

DIROSAT
Journal of Education, Social Sciences & Humanities
Journal website: https://dirosat.com/

ISSN: 2985-5497 (Online)
DOI: https://doi.org/10.58355/dirosat.v4i4.271

Vol. 4 No. 4 (2026)
pp. 805-818

Research Article

Development and Validation of a Blooket Based Assessment Tool for Arabic Reading Skills

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Received : July 17, 2026
Revised : August 13, 2026
Accepted : September 19, 2026
Available online : October 30, 2026

How to Cite: Yondri Ahmadi, Sofyan Hadi, Fauzana Annova, Prayoga Saputra, & Meliza Budiarti. (2026). Development and Validation of a Blooket Based Assessment Tool for Arabic Reading Skills. *DIROSAT: Journal of Education, Social Sciences & Humanities, 4(4), 805–818.* https://doi.org/10.58355/dirosat.v4i4.271

The Role of Islamic Education Teachers in Fostering the Values of the Rahmatan Lil Alamin Student Profile in Schools and Madrasahs

Abstract. Despite the increasing availability of educational technology, the assessment of Arabic reading skills in secondary schools continues to rely heavily on conventional paper-based tests, which may reduce students' motivation and engagement and increase teachers' workload in scoring. This study aimed to analyze the needs, design, develop, and examine the effectiveness of a Blooket-based assessment instrument for Arabic reading skills among eighth-grade students at Subulussalam Private Islamic Secondary School, Padang Pariaman. The study employed a Research and Development (R&D) approach using the 4D model: Define, Design, Develop, and Disseminate. Quantitative and qualitative data were collected through questionnaires and tests involving experts, teachers, and students. The findings revealed strong needs for the developed instrument, with teacher and student needs analysis

scores of 95% and 84%, respectively. Expert validation confirmed the instrument's high feasibility, including language validity (95%), assessment validity (100%), and media validity (92%). Practicality evaluations also demonstrated positive responses from students (84%) and teachers (95%). Furthermore, the effectiveness test yielded a mean N-Gain score of 0.7698, indicating a high improvement, with an effectiveness percentage of 76.98%. Therefore, the Blooket-based assessment instrument was found to be valid, practical, and effective for supporting the assessment of Arabic reading skills.

Keyword: Arabic reading skills; Blooket; digital assessment; gamified assessment; research and development.

INTRODUCTION

Reading skills (maharah al-qira'ah) are one of the fundamental competencies in Arabic language learning (Asse et al., 2024) (Irmansyah et al., 2025). This skill is not only related to the ability to recognize and pronounce Arabic language symbols, but also encompasses the ability to understand the meaning of vocabulary, identify information, find main ideas, understand relationships between ideas, interpret meaning based on context, and draw conclusions from a text. Thus, reading is a complex cognitive process because it involves the interaction between linguistic knowledge, contextual understanding, and students' thinking skills. In Arabic language learning, reading skills play a crucial role as they serve as a means for students to access various scholarly sources, academic texts, literature, and Islamic works in Arabic (Al-Jarf, 2026). Therefore, the development of reading skills must be supported by an assessment system capable of providing accurate information regarding students' proficiency levels.

Assessment of reading skills should not be understood merely as a process of determining the number of correct and incorrect answers (Lee et al., 2024). Assessment is an integral part of learning that provides information about the level of students' competency achievement (Jannah & Eka Widyanti, 2024). Through appropriate assessment tools, teachers can identify students' abilities to comprehend explicit information, locate specific details, identify main ideas, understand the meaning of vocabulary in context, and draw conclusions from texts. This information can serve as the basis for evaluating and adjusting the learning process. Therefore, the quality of the assessment instruments is a critical factor in generating valid information about students' abilities. In the context of game-based assessment, the quality of measurement becomes even more important because game-based activities must still yield relevant evidence regarding the competency constructs being measured (Rahimi & Shute, 2024).

However, the practice of assessing Arabic reading skills still faces a number of challenges (Mujahidah Rasuna Said et al., 2025) (Nurul Mustofa et al., 2026). One of the main challenges is the dominance of conventional assessment tools that are oriented toward written tests. Teachers generally use multiple-choice, fill-in-the-blank, or essay questions presented on worksheets (He & Zhang, 2024). These formats remain relevant for measuring certain aspects of reading comprehension, but their continuous use without variation can make the assessment process monotonous.

Furthermore, assessment is often perceived as an activity separate from the learning process and associated with a formal and stressful atmosphere. These conditions can affect students' motivation and engagement during evaluations.

Advances in digital technology are further reinforcing the need for transformation in assessment practices (Okafor, 2025). Today's students are growing up in an environment surrounded by digital devices, interactive applications, online games, and internet-based technologies. Digitization provides opportunities for teachers to develop more flexible, interactive, and efficient assessments (Bagga & Agrati, 2024; Okafor, 2025). Technology enables the digital presentation of questions, the automatic collection of responses, the provision of faster feedback, and the systematic documentation of learning outcomes. However, the digitization of assessment is not merely a matter of moving questions from paper to a screen. The quality of assessment still depends on the alignment between constructs, indicators, test items, and the competencies to be measured.

One emerging approach in digital education is gamification the use of game elements in non-game contexts to increase user engagement and participation. In education, elements such as points, challenges, competitions, rankings, rewards, and feedback can be integrated into both the learning process and assessment. Studies on gamification indicate that this approach has the potential to increase student engagement, but its effectiveness depends heavily on the quality of the design and its alignment with learning objectives.

In the context of assessment, gamification has the potential to change students' perceptions of evaluation activities (Chan & Lo, 2024; Zainuddin et al., 2020). Assessments that were previously viewed as formal and stressful can be transformed into more dynamic and participatory activities. Recent research shows that the use of gamification in assessment can increase students' motivation and engagement. However, gamification should not be focused solely on fun and competition. Game elements must serve as a strategy to support the assessment process (Shute et al., 2021). The validity of the instrument is still determined by construct validity, the appropriateness of indicators, the quality of test items, and evidence that the instrument truly measures the intended competencies.

In language learning, gamification can be applied to various skills, including reading (Huseinović, 2023) (Cheng et al., 2025). Learners can be given texts followed by questions based on specific levels of comprehension, such as understanding explicit information, identifying the main idea, recognizing detailed information, understanding vocabulary in context, and drawing conclusions. The gamification approach is then used to increase learner engagement in the assessment process (Zhang & Crawford, 2024) (Cigdem et al., 2024). Research on gamification in language learning shows that this approach has the potential to increase student motivation and participation, although its success remains influenced by the appropriateness of the design, learning objectives, and student characteristics (Li et al., 2022).

One platform that can be used to support gamified assessments is Blooket. This platform allows teachers to present questions in various game modes so that the

process of answering questions can take place in a more interactive environment (Ranieri et al., 2021) (Wirani et al., 2022). In Arabic language learning, Blooket has the potential to be used to deliver digital reading skills assessments. Students can read Arabic texts and answer a series of questions designed based on reading comprehension indicators. Game elements can increase students' attention and engagement, while the digital system helps teachers obtain information about student responses more quickly (Ebadi et al., 2023; Panjaburee et al., 2024).

Research on Blooket in Arabic language learning is beginning to demonstrate its potential as a digital gamification tool (Doni et al., 2025) (Alfa Alchairiah & Miatin Rachmawati, 2026). It shows that integrating Blooket can support the learning of Arabic syntax. However, this research remains focused on learning outcomes. In general, most research on technology and gamification in language learning also remains focused on motivation and learning outcomes, while the use of digital platforms as assessment tools is often not accompanied by a systematic process of construct development, indicator formulation, content validation, and instrument quality testing (Dehganzadeh & Dehganzadeh, 2020) (Shen et al., 2024). In fact, the relationship between game activities and the constructs being measured must be explicitly designed so that the assessment has sufficient validity evidence. Thus, research that integrates the development of assessment instruments, Arabic reading skills, and the Blooket platform remains relatively limited.

Based on this gap, this study developed and validated a Blooket-based Arabic reading skills assessment instrument. The instrument was developed based on the construct of reading comprehension, which includes the ability to understand explicit information, identify main ideas, locate detailed information, understand the meaning of vocabulary based on context, and draw conclusions from a text. The novelty of this study lies in the integration of the principles of assessment instrument development and validation with gamification mechanisms through Blooket. Therefore, Blooket is not merely positioned as a learning medium or a game but as part of a digital assessment ecosystem that supports the measurement of reading skills in a more interactive and systematic manner.

Theoretically, this study is expected to expand the body of research on digital assessment in Arabic language learning by emphasizing that technological innovation must be supported by the principles of instrument development and validation. Practically, the research findings are expected to provide Arabic language teachers with alternatives for conducting reading skill assessments that are more interactive, engaging, and tailored to the characteristics of learners in the digital age. Based on the above description, this study aims to develop and validate a Blooket-based assessment instrument to measure Arabic reading skills through a process involving needs analysis, construct development, the formulation of indicators and test items, digital implementation, expert validation, and product feasibility testing with students.

RESEARCH METHODS

This study employed a Research and Development (R&D) approach to develop a Blooket-based assessment instrument for measuring the Arabic reading skills of eighth-grade students at the Subulussalam Private Madrasah Tsanawiyah in Padang Pariaman. The study utilized the 4D (Four-D) development model, which consists of four stages: Define, Design, Develop, and Disseminate (Indaryanti et al., 2025; Saputra, 2022). The study was conducted at the Subulussalam Private Madrasah Tsanawiyah in Padang Pariaman over a period of approximately three months. The 4D model was used to guide the systematic product development process, from needs assessment to the implementation of the developed product.

In the Define stage, a needs analysis was conducted to identify the current state of Arabic reading skills assessment as well as the needs of teachers and students regarding technology-based assessment tools (Rabiman et al., 2024). This stage served as the foundation for determining the characteristics of the product to be developed. Next, the Design phase involved analyzing the curriculum, student textbooks, the types of tests used, and the needs of teachers and students. Based on the results of this analysis, the researchers formulated test items, entered them into the Blooket platform, compiled answer keys, and prepared validation instruments for Arabic language experts, media experts, and assessment experts.

The Develop phase involves expert validation and product testing (Halevi Hochwald et al., 2023). Input from experts was used as the basis for revisions to improve the quality of the instrument before it was administered to students. The product was then tested to obtain data on its feasibility, user response, and effectiveness. The final stage, Disseminate, was conducted on a limited basis at the Subulussalam Private Madrasah Tsanawiyah in Padang Pariaman through the implementation of a Blooket-based assessment instrument for evaluating Arabic reading skills.

The research subjects were eighth-grade students, with 21 students participating in the limited pilot test. The study also involved Arabic language teachers and expert validators as data sources in the product development process. Data sources consisted of primary and secondary data. Primary data were obtained through interviews, observations, questionnaires, documentation, and tests, while secondary data were obtained from relevant documents and literature sources.

The research instruments included interview guidelines, questionnaires for needs analysis and user feedback, expert validation forms, observations, documentation, and reading skills tests. The tests developed on the Blooket platform consisted of multiple-choice questions tailored to Arabic reading skills material.

The data were analyzed using both qualitative and quantitative approaches (Vieriu & Petrea, 2025). Qualitative data onsisting of interview results, observations, and feedback from validators were used as the basis for product revisions. Meanwhile, quantitative data from questionnaires and tests were analyzed to determine the validity, practicality, and effectiveness of the instruments. The product's effectiveness

was analyzed by comparing test results before and after the implementation of the instruments using N-Gain.

RESULTS AND DISCUSSION

Product Development Needs Analysis

The needs analysis phase is part of the Define phase. Before developing the assessment tool, the researcher first analyzed the learning objectives, textbooks, and question formats used at Sabilussalam Private Madrasah Tsanawiyah in Padang Pariaman. The results of the curriculum analysis showed that the reading skills learning outcomes for eighth grade in the second semester focused on three main topics: sports (fourth lesson), professions (fifth lesson), and visiting the doctor or sick people (sixth lesson). These three topics were then used as the basis for developing a Blooket-based reading skills question outline.

Next, a needs assessment questionnaire was distributed to Arabic teachers and students. The results of the teachers' questionnaire showed a score of 23 out of a maximum of 24 equivalent to 95 percent which falls into the "strongly agree" category. These results indicate that teachers have a strong need for a Blooket-based reading skills assessment tool as an alternative to the traditional assessment tools that have been used thus far.

Meanwhile, the needs assessment survey distributed to 20 students yielded a cumulative score of 404 out of a maximum of 480 equivalent to 84 percent which also falls into the "strongly agree" category. These data confirm that students want a reading skills assessment that is more interactive, accessible via digital devices, game- and competition-based, and capable of providing automatic and rapid feedback on their scores. The results of these two surveys provide a strong foundation for the researchers to continue product development in the next phase.

Assessment Tool Design

The design phase consists of two main steps. First, the researcher develops a question blueprint based on learning outcomes, the Merdeka curriculum, students' textbooks, and previously analyzed question formats. This blueprint includes learning outcomes, learning objectives and the sequence of learning objectives, item indicators, cognitive levels, and item numbers for each topic (sports, professions, and doctor's visits).

Second, the researchers wrote test items based on the test blueprint. The questions were designed as multiple-choice items tailored to the format supported by the Blooket platform, covering comprehension of main ideas, detailed information (both explicit and implicit), and the ability to answer questions based on the content of the Arabic reading passage.

Expert Development and Validation

During the development (Develop) phase, the designed product was then validated by three experts a linguist, an evaluation specialist, and a media specialist all of whom are faculty members of the Arabic Language Education Program at UIN Imam Bonjol Padang.

The results of the linguist's validation showed a score of 23 out of 24 (95%), placing it in the "very good" category and deeming it suitable for use with minor revisions. Some of the suggested improvements include adjustments to word choice and corrections to linguistic rules in several test items and reading passages.

The results of the expert evaluation showed a perfect score 24 out of 24 (100%) placing it in the "very good" category. Although the test received the maximum score, the evaluators still provided several recommendations for improvement, including rearranging the layout of the questions and answer keys on separate pages, adjusting the font to make it easier to read, and refining the instructions for each question.

The results of the media expert validation showed a score of 26 out of 28 (92%), which also falls into the "very good" category. The validator suggested adding instructions on how to use Blooket at the beginning, taking into account a time allocation that is proportional to the depth of the material and the difficulty level of the questions.

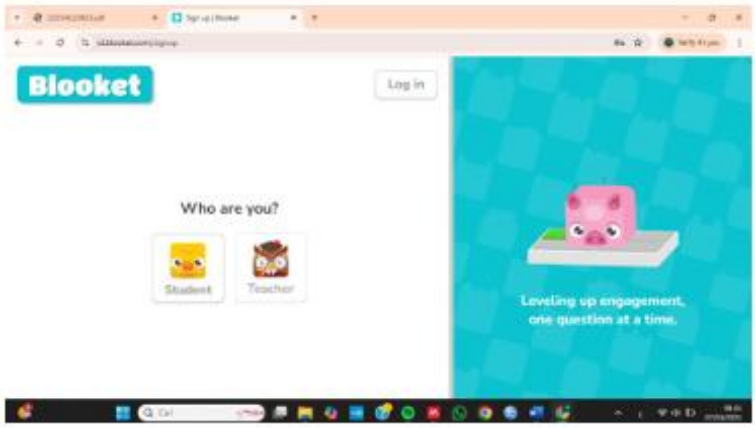


Figure 1. The Blooket platform's home page as the basis for developing a reading skills assessment tool

Based on the suggestions and feedback from the three validators, the researcher revised the product, including improvements to the word choice and linguistic conventions in the reading passages and questions, separating the question pages from the answer key, adjusting the font, and adding instructions for using the Blooket app. The final product is an Arabic reading skills test consisting of 30 items covering three learning topics sports, professions, and doctor's visits which has been fully uploaded to the Blooket platform and can be accessed via the link play.blooket.com/play.

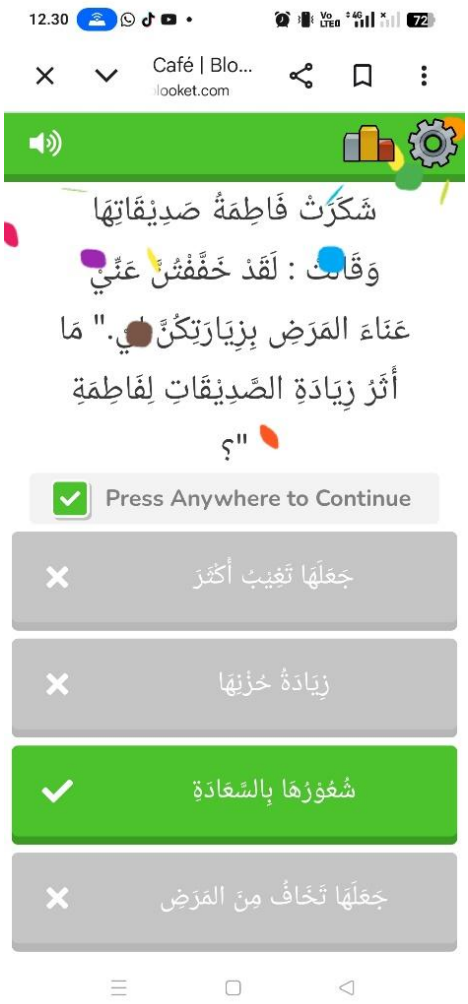


Figure 2. A screenshot of one of the Arabic reading comprehension questions on the Blooket platform

The image above shows an example of an Arabic reading comprehension question on the Blooket platform, complete with four answer choices displayed in color and in an interactive format, allowing students to select an answer immediately and receive instant feedback.

Product Testing and Effectiveness

After undergoing the validation and revision stages, the product was tested on a limited basis with 21 eighth-grade students at the Sabilussalam Private Madrasah Tsanawiyah in Padang Pariaman as the experimental group, in accordance with the “Disseminate” stage of the 4D model.

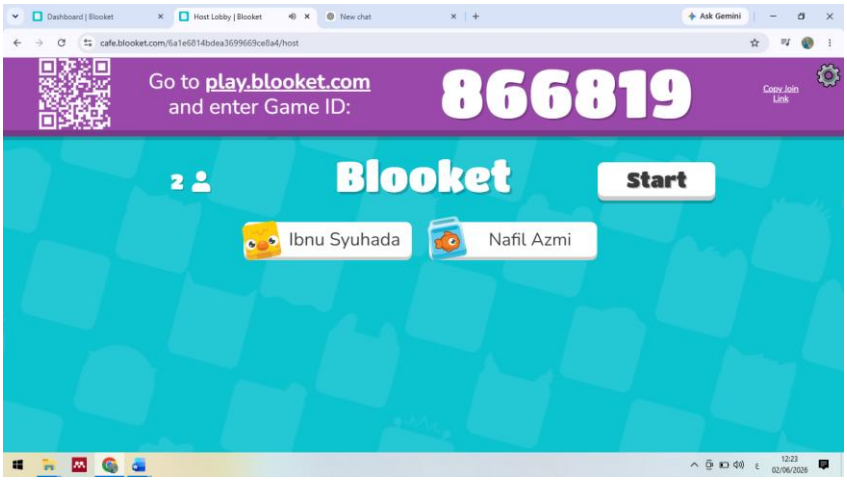


Figure 3. The Blooket game lobby during a trial session with students

Before implementing instruction using Blooket, the researcher first administered a pretest to assess the students' initial reading skills. The pretest results showed that no students scored in the "excellent" category (91–100), while 10% of the students fell into the "very good" category (71–90), 14% into the "good" category (61–70), 43% into the "fair" category (51–60), and 33% into the "poor" category (10–50). These data confirm the low initial reading proficiency of the students before the intervention was implemented.

After conducting the instruction and assessment using Blooket, the researcher administered a posttest to the same group.

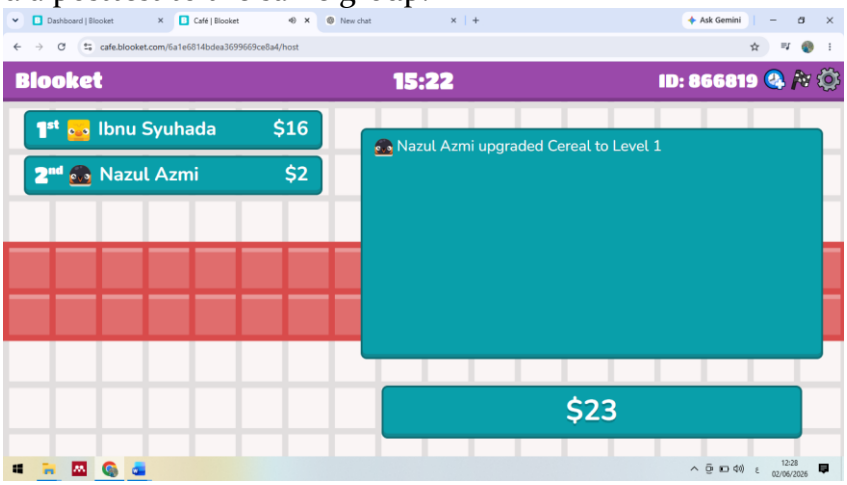


Figure 4. Leaderboard showing Blooket game results during the pilot test

The posttest results showed a highly significant improvement. Of the 21 students, the total cumulative score was 1,908 with an average of 90.85, falling into the "excellent" category. A total of 10 students (48%) achieved the "excellent" category (91–100), and 11 students (52%) achieved the "very good" category (71–90); none of the students fell into the "good," "fair," or "poor" categories. The highest score achieved was 96, and the lowest was 86.

To test the significance of the improvement in learning outcomes, the researcher conducted a paired t-test comparing pretest and posttest scores using

SPSS. The results of the analysis showed a t-value of -11.407 with a significance level (Sig., 2-tailed) of 0.000, which is less than the significance level of 0.05. Thus, the null hypothesis (H_0) was rejected and the alternative hypothesis (Ha) was accepted, meaning there is a statistically significant difference between the students' pretest and posttest scores. These findings confirm that the Blocket-based assessment tool developed successfully improved the students' reading skills significantly.

Next, to measure the product's effectiveness more specifically, the researchers calculated the N-Gain score based on the difference between the pretest and posttest scores. The results showed an average N-Gain score of 0.7698 (rounded to 0.77), which falls into the "high" category because g > 0.7. The average N-Gain expressed as a percentage was 76.98%, which falls into the "effective" category because it exceeds the 76% threshold.

These findings reinforce the conclusion that the Blooket-based reading skills assessment tool developed is not only valid in terms of language, media, and assessment appropriateness but has also been empirically proven to be effective in improving students' learning outcomes. These results align with the findings of Maryam Isnaini Damayanti (2022), who also reported high effectiveness (N-Gain 0.76) in the development of a Wordwall-based assessment tool, as well as the research by Zahida Mushlihah and Muflihah (2026), which demonstrated the effectiveness of Blooket's Racing mode in improving the reading skills of senior high school students. The consistency of these findings across various contexts and gamification platforms reinforces the argument that gamification approaches in general and Blooket in particular hold great potential to serve as an alternative for evaluating Arabic language learning in the digital age replacing conventional evaluation methods that tend to be monotonous, require lengthy grading, and fail to motivate students.

Blooket's main strengths as an assessment tool lie in its ability to provide instant and automatic feedback on scores, offer a variety of game modes to keep things engaging, and allow teachers to monitor students' progress in real time through the available dashboard. From the students' perspective, the competitive atmosphere created through game elements such as a point system, leaderboards, and various collectible characters (blooks) has proven effective in fostering both intrinsic and extrinsic motivation to tackle Arabic reading comprehension questions that were previously considered difficult and cognitively taxing.

CONCLUSION

Based on the research findings and discussion, it can be concluded that the development of a Blooket-based reading skills assessment tool for eighth-grade students at Sabilussalam Private Madrasah Tsanawiyah in Padang Pariaman has proven to be highly necessary, valid, practical, and effective. The levels of support for the product's development among teachers and students reached 95% and 84%, respectively, with both groups falling into the "strongly agree" category. The product was developed using the 4D model with two main design stages: the creation of a test

blueprint and the writing of test items, both of which were aligned with the Merdeka curriculum, textbooks, and the results of the needs analysis. Expert validation showed a language appropriateness rating of 95%, an evaluation rating of 100%, and a media rating of 92%; all were categorized as "very good" and suitable for use with minor revisions. An effectiveness test using a paired t-test revealed a significant difference between the pretest and posttest (t = -11.407; Sig. = 0.000), with an average N-Gain score of 0.77 (high category) and an effectiveness percentage of 76.98% (effective category).

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