

Design and Development of the Game "Kitabah For Kids" Augmented Reality Technology for Arabic language learning

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Abstrak: Penelitian ini membahas tentang rancang bangun aplikasi "Kitabah for Kids" untuk mendukung pembelajaran bahasa Arab bagi anak-anak. Aplikasi ini dirancang untuk menyediakan media pembelajaran yang interaktif, menarik, dan sesuai dengan kebutuhan anak-anak. Dalam proses pengembangannya, penilaian dari para ahli di bidang desain dan konten pembelajaran menjadi input yang berharga untuk memastikan aplikasi ini memenuhi standar kualitas yang dibutuhkan. Model pengembangan yang digunakan adalah pengembangan stanford university dengan tahapan empathy, define, ideate, prototype, dan test untuk merancang dan mengembangkan aplikasi "kitabah for kids" sebagai media pembelajaran bahasa arab untuk anak-anak. Hasil validasi dari para ahli menunjukkan bahwa aplikasi "Kitabah for Kids" telah mempertimbangkan dengan baik aspek desain dan konten pembelajaran bahasa Arab. Dari sisi desain, aplikasi ini dinilai intuitif, mudah diakses, dan mampu menjaga atensi anak-anak melalui fitur interaktif yang menarik. Sedangkan dari sisi konten, materi pembelajaran yang disajikan dianggap sesuai dengan kurikulum bahasa Arab yang berlaku, sehingga dapat menjadi sumber belajar yang efisien dan relevan. Meskipun demikian, masukan dari para ahli juga mengidentifikasi beberapa aspek yang perlu ditingkatkan, seperti penyempurnaan navigasi, struktur informasi yang lebih jelas, serta penambahan fitur interaktif lainnya. Dengan memperhatikan saran-saran tersebut, pengembangan aplikasi "Kitabah for Kids" diharapkan dapat menjadi alat bantu pembelajaran bahasa Arab yang efektif dan menyenangkan bagi anak-anak.

Kata Kunci : *Model pengembangan, Game pembelajaran, Pembelajaran bahasa arab, Pembelajaran augmented reality.*

Abstract: This research discusses the design of the "Kitabah For Kids" application to support Arabic learning for children. This application is designed to provide learning media that is interactive, attractive, and meets the needs of children. In the development process, the assessment of experts in the field of design and learning content is valuable input to ensure this application meets the quality standards required. The development model used in the development of Stanford University with the stages of empathy, Defining, ideating, Prototype, and Testing to design and develop the application "Kitabah For Kids" as a medium for learning Arabic for children. The validation results of experts show that the application "Kitabah For Kids" has well considered the aspects of Arabic Learning Design and Learning Content. In terms of design, this application is considered intuitive, easily accessible, and able to maintain children's attention through attractive interactive features. While in terms of content, the learning material presented is considered by the applicable Arabic curriculum, so that it can be an efficient and relevant learning resource. However, input from experts also identified several aspects that need to be improved, such as refinement of navigation, clearer information structures, and adding other interactive features. By paying attention to these suggestions, the development of the "Kitabah For Kids" application is expected to be an effective and fun Arabic learning aid for children.

Keywords: *Development style; Learning Games; Arabic learning; Augmented reality learning.*

Introduction

Introducing Arabic to children aged 6-12 years is more productive than adults¹ because they still have a strong memory to receive new knowledge, especially in Arabic. With a vulnerable age that is still relatively early. Sometimes students find it difficult to convey learning that is easily accepted by them, especially in Arabic writing characters that are not familiar to children in Indonesia³. To overcome this problem, of course, creative learning and appropriate media are needed to keep their learning motivation stable in learning Arabic⁴.

Arabic is a unique language and has a writing system that is different from other languages. Due to its relatively early age, students sometimes find it difficult to teach Arabic. Therefore, innovation is needed in learning Arabic so that it can attract children's interest and enthusiasm in learning it.

¹ Imas Jihan Syah, "Learning Arabic as a Foreign Language for Early Childhood," *JCE (Journal of Childhood Education)* 2, no. 1 (2019), <https://doi.org/10.30736/jce.v1i2.14>.

² Mukhlis Syakir and Agung Setiyawan, "Arabic Language Learning for Non-Arab Speakers in View of Age Development (Psycholinguistic Study)," *Proceedings International Conference* 1, no. 1 (2023): 257–67, <https://doi.org/10.14421/IJBER.tahun.volumeno>.

³ Dea Adinda et al., "Improving Students' Ability in Learning Arabic Against Maharah Al-Kitabah Using the Insha'iyah Learning Method," *Yudistira Journal: Education and Language Research Publication* 2, no. 1 (2024): 86–100.

⁴ Hikmah Rahmasari, "Using YouTube Media as a Media Solution for Arabic Language Learning During the Pandemic," *Maharaat: Journal of Arabic Language Education* 3, no. 1 (2021): 23–41, <https://doi.org/10.18196/mht.v3i1.11362>.

The design and development of the game "Kitabah for Kids" is one solution that can be implemented to foster children's interest and abilities in learning Arabic. Through this game, children can learn to write Arabic letters, and vocabulary, and make simple sentences in a fun way

The concept of "Kitabah for Kids" is to develop a game application specifically designed for young children. In this application, augmented reality technology will be used to create Arabic language learning that is more interactive and interesting for children. By using augmented reality technology, children can interact directly with virtual objects that represent Arabic letters and vocabulary⁵⁶. It is hoped that this method can help children more easily recognize and memorize hijaiyah letters as well as learn vocabulary and simple sentences in Arabic. Apart from that, the use of Augmented Reality (AR) technology in this application will make learning Arabic more interactive and interesting for children⁷.

Some literature shows that the use of technology such as Augmented Reality can increase the attractiveness and effectiveness of learning Arabic for children. The technology used includes social media⁸, such as YouTube⁹, TikTok¹⁰ and Instagram¹¹. Other applications, such as mobile-based applications and AR technology¹², can help children learn interactively, have fun and independently. It is hoped that the development of the "Kitabah for Kids" application can answer this challenge, where through this application children can learn hijaiyah letters, vocabulary, and simple sentences in Arabic in an interesting and fun way.

⁵ Zainal Arifin Hasibuan and Ketut Agustini, "National Seminar on Informatics Engineering Education Senapati," *Jl. Udayana Central Campus*, no. 0362 (2017): 27213, <http://pti.undiksha.ac.id/senapatiii%0Ahttp://pti.undiksha.ac.id/senapatii>.

⁶ Dean Christiano Mantaya Wenthe, Viktor H. Pranatawijaya, and Putu Bagus AAP, "Object recognition application for early childhood using augmented reality technology design and construction of our warung application view project uas multimedia _ augmented reality technology View Project," *Information Technology Journal: Scientific Journal And Applications in the Field of Information Engineering*, no. June (2021), <https://www.researchgate.net/publication/352587890>.

⁷ Ade Dwi Putra, M Ridho Diontoro Susanto, and Yusra Fernando, "Application of MDLC in Lampung Script Learning Using Augmented Reality Technology," *CHAIN: Journal of Computer Technology* 1, no. 2 (2023): 32–43.

⁸ Evi Nurus Suroiyah, "The Benefits of Learning Arabic to Improve Istima' Skills," *Muhadasah: Journal of Arabic Language Education* 2 (2020): 16–26.

⁹ Alfiatus Syarofah et al., "،ة بلطلا بدل وحنلا ميلعت في اهتم ةءائس لاو بوتوي يعامتجلا لصاوتلا ءلي سو صالحا جنابر لا" ٤٠، no. 01 (2020).

¹⁰ Vika Elvira Karami, Ud'uni Yulita Rachmayanti, and Izzatur Rif'ah, "Use of Audio Visual Based Applications (YouTube and Tiktok) as Arabic Language Learning Media," *National Student Arabic Seminar V 2021* 5 (2021): 378–88, <http://prosiding.arab-um.com/index.php/semnasbama/article/view/810>.

¹¹ Husin, Hisana Zahran Dhia, and Luthfia Khoiriyatunnisa, "Using the Instagram Platform as an Arabic Language Learning Media for Beginners," *VII National Conference on Arabic Language (KONASBARA)*, 2021, 543–54, <https://jurnal.umj.ac.id/index.php/SAMASTA/article/view/7146>.

¹² Annisa Hafitria and Imam Asrofi, "Implementation of Augmented Reality Technology in Arabic Language Learning Media," *JlIP - Scientific Journal of Educational Sciences* 6, no. 10 (2023): 7548–56, <https://doi.org/10.54371/jiip.v6i10.2200>.

Apart from social media, mobile applications optimized for early childhood have also proven effective for learning Arabic¹³. The Augmented Reality technology integrated into this application can visualize hijaiyah letters and related objects more interactively so that it can attract children's interest in learning.

Apart from using social media and applications, several other digital platforms can be used for early childhood Arabic language learning, such as using Augmented Reality technology.

Research conducted by (Jaafar & Yusoff, 2022)¹⁴ focuses on the use of a game approach in teaching Arabic to children, through a comprehensive review of the literature focusing on how this method is effective in improving the process of learning Arabic in children, several this is an important highlight in this research. The design of game-based Arabic language learning strategies for children, as observed in research by Nurdin (2021),¹⁵ illustrates how crucial the role of edutainment games is in determining an interesting and successful learning approach.

Other research also conducted by A. Uliyah et al (2019)¹⁶ emphasized the positive impact of learning methods through games in teaching Arabic to children, through complex analysis. This review provides a gradual perspective on the effectiveness of game integration in Arabic language learning for educational practitioners. On the other hand, an empirical study by M. Ismail et al (2023)¹⁷ emphasizes the crucial aspect of edutainment games in improving the Arabic language learning process for children, by focusing on the application of learning through game applications. This implication directly shows that the use of game-based learning methods is an effective and innovative tool in teaching Arabic, especially for children.

According to (Oemar Hamalik, 2007)¹⁸ media is something that can make it easier for students in the learning process and can support learning that is fun and can produce in-depth results. The use of media in learning also has a positive impact on the process, such as increasing student motivation and high enthusiasm and desire to learn. This is in line with

¹³ Muhammad Rasyid Baihaki et al., "Ar Technology as a Learning Media: Literature Review," *Proceedings of National Science and Technology* 13, no. 1 (2023): 185, <https://doi.org/10.36499/psnst.v13i1.9139>.

¹⁴ Mohd Nazmi bin Jaafar and Nik Mohd Rahimi Nik Yusoff, "Experimental Study of The Effectiveness of Gamification Module for Arabic Language in Primary School," *International Journal of Academic Research in Business and Social Sciences* 12, no. 6 (2022): 2102–17, <https://doi.org/10.6007/ijarbss/v12-i6/14220>.

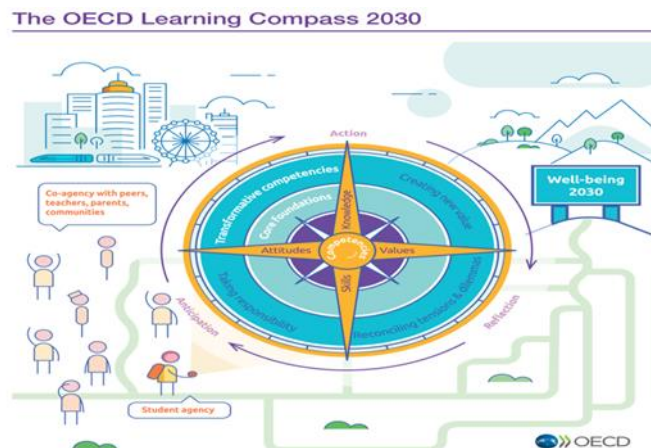
¹⁵ Nurdin Nurdin, "Application of Innovative and Creative Learning Concepts Through Edutainment-Based Learning in Learning at PAUD," *Murhum: Journal of Early Childhood Education*, no. 1 (2021): 56–67, <https://doi.org/10.37985/murhum.v2i1.32>.

¹⁶ Asnul Uliyah and Zakiyah Isnawati, "Educative Game Methods in Learning Arabic," *Shaut Al Arabiyyah* 7, no. 1 (2019): 31, <https://doi.org/10.24252/saa.v1i1.9375>.

¹⁷ Mohamad Helmi Ismail et al., "Strengthening the Competency of PAUD Teachers in Pangandaran Regency in the Implementation of Freedom to Play Through Loose Parts Media," *Journal of Community Service Bina Darma* 3, no. 3 (2023): 223–32, <https://doi.org/10.33557/pengabdian.v3i3.2658>.

¹⁸ Nurul Huda, "Curriculum Development Management," *Al-Tanzim: Journal of Islamic Education Management* 1, no. 2 (2017): 52–75, <https://doi.org/10.33650/al-tanzim.v1i2.113>.

the development of the OECD Learning Compass 2030¹⁹, in one of the categories, namely transformative competence, which requires students to be able to construct "creative thinking" and improve their meta-cognitive abilities.



OECD Learning Compass 2030 has become a reference in improving global education which aims to increase the competency of each student through several stages to survive in various conditions with various adaptability amidst a rapidly changing ecosystem in shaping the desired future. Arabic language learning requires creative innovations to increase students' interest and enthusiasm in learning it. One of these creative innovations can be the development of interactive learning applications based on Augmented Reality technology. This is in line with the opinion of several previous researchers who stated that with Augmented Reality technology, learning media can attract students' attention to studying Hijaiyah Letters and Makhoriul Letters as a first step in writing Arabic²⁰²¹²².

Based on the description that has been presented, it can be concluded that media cannot be separated from the learning process because media can support students' success in completing learning. Therefore, this article aims to increase the variety of learning media that can be used in the Arabic language learning process, especially Maharoh Kitabah for Madrasah Ibtidaiyah level to increase learning motivation and develop teacher professionalism in operating media creatively in learning.

¹⁹ Taylor A. Hughson and Bronwyn E. Wood, "The OECD Learning Compass 2030 and the Future of Disciplinary Learning: A Bernsteinian Critique," *Journal of Education Policy* 37, no. 4 (2022): 634–54, <https://doi.org/10.1080/02680939.2020.1865573>.

²⁰ Mohammad Doni Ferdiansah SM and Nuril Lutvi Azizah, "Hijaiyah Learning Media Using Augmented Reality TK Masyitoh 12," *Procedia of Engineering and Life Science* 2, no. 2 (2022), <https://doi.org/10.21070/pels.v2i2.1276>.

²¹ Tumini Tumini and Ahmad Fatonih Romadhon, "Implementation of Augmented Reality for Recognizing Arabic Nouns (Mufrodlat) in TPQ An-Nahdliyah At-Taqwa," *Informatics and Digital Expert (INDEX)* 3, no. 2 (2021): 46–54, <https://doi.org/10.36423/index.v3i2.760>.

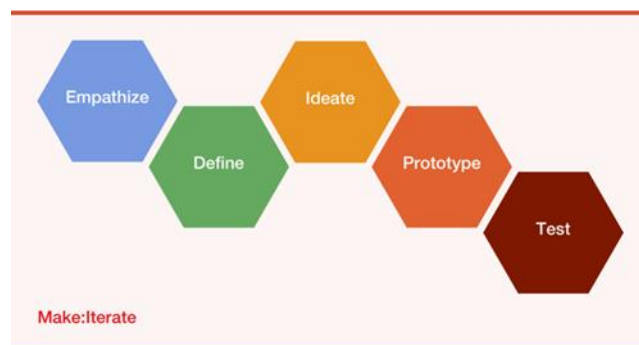
²² Deni Lidianti et al., "Use of Augmented Reality Technology in Learning Hijaiyah Letters and Makhoriul Letters," *TeKa* 12, no. 02 (2022): 67–76, <https://doi.org/10.36342/teika.v12i02.2941>.

In this research, we developed "Kitabah for Kids", which is an AR-based game application designed to help young children learn Arabic. Through this application, children can learn hijaiyah letters, vocabulary, and simple sentences in Arabic in an interesting and fun way.

This application integrates features such as visualization of hijaiyah letters and related objects in 3D, animation, and audio to improve children's understanding. Apart from that, there are also interactive game features, such as arranging hijaiyah letters, matching pictures with vocabulary, etc., which can help children practice and enrich their knowledge.

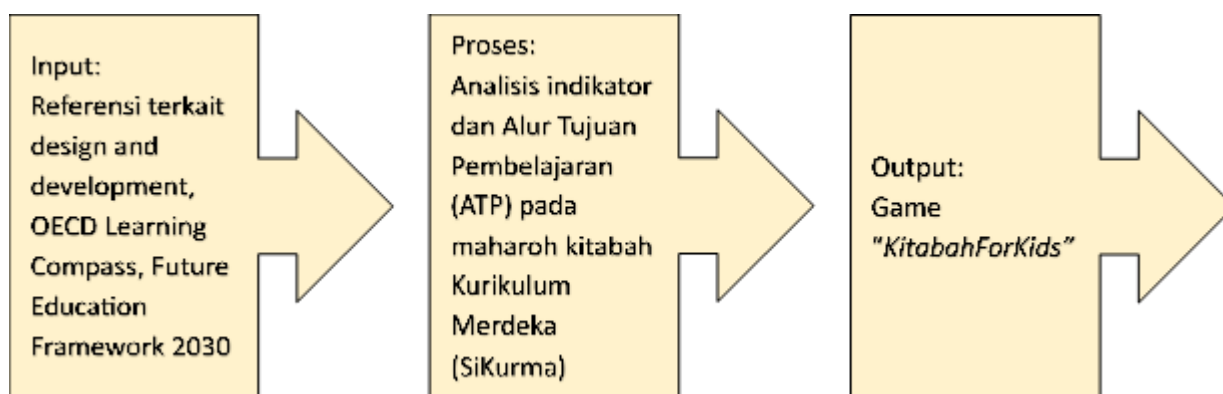
Method/ المنهج

In this research, a pragmatic paradigm was used with an RnD approach through the Stanford University development model²³. This method was chosen because it can produce structured and tested technology-based learning application products. There are 5 main stages in the Stanford model, namely empathize, define, ideate, prototype, t test. At the empathize stage, a literature study and analysis of user needs were carried out through observations at school and teacher interviews.



In the second stage, the process of definition (Define) and ideation (Ideate) was carried out by selecting material in the independent curriculum and examining the class 3 teaching modules of Madrasah Ibtidaiyah in Chapters 1 and 2, especially on the indicators and flow of learning objectives (ATP) on Maharoh Kitabah material. The following framework will serve as an overview of the Define and Ideate construction process:

²³ Mamluatul Hasanah et al., "Critical Literacy in Arabic Language Learning: (Implementation of GBA SFL in Improving Critical Reading Ability)," *Arabiyatuna : Arabic Language Journal* 6, no. 2 (2022): 711, <https://doi.org/10.29240/jba.v6i2.4239>.



The next stage is a prototype educational game design "KitabahForKids" which will be validated by design experts and language experts. This is done because this educational game will be used by students at the Madrasah Ibtidaiyah level, which is the initial input stage in their foreign language reception.

After the prototype is formed it will proceed to the Test stage, this stage is the last in the Stanford development model. In this case, a test of its use will be carried out on students with a pre-test carried out first, but in this research, we limit it to the prototype stage as an in-depth initial development before being tested in Arabic language learning.

Data Findings and Discussion

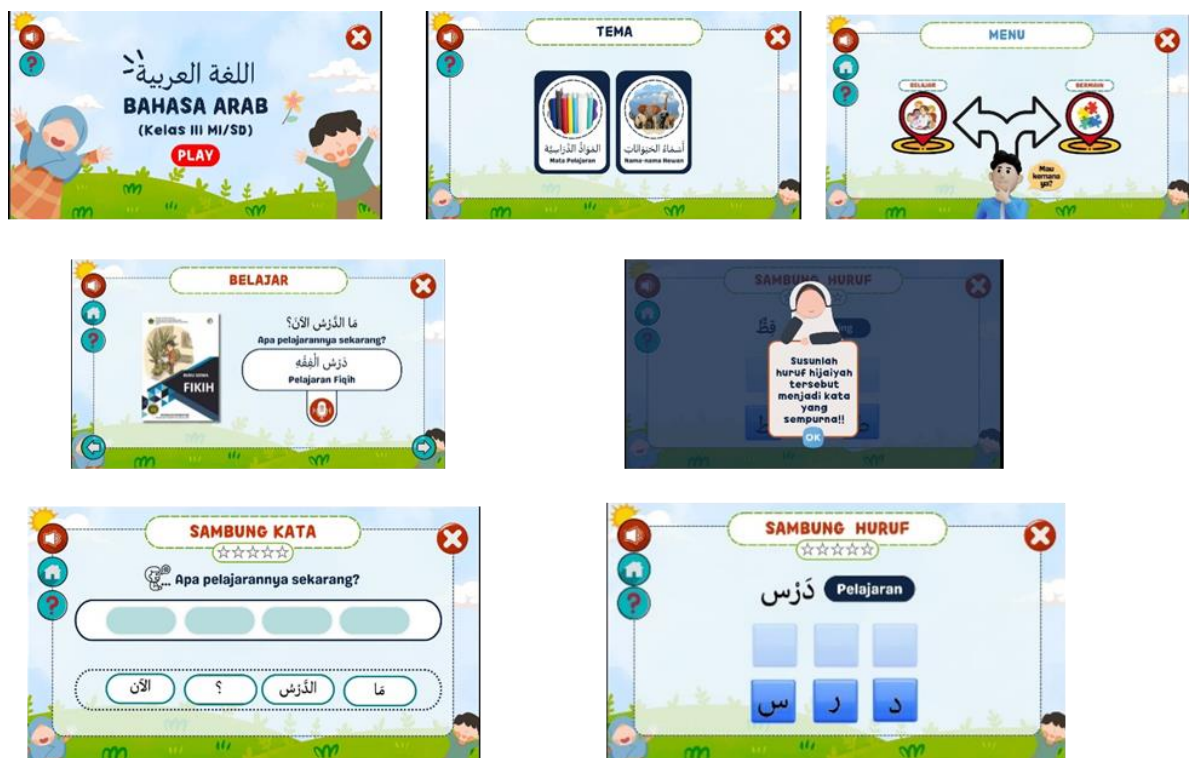
The "Kitabah for Kids" game developed in this research has main features intended for learning Arabic for children. These features include (1) Introduction to hijaiyah letters with 3D visualization that can be moved and rotated by the user, Arabic vocabulary with pictures and audio pronunciations, and a game for arranging hijaiyah letters into simple sentences. Augmented Reality technology integrated into this application allows children to interact directly with virtual objects such as hijaiyah letters in an interesting and fun game atmosphere.

This KitabahForKids educational game is designed to meet learning needs or to support students at the Madrasah Ibtidaiyah level to learn the Maharoh Kitabah more easily and of course with fun. The content design of the game starts from an analysis of the indicators and flow of learning objectives in the Arabic language subject for class III Madrasah Ibtidaiyah (Kemenag book) chapters 1-2. The analysis is devoted to the maharoh of the book which begins with arranging letters into words and then arranging the words into sentences, while the flow of learning objectives asks students to understand vocabulary, commands, greetings, questions about the subject matter, and the following is the attachment of Indicators and Learning Objectives Flow:

INDIKATOR PER MAHARAH	
Elemen	Indikator
Mendengarkan	1. Menirukan langsung bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	2. Menyebutkan kembali bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	3. Menunjukkan tulisan sesuai bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	4. Menempatkan bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	5. Menunjukkan gambar sesuai bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	6. Mengidentifikasi arti dari bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	7. Menyalin/menulis kembali bunyi kata, frasa dan kalimat bahasa Arab yang diperdengarkan
	8. Mengungkapkan kembali (bercerita) tentang isi wacana yang telah didengar
Berbicara	1. Menirukan contoh ungkapan sederhana
	2. Melakukan tanya jawab sesuai contoh ungkapan yang diprogramkan dengan benar
	3. Menempatkan teks benar dengan tepat
	4. Menanya dan menjawab dengan memperhatikan struktur teks dan unsur kebahasaan yang benar dan sesuai konteks
Membaca-Meminta	1. Membaca huruf, kata, frasa, dan kalimat bahasa Arab dengan intonasi dan makhrji yang benar
	2. Menentukan arti kosakata dalam teks
	3. Menempatkan frasa, dan kalimat bahasa Arab dalam teks
	4. Mengemaskan kosakata dalam konteks kalimat
Menulis-Mempresentasikan	1. Menyusun huruf-huruf menjadi kata-kata dengan benar
	2. Menyusun kata-kata menjadi kalimat sempurna
	3. Menyusun kalimat-kalimat menjadi paragraf
	4. Menyusun kalimat dengan pola tertentu sesuai struktur teks dan unsur kebahasaan yang benar
	5. Menulis wacana yang diperdengarkan (ditte)
	6. Mengemaskan / mengemaskan mufradat dengan tepat dalam berbagai kalimat
	7. Menyalin/menulis kosakata/kalimat-kalimat sesuai contoh dengan tepat dan benar
	8. Mengenal konsep struktur bahasa sederhana yang dipelajari secara tepat
	9. Mengenal ciri-ciri dari struktur bahasa sederhana yang dipelajari secara tepat
	10. Membaca kalimat yang berstruktur bahasa sederhana yang dipelajari secara tepat

ALUR TITIKS PEMBELAJARAN						
No	Lingkup Materi	Alur Titiks Pembelajaran	Dimensi Teks	Grammatikal	PS/PFR	Alat dan Bahan
1	Materi Pelajaran	1. Menentukan jenis kata, peribahasa, ungkapan, perbandingan, metafora, simile, dan sebagainya. 2. Menentukan jenis yang ditanyakan dengan pola kalimat dan kata-kata yang digunakan. 3. Menentukan jenis kata yang digunakan dalam kalimat. 4. Menentukan jenis kata yang digunakan dalam kalimat. 5. Menentukan jenis kata yang digunakan dalam kalimat. 6. Menentukan jenis kata yang digunakan dalam kalimat. 7. Menentukan jenis kata yang digunakan dalam kalimat. 8. Menentukan jenis kata yang digunakan dalam kalimat. 9. Menentukan jenis kata yang digunakan dalam kalimat. 10. Menentukan jenis kata yang digunakan dalam kalimat.	Bahasa Arab	Alam Alam	1. Berbicara 2. Berbicara 3. Berbicara 4. Berbicara 5. Berbicara 6. Berbicara 7. Berbicara 8. Berbicara 9. Berbicara 10. Berbicara	10 IP
2	Materi Pelajaran	1. Menentukan jenis kata, peribahasa, ungkapan, perbandingan, metafora, simile, dan sebagainya. 2. Menentukan jenis yang ditanyakan dengan pola kalimat dan kata-kata yang digunakan. 3. Menentukan jenis kata yang digunakan dalam kalimat. 4. Menentukan jenis kata yang digunakan dalam kalimat. 5. Menentukan jenis kata yang digunakan dalam kalimat. 6. Menentukan jenis kata yang digunakan dalam kalimat. 7. Menentukan jenis kata yang digunakan dalam kalimat. 8. Menentukan jenis kata yang digunakan dalam kalimat. 9. Menentukan jenis kata yang digunakan dalam kalimat. 10. Menentukan jenis kata yang digunakan dalam kalimat.	Bahasa Arab	Alam Alam	1. Berbicara 2. Berbicara 3. Berbicara 4. Berbicara 5. Berbicara 6. Berbicara 7. Berbicara 8. Berbicara 9. Berbicara 10. Berbicara	10 IP

Followed by designing the material according to the needs of the indicators and flow of the learning objectives using the Construct2 application, this application is specifically used for making educational games. Here is a display of the results of the educational game that we named KitabahForKids:



In the KitabahForKids application, there are several main menus such as Hijaiyah Letters, Vocabulary, and Simple Sentences. On the Hijaiyah Letters menu, there is learning about hijaiyah

letters accompanied by an AR button to display a visualization of the letters in a 3D form that can be viewed interactively.

On the Vocabulary menu, there is learning about basic vocabulary in Arabic with additional audio pronunciations. Then on the Simple Sentences menu, learning to read and compose simple sentences in Arabic is provided with 3D visualization and audio pronunciation. Based on testing by material and media experts, the "KitabahForKids" application is considered suitable for use as a medium for learning Arabic for young children.

At the empathize stage, a literature study and analysis of user needs were carried out through observations at school and teacher interviews. The results of the analysis reveal that young children often experience difficulties in learning hijaiyah letters and Arabic vocabulary because learning methods are conventional and less interesting. Apart from that, there are also limited interactive and innovative learning media that can help children learn Arabic more happily. Below we quote from an interview with an Arabic teacher.

"In Maharoh Kitabah students need to be patient in combining letters into words and words into sentences because the rules in Arabic are of course very different from the rules in Indonesian, so they need a fun medium to make it easier to combine words into sentences" in this case Teachers need media assistance to convey learning about the Maharoh Kitabah, especially media that is fun and can be delivered effectively and efficiently.

Regarding the results of observations and interviews, we concluded that it is necessary to develop Arabic language learning media that can attract children's interest and enthusiasm in learning hijaiyah letters, vocabulary, and reading simple sentences.

At the define stage, the main problem and product specifications that will be developed are formulated based on the results of literature studies and user needs analysis. The main problem identified is the lack of interesting and interactive Arabic language learning media for young children, especially the Maharoh Kitabah. Based on these problems, the researcher then formulated product specifications to be developed, namely: 1) Augmented Reality-based educational game application for learning Arabic for early childhood, 2) The features provided include the introduction of hijaiyah letters, vocabulary, and p-learning composed simple sentences, 3) Content is presented with an attractive design, 3D visualization, and audio pronunciation to increase children's interest in learning.

At the ideate stage, brainstorming was carried out to produce a design concept for the "KitabahForKids" application that was by product specifications. Some of the ideas generated include the use of Augmented Reality technology to visualize hijaiyah letters in 3D, the addition of an audio pronunciation feature to help children learn the correct pronunciation, as well as the application of educational game principles to create fun and interactive learning.

After going through the evaluation stage, the development team continues to the prototyping stage by creating an initial application design including the interface, features, and interaction flow. The "KitabahForKids" application was then tested in stages through evaluation by material and media experts, as well as trials with early childhood users. However, in this research we limited it to the prototype stage by deepening the discussion through expert

validation, material validation, and interviews with users, namely Arabic language teachers, to obtain appropriate and applicable results using the material as well as preparing the application for this book as fully as possible.

Test results by material and media experts show that the "Kitabah for Kids" application is feasible and effective for learning Arabic for children. According to material test experts, the content and materials presented are by the Arabic language curriculum for early childhood and their ability level. The content displayed is also interesting and innovative with 3D visualization and interactive features. In terms of appearance and operation, media experts give a positive assessment because the application has been designed with an interface that is user-friendly and easy for children to use. This education-based game also really motivates children to learn Arabic in a fun way.

Comments from design experts' validation of the "KitabahForKids" application highlight the application's superiority in considering child psychology in its design. They appreciate the child-friendly approach, with an attractive and easy-to-use interface. Skills development is also well supported, enabling children to develop their Arabic language skills progressively and enjoyably. In addition, this application focuses on the security and privacy of children's data, providing high standards of information security to create a safe learning environment for users. The integration of game elements and reward systems is also considered effective in increasing children's learning motivation. Despite its advantages, some experts also provide suggestions to further optimize the design for a more intuitive user experience to maximize children's effective learning in the future.

Apart from that, validation results from design experts also highlight the strong visual appeal of this application, with the use of bright colors and images that arouse interest in learning because bright colors are also an attraction in themselves to increase interest in learning²⁴. The interactivity provided in the application is also considered successful in maintaining children's attention and increasing their participation in the learning process. Additionally, the app's ease of use was praised as it was deemed intuitive and easily accessible to the children themselves, responding well to their learning needs.

However, some design experts also see room for improvements that include more structured organization of information, improved interface navigation, and integration of additional features that can enrich the learning experience for child users. The implementation of more direct and clear feedback is also the focus of emerging suggestions, to ensure that each learning step provides a constructive response to children's understanding of Arabic. Further development of the interaction guide may be needed to ensure children can operate the app smoothly, more independent and efficient, enhancing their learning experience without technical constraints.

Meanwhile, material experts highlighted the suitability of the material used with the Arabic language curriculum. The suitability of the material used in the "Kitabah for Kids" application

²⁴ Dian Hasfera and M Fadli, "Use of Color in Interior Design," *Ristekdik* 4, no. 2 (2019): 101, <http://jurnal.um-tapsel.ac.id/index.php/Ristekdik/article/view/897>.

with the Arabic curriculum became the focus point of the evaluation carried out by experts to ensure that the learning presented was relevant to the learning standards. set. Experts assess that the integration of material in this application reflects a strong commitment to integration with the applicable Arabic curriculum, helping to ensure the use of educational resources that enrich and support children's understanding of the subject matter.

Expert comments also emphasize that alignment of application content with the Arabic curriculum can strengthen comprehensive learning. The focus on relevant structures and topics, in line with curriculum objectives, provides a strong foundation for children to understand and master Arabic. This support adds significant value to the application in facilitating the learning process in the context of the educational curriculum. Expert input regarding the suitability of the material helps ensure that each learning module presented in the application consistently supports the desired Arabic curriculum objectives. Channeling input like this becomes a valuable guide for application developers in ensuring that the content presented is relevant, in-depth, and represents learning needs which are projected to become effective tools and resources to support the teaching and learning process.

Validation from material experts on the "Kitabah for Kids" application emphasizes the importance of material variations in developing learning platforms for children. They consider that diversity of material, such as short stories, songs, word games, and other interactive activities, is an important aspect in maintaining attention and increasing involvement in the learning process. This variation can make learning Arabic for children more interesting, fun and effective.

Conclusion

Based on the validation results from experts, it can be concluded that the "Kitabah for Kids" application has great potential in supporting Arabic language learning for children. From a design perspective, the application is deemed to have well-considered the needs and psychology of children, with a user-friendly interface and engaging interactive features. In terms of content, the application is also appreciated for aligning the learning materials with the relevant Arabic language curriculum, making it a relevant alternative learning resource that supports effective learning processes. Nevertheless, feedback from experts also indicates room for further improvement, especially in refining navigation, and information structure, and adding interactive features to enrich children's learning experiences.

Overall, taking into account the suggestions given, the development of the "Kitabah for Kids" application has good prospects of becoming an effective and enjoyable Arabic learning tool for children. This application needs to be improved to the testing stage, but before that, we will improve it first in terms of development based on suggestions from experts as well as the results of interviews and observations with related parties.

Bibliography

Adinda, Dea, Era Fazira, Rafly Syahputra Sikumbang, and Shakholid Nasution. "Improving Students' Ability in Learning Arabic Against Maharah Al-Kitabah Using the Insha'iyah

- Learning Method." *Yudistira Journal : Education and Language Research Publication* 2, no. 1 (2024): 86–100.
- Baihaki, Muhammad Rasyid, M Javier Rasyadi, Muhammad Hafiz, Fajar Juliyanto, and Fayruz Rahma. "Ar Technology as a Learning Media: Literature Review." *Proceedings of National Science and Technology* 13, no. 1 (2023): 185. <https://doi.org/10.36499/psnst.v13i1.9139>.
- Christiano Mantaya Wenthe, Dean, Viktor H. Pranatawijaya, and Putu Bagus AAP "OBJECT RECOGNITION APPLICATION FOR EARLY AGE CHILDREN USING AUGMENTED REALITY TECHNOLOGY DESIGN AND DEVELOPMENT OF THE WARUNG OUR APPLICATION View Project UAS MULTIMEDIA _ AUGMENTED REALITY TECHNOLOGY View Project." *Journal of Information Technology: Journal of Science and Applications in the Field of Information Engineering*, no. June (2021). <https://www.researchgate.net/publication/352587890>.
- Evi Nurus Suroiyah. "The Benefits of Learning Arabic to Improve Istimah Skills." *Mubadasab: Journal of Arabic Language Education* 2 (2020): 16–26.
- Hafitria, Annisa, and Imam Asrofi. "Implementation of Augmented Reality Technology in Arabic Language Learning Media." *JIIP - Scientific Journal of Educational Sciences* 6, no. 10 (2023): 7548–56. <https://doi.org/10.54371/jiip.v6i10.2200>.
- Hasanah, Mamluatul, Ahmad Mubaligh, Risna Rianti Sari, Alfiatus Syarofah, Hasyim Amrullah, and Muhammad Yasin Fatchul Barry. "Critical Literacy in Arabic Language Learning: (Implementation of GBA SFL in Improving Critical Reading Ability)." *Arabiyatuna : Arabic Language Journal* 6, no. 2 (2022): 711. <https://doi.org/10.29240/jba.v6i2.4239>.
- Hasfera, Dian, and M Fadli. "The Use of Color in Interior Design." *Ristekdik* 4, no. 2 (2019): 101. <http://jurnal.um-tapsel.ac.id/index.php/Ristekdik/article/view/897>.
- Hasibuan, Zainal Arifin, and Ketut Agustini. "Senapati National Seminar on Informatics Engineering Education." *Jl. Udayana Central Campus*, no. 0362 (2017): 27213. <http://pti.undiksha.ac.id/senapatiii%0Ahttp://pti.undiksha.ac.id/senapatii>.
- Huda, Nurul. "Curriculum Development Management." *Al-Tanzim : Journal of Islamic Education Management* 1, no. 2 (2017): 52–75. <https://doi.org/10.33650/al-tanzim.v1i2.113>.
- Hughson, Taylor A., and Bronwyn E. Wood. "The OECD Learning Compass 2030 and the Future of Disciplinary Learning: A Bernsteinian Critique." *Journal of Education Policy* 37, no. 4 (2022): 634–54. <https://doi.org/10.1080/02680939.2020.1865573>.
- Husin, Hisana Zahran Dhia, and Luthfia Khoiriyatunnisa. "Using the Instagram Platform as an Arabic Language Learning Media for Beginners." *National Arabic Language Conference (KONASBARA) VII*, 2021, 543–54. <https://jurnal.umj.ac.id/index.php/SAMASTA/article/view/7146>.
- Ismail, Mohamad Helmi, Leli Halimah, Ayu Hopiani, and Muh. Asriadi AM. "Strengthening the Competency of PAUD Teachers in Pangandaran Regency in the Implementation of Freedom to Play Through Loose Parts Media." *Bina Darma Community Service Journal* 3, no. 3 (2023): 223–32. <https://doi.org/10.33557/pengabdian.v3i3.2658>.
- Jaafar, Mohd Nazmi bin, and Nik Mohd Rahimi Nik Yusoff. "Experimental Study of The Effectiveness of Gamification Module for Arabic Language in Primary School." *International Journal of Academic Research in Business and Social Sciences* 12, no. 6 (2022): 2102–17. <https://doi.org/10.6007/ijarbss/v12-i6/14220>.
- Karami, Vika Elvira, Ud'uni Yulita Rachmayanti, and Izzatur Rif'ah. "Use of Audio Visual Based Applications (YouTube and TikTok) as Arabic Language Learning Media." *National Student Arabic Seminar V 2021* 5 (2021): 378–88. <http://prosiding.arab->

- um.com/index.php/semnasbama/article/view/810.
- Lidianti, Deni, Pacu Putra, Nabila Rizky Oktadini, Allsela Meiriza, and Putri Eka Sevtiyuni. "Use of Augmented Reality Technology in Learning Hijaiyah Letters and Makhoriul Letters." *TeIKA* 12, no. 02 (2022): 67–76. <https://doi.org/10.36342/teika.v12i02.2941>.
- Nurdin, Nurdin. "Application of Innovative and Creative Learning Concepts Through Edutainment-Based Learning in Learning at PAUD." *Murhum : Journal of Early Childhood Education*, no. 1 (2021): 56–67. <https://doi.org/10.37985/murhum.v2i1.32>.
- Putra, Ade Dwi, M Ridho Diontoro Susanto, and Yusra Fernando. "Application of MDLC in Lampung Script Learning Using Augmented Reality Technology." *CHAIN: Journal of Computer Technology* 1, no. 2 (2023): 32–43.
- Rahmasari, Wisdom. "Using YouTube Media as a Media Solution for Arabic Language Learning During the Pandemic." *Mabaraat: Journal of Arabic Language Education* 3, no. 1 (2021): 23–41. <https://doi.org/10.18196/mht.v3i1.11362>.
- Shalikhah, Norma Dewi. "Using the Lectora Inspire Application as an Interactive Learning Media." *Cakrawala: Journal of Islamic Studies* 11, no. 1 (2016): 101–15. <https://doi.org/10.31603/cakrawala.v11i1.105>.
- SM, Mohammad Doni Ferdiansah, and Nuril Lutvi Azizah. "Hijaiyah Learning Media Using Augmented Reality TK Masyitoh 12." *Procedia of Engineering and Life Science* 2, no. 2 (2022). <https://doi.org/10.21070/pels.v2i2.1276>.
- Shah, Imas Jihan. "Learning Arabic as a Foreign Language for Early Childhood." *JCE (Journal of Childhood Education)* 2, no. 1 (2019). <https://doi.org/10.30736/jce.v1i2.14>.
- Syakir, Mukhlis, and Agung Setiyawan. "Learning Arabic for Non-Arabic Speakers Given Age Development (Psycholinguistic Study)." *Proceedings International Conference* 1, no. 1 (2023): 257–67. <https://doi.org/10.14421/IJBER.tahun.volumeno>.
- Syarofah, Alfiatus, Islamic University, Maulana State, Malik Ibrahim, Risna Rianti Sari, Islamic University, Maulana State, and Malik Ibrahim. "تبلطلا بدل وحنلا ميلعت في اهنم ةةالتس لااو بوتوي " يعامتجلا لصاوتل ا ةلي سو صالحا جمنابر لا" ة • 4" no. 01 (2020).
- Tumini, Tumini, and Ahmad Fatoni Romadhon. "Implementation of Augmented Reality for Recognition of Arabic Nouns (Mufrodat) at TPQ An-Nahdliyah At-Taqwa." *Informatics and Digital Expert (INDEX)* 3, no. 2 (2021): 46–54. <https://doi.org/10.36423/index.v3i2.760>.
- Uliyah, Asnul, and Zakiyah Isnawati. "Educative Game Methods in Learning Arabic." *Shaut Al Arabiyyah* 7, no. 1 (2019): 31. <https://doi.org/10.24252/saa.v1i1.9375>.