Feasibility of Web-based Digital Arabic Gamification Media for Islamic Junior High School Students

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Abstract

This research aimed to determine the feasibility of web-based digital Arabic language gamification media from experts and users. Specifically, the research investigated the feasibility analysis of web media with the URL: https://belajararabonline14.wordpress.com/ containing Plotagon, Wordwalls, and Genially apps in learning Arabic at the Junior High School level. Generally, Arabic language instruction remains conventional and lacks interactivity. Consequently, students may experience boredom and reduced motivation to learn. Creating interactive materials using gaming principles could be one approach to solving this issue. This research was a type of quantitative descriptive research. This research involved 37 users and 4 validators. Data collection was carried out by distributing questionnaires to validators and users of this media and was analysed using descriptive statistics. The findings showed that web-based digital Arabic language gamification media received very valid responses from experts and users with details: a score of 4.53 from material experts, a score of 4.41 from media experts, a score of 4.93 from teacher responses, and a score of 4.06 from students. These findings suggest to Arabic teachers the potential benefit of incorporating this media as an auxiliary resource in Junior High School-level Arabic language instruction.
Keywords: Arabic media; digital gamification; web based media

Introduction

The learning process between educators and students should be interesting, fun, and meaningful. For effective learning, educators must grasp students’ traits, employ student-centred teaching methods, and utilize engaging, pertinent learning materials. In this case, the availability of various learning resources will support the creation of exciting and enjoyable learning conditions for students. One of these learning resources is learning media.¹

The use of digital media has increasingly found its urgency during the COVID-19 pandemic, which has forced the entire order of life to switch to digital.² It also changes the face of education, which is implemented digitally. This becomes a blessing in disguise where using digital space as a learning medium ultimately fosters awareness of digital literacy in education. Digital literacy is the tendency, attitude, and ability of individuals who use digital technology and communication tools to build knowledge.³

Digital media utilization, crucial for fostering digital literacy, becomes particularly imperative within the independent curriculum framework, notable for its emphasis on fundamental competencies encompassing literacy and numeracy.⁴ This statement is reinforced by the findings of Ni Nyoman Lisna Handayani research,⁵ that found a significant difference in digital literacy between students taught through the independent and 2013 curriculum.

Various media have been practiced in the Arabic learning process,⁶ and among the most interesting is learning gamification. Learning gamification is to

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integrate game concepts into learning practices regarding design, patterns, and game mechanics to provide learners with a fun and engaging experience, because an active and fun learning process can accelerate learners' understanding. Hence, to achieve this objective, developing digital gamified media with interactive and communicative features requires careful consideration of learners' creative skills, the abstraction of linguistic symbols, the widespread use of fundamental linguistic structures, and the role of deep mental and cognitive processes.

The capabilities of a medium are very important to consider in choosing the right learning media including advantages and characteristics of it. Therefore, the use of learning gamification can present a fun learning environment and bring positive impressions such as increased creativity, interest, and motivation of learners in learning. Learning using game principles can stimulate the cognitive, affective and psychomotor aspects of learners. Similarly, learning gamification will be an innovative breakthrough in learning Arabic.

Gamification of learning is considered apt for supporting the learning needs of the millennial generation, owing to several key features: 1) rapid

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teacher feedback, enabling participants to promptly assess solutions using available options; 2) fostering a competitive yet collaborative atmosphere among teams, which can heighten students' enthusiasm; and 3) establishing a relaxed and enjoyable learning setting that bolsters students' motivation and engagement.

Then, the International Organization for Standardisation in ISO Standard 9126 has described several parameters for assessing the quality of software. There are six characteristics of software that can be said to be quality software, namely software that meets the aspects of functionality, reliability, usability, efficiency, maintainability, and portability.  

The primary objective of this study is to develop Arabic learning materials employing a digital gamification strategy. The choice of this approach stems from empirical investigations conducted through interviews and observations of participants. Preliminary findings, as evidenced in class VII at Female Ma'arif Islamic Junior High School of Ponorogo, highlight the following background factors: 1) traditional Arabic teaching methods lack interactivity and fail to capture students' interest; 2) contemporary Arabic proficiency demands swift knowledge acquisition and comprehension; 3) limited availability of independent digital learning resources, with Google Classroom being the primary tool used in isolation; and 4) approximately 90% of students express boredom with conventional learning tools, underscoring the necessity for engaging learning innovations, such as digital gamification.

Among the many kinds of literature, there are some research results regarding the success and positive impact of digital gamification in learning like the commonly use of Wordwall application in Arabic instruction. Using Plotagon in Arabic media design, students believe that gamification may be used to learn Arabic to a great degree, which piques their interest and keeps

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them involved in the process of learning.\(^{17}\) Gamification approach can increase motivation,\(^{18}\) capture learners' interest,\(^{19}\) contribute a positive and relevant factors to be applied in Arabic learning,\(^{20}\) overcome students' weaknesses in learning Arabic, especially regarding verb and noun patterns, increasing students' attachment to learning,\(^{21}\) improve mufradat learning outcomes,\(^{22}\) when combined with independent learning systems, offers substantial benefits that enhance student motivation.\(^{23}\)

Some previous studies related to this research, including the first, Siti Rohani Jasni in 2018 in her research found that among the goals of gamification are to improve the learning experience of students, foster positive attitudes in the learning process, and improve the learning process.\(^{24}\) Second, Hazrati Binti Yahaya in 2022 in her research found that students' perceptions of the use of GBL when learning Arabic fell into the high category with a min score of 4.31.\(^{25}\) Third, research written in 2020 by Komang Redy Winatha and Kadek Ayu Ariningsih found that the use of gamification in learning provides positive benefits to students where they are more excited, feel happy, do not feel bored.

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21 Jasni, Zailani, and Zainal.


24 Jasni, Zailani, and Zainal, “Pendekatan Gamifikasi Dalam Pembelajaran Bahasa Arab: Gamification Approach in Learning Arabic Language.”

25 Yahaya et al., “Persepsi Pelajar Terhadap Pemanfaatan Gamifikasi Dalam Pembelajaran Bahasa Arab.”
and can actively participate in doing material exercises.\textsuperscript{26} Fourth, in a study conducted by Khafizh Hastuti et al. in 2023, the findings revealed that employing user acceptance testing techniques indicated the educational game developed successfully met its intended objectives. Specifically, it effectively attracted students to engage in educational gaming activities as a supportive tool for Arabic language learning. Notably, all students expressed a keen interest in revisiting and replaying the educational game due to its captivating nature.\textsuperscript{27} Fifth, Aga Apsari Putri in 2017 in her research found that there was a positive effect of GBL utilization on students' Arabic learning motivation with a value of 0, 604 and the difference in the average value of the students' learning motivation questionnaire between before and after the utilization of GBL in learning students' Arabic is 20.6\%.\textsuperscript{28}

Based on the review of previous literature, the novelty of this research lies in the type of research, and research subjects. The research uses the quantitative descriptive approach, because the research in Arabic gamification media is still limited in theoretical, descriptive, correlational, and observational research. In terms of subjects, this research is aimed at class VII Junior High School because the characteristics of this age prefer to play and like to do something directly, so this research is expected to be a solution for them.

After reviewing existing literature and conducting initial investigations, the authors have identified a pressing need for research into developing Arabic learning materials that facilitate flexible learning anytime and anywhere, foster independent learning, and enable students to attain Arabic language competencies optimally. This study also presents an opportunity for innovating Arabic language education through digital gamification, specifically targeting students at the Female Ma'arif Islamic Junior High School of Ponorogo. The primary objective is to assess the viability of web-based digital Arabic gamification tools through feedback from experts, teachers, and students in the seventh grade at Female Ma'arif Islamic Junior High School of Ponorogo.

This descriptive quantitative research aimed to determine the feasibility of digital gamification-based Arabic learning media with a URL: https://belajararabonline14.wordpress.com/, containing Plotagon, Wordwalls, and Genially apps for learning Arabic at the Junior High School level. The research was not conducted to provide any treatment to the research subjects.
but rather to analyse their learning needs and present one solution: developing digital gamification-based Arabic learning media.

To assess the viability of this educational media product, validators were chosen to conduct an expert review, tailored to the specific requirements of product validation. This panel of validators comprised two experts in media, two experts in educational materials, and one practitioner/teacher. The research was conducted from July to October 2023. The research instrument used was a Likert scale validation questionnaire (5 options) addressed to media validators, materials, and users in the form of teachers and students to determine the feasibility of digital gamification-based Arabic learning media. The research instrument matrix was as follows:

Table 1 Validation Instrument Grid

<table>
<thead>
<tr>
<th>No</th>
<th>Validator</th>
<th>Indicator</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Material</td>
<td>Material Aspect</td>
<td>1-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Language Aspect</td>
<td>9-13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presentation Aspect</td>
<td>12-15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluation Aspect</td>
<td>16-17</td>
</tr>
<tr>
<td>2</td>
<td>Media</td>
<td>Software Engineering Aspects</td>
<td>1-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Audio Visual Communication Aspect</td>
<td>8-16</td>
</tr>
<tr>
<td>3</td>
<td>Teacher and student response</td>
<td>Content Appropriateness</td>
<td>1-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content Feasibility Aspect</td>
<td>5-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Material Aspect</td>
<td>7-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media Aspect</td>
<td>11-15</td>
</tr>
</tbody>
</table>

The data obtained in the form of the results of the assessment of material experts, media experts, and practitioners based on questionnaire sheets were analysed using descriptive quantitative analysis techniques with the formula:

\[ P = \frac{\sum x}{\sum x_1} \times 100\% \]

\( P \) : the percentage sought
\( \sum x \) : the sum of the respondent's answer scores as a whole
\( \sum x_1 \) : overall maximum score
100\% : constant

After the quantitative data was calculated, the results of the calculation were converted into qualitative values in the form of feasibility criteria, which could be seen in the following table.
Table 2 Criteria for Validator Assessment Results

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>81% - 100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>61% - 80%</td>
<td>Feasible</td>
</tr>
<tr>
<td>41% - 60%</td>
<td>Feasible Enough</td>
</tr>
<tr>
<td>21% - 40%</td>
<td>Not Very feasible</td>
</tr>
<tr>
<td>0% - 20%</td>
<td>Very less feasible</td>
</tr>
</tbody>
</table>

Findings and Discussion

The results of this study answer the formulation of the problem in the form of knowing the feasibility of digital gamification-based Arabic learning media from experts and practitioners. The following results are presented.

Material Expert Validation Results

Table 3 Material Expert Validation Results

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Suitability of material with learning objectives</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.</td>
<td>Suitability of the material with the Islamic Junior High Schools curriculum</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>3.</td>
<td>Right on target learning</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>4.</td>
<td>Interesting media design</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>5.</td>
<td>Presentation of interesting material</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>6.</td>
<td>Clarity of discussion of each sub-chapter</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>7.</td>
<td>Clarity of material adapted to the cognitive level of students</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>8.</td>
<td>Clarity of material accompanied by supporting videos and images</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>9.</td>
<td>Communicativeness of language</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>10.</td>
<td>Suitability with students</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>11.</td>
<td>Straightforwardness of language</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>12.</td>
<td>Dialogue and interactive</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>13.</td>
<td>Appropriateness of Indonesian language rules</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>14.</td>
<td>Presentation according to the level of child development</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>15.</td>
<td>Presentation is simple and easy to understand</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>16.</td>
<td>Supporting the presentation of material</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>17.</td>
<td>The use of images and videos in the</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>
Based on the above calculations, the observations made by the material experts reached 89%. The elements with the highest scores (100) were the material's clarity when using photos and videos, dialogue quality, and interactive components. Conversely, the elements with the lowest scores (80) were accurately oriented education, captivating media design language's communication capacity, child-developmentally appropriate presentation, and exercise question-answer key. According to the eligibility criteria, this achievement score was classified as very valid or feasible.

In addition to these data, several suggestions for media improvement were provided from the material side. Based on the material expert validation results, the product was deemed suitable for use with revisions. Suggestions and improvements proposed by material experts included the need to develop models and methods within the game to enhance engagement and motivation for learning Arabic.

This aligns with Rosalinda’s research findings, which indicate that gamification significantly influences improving student learning outcomes and effectively motivates students to learn Arabic. This conclusion was drawn from the analysis of student responses in the test at each level/cycle. The final result obtained was 9.05, which is considered Muntaz (perfect) as anticipated.29

The same thing has also been confirmed by Ahmad Arifin30 and Asnul Uliyah et al.31 who stated that the language games have applied by teachers in the teaching and learning activities make a better classroom atmosphere, and psychologically, students become more enthusiastic. At the end of the day, the learning objectives of Arabic will slowly be achieved with various supporting factors of the language game.

The suggestion for media improvement from the material side was to complement it with talking material. This finding is confirmed by Sagala32, who stated that the syllabus as a guideline for preparing lesson plans, implementing learning, and following up on learning consists of components of competency

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standards, essential competencies, subject matter, learning strategies, time allocations, and sources of materials and tools used for learning. Tahir's opinion corroborates who stated that learning materials occupy a critical position in the entire curriculum, which must be prepared so that the implementation of learning can achieve targets by the Competency Standards and Basic Competencies. This means that the material determined for learning activities should genuinely support the achievement of competency standards and essential competencies and indicators.

**Media Expert Validation Results**

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The developed media is effective and efficient (the website responds well)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.</td>
<td>Reliable (the website does not hang easily)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>3.</td>
<td>Maintainable (ease of website maintenance)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>4.</td>
<td>Usability (website is simple and easy to operate)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>5.</td>
<td>Compatibility (website can be accessed from various software and devices)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>6.</td>
<td>Website can be accessed without installing special devices</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>7.</td>
<td>Reusable (Website can be reused for the development of other media guidance materials)</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>8.</td>
<td>Communicative (Website contains messages that are appropriate and in line with the wishes of the target)</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>9.</td>
<td>The website is creative and innovative (flexible, new, interesting)</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>10.</td>
<td>The website is simple and appealing (can motivate learners)</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>11.</td>
<td>Layout of the website is interesting</td>
<td>90%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>12.</td>
<td>Typography on the website is interesting and understandable</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>13.</td>
<td>The color combination used is appropriate and interesting</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>14.</td>
<td>The website is equipped with animations (videos) that are relevant in explaining the</td>
<td>80%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>

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Based on the calculations above, the overall observations made by media experts reached 88%. The elements with the highest scores (100) were communicative and typography of the website, while the elements with the lowest scores (80) were the reusable content on the website, website clarity, animation, appropriate color scheme, and level of simplicity. According to the eligibility criteria, this achievement score was classified as very valid or feasible.

Apart from this data, several suggestions were made for improving the media in terms of material. Based on the results of media expert validation, the product was deemed suitable for use with revisions. Suggestions and improvements proposed by media experts included making the display less monotonous, enhancing the sound to be more appealing, and improving the graphics.

The results of the feasibility assessment from each expert received a high score because the materials and media used in gamification-based Arabic language learning media were in accordance with the expected assessment aspects. This aligns with Satria’s opinion, which revised the assessment aspects from four to five aspects to three aspects: software engineering, learning design, and visual communication. In line with this, Rizqi Amrulloh also said that learning media includes learning resources and tools adapted to the content or learning material and the objectives to be achieved.

Practitioners Validation Results

Table 5 Teachers’ Responses to Gamification Media

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The suitability of the material presented in the media with basic competencies and learning indicators</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.</td>
<td>The suitability of the material presented in the media to the needs of students</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>3.</td>
<td>The suitability of the material presented in the media with teaching materials</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>4.</td>
<td>The suitability of the material presented in the media with student characteristics</td>
<td>100%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>

5. Clarity of information in the media
Language used in the media 100% Very feasible

6. Ease of understanding the concept
100% Very feasible

7. Student motivation after participating in
learning by using the media 100% Very feasible

8. Clarity of learning topics
100% Very feasible

9. Coverage of material contained in the
media 100% Very feasible

10. The use of clear writing on gamification
media 90% Very feasible

11. The accuracy of the layout and layout of the
media 100% Very feasible

12. Availability of interesting illustrations,
graphics, images, and photos
100% Very feasible

13. The appearance that the media has is
attractive 100% Very feasible

14. Gamification media is safe and comfortable
to use 100% Very feasible

| Overall Analysis | 99% | Very feasible |

Based on the above calculations, the response given by the teacher to the gamification media as a whole reached 99%. According to the eligibility criteria, this achievement score was included in the criteria as very valid or feasible.

In addition to this data, there were several suggestions for media improvement. Based on student responses, the product was deemed suitable for use with revisions. Among the suggestions submitted by practitioners were as follows: providing a variety of questions, examples of true-false, matching, and so on. Voice conversations would be better if using real people's conversations so that the intonation of the conversation would be better, some letters were not clear, the layout was too small and could not be enlarged when using a cell phone, and there were mufradat that did not match the answer.

Table 6 Students’ Responses to Gamification Media

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>This gamification media is comfortable to use</td>
<td>81%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>2.</td>
<td>The appearance and design of this gamification media is comfortable to look at</td>
<td>79%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>3.</td>
<td>Features in the media are comfortable to use</td>
<td>79%</td>
<td>Very feasible</td>
</tr>
<tr>
<td>4.</td>
<td>The evaluation sheet in this gamification media is comfortable to work on</td>
<td>77%</td>
<td>Very feasible</td>
</tr>
</tbody>
</table>
5. The presentation of material on this gamification media makes it easier for students to learn 83% Very feasible

6. This gamification media is easy to use without the help of others 81% Very feasible

7. Can be used anywhere and anytime 83% Very feasible

8. Easily accessible on any equipment (laptop, cellphone, etc.) 85% Very feasible

9. This gamification media makes me interested in using it in learning 83% Very feasible

10. I plan to make this media one of the alternative media in learning. 83% Very feasible

11. The innovations in gamification media motivate me to learn. 78% Very feasible

12. This gamification media makes it easier to master the material 81% Very feasible

13. This gamification media helps in my learning process 81% Very feasible

14. This gamification media is effective with existing resources (signal, quota and supporting device specifications) 77% Very feasible

15. This gamification media makes it easier for me to achieve my goal of learning Arabic 82% Very feasible

16. The language used in this gamification media is simple and easy to understand. 83% Very feasible

17. This gamification media is appropriate for the level of learner development 82% Very feasible

18. This gamification media is appropriate for the level of mastery of learners 79% Very feasible

19. Images and videos help students understand the concept of material 83% Very feasible

20. All information contained in this gamification media adds new knowledge 82% Very feasible

21. This gamification media innovation is useful for my learning process 85% Very feasible

**Overall Analysis** 81% Very feasible

Based on the above calculations, the responses given by students to gamification media as a whole reached 81%. According to the eligibility criteria, this achievement score was included in the criteria as very valid or feasible. The findings above were strengthened by the opinion of Susilana and Riana35, who

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stated that student response was a form of expression, expressing opinions, interests, ease, difficulties in understanding learning messages, and student motivation in learning.

Conclusion

This study identifies the feasibility of web-based digital Arabic gamification media with the URL: https://belajararabonline14.wordpress.com/ from experts and users, each meeting very valid criteria. Based on the validation results by material experts, this media obtains a feasibility score of 4.53 with very valid criteria, while the validation results by media experts yield a feasibility score of 4.41, also meeting very valid criteria. The teacher’s response results show a feasibility score of 4.93 with very valid criteria, and the student responses yield a feasibility score of 4.06 with very valid criteria. These findings recommend Arabic teachers consider integrating this media as an option in Arabic instruction at the Junior High School level.

References


