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Design and Development of *Maharah Qira'ah* Test Using the Kahoot Application

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Abstract

This research aims to develop an evaluation model and test for Maharah Qira'ah using the Kahoot application. The use of Kahoot is expected to assist teachers in developing and evaluating Arabic language learning, particularly in Maharah Qira'ah. The researcher employs a Research and Development (R&D) approach with the development model using ADDIE (Analysis-Design-Development-Implementation-Evaluation). The data analysis method uses a mixed-method analysis derived from validity data through validators and test results data through pre-test and post-test. The test format uses multiple-choice objective questions with five options, totaling 30 items. Before implementation, the test undergoes validity and reliability testing. Data collection techniques include documentation, questionnaires, and tests. This research involves 30 tenth-grade students, 1 teacher, and 3 validators. The results of the study indicate that: (a) Analysis: needs, curriculum, and material analysis. (b) Design: product specification design. (c) Development: developing the Maharah Qira'ah test using the Kahoot application, from the 30 questions tested, 19 questions are valid and 11 questions are invalid, requiring some questions to be revised. Reliability testing using the Spearman-Brown formula yields a reliability level of 0.88, indicating a high level of reliability. The difficulty level analysis shows that 7 questions are very easy, 5 questions are easy, 16 questions are moderate, and 2 questions are difficult. Meanwhile, the discrimination index shows that most questions have good discrimination power. (d) Implementation: the product application is evaluated by teachers using the teacher response sheet and receives a very positive assessment. (e) Evaluation: the Asymp. Sig. (2-tailed) value is 0.000, non-parametric statistical analysis with the Wilcoxon test reveals a significant difference between pre-test and post-test results, indicating the effectiveness of using Kahoot in the evaluation of Maharah Qira'ah.

Keywords: *Maharah Qira'ah; Kahoot Application; Evaluation and Testing*

Abstrak

Penelitian ini bertujuan untuk mengembangkan model evaluasi dan tes maharah qira'ah menggunakan aplikasi Kahoot. Penggunaan Kahoot diharapkan dapat membantu guru dalam melakukan pengembangan dan evaluasi terhadap pembelajaran bahasa Arab khususnya pada *maharah qira'ah*. Peneliti menggunakan jenis pendekatan Research and Development (R&D)

dengan model pengembangannya menggunakan model ADDIE (Analysis-Design-Development-Implementation-Evaluation). Metode analisis data mengunakan analisis *mix method* yang bersumber dari data hasil validitas melalui validator dan data hasil tes melalui *pre-test* dan *post-test*. Bentuk tes menggunakan soal objektif pilihan ganda dengan lima optional, berjumlah 30 item, tes tersebut sebelum diterapkan dilakukan uji validitas dan reablititas. Teknik pengumpulan data dilakukan melalui dokumentasi, kuisioner dan tes. Penelitian ini melibatkan 30 peserta didik kelas X, 1 orang guru dan 3 validator. Hasil penelitian menunjukkan bahwa: (a) Analysis, analisis kebutuhan, kurikulum, dan materi. (b) Design, perancangan spesifikasi produk. (c) Devalopment, dalam mengembangkan *tes maharah qira'ah* menggunakan aplikasi Kahoot menghasilkan dari 30 soal yang diuji, 19 soal valid dan 11 soal tidak valid, sehingga beberapa soal perlu direvisi. Uji reliabilitas menggunakan rumus Spearman-Brown menghasilkan tingkat reliabilitas sebesar 0.88, yang menunjukkan tingkat reliabilitas yang tinggi. Analisis tingkat kesulitan menunjukkan bahwa 7 soal masuk kategori sangat mudah, 5 soal mudah, 16 soal sedang, dan 2 soal sulit. Sementara itu, daya beda soal menunjukkan bahwa sebagian besar soal memiliki daya beda yang baik. (d) Implementation, penerapan produk dinilai oleh guru menggunakan lembar respon guru dengan hasil penilaian sangat positif. (e) Evaluation, nilai Asymp. Sig. (2-tailed) adalah 0,000, analisis statistik non-parametrik dengan uji Wilcoxon mengungkapkan adanya perbedaan signifikan antara hasil pre-test dan post-test, menunjukkan efektivitas penggunaan Kahoot dalam evaluasi Maharah Qira'ah.
Kata Kunci: Maharah Qira'ah; Aplikasi Kahoot; Evaluasi dan Tes

1. Introduction

The ability to read or *Maharah qira'ah* is not just about profiting letters, words, and sentences, but involves the process of critical thinking, analysis, and problem-solving in Arabic texts. (Roidah, Hamidah, & Widayanti, 2023). To understand the extent to which learners have achieved these abilities, evaluation is very important. Evaluation in qira'ah learning aims to measure students' achievement against the indicators that have been set. (Cholid, 2022)

Specially designed test tools must be used to measure various aspects of reading ability, such as: (1) reading fluently and precisely, (2) determining vocabulary in a specific context, (3) finding explicit information, (4) finding the main idea of a paragraph or main idea, and (5) determining the meaning of sentences in a text. (Ainin, 2019). The results of this evaluation can be used to formulate more effective learning strategies and by the needs of students.

So far, *the Maharah qira'ah* evaluation method is still dominated by conventional approaches, such as written and oral exams which are often considered monotonous and less motivating for students. (Firdaus, Hula, & Bahri, 2023) (Ahmadi, 2020) The limitations of these methods create a gap between the need for effective assessment and the evaluation tools available. Therefore, innovation is needed in evaluation methods that can provide a more interactive and enjoyable learning experience. (Mursyid & Hula, 2024)

In today's digital era, the integration of technology in the learning process is becoming increasingly important to increase the effectiveness and efficiency of education. (Yunita, Pratama, Silalahi, & Sembiring, 2023) One of the interesting innovations is the use of the Kahoot application as an evaluation tool. (Hidayat, Supriani, & Setiawan, 2023) Kahoot is a game-based learning platform that allows interactive quiz creators that can be accessed in real time by students. (Ardiansyah, 2020). The use of Kahoot in *Maharah qira'ah* evaluation is expected to overcome several challenges in conventional evaluations, such as increasing student participation, providing direct feedback, and creating a more enjoyable and effective learning experience. (Arifianto et al., 2021)

The research related to the use of Kahoot for the evaluation of *Maharah qira'ah* is still limited. Most of the existing research focuses more on using these apps in the context of different subjects or language skills. For example, a study conducted by Suharsono et al., entitled Innovation in Arabic Language Learning Assessment Based on Kahoot Games to Improve Listening Skills at Ma'had IIT Rabbani Bengkulu (Suharsono, Shodiq, & Muhtarom, 2023) Then

there is another research conducted by Indzar Robiatul Adawiyah and Syarifuddin entitled The Influence of Kahoot Media on Maharatul Istima' at MTs Wali Songo Purwosari Pasuruan. (Adawiyah & Syarifuddin, 2023). Therefore, this study offers novelty with a focus on the development of *Maharah qira'ah* evaluation and test using the Kahoot application, which is expected to make a significant contribution to Arabic language learning.

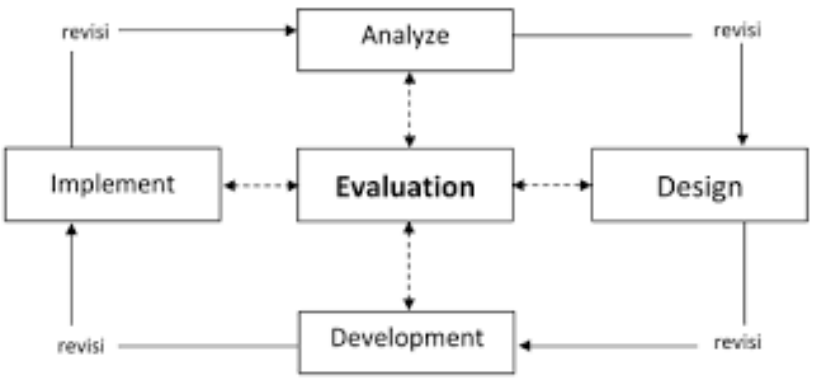
This research has important significance in the development of Arabic language learning evaluation methods, especially for *qira'ah maharah*. In the aspect of evaluation and tests, this study will design a type of test that is digitally based using the Kahoot application, which allows to measurement of various aspects of reading ability comprehensively, ranging from fluency and accuracy of reading, understanding the context of vocabulary, to the ability to find explicit information, as well as the main idea in paragraphs. The implementation of Kahoot in this evaluation aims to determine the effectiveness of the use of technology in learning Arabic. The evaluation aspects to be achieved include increasing accuracy in assessment, time efficiency in implementing evaluations, and the ability to analyze student performance more comprehensively and in real time.

This study aims to develop an evaluation model and test *of Maharah qira'ah* using the Kahoot application, as well as measure its effectiveness in improving students' *Maharah qira'ah* ability. The results of this study can be a reference for educators in applying technology for learning evaluation, especially in language learning. In addition, this research provides new insights into how interactivity can improve the effectiveness of learning and evaluation in the digital era.

2. Method

This research uses a Research and Development (R&D) approach with the ADDIE development model.(Hula, Paputungan, & Mariana, 2021) The type of research used is a mixed method that combines quantitative and qualitative research methods. The merger of the two methods is carried out to ensure that the data obtained is more comprehensive, valid, reliable, and objective. (Rahmayanti, Muhammad, Udin, Nashihah, & Qomari, 2024). Sampling uses the purposive sampling technique, where samples are selected based on certain criteria that are relevant to the research objectives. So, the sample in this study is 30 students in class X. (Sugiyono, 2021) The type of data collected in this development research is quantitative data. This quantitative data includes the validation of questions analyzed using *the state application* and the calculation of the number of pretest and post-test scores carried out with *the SPSS application*. The data analysis techniques used include quantitative descriptive analysis to evaluate the quality of questions from various aspects such as validity, reliability, difficulty level, and differentiation. Furthermore, to calculate the number of values, a Wilcoxon test (non-parametric) was used that was appropriate for data that was not normally distributed.

Picture 1 *Model ADDIE*



The calculation formula and categories used by the researcher are as follows:

$$P = \frac{\sum X}{\sum xi} \times 100\%$$

Information:
P: Eligibility percentage
$\sum X$: The total number of evaluators or respondents' answer scores
∑xi: Total number of highest answer scores
100: Constant Numbers

Table 1 ***Criteria for Achievement***

Reliability Index	Kategori
80% < × ≤ 100%	Highly Worthy
60% < × ≤ 80%	Proper
40% < × ≤ 60%	Quite Decent
20% < × ≤ 40%	Not Eligible
0% < × ≤ 20%	Very Unworthy

The scoring guidelines for each question item are given a score of 1 for the correct answer and 0 for the wrong answer, with the highest score reaching 100. The validity of the instrument can be calculated using the formula of the Pearson correlation coefficient with a rough number (Hanafi, Huda, & Rasydiana, 2019) The formula is as follows:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{NX^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2}}$$

Information:

r_{xy}: The correlation coefficient between the X variable (the score of the question item that answered correctly) and the variable Y (the correct total score).
∑XY: The sum of the multiplication results between the score of item X and the score of item Y
∑X: Sum of all X item scores
∑Y: Sum of all Y item scores

The r value is then transformed into a t value so that this is obtained. The formula used for this transformation is:

$$t_{hitung} = \frac{r_{xy}\sqrt{n-2}}{\sqrt{1-r_{xy}^2}}$$

Information:

r_{xy}: Correlation coefficient between variable X and variable Y
two variables that are corroborated.
n: Number of samples

The question item is empirically considered valid if the price of the calculation is greater than
ttable in the paragraph α = 0.05.

The measurement of test reliability was carried out using the bifurcation technique, where the test result scores were separated into two groups: the odd group (X) and the even group (Y). The scores of these two groups were then correlated using the product moment formula. The formula used to calculate the correlation of product-moment is as follows:

$$r = \frac{[\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{N}]}{\sqrt{[\Sigma X^2 - (\Sigma X)(\Sigma X)/N]\,[\Sigma Y^2 - (\Sigma Y)(\Sigma Y)/N]}}$$

Information
r : koefisien korelasi product moment
N: Number of subjects
ΣX: Odd number of scores
ΣY: Even Score Sum
ΣX^2: the number of odd squared scores
ΣY^2: The number of even squared scores
ΣXY: The sum of the odd score and even score multiplication

The results of the correlation coefficient obtained from the calculation only reflect the level of reliability for half of the questions. However, an accurate reliability analysis must include a correlation coefficient for the entire question. To calculate the correlation coefficient that covers all problems, the Spearman-Brown formula is used.

$$\mathrm{r} = \frac{2\,x\,r}{1+r}$$

Information :
r: reliability of all questions
r: half-test reliability

Table 2 ***Reliability Level Criteria***

Reliability Index	Category
0,90 < × ≤ 1,00	Very High
0,70 < × ≤ 0,89	Tall
0,50 < × ≤ 0,69	Keep
0,30 < × ≤ 0,49	Low
× ≤ 0,30	Very Low

Furthermore, to calculate the difficulty level of each multiple-choice question, the researcher used the following formula.

$$\mathrm{P} = \frac{\mathrm{B}}{N}$$

Information:
P: Difficulty index
B : Number of participants who answered correctly
N : Total number of participants

The difficulty level of a question item can be calculated using a formula that has been modified based on the formula proposed by Djiwandono (1996).

$$\mathrm{TK} = \frac{KB+KA}{nB+nA} \mathrm{X}\ 100\%$$

Information:
TK : Difficulty level
KB : Lower group

KA : Upper group
nB : Number of lower groups
nA : Number of top groups

Table 3 ***Criteria for Question Item Difficulty Index***

Reliability Index	Category
0,70 < × ≤ 1,00	Easy
0,30 < × ≤ 0,70	Keep
0,00 < × ≤ 0,30	Tall

The difference (DB) of a question item can be calculated using the formula proposed by Djiwandono (1996).

$$DB = \frac{KB - KA}{n}$$

Information:
DB : Daya beda
KB : Lower group
KA : Upper group
n : Number of lower groups or upper groups

Table 4 ***Criteria for Question Item Difference Index***

Reliability Index	Category
0,70 <= x <= 1,00	Very good
0,40 < x <= 0,70	Good
0,20 < x <= 0,40	Enough
0,00 < x <= 0,20	Signs
x <= 0,00	So bad

3. Results and Discussion

3.1 Analysis

At this stage of analysis, three stages are carried out, namely needs analysis, curriculum, and material. At the needs analysis stage through interviews, it is known that the evaluation system applied by teachers in learning Arabic still uses traditional methods in the form of written tests (paper tests), this requires teachers to check grades manually one by one, which can take a lot of time. Kahoot is one of the applications that can be a solution for teachers in conducting evaluations. The app is easy to use for teachers and students, even for those who are less familiar with technology. (Wahyuni, Utomo, Fitrianingrum, & Ambarwati, 2023). Kahoot provides a variety of question formats and can be accessed through computer devices and smartphones. (Jannah & Pahlevi, 2020). This application can reduce cooperation between students when answering questions because there is a limited time given so that each student can focus when working on questions. Teachers can check exam results easily because Kahoot provides automatic reports and analysis of exam results. (Daryanes & Ririen, 2020).

Furthermore, the curriculum analysis shows that the curriculum used is an independent curriculum that emphasizes flexibility in the teaching and learning process. In the material analysis stage, three chapters were found in the even semester of the 2023/2024 school year, but in making the test, the researcher only used one chapter with the theme الحياة اليوميّة (daily life).

3.2 Design

The second stage, namely design, is carried out by compiling product specifications that include aspects of the content, appearance, and language used in making the test. The preparation of the test is prepared by the learning objectives contained in the module and developed through several references, the questions are made by the researcher himself based on several learning

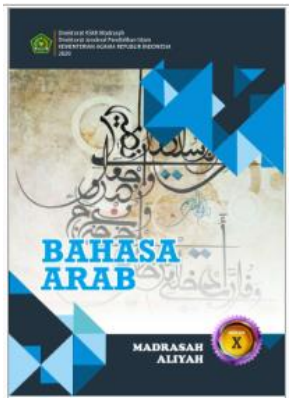
resources in the form of class X Arabic textbooks and books on Arabic learning evaluation. The number of questions written in

The test consisted of 30 multiple-choice questions and four indicators, namely 1) Students were able to determine vocabulary in Arabic, 2) Students were able to determine the meaning of vocabulary, 3) Students were able to find the main idea from the text, 4) Students were able to find explicit facts from the text. The preparation of question items taken in the Qira'ah text is then adjusted to the learning objectives, which are as follows: 1) Students can determine vocabulary in Arabic, 2) Students can determine the meaning of vocabulary, 3) Students can find the main idea from the text, 4) Students can find explicit facts from the text. The following are the learning objectives contained in the learning modules used:

Picture 2 ***Learning Objectives of Maharah Qira'ah***

Tujuan Pembelajaran	Kriteria Ketercapaian Tujuan Pembelajaran
Mengevaluasi informasi tentang memberi kehidupan sehari-hari dengan menggunakan susunan gramatikal: أقسام الفعل — المذكر والمؤنث	1. Membaca, menerjemahkan, dan menghafal mufrodat tentang memberi kehidupan sehari-hari (P1) 2. Mengevaluasi informasi tentang memberi kehidupan sehari-hari dengan menggunakan susunan gramatikal: أقسام الفعل — المذكر والمؤنث (P2)

Picture 3 ***Buku ajar Bahasa Arab kelas X***



Picture 4 ***Test Qira'ah***

١. مَا هِيَ اللُّغَةُ العَرَبِيَة لِلصُّورَةِ التَّالِيَة؟

أ. سَنَة

ب. الحَيَاة

ج. اسْمَاءُ الأَيَّام

د. الشَّمْس

هـ. طَعَام

٢. مَا هِيَ اللُّغَةُ العَرَبِيَة لِلصُّورَةِ التَّالِيَة؟

أ. شُرُوْقِ الشَّمْسِ

ب. أَسْتَيْقِظُ فِي الْفَجْرِ

ج. صَلَاةَ الْفَجْرِ

د. أَذْهَبُ إِلَى الْمَدْرَسَةِ

هـ. بُسْتَان

Picture 5 ***Tex Qira'ah***

الْحَيَاةُ الْيَوْمِيَّةُ

فِي كُلِّ يَوْمٍ أَسْتَيْقِظُ فِي الْفَجْرِ فَأُصَلِّي صَلَاةَ الْفَجْرِ ثُمَّ أُفْطِرُ، وَأَسْتَعِدُّ لِلذِّهَابِ إِلَى الْمَدْرَسَةِ عِنْدَ شُرُوْقِ الشَّمْسِ.

تَنْتَهِي الدِّرَاسَةُ فِي السَّاعَةِ الثَّانِيَةَ عَشْرَةَ ظُهْرًا. فَأَعُوْدُ إِلَى السَّكَنِ بِالْحَافِلَةِ مَعَ الطُّلَّابِ ثُمَّ أُصَلِّي صَلَاةَ الظُّهْرِ، وَأَتَنَاوَلُ طَعَامَ الْغِدَاءِ ، ثُمَّ أَسْتَرِيْحُ أَوْ أَنَامُ وَقْتًا قَلِيْلًا، ثُمَّ أُصَلِّي صَلَاةَ الْعَصْرِ ثُمَّ أُذَاكِرُ دُرُوْسِي. وَفِي بَعْضِ الْأَيَّامِ أَرْجِعُ إِلَى الْمَدْرَسَةِ فِي السَّاعَةِ الرَّابِعَةِ مَسَاءً لِلنَّشَاطِ الرِّيَاضِي. وَبَعْدَ غُرُوْبِ الشَّمْسِ أُصَلِّي الْمَغْرِبَ، ثُمَّ أُذَاكِرُ دُرُوْسِي وَأَعْمَلُ وَاجِبَاتِي الْمَنْزِلِيَّةَ، ثُمَّ أُصَلِّي صَلَاةَ الْعِشَاءِ ثُمَّ أَنَامُ.

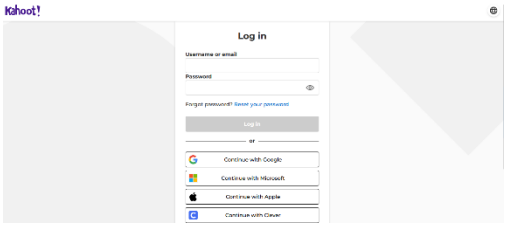
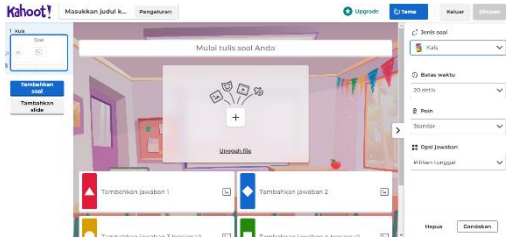
أَمَّا فِي يَوْمِ الْخَمِيْسِ وَهُوَ الْيَوْمُ الْأَوَّلُ مِنْ عُطْلَةِ نِهَايَةِ الْأُسْبُوْعِ فَأَغْسِلُ مَلَابِسِي فِي الصَّبَاحِ وَأَزُوْرُ أَصْدِقَائِي فِي الْمَسَاءِ.

وَفِي يَوْمِ الْجُمُعَةِ وَهُوَ الْيَوْمُ الثَّانِي مِنْ عُطْلَةِ الْأُسْبُوْعِ أَغْتَسِلُ وَأَلْبَسُ الْمَلَابِسَ النَّظِيْفَةَ اِسْتِعْدَادًا لِصَلَاةِ الْجُمُعَةِ، أُحَاوِلُ أَنْ أَذْهَبَ قَبْلَ إِقَامَةِ الصَّلَاةِ بِسَاعَتَيْنِ حَتَّى أَقْرَأَ شَيْئًا مِنَ الْقُرْآنِ الْكَرِيْمِ،

3.3 Development

The third stage is the development stage. At this stage, the researcher developed an evaluation of the qira'ah maharah test using the Kahoot application. The Kahoot application has a feature that can be used to create questions, namely *quizzes* in the form of multiple choice which are suitable for making qira'ah test questions. (Rasydiana, 2019). These questions can be equipped with features in the form of pictures, text, and interesting videos that are tailored to the material. In the development of this test, the researcher uses Arabic fish to fill in the identity of the questions, make practice questions, and compile answer choices from these questions. The following is a look at the development of the maharah qira'ah test using the Kahoot application:

Table 5 ***Kahoot App Test Development View***

<table>
<tr>
<td>1. log in to the application (Researcher logs in via the website https://kahoot.com/)
  </td>
<td>2. Select the "Create" feature to edit the question</td>
</tr>
<tr>
<td>3. Type questions and answer options
  </td>
<td>4. Tampilan soal pilihan ganda
  </td>
</tr>
</table>

At this stage of development, the researcher also conducts expert validation to test the feasibility of media and materials for the qira'ah maharah test. The validation of media experts obtained the following feasibility test results:

Table 6 ***Results of media expert validation recapitulation***

Aspects	Persentase
Display	85%
Uses	90%
Interactivity	88%
Effectiveness	92%

Average	**88,75%**
Predicate	**Proper**

Based on Table 2, these results show that the Kahoot application developed for *the Maharah qira'ah* test already has a good enough design and can be used for learning purposes appropriately to students with revision notes according to expert comments and suggestions. Furthermore, the researcher also validated the subject matter expert with the following feasibility test results:

Table 7 ***The results of the recapitulation of the validation of the material expert***

Aspects	Percentage
Material Suitability	90%
Material Suitability	90%
Presentation of Materials	90%
Kebahasaan	90%
Rata-rata	**90%**
Predikat	**Sangat Layak**

Based on Table 3, these results show that the content of the material presented in the *Maharah qira'ah test* using the Kahoot application is very consistent with the learning objectives, curriculum, and ability level of students and is presented clearly and attractively.

3.4 Implementation

At this stage, the researcher implemented the qira'ah maharah test using the Kahoot application to 30 students in class X at MAN 1 Gorontalo Regency. The implementation of the pre-test will be carried out on June 10, 2024, and the post-test on June 13, 2024. Students can easily access the test evaluation given through the website https://kahoot.it/ and then log in using the pin that is already available in the teacher's account. In its appearance, students can directly answer questions related to the content of the text. During the test, teachers and students can see who is in the top five highest scores, because this Kahoot application automatically assesses the results of students' answers. For the results of the overall grades and answers, the teacher can see them in the report feature and can download the results into Excel. The results of this pre-test and post-test data make it very easy for teachers to evaluate students' abilities in *the qira'ah maharah* and can analyze which parts of the qira'ah text are difficult for students to understand.

Furthermore, conducting a trial of the product to assess the level of satisfaction and effectiveness of the evaluation tool, this trial involves teachers as respondents. The results of the analysis of the teacher's response sheet showed that *the qira'ah maharah* test conducted through the Kahoot application received a very positive assessment from the teacher, with 14 "Yes" answers and only 1 "No" answer. Almost all indicators show full approval, except for technical and network issues that could hinder accessibility. Overall, this application is considered effective, interactive, and useful in the evaluation process of *students' maharah qira'ah*.

3.5 Evaluation

At this stage of evaluation, the tests that have been developed will be tested and analyzed. The results of this analysis will be used for the evaluation process of learning Arabic using the Kahoot application on the actual subject. The results of the analysis are as follows:

3.3.1 Test Validity Test

Table 8 ***Correlation of Item Score with Total Score***

Item	Correlation	Significance
1	0.508	Very Significant
2	0.392	Significant
3	0.117	-
4	0.579	Very Significant
5	0.314	-
6	0.055	-
7	0.445	Significant
8	0.435	Significant
9	0.511	Very Significant
10	0.423	Significant
11	0.622	Very Significant
12	0.614	Very Significant
13	0.556	Very Significant
14	0.299	-
15	0.590	Very Significant
16	0.278	-
17	0.730	Very Significant
18	-0.010	-
19	0.049	-
20	-0.324	-
21	0.507	Very Significant
22	0.481	Very Significant
23	0.654	Very Significant
24	0.804	Very Significant
25	0.338	-
26	0.800	Very Significant
27	0.599	Very Significant
28	-0.074	-
29	0.381	Significant
30	0.163	-

Based on the table above, the results of the question validity test using the product-moment correlation coefficient formula from *Pearson* show that out of 30 questions, there are 19 valid questions and 11 invalid questions so it can be concluded that a small number of questions are included in the invalid category so that the questions must be revised based on test analysis, where the revised test is a test that is included in the invalid category. A test is said to be valid if the t-value *is calculated* > *r Table*, in this validity analysis, the test is tested using data from 35 students. To determine the validity, an r Table value of 0.404 is used. The value of this table is taken from the distribution table r for a significance level (α) of 0.05, which means that there is a 95%

confidence level that the result is not a coincidence. If the t-count obtained from statistical analysis is greater than 0.404, then the test is considered valid and can be used.

3.3.2 Test Reliability Test

In the results of the reliability test of the question using *the product moment* formula quoted from Gronlund and Lim (1985), the results of the analysis showed an average score ($\bar{x}$) of 18.66 with a standard deviation (σ) of 5.26. The correlation between odd and even scores (rxy) is 0.78. Then, to calculate the reliability of the entire test, the Spearman-Brown formula was used which resulted in a reliability level of 0.88. Based on these results, the test showed a high level of reliability, showing that the questions were of good quality and could be used in the evaluation of *maharah qira'ah* using the Kahoot application.

Installment-installment = 18.66
Simpang Baku = 5.26
XY Correlation = 0.78
Test Reliability = 0.88

3.3.3 Difficulty Test

Table 9 *Difficulty Level*

No Item	Correct Amount	Tkt Difficulty (%)	Interpretation
1	30	85.71	It's very easy
2	31	88.57	It's very easy
3	32	91.43	It's very easy
4	26	74.29	Easy
5	32	91.43	It's very easy
6	33	94.29	It's very easy
7	30	85.71	It's very easy
8	28	80.00	Easy
9	32	91.43	It's very easy
10	29	82.86	Easy
11	20	57.14	Keep
12	23	65.71	Keep
13	25	71.43	Easy
14	20	57.14	Keep
15	23	65.71	Keep
16	9	25.71	Difficult
17	23	65.71	Keep
18	12	34.29	Keep
19	8	22.86	Difficult
20	12	34.29	Keep
21	25	71.43	Easy
22	14	40.00	Keep
23	21	60.00	Keep
24	22	62.86	Keep
25	12	34.29	Keep
26	20	57.14	Keep
27	20	57.14	Keep

28	11	31.43	Keep
29	13	37.14	Keep
30	17	48.57	Keep

Based on the table above, the results of the analysis of the difficulty level of the questions used a formula put forward by Djiwandono (1996) where 7 questions were obtained in the very easy category, 5 questions in the easy category, 16 questions in the medium category, and 2 questions in the difficult category. From the results of this analysis, the questions that fall into the category of very easy and difficult need to be revised. Very easy questions do not provide enough challenges, while very difficult questions may be too challenging and not by the average student's ability. Revision can be done by adjusting the difficulty level of the questions so that they are more balanced and by the students' abilities, for example by making more moderate or intermediate questions.

3.3.4 Difference Analysis Test

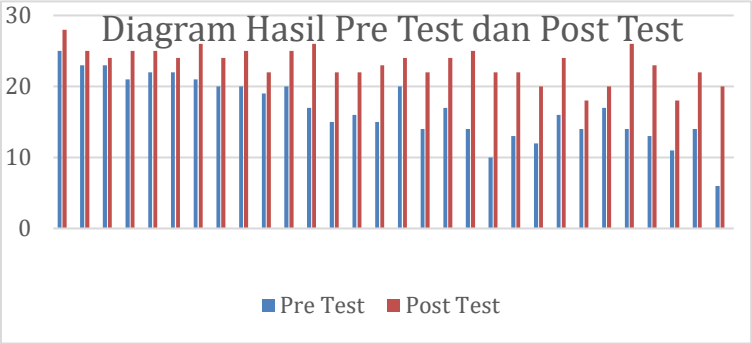
Table 10 ***Differentiation Analysis***

No Item	Kel. Above	Kel. Below	Different	Indeks DP (%)
1	9	5	4	44.44
2	9	6	3	33.33
3	8	8	0	0.00
4	9	3	6	66.67
5	9	7	2	22.22
6	9	9	0	0.00
7	9	5	4	44.44
8	8	4	4	44.44
9	9	6	3	33.33
10	9	5	4	44.44
11	9	2	7	77.78
12	9	3	6	66.67
13	9	4	5	55.56
14	7	4	3	33.33
15	8	1	7	77.78
16	4	1	3	33.33
17	9	1	8	88.89
18	3	4	-1	-11.11
19	2	3	-1	-11.11
20	3	5	-2	-22.22
21	9	4	5	55.56
22	6	1	5	55.56
23	9	1	8	88.89
24	9	1	8	88.89
25	6	2	4	44.44
26	9	0	9	100.00
27	8	2	6	66.67
28	3	3	0	0.00
29	4	1	3	33.33

30	6	2	4	44.44

Based on the table above, the results of the differentiation analysis using the formula put forward by Djiwandono (1996) show that the average discriminating power index is 43.33%, indicating that overall, the discriminating power of the question items is at a fairly good level. The standard deviation of the discriminating power index of 31.99% shows that there is a significant variation between the values of the discriminating power index, this means that there are several questions with very high or very low discriminating power. The value distribution of the discriminating power index showed high values (100%) and low or negative values (-22.22%). Grains with high discriminating power (index above 30%) are Item No: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 29, 30. Items with low or negative discriminating power that may need to be revised or deleted are Item No: 3, 6, 18, 19, 20, 28. In conclusion, most of the question items have quite good discriminating power. Several question items have low or negative discriminating power that need to be considered to be corrected or removed. The average discriminating power index is at a good level, but the large variation indicates the need for further checking of question items that have extreme discriminating power.

After the questions are revised based on the results of the analysis of validity, reliability, difficulty, and differentiation, the researcher inputs the questions into the website https://kahoot.com/ teachers can also input directly through the application. Next, the pretest and post-test were carried out to measure the *maharah qira'ah ability* of students in class X MAN 1 Gorontalo Regency. The following is a table of pre-test and post-test results using the Kahoot application to measure *qira'ah maharah* with a standard score of 73:



Furthermore, the researcher conducted a normality test on the results of the pre-test and post-test. The normality test is used to determine whether the data follows a normal distribution pattern. This test is generally applied to data with ordinal, interval, or ratio scales. (Ahadi & Zain, 2023). The results of the normality test are important because they will affect the choice of the right statistical analysis method. If the data is normally distributed, parametric statistical analysis is appropriate. On the other hand, if the data is not normally distributed, the nonparametric analysis method is more suitable. (Setyawan, 2021). To conclude that the data is normally distributed, the significance value obtained must be greater than 0.05.

Picture 6 ***Normality Test Results***

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.126	30	.200*	.972	30	.600
Posttest	.181	30	.014	.941	30	.100

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Based on the picture above, because the number of samples (N) is less than 50, the researcher used the Shapiro-Wilk normality test. It is known that the significance values of the pre-test and post-test are 600 and 100 which means less than 0.05 so it can be concluded that the pretest and post-test data are not normally distributed. Thus, the data analysis in this study will use a nonparametric method because the results of the normality test show that the data does not follow the normal distribution, so it is continued with the next test that will use the Wilcoxon test instead of the parametric test.

The Wilcoxon test is often used as a substitute for the paired sample t-test when the data does not meet the normal distribution requirements based on the normality test. (Budihartini, 2022). In the context of research, this is important because data that is not normally distributed cannot be tested using parametric statistical methods, such as the t-test. (Wahyudi, Idris, & Abidin, 2023). Therefore, to ensure the validity of the data analysis collected, the researcher chose to use nonparametric statistical methods such as the Wilcoxon test.

Picture 7 ***Wilcoxon Test Results***

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Pretest and Posttest equals 0.	Related-Samples Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Standard Error	48.588	
Standardized Test Statistic	4.785	
Asymptotic Sig.(2-sided test)	.000	

Picture 8 ***Wilcoxon Test Results***

Based on the output of the "Test Statistic" shown, the Asymp. Sig. (2-tailed) value for the experimental class is 0.000. This value is less than 0.05, which is a commonly used level of significance in research. Since the value of 0.000 is less than 0.05, we can conclude that there is a significant difference between the pre-test and post-test results. In other words, there was a significant difference in the value of the results of the evaluation of *the students' qira'ah before* and after the implementation of the test using the Kahoot application. This shows that the intervention using Kahoot has a positive and significant effect on improving students' reading ability (*maharah qira'ah*), which can be seen from the significant difference in scores between the pre-test and post-test.

The results of this study revealed the effectiveness of Kahoot application-based test development as an evaluation tool for reading skills (maharah qira'ah) in Arabic language learning. These results are consistent with a study conducted by (Ma'rif, Suparmanto, Rahmawati, Nurhidayati, & Mujiburrahman, 2024) regarding the utilisation of Kahoot as an evaluation medium in Arabic language teaching. The study indicated that Kahoot is not only effective in

improving Arabic learning outcomes, but also able to create a fun and interesting learning atmosphere for learners. This is reflected in the significant increase between pre-test and post-test scores in this study.

This finding is also supported by (Emilio, Safitri, & Sujarwo, 2024), which confirmed that the use of Kahoot substantially increased students' participation and deepened their understanding of the material learnt. Furthermore, the development of a Kahoot-based maharah qira'ah test showed a marked improvement in students' reading ability. According to (Kirotul Umah, Yandari, & Hakim, 2023), the use of digital evaluation tools makes the learning process more interactive and can help students understand the material better, especially in language learning. These results corroborate the theory that technology-based evaluation can improve learning outcomes by providing quick and accurate feedback to students.

4. Conclusion

The research entitled "Design and Development of *Maharah qira'ah Test* Using the Kahoot Application: ADDIE Model Analysis" shows that the Kahoot application is effective in improving students' reading ability (*maharah qira'ah*). Through the analysis stage, it was found that traditional evaluation and test methods require a lot of time and effort for teachers, so they need to be developed through technological advances. Kahoot offers a more efficient solution by providing a variety of interesting question formats and automated result reports. In the design stage, the test is structured with 30 multiple-choice questions that include four main learning indicators. The development of the test utilizes Kahoot features that allow the presentation of questions in the form of text, pictures, and videos. The implementation of the test in MAN 1 Gorontalo Regency showed high ease of access and student involvement, and the analysis of the teacher's response sheet in the use of the Kahoot application received a very positive assessment. The analysis of the evaluation results showed that 19 out of 30 questions were valid, and the results of the pre-test and post-test showed a significant difference with the Asymp. (2-tailed) value of 0.000, because the value of 0.000 was smaller than 0.05, so it can be seen that there was a significant difference between the pre-test and post-test results. In conclusion, the use of Kahoot not only improves the effectiveness of learning but also makes the evaluation process more efficient and engaging for students.

The contribution of using Kahoot is to increase student interactivity, motivation, and engagement through gamification and direct feedback. This proves that Kahoot is not only an effective evaluation tool but also capable of making learning more engaging and efficient, supporting the broader educational goals of Arabic language teaching.

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