Design and Implementation of Gamification-Based Arabic Language Learning Materials through the Quizizz Application to Enhance Students' Motivation and Interactivity

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Abstract

This research aims to design and implement Arabic language learning materials incorporating gamification through the Quizizz application to enhance students' motivation and interactivity. Grounded in the ADDIE model, this R&D study involved 60 students of MTs Al-Huda Gorontalo and one Arabic teacher, with expert validations from media, language, and content specialists. The needs analysis indicated that 89% of students perceived gamification as essential to overcoming boredom and passive engagement in Arabic learning. The developed media was validated as highly feasible by three experts: media (88%), content (89%), and language (92%). Implementation results showed a very positive response from students (83%) and the teacher (93%). The evaluation phase included a pretest-posttest analysis using SPSS 27. Descriptive statistics revealed a significant improvement: the average pretest score was 63.98 (CI 95%: 60.76–67.19), and the posttest score rose to 84.40 (CI 95%: 81.18–87.62). Normality tests indicated that the data did not fully meet the assumption of normality based on the Shapiro-Wilk test (pretest Sig. = 0.013; posttest Sig. = 0.001), although the Kolmogorov-Smirnov test for pretest was acceptable (Sig. = 0.200), allowing for parametric testing. The paired samples t-test confirmed a statistically significant difference (t = -12.677, df = 59, Sig. 0.000) with a mean difference between -23.639 and -17.194. These findings affirm that gamified learning materials significantly enhance student performance and engagement in Arabic instruction.

Keywords: *Gamification, Quizizz, Arabic Language, Learning Motivation, Student Interactivity.*

Introduction

In the digital era, Arabic language learning faces both renewed challenges and promising opportunities as educational paradigms shift toward technology-enhanced environments.[1] Today's learners, often referred to as digital natives, exhibit a strong preference for interactive, game-like learning environments over traditional, lecture-based instruction.[2] Arabic, as a subject, is frequently perceived as difficult and monotonous, primarily due to its reliance on rote memorization and teacher-centered methods, which has led to declining levels of student motivation and engagement in the classroom.[3]

Contemporary educational discourse emphasizes the importance of learner engagement and active participation as pivotal components of successful language acquisition.[4] This shift is aligned with the constructivist learning theory, which posits that knowledge is best constructed through interactive, meaningful experiences.[5] Gamification, the integration of game mechanics into non-game contexts, has emerged as a promising pedagogical approach to address this need.[6] By leveraging elements such as points, badges, leaderboards, and interactive challenges, gamification offers the potential to transform passive learning into an immersive experience.[7]

Recent studies have indicated that gamification significantly enhances learner motivation, particularly in language education settings.[8] Applications

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[1] Samsuar A Rani et al., "Inovasi Blended Learning Dalam Pembelajaran Bahasa Arab: Tantangan Dan Peluang Di Era Society 5.0," انناسل : *Lisanuna Jurnal Ilmu Bahasa Arab Dan Pembelajarannya* 14, no. 2 (2024): 267–86, https://doi.org/http://dx.doi.org/10.22373/ls.v14i2.26612.

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[7] Gufron Zainal Abidin Sdawi Manasiq, "Evolusi Konsep Pembelajaran Bahasa Arab: Tinjauan Sistematis Terhadap Orientasi Pembelajaran Klasik Dan Kontemporer," *Maharot: Journal of Islamic Education* 6, no. 1 (2022): 86–94, https://doi.org/10.28944/maharot.v6i1.1515.

[8] Abdul Muid, Bustanul Arifin, and Amrulloh Karim, "Peluang Dan Tantangan Pendidikan Pesantren Di Era Digital (Studi Kasus Di Pondok Pesantren Al-Islah Bungah

such as Quizizz, Kahoot!, and Gimkit have gained popularity in classrooms for their ease of use, real-time feedback features, and their capacity to foster competitive yet collaborative learning atmospheres.[9] Quizizz, in particular, stands out due to its asynchronous capabilities, adaptive feedback, and customizable content aligned with curricular goals.[10] However, despite the growing adoption of such tools, there is a limited body of research that specifically investigates their implementation in Arabic language instruction, especially in the context of instructional material design.[11]

Most existing literature has focused on either the technological aspects of gamification platforms or their impact in general language learning environments, with English being the primary target language.[12] Very few studies explore how these tools can be systematically integrated into Arabic language curricula through carefully designed teaching materials that reflect linguistic, cultural, and pedagogical considerations.[13] This presents a crucial research gap in understanding the pedagogical potential of gamification in Arabic language education.[14]

To address this gap, the present study seeks to design and implement Arabic language instructional materials that incorporate gamification principles through the use of the Quizizz application.[15] This approach is expected to increase students' intrinsic motivation and foster interactive learning behaviors

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[15] Miranda Islami and Hadi Soekamto, "Efektivitas Model Pembelajaran Inquiry Menggunakan Quizizz Multimedia Berbasis Gamification Terhadap Kemampuan Berpikir Kritis Siswa," *Jurnal Ilmiah Pendidikan Profesi Guru* 5, no. 2 (2022): 383–92, https://doi.org/10.23887/jippg.v5i2.48338.

that are often lacking in conventional instruction.[16] By embedding gamified tasks within structured lesson designs, the learning experience can be made more engaging and learner-centered.[17]

The central research questions guiding this study are: (1) How can Arabic language teaching materials be effectively designed using gamification principles via Quizizz? and (2) What impact does the implementation of these materials have on student motivation and interactivity? These questions aim to explore both the design process and its pedagogical outcomes in a real classroom setting.[18]

Accordingly, the objectives of this study are twofold: first, to develop a prototype of Arabic instructional materials that integrate gamified elements; and second, to assess their effectiveness in enhancing students' motivation and interactive participation during learning activities.[19] The materials will be designed following a systematic instructional design model, incorporating learner analysis, content structuring, and formative evaluation.[20] The novelty of this study lies in its integration of gamification with instructional material design for Arabic learning, an area that remains underexplored in current literature.

The significance of this research lies in its potential to contribute to the innovation of Arabic language pedagogy by demonstrating a practical model for gamification-based material development.[21] In doing so, it aligns with current educational priorities that emphasize learner engagement, digital integration, and pedagogical responsiveness to 21st-century learning needs.[22] The findings

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may serve as a reference for Arabic language teachers, instructional designers, and educational policymakers seeking to modernize language instruction without compromising linguistic depth.[23]

Furthermore, by situating the study within a real-world educational context, this research intends to bridge the gap between theory and practice.[24] The empirical insights gained are expected to enrich the academic discourse on Arabic language instruction and provide scalable strategies for gamification-based curriculum development in similar language learning settings.[25]

Ultimately, this study underscores the urgency of reimagining Arabic language instruction in a way that resonates with the digital sensibilities of today's learners, while remaining grounded in sound pedagogical principles.[26] Through innovative material design and technology integration, Arabic language education can become not only more effective, but also more enjoyable and meaningful for students.[27]

These findings are consistent with Vygotsky's sociocultural theory, which highlights the role of tools and social interaction in facilitating learning.[28] The use of Quizizz in this study served as a mediating tool that enhanced student interaction and collaborative engagement. Moreover, the increase in student motivation aligns with Keller's ARCS model, particularly in terms of Attention and Satisfaction, as the gamified elements such as points, leaderboards, and instant feedback captured learners' interest and provided a sense of achievement.[29]

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Method

This study is a Research and Development (R&D) project employing the ADDIE development model, which consists of five phases: Analysis, Design, Development, Implementation, and Evaluation.[30] The ADDIE model was selected due to its systematic approach in designing, developing, and evaluating technology-based instructional materials efficiently and effectively. The primary focus of this research is the development of Arabic language instructional materials integrated with gamification, utilizing the Quizizz platform to enhance students' motivation and interactivity in the learning process.[31]

Figure 1. Addie
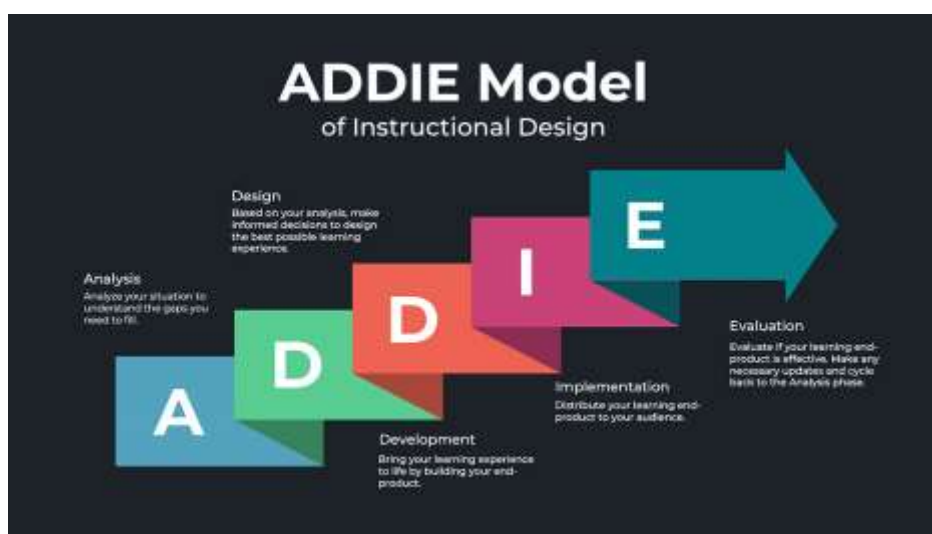
The participants in this study were 60 eighth-grade students from MTs Al-Huda in Gorontalo City. Additionally, one Arabic language teacher was involved in evaluating the practicality of the instructional materials, while three experts, comprising a language expert, a content expert, and a media expert, served as validators to assess the feasibility and quality of the developed product. The study was conducted during the second semester of the 2024/2025 academic year.

Data collection was carried out through several techniques, including the distribution of questionnaires to identify students' learning environments and needs, questionnaires for teachers to explore obstacles encountered in Arabic instruction, and further questionnaires to gather students' and teachers' responses to the developed materials. Moreover, expert validation was

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[30] Siti Amalia Agustin, M Fariq Al Qasri, and Lulu Mitra Jayani, "RnD & Addie in Designing and Develop a Mobile-Based Food Ordering and Payment Information System," *Asia Information System Journal Volume* 3, no. 1 (2024): 31–40, https://doi.org/https://doi.org/10.24042/aisj.v3i1.23318.

[31] Zam Zam Jamaludin and Erwin Rahayu Saputra, "Pengembangan Podcast Dengan Model Addie Pada Materi Cerita Rakyat Sebagai Sumber Belajar Berbasis Audio," *Jurnal Teknologi Pendidikan (JTP)* 6, no. 2 (2021): 120–27, https://doi.org/10.24114/jtp.v8i2.3329.

conducted using a specialized assessment rubric based on content accuracy, instructional design, and pedagogical quality. The following image illustrates the gamification approach applied in this study, highlighting key elements such as point systems, challenges, and interactive learning features integrated into the instructional design.

Figure 2. Gamification

The research process was carried out in five stages. The first stage was needs analysis, conducted by distributing questionnaires to identify problems in Arabic language instruction. The second stage involved the design of instructional materials that incorporated gamified elements such as scoring systems, leaderboards, and virtual rewards. The third stage was the development of materials using the Quizizz platform, complemented by engaging visual designs. Upon completion, the materials underwent expert validation and were revised based on the feedback received. The fourth stage was the implementation, where the materials were tested in the classroom over four instructional sessions. Finally, the evaluation stage assessed student and teacher responses and measured the effectiveness of the developed instructional product.

The data analysis techniques applied in this research are both qualitative and quantitative. The qualitative data comprises input and suggestions provided by the validators, while the quantitative data refers to the level of effectiveness of the Arabic language instructional materials developed using the Quizizz gamification platform. The researchers utilize quantitative analysis methods to process the data obtained from validators and respondents through questionnaires. The data from the questionnaires is analyzed quantitatively through several steps, including data collection, scoring, data analysis, and interpretation of results. Questionnaire responses are collected from all students involved in the implementation of the instructional media, and the average score for each aspect is calculated using a simple formula. Data analysis aims to determine the effectiveness of the gamified Arabic learning materials based on three key aspects, and the analysis results are presented in tables or diagrams to

provide a clear overview of the findings. Finally, result interpretation is conducted by comparing the average score against a predetermined benchmark; for example, if the average score exceeds 4, the instructional media is categorized as effective. The formula used to calculate the questionnaire data percentage is as follows:[32]

$$p = (f / N) \times 100\%$$

Where:

p: percentage value

f: score obtained

N: maximum score

The expert validation results can be derived based on the percentage outcomes grouped within the score interpretation criteria on the Likert scale of 1-5.

Table 1. Score Interpretation Criteria

Achievement Rate	Information
0% - 19,99%	Very Inadequate
20%-39,99%	Inadequate
40%-59,99%	Fair
60%-79,99%	Adequate
80%-100%	Very Aduquate

To measure students' motivation and interactivity in Arabic language learning, the researcher developed a questionnaire consisting of 10 items. Each item was rated using a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The items were carefully designed to align with the research variables—motivation and interactivity—as shown in the following table:

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[32] Wahyudin Wahyudin et al., "Development of an Android-Based Quality Detection System for Young Coconut with ADDIE and ISD," *Journal Industrial Servicess* 11, no. 1 (2025): 43–57, https://doi.org/http://dx.doi.org/10.62870/jiss.v11i1.28116.

Table 2. Alignment of Questionnaire Items with Motivation and Interactivity Variables

Number	Questionnaire Item	Variable	Indicator / Focus Area
1	I often feel bored during Arabic language lessons in class.	Motivation	Learning boredom (reverse item)
2	I rarely participate actively (asking questions, answering, discussing) in Arabic language learning.	Interactivity	Student participation (reverse item)
3	I would like Arabic lessons to be delivered in a more engaging and less boring way.	Motivation	Desire for engaging learning
4	I feel more enthusiastic about learning when the activities are presented like a game.	Motivation	Gamified enthusiasm
5	I enjoy point systems, levels, and rewards during learning because they make me more motivated.	Motivation	Gamification elements boosting motivation
6	I have used the Quizizz application to complete quizzes or assignments.	Interactivity	Digital learning experience
7	I find learning with Quizizz more enjoyable than conventional methods.	Motivation	Perceived enjoyment
8	I can understand the material more easily when it is presented in the form of interactive quizzes like those on Quizizz.	Interactivity	Content comprehension through interaction
9	I am interested in learning Arabic using applications such as Quizizz.	Motivation	Interest in gamified learning
10	I hope future Arabic lessons will be more interactive, challenging, and not monotonous.	Interactivity	Expectation of future interactivity

Result and Discussion

1. Analysis Phase

In the needs analysis stage, the researcher distributed questionnaires to students at MTs Al – Huda Kota Gorontalo to identify problems in Arabic language learning, which served as the basis for designing instructional material strategies based on gamification through the Quizizz application, with the aim of increasing students' motivation and interactivity in the learning process.

Table 3. Student Needs Analysis

Number	Criteria	Yes	No	Value (P)
1	I often feel bored during Arabic language lessons in class.	52	8	86.7%
2	I rarely participate actively (asking questions, answering, discussing) in Arabic language learning.	47	13	78.3%
3	I would like Arabic lessons to be delivered in a more engaging and less boring way.	58	2	96.7%
4	I feel more enthusiastic about learning when the activities are presented like a game.	56	4	93.3%
5	I enjoy point systems, levels, and rewards during learning because they make me more motivated.	55	5	91.7%
6	I have used the Quizizz application to complete quizzes or assignments.	32	28	53.3%
7	I find learning with Quizizz more enjoyable than conventional methods.	50	10	83.3%
8	I can understand the material more easily when it is presented in the form of interactive quizzes like those on Quizizz.	49	11	81.7%
9	I am interested in learning Arabic using applications such as Quizizz.	55	5	91.7%
10	I hope future Arabic lessons will be more interactive, challenging, and not monotonous.	54	6	90.0%

Table 4. Results of Student Needs Analysis

Respondents	Score Obtained (f)	Maximum Score (N)	P	Category
60 Students	534	600	89%	Needed

Figure 3. Summary Chart of Results of Student Needs Analysis
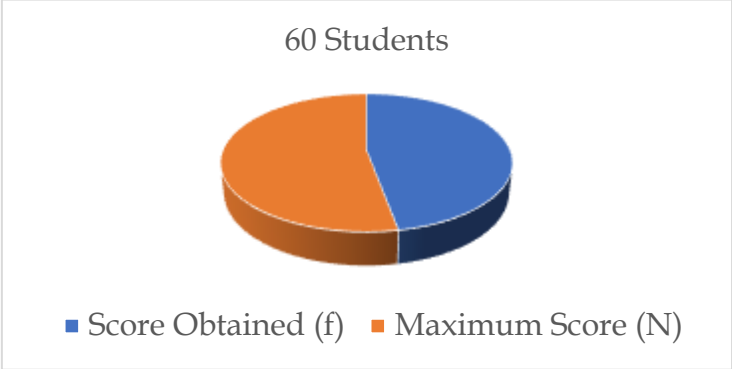
Based on a survey conducted with 60 students at MTs Al-Huda in Gorontalo City, the data revealed that the majority of students (86.7%) often feel bored during Arabic language lessons. Additionally, 78.3% of students admitted that they rarely participate actively in the learning process, such as asking questions, answering, or engaging in discussions. Nevertheless, nearly all respondents (96.7%) expressed a desire for Arabic lessons to be delivered in a more engaging and less monotonous manner—particularly in the form of games that could enhance their enthusiasm for learning.

Furthermore, 93.3% of students stated that they feel more motivated when learning activities are gamified, and 91.7% enjoy point systems, levels, and rewards in learning because these features boost their motivation. Regarding the use of the Quizizz application, 53.3% of students reported having used it, and 83.3% found that learning through Quizizz is more enjoyable than conventional methods. Additionally, 81.7% of respondents indicated that they could understand Arabic language material more easily when it is presented through interactive quizzes like those in Quizizz.

Interestingly, the vast majority of students (91.7%) expressed interest in learning Arabic using applications such as Quizizz, and 90% hoped that future Arabic lessons would be more interactive, challenging, and not monotonous.

These findings suggest that the design and implementation of gamified Arabic learning materials through Quizizz are highly relevant to students' needs. Not only does this approach have the potential to enhance learning motivation, but it also promotes active student participation and facilitates a more enjoyable and effective understanding of the learning material.

2. Design Phase

Next, the researcher carried out the design stage, namely:

- In this menu, there are several options for the quiz creator to choose the desired question format. In this case, the researcher used the assessment model.

Figure 4. Quizizz Question Format Display

Apa yang ingin Anda buat?

Penilaian

Tinjau dan latih kuis untuk mencerminkan pemahaman siswa terhadap konsep.

Presentasi

Ajarkan topik atau keterampilan baru kepada seluruh kelas dengan slide interaktif.

Video interaktif
ⓘ Buat gratis hingga 10 video

Jadikan tugas asinkron menjadi pengalaman belajar aktif.

Analisis
ⓘ Bebaskan hingga 10 pemahaman

Memungkinkan siswa menganalisis teks dan media untuk tingkatkan keterampilan berpikir kritis.

Kartu flash `BARU`

Meningkatkan daya ingat, ideal untuk pembelajaran di kelas dan latihan dengan pengulangan.

- In this menu, the quiz creator can use several types of questions. In this case, the researcher used two types: multiple choice and short answer.

Figure 5. Quizizz Types of Questions Display

Atau pilih jenis pertanyaan untuk menambahkan pertanyaan

☑ **Pilihan ganda**   ▭ **Isian singkat**

☰ **Jalan**

- This is the display of a multiple-choice question.

Figure 6. Quizizz Multiple-Choice Question Display

- This is the display of a fill-in-the-blank question.

Figure 7. Quizizz Fill-in-The-Blank Question Display

3. Development Phase

a) Media Expert Validation

The validation from a media expert is essential to improve the quality of the learning media developed by the researcher, taking into account the information, critiques, and suggestions provided by the expert. The media validator in this development research is JRH, a lecturer in the English Education Department (Tadris Bahasa Inggris) at the State Institute for Islamic Studies (IAIN) Sultan Amai Gorontalo. The results of the media expert validation are described as follows:

Table 5. Media Expert Validation Analysis Results

Media Validator	Score Obtained (f)	Maximum Score (N)	P	Categori
JRH	53	60	88%	Highly Feasible

From the table above, it can be concluded that the language aspect of the media developed by the researcher received a percentage score of 88%. This score falls within the range of 80%–100%, indicating that the media is considered highly feasible for use.

b) Content Expert Validation

The content expert involved in validating this interactive learning media is D, a lecturer in Arabic Language Education at IAIN Sultan Amai Gorontalo. The validation conducted by the content expert focused on aspects of content feasibility, presentation feasibility, and language feasibility. The results of the content expert validation are presented in the following table:

Table 6. Content Expert Validation Analysis Results

Content Validator	Score Obtained (f)	Maximum Score (N)	P	Categori
D	76	85	89%	Highly Feasible

Based on the table above, it can be concluded that the content aspect of the interactive learning media received a "Highly Feasible" rating from the content expert. The average percentage score obtained was 89%, which falls within the range of 80%–100%; thus, the learning media developed by the researcher is declared highly feasible for use.

c) Language Expert Validation

The language expert responsible for validating this Quizizz-based learning media is H, a head of the Arabic Language Education magister at IAIN Sultan Amai Gorontalo. The validation carried out by the language expert concentrated on assessing the language quality and appropriateness of the media. The results of the language expert validation are shown in the table below:

Table 7. Language Expert Validation Analysis Results

Language Validator	Score Obtained (f)	Maximum Score (N)	P	Categori
H	55	60	92%	Highly Feasible

Based on the table above, it can be concluded that the language aspect of the Quizizz-based learning media received a "Highly Feasible" rating from the language expert. The average percentage score obtained was 92%, which falls within the range of 80%–100%; therefore, the learning media developed by the researcher is declared highly feasible in terms of language quality.

4. Implemetation Phase

After the media was declared valid, the next step was the implementation phase, which aimed to apply the Quizizz-based Arabic learning media. In this phase, the researcher involved an Arabic language teacher and 10 students. The purpose of this implementation was to gather feedback from both the teacher and the students regarding the developed media. The responses from the teacher and students are presented in the following description.

a) Teacher Response

The teacher's feedback on the interactive Arabic learning media based on Quizizz was obtained through a questionnaire consisting of 15 statements using a Likert scale ranging from 1 to 5. The results of the teacher's responses to the developed media are presented in the following table.

Table 8. Teacher Response Questionnaire

Number	Criteria	Value (P)
1	This Quizizz media is relevant to the basic competencies in the Arabic curriculum.	80%
2	The material in this learning media is arranged systematically and easy to understand.	100%
3	The Quizizz interface is attractive and makes it easy for students to access the questions.	100%
4	This media facilitates students to learn actively and independently.	100%
5	Using Quizizz can increase students' motivation in Arabic language learning.	100%
6	The questions in Quizizz are aligned with the material taught in class.	80%
7	Quizizz allows teachers to conduct learning evaluations in a more enjoyable way.	80%
8	Interactivity in this media helps students better understand the material.	100%
9	This learning media encourages participation from students who were previously passive in class.	100%
10	Quizizz is easy to operate by both teachers and students.	80%
11	Features in Quizizz (timer, leaderboard, etc.) support a competitive learning atmosphere.	80%

12	This media is feasible to be used as an alternative for formative assessment in Arabic language learning.	80%
13	Using this media does not require complicated technical training.	100%
14	Quizizz is able to accommodate different student learning styles.	80%
15	I am willing to use this media in Arabic learning activities in the future.	100%
	Total	89%

Table 9. Analysis Results of Teacher Response Questionnaire

Respondent	Score Obtained (f)	Maximum Score (N)	P	Categori
UF	79	85	93%	Very Feasible

Figure 8. Summary Chart of Analysis Results of Teacher Response Questionnaire
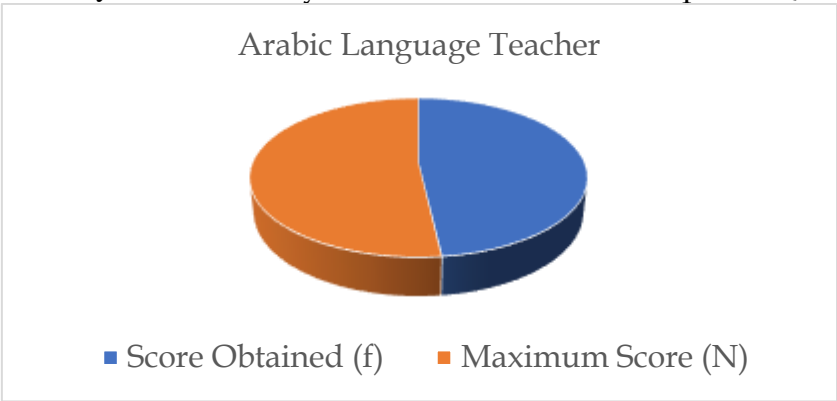
Based on the table above, it can be concluded that the development of this learning media received a very feasible rating. The average percentage obtained from the teacher response questionnaire was 93%, which falls within the 80%-100% range. Therefore, this learning media is declared very feasible to be used in the Arabic language learning process.

b) Student's Response

Tabel 10. Student's Response Questionnaire

No	Student's Name	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	TOTAL	Average	%
1	A.H.	5	5	3	5	4	4	5	4	5	5	45	4,5	90%
2	N.B.	5	4	5	4	4	5	4	5	5	5	46	4,6	92%

3	R.L.	5	5	5	3	5	5	5	4	5	5	47	4,7	94%
4	A.M.	5	4	5	5	3	5	3	5	5	4	44	4,4	88%
5	D.L.	5	5	4	5	5	5	5	5	5	5	49	4,9	98%
6	N.T.	5	4	5	5	3	3	5	4	4	4	42	4,2	84%
7	F.B.	4	4	5	3	3	5	5	5	4	5	43	4,3	86%
8	L.T.	3	4	4	5	4	4	4	4	5	4	41	4,1	82%
9	H.P.	5	5	5	5	4	4	4	5	4	3	44	4,4	88%
10	I.B.	5	5	5	3	3	5	4	4	5	5	44	4,4	88%
11	B.P.	5	5	5	5	5	3	5	4	4	5	46	4,6	92%
12	S.P.	4	3	5	4	4	5	3	4	5	5	42	4,2	84%
13	W.T.	3	5	4	3	4	4	5	4	5	5	42	4,2	84%
14	R.S.	4	4	5	4	4	4	4	5	5	5	44	4,4	88%
15	A.D.	5	5	4	5	3	5	5	4	5	5	46	4,6	92%
16	F.L.	4	4	5	4	4	5	5	5	5	5	46	4,6	92%
17	A.T.	4	5	3	4	5	5	5	3	5	3	42	4,2	84%
18	L.M.	5	4	4	4	4	5	5	5	4	4	44	4,4	88%
19	J.L.	4	5	4	5	5	5	3	4	4	5	44	4,4	88%
20	R.T.	4	3	4	5	4	5	3	3	5	5	41	4,1	82%
21	I.G.	4	5	5	5	5	5	5	4	4	4	46	4,6	92%
22	T.P.	3	5	3	5	5	4	5	4	5	5	44	4,4	88%
23	A.T.	5	3	3	3	4	4	4	5	5	4	40	4	80%
24	M.B.	4	4	3	4	5	5	5	5	4	5	44	4,4	88%
25	Y.M.	5	5	4	4	5	3	4	5	5	4	44	4,4	88%
26	D.T.	4	5	5	5	4	3	4	5	3	3	41	4,1	82%
27	R.M.	4	5	4	5	4	4	5	5	5	5	46	4,6	92%
28	N.T.	4	4	4	4	4	5	5	4	5	4	43	4,3	86%

29	E.P.	5	5	5	5	4	5	4	4	5	5	47	4,7	94%
30	M.P.	5	4	3	5	5	5	5	5	5	4	46	4,6	92%
31	S.L.	4	5	5	5	5	5	4	5	4	4	46	4,6	92%
32	R.L.	4	5	4	5	4	5	5	5	3	4	44	4,4	88%
33	G.K.	5	5	5	4	5	4	5	5	4	5	47	4,7	94%
34	N.P.	5	5	5	5	5	3	5	4	4	3	44	4,4	88%
35	F.G.	4	4	4	5	4	5	4	4	5	5	44	4,4	88%
36	S.L.	4	4	4	5	5	5	4	4	4	3	42	4,2	84%
37	R.M.	5	4	4	5	4	5	4	5	3	5	44	4,4	88%
38	Y.P.	4	5	4	5	5	5	4	4	5	5	46	4,6	92%
39	H.W.	5	4	4	5	5	5	3	5	5	3	44	4,4	88%
40	D.K.	5	4	4	5	5	4	5	3	4	5	44	4,4	88%
41	E.M.	5	5	4	4	5	4	5	5	5	4	46	4,6	92%
42	L.T.	5	5	5	5	4	5	5	4	5	3	46	4,6	92%
43	F.Y.	5	4	5	5	4	5	4	5	4	5	46	4,6	92%
44	N.D.	5	5	5	5	5	5	3	4	4	5	46	4,6	92%
45	A.T.	5	5	5	4	4	4	5	5	5	5	47	4,7	94%
46	N.B.	3	4	5	5	4	4	5	4	4	4	42	4,2	84%
47	D.M.	4	5	4	3	5	5	5	5	4	5	45	4,5	90%
48	R.S.	5	4	5	3	5	5	4	5	5	5	46	4,6	92%
49	A.P.	4	5	3	5	5	4	5	4	4	5	44	4,4	88%
50	L.T.	5	4	4	4	5	4	3	5	5	3	42	4,2	84%
51	B.P.	5	5	5	4	3	3	3	5	5	5	43	4,3	86%
52	F.B.	5	5	4	5	5	5	5	5	3	4	46	4,6	92%
53	Y.P.	4	5	3	4	4	5	5	5	4	5	44	4,4	88%
54	M.D.	5	5	5	4	5	5	5	4	5	4	47	4,7	94%

55	J.M.	3	5	3	5	5	3	5	4	4	4	41	4,1	82%
56	S.T.	5	5	5	5	4	4	4	4	5	4	45	4,5	90%
57	R.L.	5	3	5	5	5	5	4	5	5	5	47	4,7	94%
58	T.T.	4	4	3	3	5	5	4	4	4	5	41	4,1	82%
59	A.G.	4	5	4	5	5	4	5	5	3	5	45	4,5	90%
60	D.P.	5	5	4	4	5	5	5	4	5	4	46	4,6	92%
		89%	90%	86%	89%	88%	90%	88%	89%	90%	89%			

Table 11. Analysis Results of Student's Response Questionnaire

Respondent's	Score Obtained (f)	Maximum Score (N)	P	Categori
60 Student's	2490	3000	83%	Very Feasible

Figure 9. Summary Chart of Analysis Results of Student's Response Questionnaire
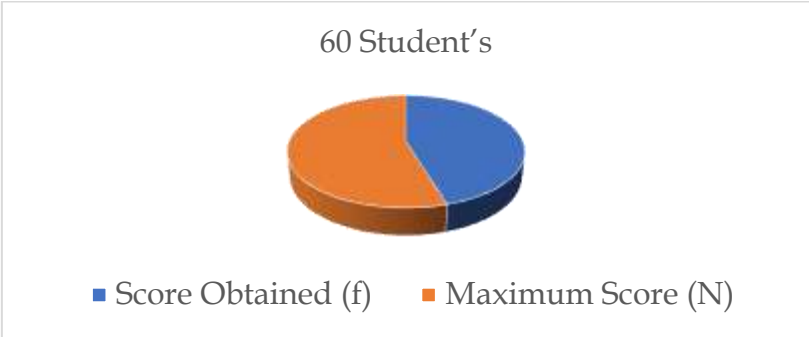
Based on the results of the questionnaire distributed to students, it can be concluded that the interactive Arabic language learning media based on Quizizz received a very positive response. The average percentage of student responses reached 83%, which falls within the range of 80%–100%. Therefore, this learning media is categorized as highly suitable for use in the learning process, serving as a strategy to enhance students' language skills.

5. Evaluation Phase

The implementation stage was carried out to evaluate the effectiveness of developing an interactive Arabic language learning media based on Quizizz. The researcher conducted a practical test involving all tenth-grade students, with

assessment indicators referring to the aspects previously listed in the initial skills questionnaire.

The data from the questionnaire and the practical test were analyzed using SPSS version 30. Descriptive statistical results showed a significant increase between the PreTest and PostTest scores. The average PreTest score was 63.98, with a 95% confidence interval ranging from 60.76 to 67.19. Meanwhile, the PostTest score increased to an average of 84.40, with a 95% confidence interval ranging from 81.18 to 87.62. The median score also showed an increase, from 64.00 in the PreTest to 84.50 in the PostTest.

The relatively similar standard deviations between the PreTest (±12.475) and PostTest (±12.475) indicate consistency in data distribution, although the variances for each were not explicitly stated. The score range for the PreTest was 28, with a minimum score of 47 and a maximum of 75, while in the PostTest, the range narrowed to 26, with a minimum score of 71 and a maximum of 97.

Overall, the analysis results indicate that the use of Project-Based Learning-based e-modules had a significant positive impact on improving students' Arabic writing skills.

- Normality Test

Table 12. Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.086	60	.200*	.949	60	.013
Postest	.124	60	.023	.920	60	.001

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The PreTest and PostTest data did not fully meet the assumption of normality, particularly based on the Shapiro-Wilk test, which showed significance values below 0.05 (PreTest = 0.013; PostTest = 0.001). However, since the sample size was sufficient (n = 60) and the Kolmogorov-Smirnov test for the PreTest showed a significance value of 0.200, the analysis was continued using parametric tests.

- Paired Samples Test

Table 13. Paired Sample Test

Paired Samples Test

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pretest - Postest	-20.417	12.475	1.611	-23.639	-17.194	-12.677	59	.000

Table 14. Pre Test and Post Test

No	Student Name	PreT	PostT	(%)	Y/N	No	Student Name	PreT	PostT	(%)	Y/N
1	A.H.	56	91	62,5	Yes	31	S.L.	67	100	49,25	Yes
2	N.B.	64	100	56,25	Yes	32	R.L.	51	67	31,37	No
3	R.L.	70	79	12,86	Yes	33	G.K.	53	78	47,17	Yes
4	A.M.	68	74	8,82	No	34	N.P.	65	82	26,15	Yes
5	D.L.	60	100	66,67	Yes	35	F.G.	63	73	15,87	No
6	N.T.	53	59	11,32	No	36	S.L.	74	100	35,14	Yes
7	F.B.	52	53	1,92	No	37	R.M.	70	92	31,43	Yes
8	L.T.	51	80	56,86	Yes	38	Y.P.	67	96	43,28	Yes
9	H.P.	55	55	0	No	39	H.W.	73	94	28,77	Yes
10	I.B.	70	100	42,86	Yes	40	D.K.	62	69	11,29	No
11	B.P.	75	100	33,33	Yes	41	E.M.	64	72	12,5	No
12	S.P.	61	62	1,64	No	42	L.T.	74	100	35,14	Yes
13	W.T.	59	61	3,39	No	43	F.Y.	73	96	31,51	Yes
14	R.S.	65	77	18,46	Yes	44	N.D.	57	57	0	No
15	A.D.	64	95	48,44	Yes	45	A.T.	60	70	16,67	No
16	F.L.	61	86	40,98	Yes	46	N.B.	57	90	57,89	Yes
17	A.T.	74	77	4,05	Yes	47	D.M.	50	74	48	No
18	L.M.	68	100	47,06	Yes	48	R.S.	59	76	28,81	Yes
19	J.L.	58	61	5,17	No	49	A.P.	58	100	72,41	Yes
20	R.T.	53	92	73,58	Yes	50	L.T.	58	87	50	Yes
21	I.G.	63	100	58,73	Yes	51	B.P.	51	55	7,84	No

22	T.P.	58	59	1,72	No	52	F.B.	72	90	25	Yes
23	A.T.	51	79	54,9	Yes	53	Y.P.	73	100	36,99	Yes
24	M.B.	64	99	54,69	Yes	54	M.D.	61	92	50,82	Yes
25	Y.M.	61	85	39,34	Yes	55	J.M.	52	71	36,54	No
26	D.T.	64	73	14,06	No	56	S.T.	54	95	75,93	Yes
27	R.M.	66	80	21,21	Yes	57	R.L.	52	83	59,62	Yes
28	N.T.	57	91	59,65	Yes	58	T.T.	75	89	18,67	Yes
29	E.P.	55	64	16,36	No	59	A.G.	63	88	39,68	Yes
30	M.P.	53	61	15,09	No	60	D.P.	58	91	56,9	Yes

The results of the Paired Samples Test showed that the average PreTest score was 63.98 with a standard deviation of 12.475, while the average PostTest score was 84.40. These data indicate a significant change in scores after the intervention was implemented. The 95% confidence interval for the mean difference ranged from -23.639 to -17.194, suggesting that the difference is consistent and reliable. The resulting t-value was -12.677 with degrees of freedom (df) of 59. This supports the interpretation that the observed mean difference was not due to chance but reflects a real pattern of change.

The significance value (Sig. 2-tailed) of 0.000 indicates that the difference is statistically significant at the 95% confidence level ($p < 0.05$). This finding shows that the PostTest scores were significantly higher than the PreTest scores, indicating a substantial improvement following the implementation of the intervention or treatment in this study.

During the implementation phase, several technical issues were encountered, including unstable internet connections and limited access to compatible devices among some students. In addition, a few students initially struggled to navigate the gamified features due to their unfamiliarity with technology-based learning tools. However, these challenges were manageable and gradually resolved with teacher guidance.

Conclusion and Suggestion

This research directly addressed the objective of designing and implementing Arabic language instructional materials based on gamification using Quizizz, aimed at enhancing student motivation and interactivity. Through the systematic application of the ADDIE model, each development phase contributed essential insights. In the **analysis phase**, student needs assessments revealed high levels of disengagement and a strong preference (89%) for game-based learning approaches. The **design and development phases** resulted in the creation of interactive learning materials validated by three

experts: media (88%), content (89%), and language (92%), all categorized as "highly feasible." The **implementation phase**, involving classroom trials, received very positive feedback, with student response scores averaging 83% and the teacher's response reaching 93%, both indicating strong acceptance of the product. In the **evaluation phase**, statistical testing using SPSS showed a significant increase in learning outcomes. Although normality was not fully met based on the Shapiro-Wilk test, the paired samples t-test indicated a statistically significant improvement in student performance (mean pretest = 63.98, posttest = 84.40, p < 0.000), affirming the effectiveness of the intervention.

This study contributes to Arabic language pedagogy by presenting a practical model for gamified material development that aligns with students' digital tendencies and learning preferences. Theoretically, it supports the constructivist framework emphasizing engagement and active learning. Practically, it offers a replicable strategy for integrating gamification into language instruction using accessible technology. Future research is encouraged to apply this model in broader contexts, explore long-term impacts on learning retention, and integrate adaptive features to cater to diverse learner profile

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