

Students' Critical Thinking Skills And Arabic Learning Outcomes Using Quizlet Media

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Abstract

21st-century skills are crucial for effectively transforming Arabic language learning in the digital age. This study aims to describe the changes in students' critical thinking abilities and Arabic language learning outcomes using Quizlet media. The research subjects were all Madrasah Diniyah Nurul Huda Dinoyo Malang- Indonesia students, focusing on the muftada and khabar lesson material. The research method was a quantitative descriptive approach with a one-group pretest-posttest design. Data collection involved administering pretest and posttest questions with critical thinking indicators, including analysis, synthesis, and evaluation. The indicators for Arabic language learning outcomes were basic vocabulary skills, grammar, and the ability to analyze grammatical errors. The results indicated that the average score for students' critical thinking ability in the pretest was 18.3 (low critical thinking). In contrast, in the posttest, it was 30.00 (moderate critical thinking). As for the Arabic language learning outcomes, the pretest score was 44.67 (below the minimum completion score), and the posttest score was 81.33 (above the minimum completion score). Quizlet media can enhance students' critical thinking skills and Arabic language learning outcomes.

Keywords: Quizlet Media; Critical Thinking Skill; Outcomes Learning; Arabic Learning

INTRODUCTION

The development of education in the 5.0 era presents unique challenges for the nation's future generation. 21st-century learning is not only about knowledge but also about mastering skills that are useful for solving social issues in society (Hamzah et al., 2024). According to UNESCO, 21st-century learning skills are known as the 4Cs (Communication, Creativity, Collaboration, and Critical Thinking), which can enhance the literacy index of Indonesia's youth (Suparya et al., 2022). However, based on the 2018 PISA (Programme for International Student Assessment) data, the numeracy and literacy scores of Indonesian students ranked low, in 72nd place out of 76 countries, indicating that Indonesian students have very low learning interest (Marlena et al., 2022). To address this, the Ministry of Education and Culture of the Republic of Indonesia implemented the Merdeka Curriculum, which aims to give students the freedom to choose materials relevant to the needs of 21st-century learning, so that the development of communication, critical thinking, collaborative, and creative skills can be effectively accommodated.

As a foreign language, Arabic holds significant relevance to the skills required in 21st-century learning, especially in the development of the 4Cs. Arabic provides students with the opportunity to collaborate with diverse peers through group discussions and assigned learning projects. The collaboration built can help solve problems, unify

perspectives, appreciate others' abilities, and enable students to take roles suited to their abilities (Arsanti et al., 2021). Furthermore, communication skills in Arabic can be honed by engaging in discussions with interlocutors about daily events, such as those at home, school, or work (Setyawan, 2020). Additionally, creativity can be maximized in Arabic language learning through an active learning approach, which ensures that the focus is on the four Arabic language skills of the students (Baity & Faiqoh, 2022).

Among the various 21st-century skills, critical thinking is one of the most fundamental, as it forms the basis for other skills. Critical thinking is the ability to express opinions and evaluate them systematically (Johnson, 2011). In the context of education, the primary goal of critical thinking is to encourage students to make better decisions and to think more openly about different perspectives (Lipman, 2003). Characteristics of critical thinking include the ability to evaluate arguments, construct structured opinions, and analyze information deeply (Ennis, 2015). In the context of Arabic language learning, critical thinking skills are highly relevant, as students are not only required to passively understand Arabic texts but must also be able to critique, interpret, and discuss the meaning of those texts. Therefore, the mastery of critical thinking skills needs to be fostered in each student so that they not only master Arabic language skills technically but also understand and apply it deeply, analytically, and creatively in daily life. In reality, students' critical thinking abilities in Arabic language learning are still low.

In the learning process, learning outcomes have a significant role as they serve as indicators of success in achieving educational goals. Learning outcomes aim to measure students' achievements after undergoing the learning process (Deviana;, 2021). Teachers greatly depend on learning outcomes as they provide a tool to assess the success of the learning process in the classroom (Adella et al., 2023). This is in line with the findings of Black & Wiliam (2010), which state that learning outcomes provide constructive feedback, allowing teachers to adjust their teaching strategies to be more effective in meeting students' needs. In Arabic language learning, learning outcomes serve as a parameter for teachers to determine appropriate strategies, models, methods, and media based on students' characteristics, thereby enhancing their language skills, including listening (*istima'*), reading (*qiroah*), speaking (*kalam*), and writing (*kitabah*).

Based on interviews with one of the teachers at Madrasah Diniyah Nurul Huda Dinoyo Malang, the researcher obtained information that the majority of students have low critical thinking skills and struggle to understand Nahwu material. The difficulties include the fact that many students are not familiar with or able to distinguish sentence structures, types of verbs, and *I'rab* (grammatical inflections). This issue stems from the teachers' infrequent use of learning models or media, which results in students' low critical thinking abilities. Teachers tend to be more comfortable using lecture and explanatory methods that center around the teacher, while students merely listen, take notes, memorize, and receive material according to the teacher's capabilities (Zulyadaini, 2017). These lecture-based methods make students passive and bored in the learning process, and therefore teachers must be innovative to create a conducive learning environment in the classroom (Salehha et al., 2022). This situation can make it difficult for students to

study the Quran or study classical texts taught at Madrasah Diniyah, as all learning materials are in Arabic script.

Given these reasons, it is important for teachers to choose learning media that can facilitate student learning. The importance of learning media in the educational process has been widely discussed by various experts. According to Arsyad (2011), learning media functions to enhance the effectiveness of learning by presenting information in a more engaging and easily understandable way. This aligns with the view of Maisarah et al. (2022), who argue that learning media plays a crucial role in clarifying message presentation, expanding space and time, providing stimuli for students to learn actively, and improving motivation and learning achievements. In the 21st century, digital learning media have garnered attention from academic communities to enhance educational quality. This is in line with Mayer's (2009) multimedia learning theory, which asserts that the use of visual and verbal media can improve students' understanding and retention of information. Furthermore, a study by Lee et al. (2021) demonstrated that computer-based digital media can provide better results in language learning.

Therefore, one of the digital learning media that can be used to improve critical thinking skills and Arabic language learning outcomes is Quizlet. Quizlet is an online learning application developed by Andrew Sutherland, a high school student from California, in 2005 and launched as a website in 2007. Over time, it launched iOS and Android versions in 2012 and 2013 (D. E. Sari, 2019). This application can be used for various subjects, particularly in language learning (Kálecký, 2016). Quizlet offers free features that can be used by all students, including flashcards, matching games, and quizzes. In Arabic language learning, this application supports vocabulary mastery and enhancement due to its user-friendly features and its ability to make learning enjoyable (Kuni Tilawati, 2023). Moreover, the application can help students understand Arabic sentence structures in a fun and flexible way, enabling them to analyze a text in depth.

This study aims to examine the impact of Quizlet media on students' critical thinking abilities and Arabic language learning outcomes at Madrasah Diniyah Nurul Dinoyo Malang. The novelty of this research, in addition to measuring students' Arabic learning outcomes, lies in the use of Quizlet media to assess students' critical thinking skills at Madrasah Diniyah, an area that has not yet been studied by other researchers. Several studies support this research. The Flashcard feature of Quizlet, within the 5E Learning Cycle model, studied by Arfianti (2023), was found to improve critical thinking skills and academic achievement in chemistry for tenth-grade students at SMAN 2 Boyolali. Research by Wagiarni et al. (2024) elaborates that the game-based learning model, supported by Quizlet's flashcards, significantly affects student independence and mathematics learning outcomes. Meanwhile, development research by Larenzi et al. (2024) and Muthoharoh & Abidin (2023) found that Quizlet media is well-suited for Arabic language learning, particularly in enhancing vocabulary acquisition. Findings by Al-Malki & Moza (2020) further strengthen the claim that Quizlet media can accelerate vocabulary mastery in an engaging way.

METHOD

This study uses a quantitative approach with a descriptive quantitative research design. This type of research aims to provide an objective description or depiction of a condition, utilizing numerical data, including the process of collecting numbers, interpreting the data, and presenting the final results (Suharsimi, 2006). The research design used is the one-group pretest-posttest, which serves to measure the changes or effects of an intervention on the same group by comparing results before and after the intervention (Sugiyono, 2019). In this design, the same group is measured twice: once before the intervention (pretest) and once after the intervention (posttest). With this method, there is no need for a control group for comparison with the experimental group, no need for equalizing characteristics within the treatment group, and no need to control variables (Creswell, 2014).

The steps taken with this design are determining the group, administering the pretest (measurement before the intervention), applying the treatment (intervention), and administering the posttest (measurement after the intervention). The one-group pretest-posttest design can be illustrated as follows:

Table 1. One Group Pretest Posttest Design

Pre Test	Treatment	Post Test
O ₁	X	O ₂

O₁: Initial measurement (pretest)

O₂: Final measurement (posttest)

X: Intervention treatment using Quizlet learning media

The subjects of this study were students at Madrasah Diniyah Nurul Huda Dinoyo Malang, with a total population of 13 students. The sampling technique used was purposive sampling, a non-probability sampling method that intentionally selects individuals or groups deemed to have specific characteristics relevant to the research objectives (Etikan et al., 2015). The researcher selected a sample from the second-grade Wustho class based on the consideration that the students had one year of experience learning Arabic, and the Nahwu material taught, such as mubtada and khabar, is a continuation from previous classes, providing in-depth and relevant information for the research.

Data were collected through two main instruments: a critical thinking skills test and an Arabic learning achievement test. The indicators of critical thinking, according to Gokhale (1995), are analysis, synthesis, and evaluation. These indicators are useful for designing a critical thinking test containing questions related to Arabic language material. The learning achievement test includes questions to measure students' achievements in Arabic language learning after using the Quizlet media. The indicators for Arabic learning outcomes were developed from Muzaffar (Muzaffar, 2018), including vocabulary mastery (mufrodat), grammar mastery (qawaid), and the ability to identify grammatical errors.

Before interpreting the data, the learning achievement variable scores were measured based on the minimum completeness criteria (KKM). The KKM value set at Madrasah Diniyah Nurul Huda is 75. Therefore, if a student's score is below 75, the

learning is considered incomplete. Conversely, if the student's score is above 75, the learning is considered complete. For the critical thinking ability variable, the classification of critical thinking skills achievement was measured using the score intervals in the table below, as formulated by Riduwan (2006). Before classifying, the critical thinking skills scores were first analyzed descriptively using the following formula: $\% \text{ Critical Thinking Skill} = \text{score obtained} \div \text{maximum score} \times 100\%$. Next, the critical thinking ability scores are categorized in the following table:

Table 2. Categories of Critical Thinking Ability:

Score Interval	Classification
80%-100%	High Critical Thinking
60%-80%	Moderate Critical Thinking
40%-60%	Sufficient Critical Thinking
20%-40%	Low Critical Thinking
0%-20%	No Critical Thinking

Source: (Riduwan, 2006)

RESULTS AND DISCUSSION

Descriptive analysis was used to describe and summarize the data in a form that is easy to understand. This method involves the use of statistics such as mean, median, standard deviation, and maximum value to provide an overview of the distribution and characteristics of the variables under study. The main goal is to help understand patterns and trends in the data, as well as provide a strong foundation for further analysis. By using descriptive analysis, the researcher can identify outliers, understand the distribution of the data, and draw initial conclusions about the distribution of the variables being studied.

Table 2. Descriptive Analysis

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Pretest Critical Thinking	3	14.00	21.00	55.00	18.3333	3.78594
Post Test 1 Critical Thinking	3	22.00	29.00	80.00	26.6667	4.04145
Post Test 2 Critical Thinking	3	25.00	34.00	90.00	30.0000	4.58258
Pretest Learning Outcomes	3	32.00	60.00	134.00	44.6667	14.18920
Post Test 1 Learning Outcomes	3	51.00	66.00	178.00	59.3333	7.63763
Post Test 2 Learning Outcomes	3	80.00	83.00	244.00	81.3333	1.52753

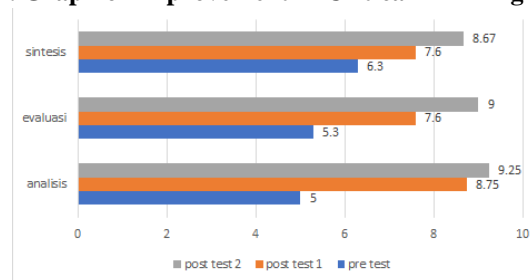
Based on the data analysis results, it can be concluded that there was a significant improvement in both critical thinking ability and learning outcomes among the participants during the study. In the pretest for critical thinking, the participants' scores ranged from 14 to 21, with an average of 18.33, indicating a significant variation. With a score of 18.33, the average critical thinking ability of the students falls into the "low critical thinking" category, as the pretest score interval for critical thinking lies between 20%-40%. However, after the intervention, in Post Test 1 for critical thinking, the participants' scores increased to a range of 22 to 29, with an average of 26.67. In Post Test 2 for critical thinking, the scores further increased to a range of 25 to 34, with an average of 30.00. With an average score of 26.67 in Post Test 1 and 30.00 in Post Test 2, students' critical thinking ability improved, moving from the "sufficient critical thinking" category (40%-60%) in Post Test 1 to the "moderate critical thinking" category in Post Test 2.

For learning outcomes, in the pretest, the participants' scores ranged from 32 to 60, with an average of 44.67, indicating a large variation. With this pretest score, the average learning outcomes of the students were still below the minimum completion score. However, after the intervention, in Post Test 1 for learning outcomes, the scores

increased to a range of 51 to 66, with an average of 59.33. In Post Test 2 for learning outcomes, the scores increased significantly to a range of 80 to 83, with an average of 81.33 and minimal variation, indicating an improvement in learning outcomes. As a result, in Post Test 2, the average score was above the minimum completion score. Overall, this study shows that students experienced improvements in both critical thinking ability and learning outcomes in Arabic language learning through the use of Quizlet, and most students achieved more consistent and better results after the intervention.

Critical thinking ability through Quizlet as a learning media had a positive impact on the students' ability to develop their thinking skills. Before the use of Quizlet, the pretest scores showed considerable variation among participants, with relatively low averages. This was due to the fact that the questions used to assess critical thinking and Arabic language learning had never been tested on the students, and the teacher-centered lecture method made students passive in learning Arabic, especially the material on Nahwu. This aligns with the research by (Putri & Murni, 2023), which explains that teacher-centered methods lead to low understanding among students and fail to provide meaningful learning experiences, thus limiting the development of critical thinking skills. Moreover, if critical thinking instruction is not well-structured or planned, students may struggle to develop their critical thinking abilities (Palavan, 2020). As a result, students may have low critical thinking skills or be unfamiliar with thinking deeply and analyzing issues in a logical and objective manner.

Figure 1. Graph of Improvement in Critical Thinking Indicators



However, after implementing Quizlet in the learning process, there was a significant increase in students' critical thinking ability in Post Test 1 and Post Test 2. The analysis indicator consists of the critical thinking sub-indicator "analyzing examples of sentences containing muftada and khabar" and "analyzing the definitions of muftada and khabar." For this analysis indicator, the pretest average score was 5, which increased by 8.75 in Post Test 1 and further increased to 9.25 in Post Test 2. As seen in the gray axis section for the analysis indicator, it is higher than the gray axis in the other indicators. The difference of 4.25 indicates a significant improvement in students' analytical skills in the Arabic language lessons on muftada and khabar, particularly in analyzing each sentence, including identifying the muftada or khabar components.

For the evaluation indicator, the sub-indicator of critical thinking consists of "evaluating the argumentation of example sentences containing muftada khabar and their types." The results showed an increase from a pretest score of 5.3 to 7.6 in Post Test 1, and further to 9 in Post Test 2. The difference of 3.7 between the pretest and Post Test 2 suggests that the evaluation indicator experienced moderate improvement. This evaluation indicator was very helpful for students in assessing the accuracy and correctness of sentence structures containing muftada and khabar. Meanwhile, for the

synthesis indicator, the sub-indicator of critical thinking consists of "combining comprehensive understanding of mubtada and khobar" and "constructing new sentences from various word variations of mubtada and khobar." The pretest score was 6.3, which increased to 7.6 in Post Test 1 and further to 8.67 in Post Test 2. The difference of 2.37 between the pretest and Post Test 2 indicates the lowest improvement compared to the other three critical thinking indicators. This was due to students' unfamiliarity with constructing sentences in the lessons before using Quizlet. Nevertheless, this synthesis indicator can improve students' ability to develop Arabic sentences in various forms.

These results show that Quizlet not only helps students retain information more effectively, but also encourages them to actively analyze, evaluate, and develop the material being taught. This is consistent with the research by (Parlina et al., 2023), which states that Quizlet can enhance critical thinking skills during the learning process, particularly in analyzing arguments. This is influenced by the flashcard feature, which includes images that engage students' interest in learning. Therefore, to develop students' critical thinking skills, teachers can integrate basic teaching principles with approaches that focus on discussion, problem-solving, and in-depth analysis. This idea is in line with findings from (Abrami et al., 2008), which assert that it is not sufficient to expect students to automatically develop critical thinking skills. Educators must intentionally plan and articulate the goals of teaching critical thinking in the curriculum, ensuring that this instruction is also part of the training for both new and experienced teachers.

However, there are other factors influencing students' critical thinking skills aside from the engaging media features, interactivity, and structured learning. The first factor is students' learning motivation. Students' motivation can grow in a learning environment that is engaging and comfortable (Dwijuliani et al., 2021). Motivation is essential for improving critical thinking skill (R. M. Sari et al., 2021). The critical thinking skills systematically programmed by the school can transfer the development of students' learning motivation in the long term (Hu et al., 2016). Based on the interview results, Quizlet can foster learning motivation because it is an interactive online learning media. This result is in line with findings from (Setiawan & Wiedarti, 2020), which state that Quizlet can attract students' interest and motivation to consistently learn vocabulary. Quizlet's live quiz feature can enhance students' enthusiasm for learning and quickly develop their analytical skills, which can increase both learning motivation and critical thinking skills.

Figure 2. Quizlet Live Quiz Feature



The second factor is the media's suitability with students' learning styles. Based on direct observation of the respondents, students preferred visual and auditory learning styles. This can be accommodated by Quizlet, especially the flashcard, matching, test, study, and live quiz features. Quizlet can bridge students' learning styles, whether visual, auditory, or kinesthetic (Diana et al., 2024). Furthermore, the write, gravity, and spelling features make it easier for users to interact and collaborate with others (Romdani & Andriyani, 2021). The features and visualizations of Quizlet are very suitable and comfortable for various learners, from children to adults. This means that Quizlet can accommodate students' learning styles, especially visual learners. This finding reinforces research by (Kurniawan, 2017), which states that visual and verbal learning styles are the most integrated in many educational media.

The third factor is peer influence. Observations showed that students at Madrasah Diniyah Nurul Huda Dinoyo Malang have a tendency to enjoy exchanging ideas or discussing Arabic learning with their peers. Moreover, the material discussed comes from Quizlet, which attracts students' interest and motivates learning. This suggests that peer influence plays a role in enhancing critical thinking skills. These results align with the research of (Jiang et al., 2023), which found that peer assessment in knowledge development communities significantly influences students' critical thinking ability, thereby creating a positive learning environment. The findings of Chen et al. (2024) further strengthen this, showing that peer assessment effectively influences the emergence of critical thinking patterns in students by improving their argumentation skills to be more exploratory.

The changes in Arabic learning outcomes were also quite encouraging. In the pretest, the average Arabic learning score was 44.67, due to significant variation in scores, with some participants scoring lower. This pretest score indicates that the Arabic learning outcomes of all students in class 2 wustho were still below the minimum completion score (KKM). Therefore, the researcher implemented the Arabic learning intervention using Quizlet. After the intervention, the students' learning outcomes improved to an average of 59.33 in Post Test 1, and increased dramatically to an average of 81.33 in Post Test 2. In Post Test 1, the average score of 59.33 still indicated that students' learning outcomes were below the minimum completion score. However, in Post Test 2, the average score of 81.33 showed that students' learning outcomes were above the minimum completion score. Thus, Quizlet media can help students improve their Arabic learning outcomes.

This improvement in learning outcomes can be linked to the features of Quizlet, which enable students to learn independently in a more engaging and interactive manner. Quizlet provides a variety of games and exercises that can strengthen students' understanding of Arabic language concepts in an enjoyable and effective way. Findings from Özdemir & Seçkin (2024) state that Quizlet can enhance vocabulary retention and student achievement. Additionally, Pham (2022) confirms that Quizlet effectively improves vocabulary learning with its engaging and user-friendly test features. Moreover, Quizlet provides empirical evidence that learning vocabulary can develop academic literacy and enhance independent learning outcomes (Boroughani et al., 2023). Based on the discussions presented, Quizlet media can empirically improve students' critical

thinking skills and Arabic language learning outcomes at Madrasah Diniyah Nurul Huda Dinoyo Malang.

CONCLUSION

Based on the results of the study, the use of media has enhanced critical thinking skills and Arabic language learning outcomes at Madrasah Diniyah Nurul Huda Dinoyo Malang. The Quizlet media significantly improved indicators of critical thinking skills, such as the ability to analyze a sentence, synthesize or develop an understanding of the idea within a sentence, and evaluate the material that had been taught. The pretest score of 18.3 indicated that students' critical thinking skills were still low. After receiving the Quizlet media intervention, the average score of students' critical thinking skills increased, reaching a score of 30.00 on post-test 2, which is categorized as moderate critical thinking.

Furthermore, the Quizlet media significantly improved students' Arabic language learning outcomes, enabling them to understand the basic competencies of vocabulary (mufrodlat), grammar (qawaid), and analyze errors in Arabic syntax. The pretest score, with an average of 44.67, showed that students' Arabic learning outcomes were below the minimum average score. After the intervention, the post-test scores increased, with post-test 2 showing an average score of 81.33, which indicates that students' Arabic learning outcomes improved and were above the minimum completion score, thus indicating that the learning outcomes were deemed successful. Therefore, the researcher recommends Quizlet media as a tool for Arabic language learning that can enhance students' critical thinking skills and Arabic language learning outcomes, thereby expanding the benefits of educational technology.

Future research is expected to expand the scope of this study by involving samples from educational institutions with large populations across various locations and educational levels to increase the generalizability of the findings. Additionally, using more diverse data collection methods, such as in-depth interviews, direct observations, and document analysis, will provide richer insights into the impact of Quizlet media on students' critical thinking skills and Arabic language learning outcomes. Future studies could also employ experimental designs to objectively measure the impact of the intervention and explore moderating factors that influence the use of Quizlet as a tool for Arabic language learning.

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