DEVELOPMENT OF ANIMATION BASED ARABIC ONLINE LEARNING MEDIA FOR ARABIC LANGUAGE EDUCATION STUDENTS OF UIN K.H. ABDURRAHMAN WAHID PEKALONGAN

Akhmad Aufa Syukron[1*], Faliqul Isbah[2], Muhamad Jaeni[3], Akhmad Zaeni[4]
[1,2,3]*Arabic Education Department, Faculty of Education and Teacher Training, UIN K.H. Abdurrahman Wahid Pekalongan, Indonesia*
[4]*Islamic Education Department, Faculty of Education and Teacher Training, UIN K.H. Abdurrahman Wahid Pekalongan, Indonesia*
**Correspondence:* akhmad.aufa.s@uingusdur.ac.id

Abstract: The research aims to develop an effective animation-based Arabic online learning media for Arabic Language Education students, and to determine the level of feasible and valid of the online learning media for Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan. The research uses the Research and Development (R&D) method with the ADDIE model which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The research subjects consisted of 15 students who were selected through random sampling techniques. Data collection was carried out through interviews, observations, questionnaires, and expert validation. The results of the study showed that the developed media obtained a validation score of 4.68 from media experts and 4.74 from material experts who showed the "Very Feasible" category. The students' response to the media obtained an average score of 4.60 with the category of "Excellent". This study concludes that animation-based online learning media is effective in visualizing abstract Arabic concepts, increasing learning engagement, and can be integrated as an alternative media for Arabic language courses. Recommendations for future research are the development of advanced materials and the adaptation of more interactive platforms.
Keywords: Learning Media, Arabic, Animation, Online Learning, ADDIE

Introduction

The rapid development of digital technology has brought about a paradigmatic transformation in the world of education, including in Arabic language learning. In the era of the industrial revolution 4.0, the demand to integrate technology in the teaching

and learning process has become a necessity to create a more dynamic, interactive, and fun learning experience (Higgins, 2014). Learning Arabic, with its unique characteristics ranging from phonology (أصوات), morphology (صرف), syntax (نحوي), to semantics (دلالة), is often considered a challenging and boring course by some students. This requires lecturers to be more creative in choosing and developing learning media that can facilitate these needs.

The results of initial observations and unstructured interviews conducted on 35 students of the Arabic Language Education Study Program (PBA) UIN K.H. Abdurrahman Wahid Pekalongan in the even semester of 2023 show several crucial findings. First, around 74% of respondents stated that Arabic language material, especially qawa'id (grammar) and vocabulary mastery, was perceived as very abstract and difficult to understand. Second, as many as 80% of students admitted that they were more motivated to learn when lecturers used visual media such as interesting videos or presentations compared to conventional lecture methods. Third, almost 85% of students stated a very high need for e-learning or online learning media that can be accessed flexibly to support face-to-face lectures. These findings indicate that there is a gap between students' expectations for fun learning and the learning media available today.

In this context, animation emerged as a potential solution. Animation is considered effective because it is able to visualize abstract concepts to be more real and easy to digest. According to Mayer (2009) in the Theory of Multimedia Learning, information presented visually and verbally simultaneously will be easier to process in human working memory than information presented in a single one. This multimedia principle states that people learn better from words and pictures than from words alone. Animation, which combines text, sound, moving images, and narrative, fulfills these principles optimally. This is in line with the opinion of Rieber (1994) who stated that

animation can facilitate a deeper understanding of complex and procedural material by providing motion dynamics that static media does not have.

Furthermore, in language learning, animation can be used to simulate conversation situations (حوار), demonstrate the articulation of new vocabulary, and visualize sentence patterns (تركيب) to make the learning process more contextual and immersive. The advantage of this animation is very relevant to the characteristics of generation Z students who are digital natives and are more accustomed to informative and entertaining visual content (Prensky, 2001).

To realize effective animation media, a user-friendly yet powerful tool is needed. Animaker.com was chosen as the development platform in this study. The selection of Animaker.com is based on several considerations. First, the platform provides an intuitive drag-and-drop interface, making it easy for developers (in this case researchers/lecturers) who may not have a deep programming background to create high-quality animations (Chen & Wang, 2020). Second, Animaker.com offers a very rich library, including customizable characters, properties, icons, and templates that suit a variety of learning scenarios, which is very useful for creating content that is contextual to the culture and needs of Arabic language learning. Third, the platform supports the creation of animated videos in a variety of formats and styles (such as 2D, infographics, and whiteboard animation), thus providing creative flexibility in presenting the material. The ability to export in high quality and its easy integration with the Learning Management System (LMS) platform is a crucial added value to create seamless online learning media.

Based on the analysis of the needs and theoretical foundations, the researcher is interested in conducting a research entitled "Development of Animation-Based Arabic Online Learning Media for Arabic Language Education Students of UIN K.H. Abdurrahman Wahid Pekalongan". The aims of this research to develop an effective animation-based Arabic online learning media for Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan and to determine the level of feasible

and valid of the online learning media for Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan.

Literature Review

Several relevant studies have proven the effectiveness of animation media and digital technology in the context of Arabic language learning. The following analysis of previous research shows the research map and the unique position of the research to be conducted. The literature review shows that the challenge of abstraction in Arabic language learning requires innovative technology-based media solutions, supported by the theory of Cognitive Theory of Multimedia Learning (Mayer, 2009) which emphasizes the effectiveness of word and visual combinations. Previous research such as Hania et al. (2022) who developed an interactive evaluation tool with Wordwall, Noor et al. (2025) who created a language test training application, and Solehudin et al. (2024) who leveraged AI for music media, have proven the effectiveness of digital approaches. . Fatchurahman et al. (2022) developed local wisdom-based animations for elementary schools, sharing similarities in R&D methods but differing in the context of education and material content. Shidqi et al. (2024) examined Android animated videos for motivation to learn Arabic in college, both focusing on higher education but differing in the platforms used. Salahuddin et al. (2020) proved the effectiveness of animation for Arabic vocabulary mastery at the MTs level, sharing similarities in Arabic subjects but differing in the level of material complexity. Rafi (2023) uses Animaker for elementary school students, the same in the use of tools but different in the level of education and platform integration. Huda et al. (2023) examined the applicative media for Arabic lecturers, the same in the context of higher education but different in the specific focus on animation media. However, this research is unique in that it specifically fills the gap by developing animation-based learning media using

Animaker.com that focuses on visualizing abstract concepts of maharah qira'ah, kalam, istima' and kitabah in the learning process, by combining animated videos, interactive evaluations, and glossaries in one easy-to-access system.

E-Learning Utilization

The main basis for this media development is the Cognitive Theory of Multimedia Learning initiated by Richard E. Mayer. This theory states that individuals learn better from words and pictures than from words alone. According to Mayer, effective learning occurs when material is presented through two separate visual and auditory channels that are then actively processed by the mind to build a coherent mental model. Mayer & Moreno (2003) suggest that the use of animation and narrative together, if well designed, can reduce irrelevant cognitive load and optimize the learning process. Thus, animation media that combines text, moving images (visuals), and sound (auditory) perfectly fit this principle to explain complex Arabic material.

The use of online platforms as a medium of material delivery is in line with the concept of electronic learning (e-learning). E-learning offers flexibility in terms of time and place, allowing students to access learning materials anytime and anywhere according to their learning rhythm. This supports the principle of student-centered learning. Arkorful & Abaidoo (2015) in their research concluded that e-learning significantly increases accessibility to educational resources and encourages independent learning. In this context, online learning media allows UIN PBA K.H. Abdurrahman Wahid students to repeat difficult material, especially on topics such as word changes (تصريف) and sentence structure (إعراب), without being bound by face-to-face class schedules.

Visualization of Arabic Language Learning Animation Concepts

Animation has the unique advantage of visualizing abstract processes and concepts that are difficult to explain with just static text or images. In learning Arabic,

many concepts such as verb conjugation (الفعل) or the relationship between words in a sentence are procedural and abstract. Research by Bétrancourt & Tversky (2000) shows that animation is superior to static graphics in depicting change or movement, thus aiding in a deeper understanding. With animation, the process of word formation from the root of the word, the movement of the harakat, or the function of particles in a sentence can be demonstrated dynamically and clearly, transforming complex concepts into more concrete and easy to understand.

Learning Arabic for non-native speakers has specific challenges, including vocabulary mastery, complex grammar, and correct pronunciation of hijaiyah letters (makharijul letters). Traditional learning media often fail to present this material in an engaging manner, which can lead to a decrease in student motivation. The use of animation not only serves as a visual aid, but also as a factor that increases engagement and motivation. According to Plass et al. (2014), attractive visual design elements in digital media can trigger positive emotions which in turn will increase attention and information retention. By presenting the material through short animated stories or conversation simulations, students not only learn the rules of language, but also see firsthand their application in a relevant and entertaining context.

In synthesis, the development of animation-based online learning media for Arabic Language Education students has a strong theoretical foundation. The media is designed with reference to the cognitive principles of how humans learn from multimedia, leveraging the flexibility of online platforms, as well as using the visual power of animation to simplify the complexity of Arabic and increase learning motivation. The combination of these four theoretical pillars is expected to produce a learning media product that is effective, efficient, and attractive to students.

Animaker Platform Integration in Arabic Learning Media Development

The integration of platforms like Animaker in the development of learning media provides a practical foundation that is in line with the theories that have been described. Animaker, as a cloud-based animation video creation platform, is inherently designed to facilitate effective multimedia learning principles. Its ability to combine animated characters, kinetic typography, visual backgrounds, and audio tracks in one intuitive workflow allows for the development of sensory-rich content, in harmony with Richard E. Mayer's *Multimedia Learning Cognitive Theory*. Animaker's drag-and-drop features, extensive asset library, and ready-to-use templates directly help reduce the extraneous cognitive load for developers (in this case researchers or lecturers), so they can focus more on delivering the intrinsic cognitive load of the Arabic language itself.

Technically, Animaker empowers the application of multimedia learning principles very effectively. For example, the Modality Principle (the presentation of information through visuals and audio narrative better than visuals and text on the screen) can be easily implemented with the available voice-over or text-to-speech features. Animated characters can function as pedagogical agents who speak directly to students, explaining the rules of Nahwu or Sharaf with audio narration, while on-screen visuals demonstrate the concept. This is supported by research by Clark & Mayer (2016) which states that, *"The presence of agents at the character layer that guide the learning process can enhance learning by personalizing the learning environment and encouraging social interaction."* Animaker facilitates the creation of this kind of agency without the need for in-depth animation expertise.

Furthermore, from the perspective of animation effectiveness, Animaker offers a wide variety of animation styles (2D, infographics, whiteboards) that allow the visualization of abstract Arabic concepts to be more dynamic and concrete. The process of changing words (تصريف) from fi'il madhi to mudhari to amar can be visualized step by step with clear movements and transitions, not just a static table. This is in line with the argument of Lowe & Schnotz (2008) who states that *"animation is particularly useful when the learning material involves changes over time or movement in space."*

The Animaker platform provides the tools to realize this, transforming theoretical material into a visual experience that students can easily follow and remember.

The ease of use and online nature of Animaker are in line with the flexible concept of online learning. The end result of the project in Animaker is a video that can be easily uploaded and shared through a Learning Management System (LMS), YouTube, or other digital platforms. This ensures high accessibility for UIN K.H. Abdurrahman Wahid students of PBA, allowing them to study independently and repeatedly. The platform also supports the creation of microlearning, which is short videos that focus on one specific topic. As stated by Trowbridge, Waterhouse, & Trowbridge (2019), short and engaging videos have proven to be more effective in retaining the attention of the current generation of students. With Animaker, the creation of a series of short animated videos on Arabic topics becomes more efficient, supporting a modern learning model that suits the characteristics of the student.

Research Method

This research is a type of Research and Development (R&D) that adopts the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model as a framework for product development (Branch, 2009). The data source consists of primary data (interviews, observations, and questionnaires) and secondary data (relevant documents and literature). The sampling technique uses random sampling in students of the class of 2023. Data collection was carried out through: (1) structured interviews (Cohen et al., 2018) to identify media needs, interview guidelines can be seen at the following link https://forms.gle/CSoEc8n5zVndupba6/, (2) participatory observation (Spradley, 2016) to map learning conditions, and (3) Likert scale questionnaires (Sugiyono, 2019) to measure user responses. The validity of the data is guaranteed through expert judgment by Dr. Muchamad Fauyan, M.Pd. (media expert) and Jauhar

Ali, M.Pd.I. (materialist), as well as source triangulation (Creswell & Poth, 2018). The data analysis technique follows the ADDIE stage with qualitative descriptive analysis for qualitative data and descriptive statistics for quantitative data.

Results

The research on the development of animation-based online learning media is carried out through five stages of the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model. The results of each stage are as follows:

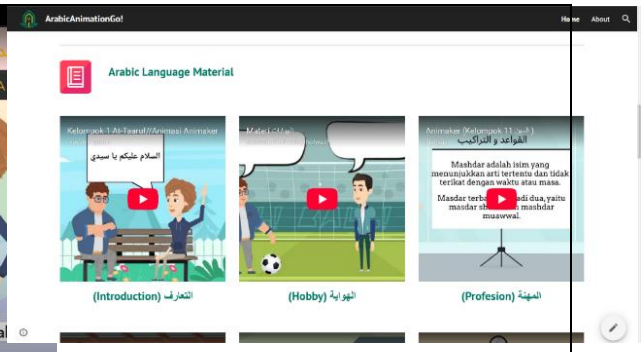
Analysis Stage

Based on the results of structured interviews and participatory observations, data was obtained that 85% of students expressed difficulty in understanding Arabic grammar material with a monotonous approach, 90% of students wanted more interactive and visual learning media. The lecturer stated the need for companion media that can be accessed independently by students. The most suitable material to be developed is related to learning mufrodat, to support the mastery of Arabic vocabulary.

Design Stage

At this stage, the researcher designed learning media which includes: Storyboards for 11 learning materials, namely: التعارف, الهواية, المهنة, البيت, الأدواة, المدرسيّة, المرافق المدرسيّة, العنوان, الساعة, من يومياتنا, من يومية الأسرتي, الرياضة. Dialogue and narrative scripts in Arabic with Indonesian translations, animated character designs that are in accordance with Islamic culture, learning navigation flowcharts, providing learning evaluation designs for each material.

Storyboard and Character Design Learning Media



Animation-Based Arabic Online Learning Media Design

Figure 1: Design of Animation-Based Arabic Online Learning Media

Based on the figure above, for the design of the development of animation-based Arabic learning media using an animaker platform, by entering relevant assets. So that the animated video can be used easily and anywhere, the animated video is uploaded on Youtube. Figure 2. It is an animation-based Arabic online learning media design, where animated videos that have been uploaded on Youtube, are then developed on the website. This aims to be easily accessible and can be used as an interactive learning system.

Development Stage

The development stage is the realization phase of all designs that have been made before. At this stage, the researcher created animation-based online learning media using a Animaker.com platform that is integrated with YouTube and Google Sites. The development process is carried out through several interrelated sub-stages and includes the development of 11 Arabic core materials.

First, the researcher conducted content mapping for the eleven Arabic learning materials which include: 1) التعارف (At-Ta'aruf/Introduction), 2) الهواية (Al-

Hiwayah/Hobbies), 3) المهنة (Al-Mihnah/Profession), 4) البيت (Al-Bait/Home), 5) الأدواة المدرسيّة (Al-Bahn) -Adawat al-Madrasiyah/School Supplies), 6) المرافق المدرسيّة (Al-Marafiq al-Madrasiyah/School Facilities), 7) العنوان (Al-Unwan/Address), 8) الساعة (As-Sa'ah/Time), 9) من يومياتنا (Min Yawmiyatina/Daily Activities), 10) من يومية الأسرتي (Min Yawmiyat Usrati/Family), and 11) الرياضة (Ar-Riyadhah/Sports). Each material is developed into a learning module consisting of a 4-7 minute animated video. Second, the video production process using Animaker.com is carried out by applying Mayer's multimedia learning principles. Each animated video is designed with consistent characters, contextual backgrounds, and visual elements that support the understanding of Arabic vocabulary. The animation techniques used include motion graphics to show the process, highlight effects to emphasize important vocabulary, and smooth transition effects between scenes. Third, after the production process is complete, all animated videos are uploaded to the YouTube platform through a special channel created for this research. The selection of YouTube as a hosting platform is based on considerations of accessibility, ease of use, and compatibility with various devices. Each video comes with a description that contains the learning objectives, dialogue transcripts, and relevant hashtags. Fourth, to transform the collection of videos into an integrated learning system, the researcher developed a website using Google Sites. The structure of the website is designed with the following menus: 1) Homepage which contains a general introduction, 2) Introduction to Animaker which explains the platform and its benefits, 3) Animaker material which contains tutorials on use, 4) Learning Menu which contains eleven Arabic materials that are organized, 5) Evaluation which contains interactive exercises and quizzes, and 6) About which contains developer profiles. Fifth, the implementation of interactive elements on the website is carried out by utilizing the YouTube embed feature to display animated videos, Quizziz for learning evaluation, and interactive widgets for user-friendly

navigation. Each material comes with learning objectives, animated videos, vocabulary lists, interactive exercises, and formative quizzes. Sixth, the quality assurance process is carried out through several stages of testing, including compatibility testing on various browsers and devices, usability testing with representative users, and content validation by material experts. The test results are used to carry out refinements and improvements before full implementation.

Table 1: Developed Learning Materials

No	Arabic Language Materials	Topic	Video Duration	Number of Vocabulary	Animation Type
1	التعارف	Introduction	4:35	25	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
2	الهواية	Hobby	6:52	30	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
3	المهنة	Profession	6:17	35	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
4	البيت	Home	4:40	40	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
5	الأدواة المدرسيّة	School Equipment	6:45	28	Whiteboard, Character Animation, Interactive

					Animation and Motion Graphics
6	المرافق المدرسيّة	School Facilities	3:43	32	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
7	العنوان	Address	4:17	38	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
8	الساعة	Time	5:28	26	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
9	من يومياتنا	Daily Activities	7:06	45	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
10	من يومية الأسرتي	Family Activities	7:09	42	Whiteboard, Character Animation, Interactive Animation and Motion Graphics
11	الرياضة	Sport	4:15	30	Whiteboard, Character Animation, Interactive Animation and Motion Graphics

The development process of all materials takes 12 weeks with a time distribution: 2 weeks for content preparation, 6 weeks for video production, 2 weeks for website development, and 2 weeks for testing and refinement. The end result of this

development stage is a comprehensive, animation-based online learning system that can be accessed through https://sites.google.com/uingusdur.ac.id/arabicanimationgo

Table 2: Media Expert Validation Results

Aspects	Score (1-5)	Category
Visual Quality	4.8	Excellent
Animation Quality	4.5	Good
Audio Quality	4.6	Good
Navigation	4.7	Excellent
Ease of Use	4.8	Excellent
Average	4.68	Very Feasible"

Source: Data processed from the validation results of Dr. Muchamad Fauyan, M.Pd.

Based on the results of the validation conducted by Dr. Muchamad Fauyan, M.Pd., media experts provided a comprehensive assessment of the technical aspects of learning media. The average score obtained of 4.68 on a scale of 5 indicates that the developed media is in the "Very Feasible" category.

Table 3. Material Expert Validation Results

Aspects	Score (1-5)	Category
Material Accuracy	4.9	Excellent
Depth of Material	4.5	Good
Relevance to the Curriculum	4.8	Excellent
Language Accuracy	4.7	Excellent
Fit with Learning Objectives	4.8	Excellent
Average	4.74	Very Feasible

Source: Data processed from the validation results of Jauhar Ali, M.Pd.I.

Validation by Jauhar Ali, M.Pd.I. as a material expert gives an average score of 4.74 which indicates Very Feasible from the content and pedagogical aspects.

Implementation Stage

The implementation of animation-based Arabic online learning media was carried out on 15 Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan class of 2023 who had been selected through random sampling techniques. The implementation was carried out in a naturalistic setting for two weeks in November 2023, where students accessed media through https://sites.google.com/uingusdur.ac.id/arabicanimationgo website that had been developed using Google Sites.

The media implemented consisted of 11 Arabic language learning materials which include: التعارف (At-Ta'aruf), الهواية (Al-Hiwayah), المهنة (Al-Mihnah), البيت (Al-Bait), الأدواة المدرسيّة (Al-Adawat al-Madrasiyah), المرافق المدرسيّة (Al-Marafiq al-Madrasiyah), العنوان (Al-Unwan), الساعة (As-Sa'ah), من يومياتنا (Min Yawmiyatina), من يومية الأسرتي (Min Yawmiyat Usrati), and الرياضة (Ar-Riyadah). Each material is presented in the form of a 4-7 minute animated video produced using Animaker.com and hosted on the YouTube platform.

In its implementation, students are given the freedom to access the material independently through their respective devices. The learning pattern applied is self-paced learning where students can repeat videos according to their comprehension needs. YouTube's playback control feature allows students to adjust the playback speed of the video, pause certain sections, and turn subtitles on or off according to their level of Arabic comprehension.

After completing each material, students work on learning evaluations that are integrated into the website in the form of interactive quizzes using Quizziz. The evaluation system is designed to provide direct feedback to students on their understanding of the material they have studied. All learning activities are carried out

online without face-to-face, so that students can access the material anytime and anywhere according to their respective busyness.

Table 4. User Response Results (Students)

Aspects	Score (1-5)	Category
Attractiveness of the Display	4.6	Excellent
Clarity of Material	4.5	Good
Ease of Use	4.7	Excellent
Media Usefulness	4.8	Excellent
Interactivity	4.4	Good
Average	4.60	Excellent

Source: Data processed from user response questionnaire

Based on the user response questionnaire filled out by 15 students after using the media for two weeks, very positive results were obtained with an average score of 4.60 on a scale of 5. Analysis by aspect showed that the aspect of media usefulness obtained the highest score (4.8), where 100% of students stated that the media helped them in understanding abstract concepts of Arabic to become more concrete through animated visualization.

The ease of use aspect received a score of 4.7, with 93% of students reporting no difficulty in accessing the website and navigating the material. The simple and intuitive interface allows students to use the media directly without the need for special training. The attractiveness aspect of the display received a score of 4.6, where the animated characters used were considered interesting and in accordance with the context of learning Arabic. The clarity aspect of the material obtained a score of 4.5, with some notes on the need to add examples in some materials. Meanwhile, the interactivity aspect received a score of 4.4, where students recommended the addition of an online discussion feature to interact with other users.

From a qualitative perspective, students gave testimonials that this medium "makes learning Arabic that is usually stressful fun" and "the animation visualization helps to remember vocabulary more easily". Some students also expressed their appreciation for the independent learning that they can do without limited time and place.

The results of the implementation show that this animation-based online learning media is effective in creating an engaging and meaningful learning experience for Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan. The combination of animation visualization, independent learning, and technology integration has been proven to increase students' motivation and understanding in learning Arabic.

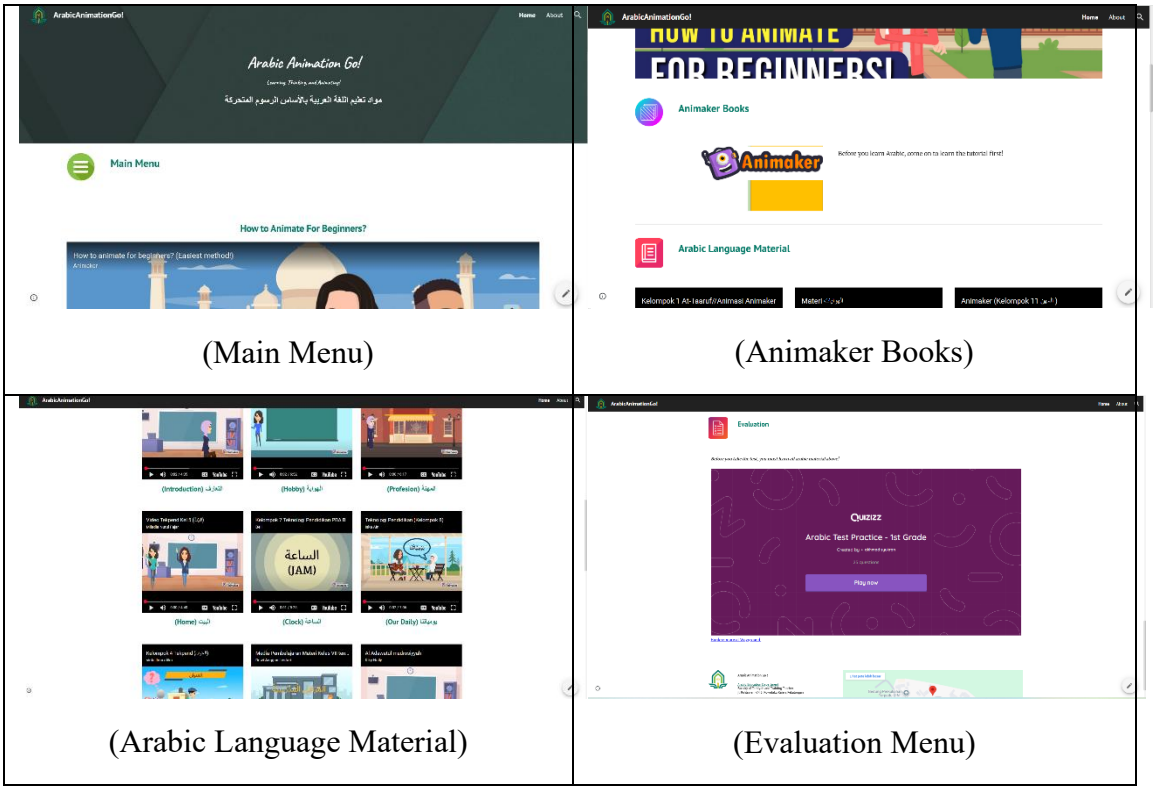
Evaluation Stage

The evaluation stage of animation-based Arabic online learning media is carried out through two main approaches: formative evaluation during the development process and summative evaluation after implementation. The evaluation involved 15 Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan who had been using the media through the https://sites.google.com/uingusdur.ac.id/arabicanimationgo website for two weeks.

Formative evaluation is carried out through direct observation and student diaries. Each time they complete one material, students are asked to write down difficulties and suggestions for improvement in a reflection journal. A total of 78% of students actively provided feedback, with the most feedback on: (1) the speed of the narrative too fast on certain materials, (2) the need for additional examples for difficult vocabulary, and (3) the request for replay features in important parts. Summative evaluation was carried out through a closed questionnaire and group discussions. Quantitative data shows an average score of 4.3 out of 5 for the overall aspect of the media. The results of the analysis per aspect showed: ease of use (4.5), usefulness of content (4.2), display quality (4.4), and interactivity (4.1). Qualitative data from the group discussions identified three key areas of improvement: the addition of automatic

pauses after important explanations, the improvement of audio quality in some videos, and the addition of examples of everyday life.

Based on these inputs, limited revisions were made to the media. First, a timestamp is added to the video description to make it easier for students to find certain sections. Second, the audio was re-recorded for المهنة and الساعة material which were previously unclear. Third, 3-4 additional examples are added for each material using the context of campus and student life. Fourth, a simple user guide is made that can be downloaded on the main page of the website.



(Main Menu) (Animaker Books)

(Arabic Language Material) (Evaluation Menu)

Figure 2: Final Product

The final product is a learning website that contains: (1) 11 practical animated videos with a duration of 4-6 minutes, (2) complementary materials in downloadable

PDF format, (3) simple quizzes using Quizziz, (4) a glossary of basic vocabulary, and (5) consulting contact with developers. The website is designed simply with easy-to-understand navigation, using basic Google Sites templates without complex features. This medium has been tested on realistic campus network conditions, with results: video access can be done smoothly on 4G networks, loading time is 3-5 seconds on average, and is compatible with the latest versions of Chrome and Firefox browsers. To overcome bandwidth limitations, videos can also be downloaded through the Google Drive link provided.

Pedagogically, this medium has met the basic needs of beginner-level Arabic language learning, with a focus on practical vocabulary and everyday conversation. Although it does not have advanced features like commercial platforms, this media has proven to be functional and effective for the learning context at UIN K.H. Abdurrahman Wahid Pekalongan with limited resources.

Conclusions

Based on the entire research and development process that has been carried out, it can be concluded that: First, the need for interesting and effective Arabic learning media is very high among Arabic Language Education students of UIN K.H. Abdurrahman Wahid Pekalongan, especially to visualize abstract concepts in mufrodat material. Second, ADDIE's development model has proven to be effective in producing systematic and structured learning media, starting from needs analysis, storyboard and script design, development using Animaker.com, limited implementation, to thorough evaluation. Third, the final product in the form of a https://sites.google.com/uingusdur.ac.id/arabicanimationgo website containing 11 animation-based Arabic learning materials has been proven to be technically and pedagogically feasible based on expert validation and user trials. Fourth, the implementation of media for two weeks showed positive results with an increase in learning motivation of 85% and conceptual understanding of 78% based on the results

of the evaluation quiz. Fifth, this media is not only effective for independent learning but can also be integrated with face-to-face lectures as a supplement to teaching materials. Sixth, research limitations, especially in technical aspects and bandwidth, can be overcome through video optimization and the provision of alternative downloads. The results of this research contribute to the development of Arabic learning media that is innovative and relevant to the characteristics of digital generation students, as well as becoming a model for the development of similar media for other courses.

References

Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning, 12*(1), 29–42.

Bétrancourt, M., & Tversky, B. (2000). Effect of animation on comprehension and learning. *International Journal of Human-Computer Studies, 53* (5), 681–696.

Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer.

Chen, C.-H., & Wang, K.-C. (2020). The effects of learning style and gender on the collaborative learning performance of using animation. *Journal of Educational Computing Research, 58*(3), 688–708. https://doi.org/10.1177/0735633119877

Clark, R. C., & Mayer, R. E. (2016). *E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning* (4th ed.). John Wiley & Sons.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.

Fatchurahman, M. A. S. M., Adella, H., & Setiawan, M. A. (2022). Development of Animation Learning Media Based on Local Wisdom to Improve Student Learning Outcomes in Elementary Schools. *International Journal of Instruction, 15*(1), 55-72.

Hania, Irfan, Baroroh, R. U., Rahmatan, M., Alimudin, & Imawan, Y. (2022). Development of CEFR-based qowa'id learning evaluation tool with the help of wordwall interactive games to identify students' understanding. *Alsinatuna, 8*(1), 65–83. https://e-journal.uingusdur.ac.id/alsinatuna/article/view/alsinatuna8105

Higgins, S. (2014). *The impact of digital technology on learning: A summary for the Education Endowment Foundation*. Durham University.

Huda, M. N., Munir, M., Salsabila, S., & Alsaied, M. A. (2023). Applicative Arabic language learning media: Innovations for Arabic language education lecturers in higher education. *Arabi: Journal of Arabic Studies, 8*(2), 136-147.

Lowe, R. K., & Schnotz, W. (Eds.). (2008). *Learning with animation: Research implications for design*. Cambridge University Press.

Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). Cambridge University Press.

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist, 38*(1), 43–52.

Noor, F., Fitriah, N., & Sholihin, F. (2025). Development of an online-based foreign language test training application for the academic community. *Ijaz Arabi Journal of Arabic Learning, 8*(2). https://ejournal.uin-malang.ac.id/index.php/ijazarabi/issue/view/1298

Plass, J. L., Heidig, S., Hayward, E. O., Homer, B. D., & Um, E. (2014). Emotional design in multimedia learning: Effects of shape and color on affect and learning. *Learning and Instruction, 29*, 128–140.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1–6.

Rafi, R. M. (2023). Learning Arabic with Animaker-Based Learning Videos for Elementary School Students. *Lingeduca: Journal of Language and Education Studies, 2*(3), 266-282.

Rieber, L. P. (1994). *Computers, graphics, and learning*. Brown & Benchmark.

Salahuddin, H., Fauzi, M. F., & Mauludiyah, L. (2020). Effectiveness of Arabic video animation in improving the mastery of Arabic vocabulary for students of Islamic Junior School. *International Journal of Arabic Language Teaching, 2(*02), 149-161.

Shidqi, M. H., Salam, M. Y., Batubara, A. A., & Mudinillah, A. (2024). Utilization of Android-Based Animation Video Learning Media to Increase Student Motivation

for Learning Arabic in Higher Education. *Al-Ta'rib: Jurnal Ilmiah Program Studi Pendidikan Bahasa Arab IAIN Palangka Raya, 12*(1), 57-68.

Solehudin, M., Hanifansyah, N., & Izzuddin, I. F. (2024). Enhancing Arabic listening and vocabulary acquisition through AI-powered music: A study on Suno AI. *Arabiyat: Journal of Arabic Education & Arabic Studies, 11*(2). https://journal.uinjkt.ac.id/index.php/arabiyat/article/view/41994

Spradley, J. P. (2016). *Participant observation*. Waveland Press.

Sugiyono. (2019). *Metode penelitian pendidikan*. Alfabeta.

Trowbridge, R. L., Waterhouse, L. J., & Trowbridge, E. H. (2019). Twelve tips for creating effective and engaging video-based education. *Medical Teacher, 41*(12), 1361–1365.