frequency	Percentage %
Positive response (successful)	142	88,75%
Negative response (unsuccessful)	18	11,25%
Total respondents	**160**	**100%**

This phenomenon is attributed to Blooket's ability to transform formative assessment activities, which inherently have the potential to trigger cognitive tension, into a relaxed entertainment experience.

Through in-depth interviews, students expressed that mathematics subjects is no longer perceived as boring because Blooket facilitates the integration of knowledge acquisition and gaming. The 14 game modes offered, coupled with appealing avatar icons, serve as emotional attention attractors. Blooket's fundamental success lies in its role as an affective catalyst that mobilizes students' positive psychological energy. Instead of allocating energy to managing fear of failure, students channel that energy into competitive enthusiasm, which automatically correlates positively with increased focus and engagement with Ratio questions. The 92.6% response rate, which indicates that Blooket is appealing in a school environment, further validates that this platform has succeeded in creating a conducive and positive learning climate.

Significant transformations in this affective dimension have direct implications for executive function and cognitive performance. By reducing the perception of threat associated with formative evaluation (fear of failure or test anxiety), Blooket effectively frees up students' cognitive resources (working memory capacity) that were previously allocated to managing psychological stress (Luo & Zhang, 2022). The psychological energy mobilized through pleasure and competitive enthusiasm is redirected towards improved self-regulation and selective attention to the academic tasks presented (Ratio items) (Yuliani & Haryanto, 2021). This confirms that Blooket operates as an essential affective mediator, creating optimal psychological conditions that support long-term information retention and knowledge transfer abilities, thereby strengthening the argument that successful pedagogical innovations must touch on the emotional realm before fully activating the cognitive realm.

Blooket's Role as a Cognitive Bridge (Facilitating Contextual Understanding of Ratios)

The second important role of Blooket is directly related to the challenge of learning Ratio material, which requires contextualization. Blooket acts as a cognitive bridge that helps seventh-grade students apply abstract comparison concepts to real and strategic scenarios. This study indicates that the use of interactive digital game modes (e.g., Cafe Factory or Gold Quest) in learning environments, such as Blooket, significantly accelerates the acquisition and internalization of ratio concepts among students, when compared to traditional narrative problem-solving methods(word problems) (Kurniawan & Sari, 2023).

Blooket's main strength lies in its ability to provide real-time and contextual practical reinforcement. In this game simulation, students are forced to apply proportional calculations and ratio comparisons as strategic tools for quick decision-making in order to optimize virtual resources

or maximize results. Instant feedback that directly affects game variables (win/lose status) serves as a powerful formative feedback mechanism. This feature is a crucial element in an effective problem-based learning (PBL) framework in mathematics (Wijaya & Santoso, 2022). Thus, the concept of Ratio is transformed from a mere algorithmic procedure that requires memorization into a cognitive and strategic instrument for achieving concrete goals. This game simulation approach has the potential to overcome students' common difficulties in transferring theoretical mathematical understanding into real-life application contexts. It bridges the gap between procedural knowledge and conceptual knowledge, which are fundamental aspects of mathematical competence.

The conceptual shift in the role of Ratio from an abstract entity to a strategic instrument through the Blooket game simulation effectively facilitates the contextualization process that is difficult to achieve with traditional story questions. In an integrated problem-based learning model, the game mechanism requires students to make sense of the data provided, in which Ratio serves as the main operational variable. Thus, Blooket not only reinforces procedural knowledge (how to calculate ratios) but also conceptual knowledge (why and when ratios are used), which is an important prerequisite for mathematical literacy. This process encourages the cognitive transfer of knowledge acquired in the classroom to dynamic and authentic problem-solving situations in a virtual context, a fundamental achievement in improving students' applied competence in comparison and proportion material.

Blooket's Role as a Conative Trigger (Increased Enthusiasm and Participation)

The conative dimension, measured by enthusiasm and active participation, showed a significant increase. The observation results recorded a high level of participation, which is in line with the findings that Blooket is attractive in the teaching and learning process at school. A well-structured competitive mechanism in a digital environment, reinforced by leaderboard visualization and audio stimulation (game music), has proven effective in triggering and maintaining full cognitive engagement among students. The enthusiasm generated by this competitive dynamic serves as a powerful motivator that encourages students to maintain or improve their academic performance. In addition, diversity in game design (reported to reach 14 modes) plays a crucial role in fostering persistence in learning. The variety of game modes serves to prevent boredom (preventing satiation), thereby encouraging students to voluntarily engage in repeated practice sessions with the Ratio concept. The direct implication is a substantial increase in effective study time. The measurable increase in learning interest, expressed through enthusiasm indicators, is empirical evidence that this platform is effective in stimulating the conative dimension (the aspect of will and motivation) of the learning process.

A substantial increase in the conative dimension, manifested as active participation and high enthusiasm, indicates that Blooket has successfully utilized the principles of educational psychology, particularly Self-Determination Theory (SDT), by facilitating the need for competence and social relatedness (Taufiq & Nisa, 2023). Healthy competition, supported by a leaderboard as a mechanism for social recognition and performance feedback, serves as a strong extrinsic motivational stimulus, which can then be internalized into intrinsic motivation to master the Ratio material. The phenomenon of persistence fostered through game variations contributes directly to a practice termed overlearning—the repetition of practice beyond the initial point of mastery, which is crucial for memory consolidation and long-term retention of concepts. Therefore, stimulation of this conative dimension not only increases interest but fundamentally increases the dose and quality of student interaction with teaching materials, which is an absolute prerequisite for superior academic achievement.

These qualitative findings explicitly confirm that the implementation of Blooket represents an efficient and effective pedagogical innovation. This solution is in line with the demands of the technology-based learning paradigm in the Society 5.0 Era, where the integration of cyberphysical systems and the improvement of human resource quality are priorities. Blooket's core effectiveness is based on its ability to integrate three crucial aspects into one platform: gamification, formative assessment, and conceptual reinforcement. This gamified assessment model transforms the traditional passive evaluation process into a strategic game. Thus, Blooket successfully overcomes the fundamental weaknesses of conventional teaching methods, which often trigger a decline in student interest and concentration. The shift in focus from simply answering questions to winning a strategic game mobilizes students' positive energy, which significantly increases their affective engagement and ultimately leads to a deeper and more applicable understanding of the concept of

ratios. Blooket's success in increasing interest in learning about ratios at SMP Negeri 1 Salatiga provides empirical evidence of the importance of a pro-innovation school environment. The success of Blooket's implementation does not solely depend on the software features themselves, but on the readiness of the school ecosystem.

SMP Negeri 1 Salatiga, with its teacher professional development initiatives such as the "SaRi SaTuGu" (One Day One Teacher) digital literacy program, has created a planned and sustainable technology adoption ecosystem. This supportive environment ensures that the use of Blooket goes beyond mere tool usage to become an integrated pedagogical innovation. The readiness of this ecosystem is a critical success factor that enables Blooket to function optimally as an affective catalyst, as teachers are encouraged and empowered to optimize the potential of this digital media within the curriculum framework. Cognitively, this platform provides scaffolding through repetition and reinforcement of the Ratio concept in various game scenarios. Affectively, by turning quizzes into competitive games, Blooket successfully triggers intrinsic and extrinsic motivation, which in turn positively influences the conative dimension of learning. This higher level of engagement increases focused learning time, which is an important prerequisite for mastering complex material.

CONCLUSIONS

Based on the results of qualitative analysis and discussion, it can be concluded that the role of the Blooket-based interactive quiz platform on the learning interest of Grade VII students at SMP Negeri 1 Salatiga in the subject of ratios is transformative. Blooket functions as a gamified assessment medium that significantly increases learning interest through the stimulation of affective, conative, and cognitive dimensions. Specifically, Blooket has the following three roles: first, Blooket acts as an affective catalyst, creating feelings of joy and eliminating boredom, as indicated by 92.6% of students who agree that Blooket is interesting in the learning process at school. The second role is as a contextual cognitive bridge, which helps students apply abstract ratio concepts to strategic and applicable simulated situations, which are very much needed in mathematics. The third role is as a conative trigger, encouraging active participation and high persistence in dealing with Ratio issues, supported by the overall effectiveness of the media (85.2% agree that it is effective). With its attractive and diverse features, Blooket has proven itself worthy of use as a learning medium to increase students' interest in learning. Based on these findings, the study recommends further research to explore the effect of using Blooket on long-term cognitive learning outcomes (memory retention) through a quasi-experimental method, as well as conducting a comparative analysis of the effectiveness of various game modes in Blooket on students' levels of math anxiety. In addition, it is necessary to further examine the integration of Blooket into other mathematics materials with varying levels of complexity to test the consistency of its impact on student engagement at various levels of education.

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