STUDENTS' EXPERIENCES ON IMPLEMENTATION OF AUGMENTED REALITY MATERIAL IN ISLAMIC BOARDING SCHOOL IN LEARNING VOCABULARY

A Magister thesis

Submitted to fulfill the Requirements for a Master's Degree in English

Educational Study Program (M.Pd)

IAIN PALOPO

Submitted by:

FITRAH AMALIA SOFYAN

2205040011

ENGLISH EDUCATIONAL STUDY PROGRAM

POSTGRADUATE

STATE ISLAMIC INSTITUTE OF PALOPO

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Supervisors:

1. Dr. Masruddin, S.S.,M.Hum.

2. Sukirman, S.Pd.,M.Pd.,Ph.D.

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Fitrah Amalia Sofyan

2205040011

HALAMAN PENGESAHAN

Tesis magister yang berjudul "Students' Experiences on Implementation of Augmented Reality Material in Islamic Boarding School in Learning Vocabulary" yang ditulis oleh "Fitrah Amalia Sofyan" NIM "2205040011", mahasiswa Program Studi Tadris Bahasa Inggris Pascasarjana IAIN Palopo, yang telah dimunaqasyahkan pada hari Rabu, 28 Agustus 2024 bertepatan dengan 23 Safar 1446 H telah diperbaiki sesuai catatan permintaan Tim Penguji dan diterima sebagai syarat meraih gelar magister dalam bidang Ilmu Tadris Bahasa Inggris (M.Pd.)

Palopo, 30 Agustus 2024

TIM PENGUJI

1. Dr. Wisran, S.S.,M.Pd.	Ketua Sidang	(.....)
2. Dewi Furwana, S.Pd.I., M.Pd.	Sekretaris Sidang	(.....)
3. Prof. Dr. H. Rustan S., M.Hum	Penguji I	(.....)
4. Dr. Jufriadi, S.S., M.Pd.	Penguji II	(.....)
5. Dr. Masruddin, S.S., M.Hum.	Pembimbing I	(.....)
6. Sukirman, S.Pd., M.Pd., Ph.D.	Pembimbing II	(.....)

Mengetahui:

Direktur Pascasarjana

Prof. Dr. Muhaemin, M.A.
NIP. 197902032005011006

Ketua Program Studi Tadris Bahasa Inggris

Dr. Wisran, S.S., M.Pd.
NIP. 197206112000031001

ACKNOWLEDGEMENT

All praises to Allah ta ala who has given me mercy and blessing, health, and His grace for me until today. I never forget to thank all the people who have supported me until I can finish my thesis which is entitled “Student Experiences on Implementation of Augmented Reality Material in Islamic Boarding School to Improve Students’ Vocabulary” as my final assignment in Magister Pendidikan degree in the State Islamic institute of Palopo. To finish this thesis, the researcher has received a lot of criticism, advice, and guidance from several individuals and hopefully get many rewards from Allah SWT. therefore, the researcher would like to express the utmost gratitude to:

1. Dr. Abbas Langaji, M.Ag., rector of the State Islamic institute of Palopo for the sacrifices to the institute.
2. Prof. Dr. Muhaimin,M.A., director of the Postgraduate Program of State Islamic institute of Palopo, for the essential policy to faculty
3. Dr. Wisran, S.S.,M.Pd., head of English Language Education study Program
4. Dr. Masruddin,S,S.,M.Hum., and Sukirman, S.Pd.,M.Pd.,Ph.D. researcher’s supervisor for the guidance, advice, and assistance.
5. Mrs. Dewi Furwana, S.Pd.I.,M.Pd., the secretary of English Language Teaching Study Program who have provided facilities, advice and suggestions to researchers in the process in completing this thesis.

6. Prof. Dr. H. Rustan, M.Hum. and Dr. Jufriadi, S.S., M.Pd, the examiners who have provided input as well as corrections for the improvement of this thesis.
7. The families who have always provided endless support and prayers, especially the researcher's beloved parents.
8. The lectures of English Language Teaching Study Program lecturers who have provided very valuable knowledge to researchers.
9. Dearest friends of the 2022 English Language Teaching Study Program who have provided a very valuable friendship memory for researchers.

And last, the researcher would like to thank the parties that have not been mentioned. Although this thesis is still not perfect, the researcher hopes that this research can benefit many people.

Palopo, 28 August 2024

The Researcher

Fitrah Amalia Sofyan

2205040011

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Fitrah Amalia Sofyan, 2024, "Students' Experiences on Implementation of Augmented Reality Material in Islamic Boarding School to Improve Students' Vocabulary". A Magister thesis of English Education Study Postgraduate Program in State Islamic Institute of Palopo Supervised by Masruddin and Sukirman

Augmented reality is developing a lot in the education sector, especially in vocabulary learning. This study explores students' experiences using Augmented Reality (AR) materials in a boarding school to improve their English vocabulary. This research uses a qualitative method with a case study approach. Data was collected through observation and in-depth interviews to understand students' perceptions of using AR in language learning. Using thematic analysis, the researcher found three main themes in the results of the student experience interviews. First, there was an increase in student retention in learning vocabulary because students felt that the interactive and visual features of AR helped them understand and remember new words more quickly, and the availability of pronunciation also helped in learning. Secondly, using AR also creates a more exciting and fun learning atmosphere, which is different from traditional teaching methods, where students feel attracted by the 3D animations displayed and the use of attractive flashcards. However, in addition to having a positive impact, there are challenges in the implementation of AR in *pesantren*, namely the existence of regulations prohibiting students' smartphone use.

Keywords: Augmented Reality, *pesantren*, vocabulary learning

ABSTRAK

Fitrah Amalia Sofyan, 2024, *"Students' Experiences on Implementation of Augmented Reality Material in Islamic Boarding School to Improve Students' Vocabulary"*. thesis Program Studi Tadris Bahasa inggris Program Pascasarjana institut Islam Negeri Palopo. Dibimbing oleh Masruddin dan Sukirman

Penggunaan augmented reality saat ini mulai banyak berkembang bidang pendidikan. terutama dalam pembelajaran kosakata. Penelitian ini bertujuan untuk mengeksplorasi pengalaman siswa dalam menggunakan materi Augmented Reality (AR) di sebuah pesantren untuk meningkatkan kosakata bahasa inggris mereka. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi kasus. Data dikumpulkan melalui observasi, wawancara mendalam, untuk memahami persepsi siswa terhadap penggunaan AR dalam pembelajaran bahasa. Penelitian ini menggunakan Augmented Reality flashcard untuk mengjaarkan kosakata kepada para siswa di pesantren. dengan menggunakan thematic analysis, peneliti menemukan jika terdapat tiga tema utama dalam hasil interview pengalam siswa. yang pertama, adanya peningkatan retensi siswa dalam belajar vocabulary karena Siswa merasa fitur interaktif dan visual AR membantu mereka memahami dan mengingat kata-kata baru dengan lebih mudah serta tersedianya pronunciation yang juga membantu dalam belajar. Kedua, penggunaan AR juga menciptakan suasana belajar yang lebih menarik dan menyenangkan, yang berbeda dari metode pengajaran tradisional dimana para siswa merasa tertarik dengan aminasi 3D yang ditampilkan serta penggunaan flashcard yang menarik. namun, selain memiliki dampak positif juga ditemukan tantangan dalam implementasi AR di pesantren yaitu adanya peraturan yang melarag penggunaan smartphone oleh para santri.

Kata kunci: Augmented Reality, Pesantren, pengajaran kosakata

CHAPTER I

INTRODUCTION

A. Background

English is currently a language that needs to be mastered in the era of globalization, which is increasingly advanced and is breaking down borders between countries. the disappearance of borders between countries makes it possible for people to communicate with foreigners from various countries, and they need a language that can unite people. English plays a role as an international language and also a *lingua franca*. It is supported by data from Statista in 2023 that English is the first most popular language in the world, with 1,456 million speakers both as native speakers and as a second language. As the most popular language in the world, most countries use English as a lesson in school.

Teachers in non-native English-speaking countries have to face many challenges in teaching. one of the things that becomes a challenge in studying English is the need for more vocabulary mastery. Language learners rely heavily on their vocabulary knowledge to master English as it is a prerequisite for learning the four language skills: reading, writing, listening, and speaking.[1] in addition, Vocabulary is also one of the components that will significantly affect learners in

[1] O P Loi et al., "Using Flash Expressions Book as instructional Media to Vocabulary Mastery in Learning English," *Jurnal Pendidikan …*, 2020.

language acquisition.[2] Teachers must consider and fulfill the use of supportive media in teaching language because it can help them deliver material and affect the process of student language acquisition. [3] one way to use supportive media is to rely on and develop existing technology into new learning media that help the teacher in the classroom.

Nowadays, technology plays an integral role in people's lives. Technology can help students and teachers carry out the learning process online or independently.[4] Several technologies and applications have been developed to make it possible for educational purposes, such as Facebook, Wikis, Blogs, Learning Management Massaging, such as Google Classroom and Schoology, Blackboard, iTunes, or Moodle.[5] the development of more advanced technology continues to lead to the creation of various innovations that aim to facilitate human life in multiple fields of life. one of the results of the development of technology today is the existence of Augmented Reality (AR) technology. Augmented reality technology has positively influenced various fields, such as industry, entertainment, medicine, tourism, etc. However, experts state that augmented reality technology will continue to develop, which is still in its early

[2] Perzeus Don Mario Mangindaan, I Nengah Sudipa, and I Nyoman Suparwa, "increasing English Vocabulary Mastery Through Teams Games Tournament Using Word Square of Seventh Grades Students in SMP Frater Don Bosco Tomohon," *international Journal of Research Publications*, 2020, https://doi.org/10.47119/ijrp100591820201398.

[3] Asri Siti Fatimah, Santiana Santiana, And Yuyus Saputra, "Digital Comic: An Innovation Of Using Toondoo As Media Technology For Teaching English Short Story," *English Review: Journal of English Education*, 2019, https://doi.org/10.25134/erjee.v7i2.1526.

[4] Fan Su and Di Zou, "Technology-Enhanced Collaborative Language Learning: theoretical Foundations, Technologies, and Implications," *Computer Assisted Language Learning*, 2022, https://doi.org/10.1080/09588221.2020.1831545.

[5] Loi et al., "Using Flash Expressions Book as instructional Media to Vocabulary Mastery in Learning English."

stages. in the future, AR will become better, cheaper, and more accessible. [6] The development of augmented Reality, which has touched almost all aspects of human life, has also impacted the educational sector and is currently a trend many researchers are developing

Moreover, the use of AR technology in education is supported by significant benefits at various levels of education, [7] as well as in language classes, one of which is English class. Many teachers utilize Augmented Reality-based media to teach English in the classroom, especially vocabulary. Some studies have shown that vocabulary learning using Augmented Reality can provide effective results for kindergarten students in Hong Kong[8] and Macau[9] as well as in Indonesia, where the use of Augmented Reality for language teaching has been studied at the elementary school level,[10] vocational school,[11] and higher education.[12]

[6] Xiuquan Qiao et al., "Web AR: A Promising Future for Mobile Augmented Reality-State of the Art, Challenges, and insights," *Proceedings of the IEEE*, 2019, https://doi.org/10.1109/JPROC.2019.2895105.

[7] Juan Garzón and Juan Acevedo, "Meta-Analysis of the Impact of Augmented Reality on Students' Learning Gains," *Educational Research Review* 27, no. March (2019): 244–60, https://doi.org/10.1016/j.edurev.2019.04.001.

[8] Lap Kei Lee et al., "Improving the Experience of Teaching and Learning Kindergarten-Level English Vocabulary Using Augmented Reality," *international Journal of innovation and Learning* 25, no. 2 (2019): 110–25, https://doi.org/10.1504/IJIL.2019.097661.

[9] Ruo Wei Chen and Kan Kan Chan, "Using Augmented Reality Flashcards to Learn Vocabulary in Early Childhood Education," *Journal of Educational Computing Research* 57, no. 7 (2019): 1812–31, https://doi.org/10.1177/0735633119854028.

[10] Shaumiwaty Shaumiwaty et al., "Implementation of Augmented Reality (AR) as A Teaching Media in English Language Learning in Elementary School," *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 2022, https://doi.org/10.31004/obsesi.v6i6.3398.

[11] Reza Anis Maulidya, *An Augmented Reality (AR) Pocket Dictionary: the Development of English Vocabulary Book for informatics Engineering Students (A Developmental Research At*, 2023.

[12] Tri Wahyuni et al., "Designing AR Based PWIM to Promote Students' English Vocabulary in the Higher Education of indonesia," *Universal Journal of Educational Research*, 2020, https://doi.org/10.13189/ujer.2020.082606.

The use of technology in education is very important, especially the use of audio-visual equipment, recording media, and computers. It emphasizes using hardware, innovative media, and industrial machinery methods for educational purposes. The software aspect of educational technology is also highlighted as helpful in promoting learning and motivation.[13] There have been many studies conducted to see how the development of instructional media integrated with Augmented reality can increase students' proficiency in the field of vocabulary and how augmented reality has multimedia capabilities because of its features that allow interaction with its users and attract attention due to the visualization of the information produced.[14]

In Indonesia, *Pesantren*is is one of the educational institutions that teaches and uses English. Teachers may need help teaching English in *Pesantren,* where the students focus more on learning Islamic teachings than general knowledge. They are unmotivated to learn English because it is not their native language and provides only limited purposes. Therefore, teachers' ability to utilize various teaching strategies is very important. Another aspect that causes students to have low motivation to study English is that most teachers still use an old method and-centered approach to teaching English in their classes.[15]

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[13] Shveta A. Joshi, "Peer-Reviewed, Multidisciplinary & Multilingual Journal Technology in Education Shveta A Joshi" 2, no. 2 (2023): 3–5, http://vidyajournal.org.

[14] Fatimah, Santiana, and Saputra, "Digital Comic: An innovation Of Using Toondoo As Media Technology For Teaching English Short Story."

[15] Umar Umar, "English Language Teaching in Pesantren in indonesia: Development and Challenges," *Journal of English Language and Literature (JELL)*, 2022, https://doi.org/10.37110/jell.v7i1.143.

Due to traditional teaching methods, it is necessary to implement learning materials using new and more modern ways to current technological developments. one technology that can be used is Augmented Reality, where material delivered initially using traditional methods can be poured into Augmented Reality. Most previous studies only discuss the use and design of augmented reality-based learning media for public schools, and limited literature has discussed using Augmented reality to teach vocabulary in *Pesantren.*

Depending on the particular situation, *Pesantren* has a different curriculum. Certain schools' curriculum and learning systems highly value teaching morality, self-reliance, and reading classical books.[16] To prepare students for life after school, some institutions concentrate on digitizing the educational process and using technology for administrative and instructional purposes.[17] These schools often use online learning tools, including Zoom, YouTube, Google Classroom, and Google Meetings. the Salafi worldview, which emphasizes religious behaviour based on the Qur'an, the Sunnah of the Prophet, and the customs of previous righteous generations, is also practiced in some *Pesantren.*[18] Based on these problems, this study aims to find out how boarding school students experience using Augmented Reality (AR) technology in learning English vocabulary.

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[16] h. Ali Anwar And Maman Maman, "Kurikulum dan Sistem Pembelajaran di Pondok Pesantren Salaf," *Jurnal Ilmiah Global Education*, 2023, https://doi.org/10.55681/jige.v4i2.655.

[17] Ah. Shidiq and Moh. Ufuqul Mubin, "Modernization of Boarding Boards through Digitalization of the Education System in Pensantren," *EDU-RELIGIA : Jurnal Keagamaan Dan Pembelajarannya*, 2022, https://doi.org/10.52166/edu-religia.v5i2.3399.

[18] Fitri Meliani, Hasan Basri, and Andewi Suhartini, "Learning System in Salafi Manhaj Boarding School," *Munaddhomah: Jurnal Manajemen Pendidikan Islam*, 2023, https://doi.org/10.31538/munaddhomah.v4i2.300.

B. Research Question

From the background that has been described, the researcher also took the following research question: How are the students' experiences with Augmented Reality Materials in English learning?

C. Research Objectives

The objective of this research is to explore the students of Islamic Boarding schools' experiences using Augmented Reality Material in learning English vocabulary

D. Significance of the Research

Theoretically, this research will be conducted because few studies have discussed the use of augmented reality-based materials in *Pesantren.* therefore, this research is expected to add to the literature on the use of Augmented Reality in Indonesia, especially in *Pesantren.*

As for the practical aspect, this research will contribute as follows:

1. First, it will introduce and implement augmented reality technology in *Pesantren.*
2. Second, explore students' experience in using Augmented reality material in studying English, especially in learning vocabulary.

3. Third, this research is expected to be a reference and help future research, especially the research related to students' experiences in using Augmented Reality.

E. Scope and Delimitation

This research focuses on the experiences of *pesantren* students in using augmented reality technology in learning English vocabulary. the vocabulary given is basic vocabulary related to the theme of occupation.

CHAPTER II

LITERATURE REVIEW

A. Previous Related Studies

in an educational context, AR (Augmented Reality) has been used as a complement in a pre-established and standard planification, generally based on a traditional methodology[19] by implementing text, 3D graphics, video, and audio that can be overlaid on the learner's environment in real-time.

Based on some previous literature that has discussed the use of augmented reality in teaching English, several types of research have become the trend of discussion by researchers, including the development of augmented reality applications, experiments on the use of AR for language learning, and research that focuses on students' perspectives on the use of AR in learning languages.[20] AR (augmented reality) in classrooms for educational purposes is already a reality. Its effects on the motivation and performance of students at different academic levels have been widely documented.[21]

With the entry of AR into the world of education, much research has been done to see its impact, capabilities, and drawbacks. Horizon Report, an annual report covering the latest trends and emerging technologies in education,

[19] Juan Garzón, "An Overview of Twenty-Five Years of Augmented Reality in Education," *Multimodal Technologies and interaction* 5, no. 7 (2021), https://doi.org/10.3390/mti5070037.

[20] Cemil Gökhan Karacan and Kemal Akoğlu, "Educational Augmented Reality Technology for Language Learning and Teaching: A Comprehensive Review," *Shanlax international Journal of Education* 9, no. 2 (2021): 68–79, https://doi.org/10.34293/education.v9i2.3715.

[21] Hsin Kai Wu et al., "Current Status, Opportunities and Challenges of Augmented Reality in Education," *Computers and Education* 62 (2013): 41–49, https://doi.org/10.1016/j.compedu.2012.10.024.

highlights that VR, AR, XR, and MR technologies are now part of education.[22] AR has been widely studied in research studies and has several benefits in education and Language learning ranges from motivation,[23] academic success,[24] retention,[25] enjoyment,[26] and collaboration.[27] AR has several features and affordances that make it suitable for educational purposes. AR can enable learning content from 3D perspectives, ubiquitous, collaborative, situated learning, learners' senses of presence, immediacy, and immersion, visualizing the invisible, and bridging formal and informal learning.

Previous studies on AR use in language teaching have been conducted in several aspects. the study conducted by Costuchen, Darling, and Uytman investigated the effect of a combination of AR and visuospatial bootstrapping on second-language learners' vocabulary retention.[28] The study by Lee and Park investigated the impact of AR scenes created by students on language learning

[22] Malcom Brown et al., "EDUCAUSE Horizon Report. Teaching and Learning Edition," *EDUCAUSE Horizon Report Review*, 2020.

[23] Ayse Taskiran, "the Effect of Augmented Reality Games on English as Foreign Language Motivation," *E-Learning and Digital Media* 16, no. 2 (2019): 122–35, https://doi.org/10.1177/2042753018817541.

[24] Fatma Büşra Azi and Şemseddin Gündüz, "Effects of Augmented Reality Applications on Academic Success and Course Attitudes in Social Studies," *Shanlax international Journal of Education*, 2020, https://doi.org/10.34293/education.v8i4.3300.

[25] Meng Chun Lam, Mohamed Jafar Sadik, and Nur Fazidah Elias, "the Effect of Paper-Based Manual and Stereoscopic-Based Mobile Augmented Reality Systems on Knowledge Retention," *Virtual Reality*, 2021, https://doi.org/10.1007/s10055-020-00451-9.

[26] Juan J. Arino et al., "A Comparative Study Using an Autostereoscopic Display with Augmented and Virtual Reality," *Behaviour and information Technology*, 2014, https://doi.org/10.1080/0144929X.2013.815277.

[27] Denise M. Bressler, Julie Oltman, and Farah L. Vallera, "inside, Outside, and Off-Site: Social Constructivism in Mobile Games," *Handbook of Research on Mobile Technology, Constructivism, and Meaningful Learning*, 2018.

[28] Alexia Larchen Costuchen, Stephen Darling, and Clare Uytman, "Augmented Reality and Visuospatial Bootstrapping for Second-Language Vocabulary Recall," *innovation in Language Learning and Teaching*, 2021, https://doi.org/10.1080/17501229.2020.1806848.

outcomes.[29] On the other hand, Lin, Liu, and Chen investigated the effects of an AR-enhanced writing app on English learners' writing instruction in their study published in the CALL Journal.[30] Another study conducted by Wen focused on learners' cognitive engagement in the environment, which was contributed by AR-enhanced classroom-based collaborative learning activities.[31]

From previous research, research needs to discuss the use of Augmented Reality in language teaching in *Pesantren.* This study will explore students' *Pesantren* (Islamic Boarding School) experiences using Augmented Reality in learning vocabulary.

B. Some Pertinent Ideas

1. Students' Experience

The student learning experience in the classroom is a dynamic journey where each individual experiences a unique learning process. The teacher's teaching style, peer interaction, subject matter, and classroom environment significantly influence how students absorb information and develop understanding. Students can feel motivated and actively engaged in a conducive classroom environment and achieve optimal learning potential.

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[29] Sangmin Michelle Lee and Moonyoung Park, "Reconceptualization of the Context in Language Learning with a Location-Based AR App," *Computer Assisted Language Learning*, 2020, https://doi.org/10.1080/09588221.2019.1602545.

[30] Vivien Lin, Gi Zen Liu, and Nian Shing Chen, "the Effects of an Augmented-Reality Ubiquitous Writing Application: A Comparative Pilot Project for Enhancing EFL Writing instruction," *Computer Assisted Language Learning*, 2022, https://doi.org/10.1080/09588221.2020.1770291.

[31] Yun Wen, "Augmented Reality Enhanced Cognitive Engagement: Designing Classroom-Based Collaborative Learning Activities for Young Language Learners," *Educational Technology Research and Development*, 2021, https://doi.org/10.1007/s11423-020-09893-z.

Students' experiences in the learning process play an essential role in their academic success and development. Experiential learning theories highlight the importance of personal experiences in shaping learning outcomes.[32] Students' experiences in learning include their approaches, emotions, online learning, and problem-based contexts. Various factors can influence students' learning processes like technological availability, social media ties, self-efficacy, and knowledge-sharing behaviour.[33]

The use of technology in education has undergone rapid development in recent decades. Technology provides tools to facilitate teaching and changes how students learn and interact with subject matter. With the implementation of technologies such as computers, tablets, and educational apps, students can access a broader and more diverse range of information and learning resources. these technologies enable more flexible and customisable learning to students' individual needs, increasing their engagement and motivation in the learning process.[34]

Social interactions within the classroom also play an essential role in shaping students' learning experiences. Through group discussions, presentations, and teamwork, students can learn from each other, share ideas, and develop social skills. in addition, good relationships between students and teachers create a

[32] Filduza Prušević Sadović, Hana Hodžić, and Ajdina Župić, "the Role of Experience in Learning," *Društvene i Humanističke Studije (online)*, 2023, https://doi.org/10.51558/2490-3647.2023.8.1.281.

[33] Sutharsini Jesuthasan, N. Umakanth, and Sabina Dineshkumar, "Role of Knowledge Sharing and Learning Process of Students," *Journal of Business Studies*, 2022, https://doi.org/10.4038/jbs.v8i1.76.

[34] Marko Teräs, "Education and Technology: Key Issues and Debates," *international Review of Education*, 2022, https://doi.org/10.1007/s11159-022-09971-9.

positive and supportive classroom atmosphere, so students feel more comfortable asking questions, participating, and taking risks in learning.

However, not all students have the same learning experience in the classroom. Differences in backgrounds, learning styles, and interests can affect how they respond to learning. Some students may prefer visual learning, while others prefer auditory learning. in addition, external factors such as family problems, health conditions, or academic pressure can also affect students' motivation and concentration in learning.

2. Islamic Boarding School

a. *Pesantren* in Indonesia

Separated from the *Wali Sembilan* or *Wali Songo* role as the driving force for the spread of Islam in Java and even several regions in Indonesia. Indonesia's first *Pesantren* (Islamic boarding school) was the Sidogiri Islamic Boarding School, founded in 1718.[35] This boarding school was founded by Sayyid Sulaiman, whom Kiai Aminullah assisted. Before establishing this boarding school in 1960, *Pesantren* was known as Pondok. the term *Pondok* comes from the meaning of the *Santri's* dormitory or a place to live made of bamboo. Pondok comes from the Arabic word *funduq*, which means hotel or hostel. Meanwhile, the word *Pesantren* comes from the word *santri* (students), which has the prefix ‘pe’

[35] Farahdilla Kutsiyah, “Social Capital and Its Transformations in Sidogiri Islamic Boarding School,” *KARSA: Journal of Social and Islamic Culture*, 2020, https://doi.org/10.19105/karsa.v28i1.3058.

in front, and the suffix ‘an’ means the residence of the *santri*.[36] According to several studies, the establishment of Islamic boarding schools on the island of Java cannot play an essential role in spreading Islam in Indonesia through education.

Ihe development of *Pesantren* in Indonesia during the *Wali Songo* era was very progressive, but this changed after the Dutch colonization of Indonesia. the Dutch government issued a political education policy in the form of the Wild School Ordinance or Wild School Ordinance, severely limiting the space for *Pesantren* to move. the existence of a ban on the establishment of *Pesantren* was due to Dutch concerns that teaching the yellow book could foster resistance from students and Muslims. Things like this ultimately caused the growth and development of Islam to slow down.[37]

Currently, there are different types of *Pesantren* in Indonesia. the first is the traditional *Pesantren,* which still maintains its original form by teaching books written by 15th-century scholars in Arabic. the teaching pattern applies the halaqah system, where a teacher or kyai (Islamic Scholar) conveys his knowledge to the students around him, usually done in a mosque. the core of this *halaqah* teaching system is memorization, which, in terms of methodology, tends to create students who receive and possess knowledge. This methodology tends to create santri who receive and possess knowledge. This means that knowledge does not develop. This means that knowledge only develops towards the completeness of

[36] Muhammad Syaifudin, Et. al., “Pondok Pesantren: Its Contributions on the indonesian Muslim Middle Class,” *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 2021, https://doi.org/10.17762/turcomat.v12i2.929.

[37] S U Hasanah, R W Ningsih, and ..., “History of the Establishment Islamic Boarding Schools in indonesia,” *Pesantren …*, no. 1 (2023), https://doi.org/10.58330/pr.v1i1.101.

the knowledge but is limited to what is given by the *kyai*. the *kyai* fully determines the curriculum.

Second, Modern *Pesantren* (khalaf). This *Pesantren* is a development of the traditional type of *Pesantren* because its learning orientation tends to adopt the classical learning system and abandon the traditional one. the application of this modern learning system is mainly seen in the use of classrooms in the form of *madrasahs* or schools. the curriculum used is the national curriculum. *Kyai's* position is as the coordinator of the learning process and as a teacher in the classroom. the difference between schools and *madrasahs* is that the portion of Islamic education and Arabic language is more prominent as part of the curriculum.[38]

At the beginning of the establishment of the *Pesantren*, they only taught religious subjects, such as the Qur'an, Sufism, Monotheism, *Fiqh*, and language. However, Islamic boarding schools continue to innovate by developing infrastructure and curriculum over time. Islamic boarding schools now offer broader subjects than just religious education. these schools include scouting, martial arts, and entrepreneurship courses. Students are expected to have a good understanding of religion and general knowledge to face societal challenges. Islamic boarding schools have a long history of integrating themselves into the lives of their students. This integration makes Islamic boarding schools highly

[38] Muhammad Syaifudin, Et. al., "Pondok Pesantren: Its Contributions on the indonesian Muslim Middle Class," *Turkish Journal of Computer and Mathematics Education (TURCOMAT)* 12, no. 2 (2021): 723–28, https://doi.org/10.17762/turcomat.v12i2.929.

accepted in society. Even the position of Islamic boarding schools in society is often respected.[39]

b. Language Teaching in Boarding Schools

Many *Pesantren* in indonesia have taught foreign languages, and some even require their students to master languages such as Arabic and English. As evidence, many *Pesantren* are now carrying out Language Days in each *Pesantren*, not only in Arabic but also in English. Language teaching in pesantren schools in indonesia presents a unique blend of challenges and opportunities, especially in the context of English language instruction. *Pesantren* is known for its religious and cultural significance and has increasingly incorporated English into its curriculum to align with national educational policies emphasizing English proficiency.[40]

Language teaching in pesantren has a very important role in shaping santri's communication skills, both in Arabic which is used in religious studies and English which is an international language. in many *pesantren*, Arabic is taught intensively as it is the main language of Islamic literature. This learning often involves memorisation of classical texts, grammar, and vocabulary, as well as speaking practice guided by competent teachers. This teaching not only aims to understand religious texts, but also to train students to be able to communicate well in religious and academic contexts.

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[39] Irwan Fathurrochman et al., "Revitalization Management Of Islamic Boarding School Preventing the Radicalism," *Restaurant Business*, 2019, https://doi.org/10.26643/rb.v118i10.9462.

[40] Fadhlur Rahman, Ali Al-Nahdi, and Zurriyati Zurriyati, "the (in) Famous English Language Policy in Pesantren: What We Already Know and What Remains Unknown," *Idarah (Jurnal Pendidikan Dan Kependidikan)*, 2023, https://doi.org/10.47766/idarah.v7i2.821.

During English Language Teaching (ELT) activities in *Pesantren*, many stakeholders are involved in creating a conducive situation that is measured and set up to reach the maximum output of the educational process. Teachers and students are the main actors in determining among these stakeholders, although other stakeholders may also be taking part and becoming influential. Teacher and students have their perspectives on the running process of learning, environment, and instruments. Students must have personal motivation, which determines their perspective and learning behaviour.[41]

Teaching English in p*esantren* often faces unique challenges. in addition to limited resources, such as competent teachers and varied teaching materials, there is also a perception that mastering foreign languages is less prioritized than religious knowledge. This impacts students' learning motivation and the diversity of teaching methods that can be applied. However, with innovation and creativity, these challenges can be overcome to improve the quality of English language learning in the *pesantren* environment.

Pesantren has great potential in developing their students' English language skills. With disciplined values, a high learning spirit, and a conducive environment for learning, pesantren can be an ideal place for foreign language learning. in addition, integrating religious values with English learning can provide more profound meaning for students and motivate them to study harder.

[41] Umar, "English Language Teaching in Pesantren in indonesia: Development And Challenges."

3. Augmented Reality

a. Definition of Augmented Reality

Augmented reality is a technology that can directly display a real environment or physical object in real-time and add perceptual information from the computer. [42] According to Altinpulluk and Kesim, augmented reality (AR) is a technology strategy that supports the actual world with 3D virtual items and improves user perception, allowing the real and the virtual to be seen in the exact location.[43]

The development of augmented reality (AR) has evolved over the past 25 years, with three generations of AR technology identified. the first generation (1990-2010) was characterized by hardware-based AR, which required expensive and complex equipment. the second generation (2010-2019) focused on application-based AR, which significantly increased the popularity of AR in education as it reduced costs and improved usability. the third generation (2020 onwards) evolves through two different scenarios: smartglasses and WebAR, enriched by AI, with the promise of turning AR into a mature technology to complement each educational context.

Smartglasses include advantages over other technologies, such as activation and control by voice commands, non-invasive display devices, no need for touchscreens, and others. WebAR provides pervasiveness to AR as it does not

[42] Julie Carmigniani and Borko Furht, "Augmented Reality: An Overview," in *Handbook of Augmented Reality*, 2011, https://doi.org/10.1007/978-1-4614-0064-6_1.

[43] Hakan Altinpulluk and Mehmet Kesim, "the Classification of Augmented Reality Books: a Literature Review," in *INTED2016 Proceedings*, 2016, https://doi.org/10.21125/inted.2016.0200.

require users to download or acquire specific applications or hardware, which makes it the least demanding way of executing AR.[44]

b. Augmented Reality in Education

Augmented reality (AR) is a technology that combines virtual elements with the real world, providing a richer and more immersive interactive experience for users. in recent years, AR has become a valuable tool in various fields, including education. the use of AR in education offers great potential to enhance learning and student engagement in innovative and engaging ways.

One of the main advantages of using AR in education is its ability to increase student engagement. AR allows students to interact with the subject matter directly and visually. For example, in science lessons, students can view 3D models of human organs or complex molecular structures, making it easier to understand abstract concepts that are difficult to grasp through text and images alone.[45] AR also allows learning to be more interactive and immersive. in history lessons, for example, AR can take students back in time by reconstructing historical buildings or important events. This not only makes learning more interesting but also helps students remember information better as they experience the subject matter themselves.

AR can also improve accessibility and personalisation in education. Students with special needs can use AR to get learning materials tailored to their

[44] Qiao et al., "Web AR: A Promising Future for Mobile Augmented Reality-State of the Art, Challenges, and insights."

[45] Mark Billinghurst and Andreas Dünser, "Augmented Reality in the Classroom," *Computer*, 2012, https://doi.org/10.1109/MC.2012.111.

needs. for example, students with hearing impairments can utilise text that appears on the screen when listening to lessons, while students with visual impairments can utilise audio and haptic feedback to experience the subject matter.[46] AR also enables the personalization of learning materials to be tailored to each student's learning ability and pace, giving them a better chance of understanding and absorbing the subject matter effectively. Through deeper interaction and engagement, AR helps overcome the barriers often faced by students with disabilities, creating a more inclusive and supportive learning environment.

AR technology also encourages collaboration and social learning. AR apps are often designed for groups, allowing students to work together to complete tasks or solve problems. AR can develop social skills and the ability to work in teams, which are essential in the modern world of work.[47] for example, in geography lessons, students can use AR apps to explore world maps together, view additional information about different countries, and discuss their findings in real-time. AR enhances students' understanding of the subject matter and develops social skills and teamwork abilities, which are essential in the modern world of work.

Augmented Reality (AR) is rapidly emerging as a transformative educational tool, offering interactive and immersive learning experiences that traditional methods often lack. AR enhances the educational process by

[46] María M. Montoya-Rodríguez et al., "Virtual Reality and Augmented Reality as Strategies for Teaching Social Skills to individuals with intellectual Disability: A Systematic Review," *Journal of intellectual Disabilities*, 2023, https://doi.org/10.1177/17446295221089147.

[47] Matt Dunleavy, Chris Dede, and Rebecca Mitchell, "Affordances and Limitations of Immersive Participatory Augmented Reality Simulations for Teaching and Learning," *Journal of Science Education and Technology*, 2009, https://doi.org/10.1007/s10956-008-9119-1.

overlaying digital information onto the physical world, providing students with a more engaging and dynamic learning environment. AR can significantly increase students' motivation and participation by making learning more interactive and visually stimulating.[48] This immersive approach helps bridge the gap between theoretical knowledge and practical application, facilitating a deeper understanding of complex concepts.

One of the critical benefits of AR in education is its ability to create interactive and experiential learning opportunities that cater to various learning styles. for instance, AR can simulate real-world scenarios, enabling students to explore and interact with content more physically. AR applications can improve student learning outcomes by providing visual and spatial representations of abstract concepts, which is particularly beneficial for visual and kinesthetic learners. This hands-on approach allows students to engage with the material actively rather than passively, enhancing their comprehension and retention.

c. Augmented Reality in Language Teaching

The use of Augmented Reality (AR) for language learning offers innovations that can increase the effectiveness and engagement of students in the learning process. AR allows integration between the real world and virtual elements, creating a more interactive and enjoyable learning experience. In the context of language learning, AR can be used to display 3D objects, animations

[48] Nikolaos Pellas et al., "Augmenting the Learning Experience in Primary and Secondary School Education: A Systematic Review of Recent Trends in Augmented Reality Game-Based Learning," *Virtual Reality*, 2019, https://doi.org/10.1007/s10055-018-0347-2.

and additional information that help students understand vocabulary, grammar, speaking, improving reading comprehension, critical thinking, and imagination.[49]

AR can provide an environment that allows students to practice listening and speaking skills more effectively. Through AR applications, students can interact with virtual characters speaking the target language, providing authentic listening practice and the opportunity to practise speaking with immediate feedback. Research shows that the use of AR can significantly improve students' speaking and listening skills as they can practice in a realistic and immersive context.

Particularly in educational contexts, augmented reality (AR) technology has demonstrated encouraging outcomes in enhancing speaking and listening abilities. Studies have indicated that augmented reality (AR) can help students become more proficient speakers, boost their level of engagement, and support student-centered learning.[50] Furthermore, the use of augmented reality (AR) for speech recognition in hearing-impaired people has been investigated, with an emphasis on accurate transcription in real-time for contexts involving localized terminology, like lectures and meetings.[51] incorporating augmented reality (AR) with wearables is also advantageous for teaching English at universities since it

[49] Nor Sanak Mohd Nabil, Hasniza Nordin, and Faizahani Ab Rahman, "Immersive Language Learning: Evaluating Augmented Reality Filter for ESL Speaking Fluency Teaching," *Journal of Research in innovative Teaching and Learning*, 2024, https://doi.org/10.1108/JRIT-04-2024-0111.

[50] Syaiful Islam and Chusnul Muali, "To Boost Students Speaking Skill through Mobile Augmented Reality," *international Journal of English Education and Linguistics (IJoEEL)*, 2024, https://doi.org/10.33650/ijoeel.v5i2.6756.

[51] Neethu Chikyal et al., "Augmented Reality for Realtime Speech Recognition," *international Journal of Advanced Research in Science, Communication and Technology*, 2023, https://doi.org/10.48175/ijarsct-11601.

allows for the use of cutting-edge AR-powered tools to enhance students' speaking and listening abilities.[52] Teachers may create immersive learning experiences that encourage emotional engagement, cognitive processing, and total student involvement in the learning process by implementing AR into their teaching practices.

4. Vocabulary Learning

There are many definitions of vocabulary; in the Cambridge dictionary, vocabulary is defined as "all the words known and used by a particular person" or "all the words that exist in a particular language or subject." According to Alqahtani, vocabulary is the number of words needed to communicate ideas and express the speaker's meaning.[53] Richard defines vocabulary as the core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write. on the other hand, Harmer defines vocabulary as a component of a language that stores all of the information about the meaning and usage of a word.[54] This means that vocabulary is a necessary component of language; without it, the language would be unable to retain all the information.

Learning a language with words is almost only possible even communication between human beings is based on words. Both teachers and

[52] Na Li, "Research on Augmented Reality College English Listening and Speaking Teaching Mode Supported by Wearable Technology," *Mobile information Systems*, 2022, https://doi.org/10.1155/2022/2760131.

[53] Mofareh Alqahtani, "the Importance of Vocabulary in Language Learning and How to Be Taught," *international Journal of Teaching and Education*, 2015, https://doi.org/10.20472/te.2015.3.3.002.

[54] J. Harmer, "How to Teach English (Second Edition)," *ELT Journal*, 2007, https://doi.org/10.1093/elt/ccn029.

students agree that vocabulary acquisition is central to language teaching. Walters states that vocabulary acquisition is a central factor in language teaching.[55] Teaching vocabulary is one of the most discussed parts of teaching English as a foreign language. When the teaching and learning process takes place, problems will appear for the teachers.[56] The teacher should prepare and determine the appropriate techniques for the students to implement in vocabulary learning. A good teacher should prepare themself with various up-to-date techniques. [57]

Ample vocabulary influences students' listening, speaking, reading, and writing abilities. in the traditional class, students felt bored reciting word by word every day, [58] and teacher domination made them more bored to learn vocabulary. In addition to general educational benefits and language skills improvement, AR's impact on vocabulary learning has been extensively researched and well-documented in the literature.[59] AR is mentioned as a powerful tool for "increasing language learners' vocabulary size" owing to its multimedia presentation. In experimental studies, groups of adult learners using AR for vocabulary learning were found to show excellent academic performance and better retention of

[55] Hanan Dhia Alsalihi, "Posters in Vocabulary Learning," *Arab World English Journal*, 2020, https://doi.org/10.24093/awej/elt2.2.

[56] Fatma Gülengül Birinci and Arif Sariçoban, "the Effectiveness of Visual Materials in Teaching Vocabulary to Deaf Students of EFL," *Journal of Language and Linguistic Studies*, 2021, https://doi.org/10.52462/jlls.43.

[57] Prashneel Ravisan Goundar, "Vocabulary Learning Strategies (VLSs) Employed by Learners of English as a Foreign Language (EFL)," *English Language Teaching*, 2019, https://doi.org/10.5539/elt.v12n5p177.

[58] Chin-Huang Daniel Liao, Chang Tin-Chang, and Wen-Chi Vivian Wu, "The Learning Outcome of Using Augmented Reality instruction to Enhance Students' English Vocabulary Learning in the EFL Elementary School," *English Language Teaching Methodology*, 2023, https://doi.org/10.56983/eltm.v3i1.921.

[59] Adam Ibrahim et al., "ARbis Pictus: A Study of Vocabulary Learning with Augmented Reality," *IEEE Transactions on Visualization and Computer Graphics* 24, no. 11 (2018): 2867–74, https://doi.org/10.1109/TVCG.2018.2868568.

words. Likewise, research on the use of AR was conducted on children, whose results are higher than those of teaching vocabulary with traditional methods.[60] Many ways have been developed to teach vocabulary with the help of AR technology, one of which is by combining AR technology and AI (Artificial intelligence) called StemUp.

C. CONCEPTUAL FRAMEWORK

Using technology in language learning, especially in teaching vocabulary, is one of the steps teachers can take to create an interactive, innovative learning process and maximize results. therefore, the researcher uses augmented reality (AR) as a language-learning technology in *Pesantren.*

[60] Cheng Chang Tsai, "the Effects of Augmented Reality to Motivation and Performance in EFL Vocabulary Learning," *international Journal of instruction* 13, no. 4 (2020): 987–1000, https://doi.org/10.29333/iji.2020.13460a.

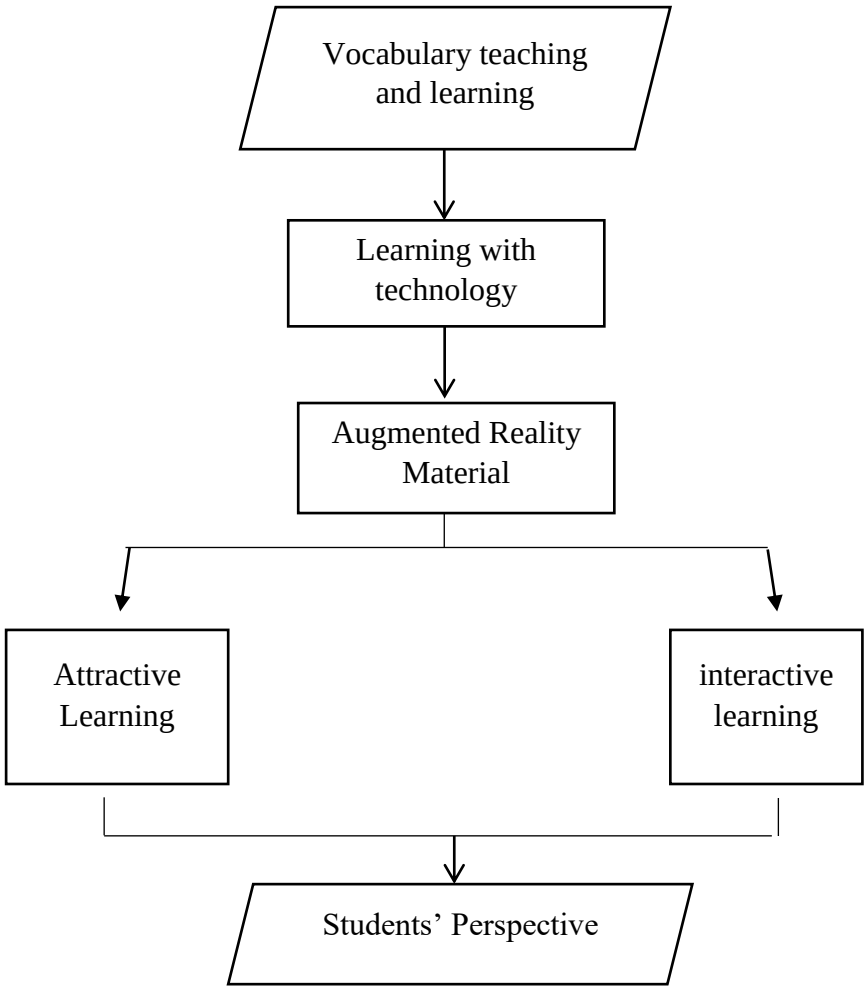

Figure 2.1. Conceptual Framework

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

Qualitative research was a type of research that aimed to understand the phenomena experienced by research subjects, such as behavior, perceptions, motivations, actions, etc., thoroughly and descriptively in the form of words and language in a natural context, using various methods. Qualitative approaches aimed to offer a comprehensive knowledge of human behaviour and social context. Denzin and Lincoln (2018) defined qualitative research as a method that focused on the substance and character of the human experience and how people interpreted their surroundings. This study focused on in-depth explanations and analyses of particular phenomena rather than attempting to generate statistically significant findings.[61]

The research design used in this research was a case study. A case study was a qualitative research technique in which researchers conducted a more thorough analysis of a program, event, activity, process, or one or more individuals. Due to the instances' temporal and operational constraints, the researcher had to collect comprehensive data across time by employing a range of data-gathering techniques.[62] Case studies were used to provide a thorough

[61] Norman k Denzin and Yvonna S. Licoln, *the Sage Handbook of Qualitative Research (Fifth Edition), Synthese*, 2018.

[62] John W. Creswell, *Research Design : Pendekatan Metode Kualitatif, Kuantitatif Dan Campuran. Edisi Keempat (Cetakan Kesatu). Yogyakarta : Pustaka Pelajar*, *Angewandte Chemie international Edition, 6(11), 951–952.*, 2016.

explanation of various aspects of a person, group, organization, program, or community situation under study to study as deeply as possible. Case studies also had meanings associated with detailed research on a person or a social unit over some time.

B. Subject of the Research

The subjects in this study are the students at the Pesantren Modern Datok Sulaiman. In this study, the students who participated in this interview were 6 (six) female students from Islamic Boarding School aged between 12 and 17 years old. They were interviewed regarding their experience using augmented reality to learn English vocabulary. The selection of respondents was carried out by random sampling using several criteria. First, the respondents were students of *pesantren* students, and second, they attended vocabulary lessons organized by the *pesantren.*

Table 3.1. Respondent Identity

Respondent	Gender	Class
P1	F	XII Grade
P2	F	XII Grade
P3	F	XII Grade
P4	F	XII Grade
P5	F	VII Grade
P6	F	VII Grade

C. Type of Data

This research was qualitative, and the data came from interviews conducted with students regarding their experience of using augmented reality media to learn English vocabulary. In addition, the data came from the observations made by researchers on the English language learning process in Pesantren and the supporting facilities available for the teaching and learning process. The results of these interviews and observations were processed by the researcher and presented as research findings

E. Research instruments

For qualitative instruments, the researcher used observation sheets and interview guides.

1. The Observation Sheet

the observation sheet is used to collect information about the potential use of augmented reality in the teaching and learning process, supporting facilities and infrastructure in *pesantren*, student learning environment, and policies enforced in *pesantren*, which affect the teaching and learning process.

2. The interview Protocol

The interview protocol was used to explore students' experience in using augmented reality technology in the learning process, whether they feel the use of this technology is effective in improving their vocabulary, and the effect of AR on their enthusiasm and motivation to learn. The interview guideline is used as a

benchmark and reference to provide questions to collect data on how students' experience using Augmented Reality in learning. The interview protocol consists of 10 questions that cover the learning of English vocabulary in *pesantren* and the students' experience after learning vocabulary using Augmented Reality.

F. Data Collecting

Collecting data is how the researcher takes the data or information from data sources or informants. Research instruments are essential and strategic tools in overall research activities because they provide the data needed to answer the formulation of research problems research instruments. The researcher in this study used an interview guide and observation sheet to collect data.

1. Observation

Observation is a data collection technique conducted by careful research and systematic documentation. Observation activities are directed at activities to pay attention accurately, record emerging phenomena, and consider the relationship between aspects of an existing phenomenon. This research uses a type of systematic observation where this observation is carried out in a controlled manner and adjusted to the research objectives.[63] Observations were carried out to obtain data on how the student learning process at Pesantren Modern Datok Sulaiman, see the potential for using AR technology as a learning medium, and how the use of augmented reality in learning can affect the increase in enthusiasm, interest, and student achievement. This observation is also done during the

[63] Rustan Santaria, *Konsep Dasar Metodologi Penelitian Panduan Praktis Penyelesaian Studi*, ed. Dodi Ilham, Pertama (Palopo: Laskar Perubahan, 2016).

learning process using Augmented reality in three meetings, each meeting takes 35-40 minutes.

2. Interview

Interviews are question-and-answer activities between the interviewer and the interviewee regarding the problem under study, where the interviewer intends to obtain perceptions, attitudes, mindsets, and information from the interviewee that are relevant to the problem under study. The interview used in this research is a semi-structured interview. Semi-structured interviews are a data collection method that combines structured and unstructured interviews. In semi-structured interviews, researchers use interview guidelines with pre-designed main questions but still give freedom to researchers to explore topics in more depth based on participant responses. Semi-structured interviews are a technique that aims to collect rich and in-depth data while staying focused on a predetermined topic. This method allows the researcher to collect rich and in-depth data.

The questions asked were about students' experiences in using Augmented Reality in learning Vocabulary. The interview lasted 15-30 minutes depending on the answers given by the students. Students who became respondents in there are 6 students. in this interview, the researcher first asked for their willingness to be interviewed for the research. From the results of the interviews obtained, the researcher then found three main aspects of students' experiences in using AR to learn vocabulary, namely retention, motivation, and implementation challenges.

G. Data Analysis Technique

This method provides a systematic framework for interpreting text data in detail and finding meaning relevant to research questions. To analyze the data in this study, researchers used the thematic Analysis technique. Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) in qualitative data.[64] According to Braun and Clarke in analyzing data, there are six steps taken:

1. Familiarization With the Data

As the name implies, the first phase, known as familiarization with the data, starts when researchers get interested in getting to know their data. they can identify the kind (and quantity) of themes that could surface from the data with the aid of this step. at this stage, the researcher reads the data re-reads the data to understand its content in depth, and notes the initial ideas that arise. This phase is essential since it directs the researcher's subsequent actions, which may be necessary in order to properly analyze the data.

2. Producing Codes:

At this stage, the data is divided into smaller units, and a code is assigned to each interesting or relevant segment of data.

3. Analysing Codes Into Themes

[64] Virginia Braun and Victoria Clarke, "thematic Analysis: An introduction," *Qualitative Research in Psychology*, 2006.

Begins with a lengthy list of codes found throughout the entire set of data. Finding patterns and links inside and between data sets is the primary goal of this phase. When analyzing the codes, one should think about how many codes might be integrated to create overarching themes to develop broad topics. Put differently, the primary emphasis of this stage is not coding but rather analysis at the level of bigger topics.

4. Reviewing Themes

To refine the previously grouped themes and present them more methodically, all the major themes, main themes, and subthemes are deliberately brought together at this point.

5. Defining and Naming Themes

This phase was initiated to further reflect on and define the themes to identify the essence of each theme (as well as the theme as a whole), and determine what aspects of the data were captured by each theme.

6. Compiling the Report

The researcher wrote a final report that explained the themes and how they related to the research questions. The researcher has to write a report of the results that can persuade the reader of the analysis's applicability and validity is the last step in the analysis process. As a result, great care is taken to give a succinct, logical, and coherent account of the tale that the facts inside and between the themes reflect. This is achieved by giving adequate evidence as well as particular

examples and/or exemplars that perfectly capture the core of the point the author is attempting to make. It can effectively convey the main idea of the author's argument.

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

After collecting and analyzing the data, the researchers found the results of the data obtained related to the experience of boarding school students in learning vocabulary using Augmented Reality. This data was obtained as a result of interviews conducted and observations related to the use of technology in language teaching at *pesantren.*

A. Findings

1. Vocabulary Learning in *Pesantren*

One crucial aspect of education in *pesantren* is language learning, especially vocabulary acquisition. Vocabulary learning in *pesantren* not only aims to improve the language skills of students but also to deepen their understanding of religious texts. therefore, *pesantren* create separate programs or activities for language learning, especially Arabic and English.

> P1: *"*..... Yes, so we give the vocab every 2 days. Every Monday, Wednesday, and Friday.*"* (interviewed on 30 April 2024)
>
> P3: "…. Learning the vocab here, the vocab is given at the mosque every After Asr by the Language department, later there will also tell (the students) how to read or pronounce it. (interviewed on 12 July 2024)

> P4: “We learn vocabulary every 2 days. we are given vocab at the mosque. the vocabulary is written on the board, and we are taught to pronounce it. (interviewed on 12 July 2024)

Vocabulary learning in *pesantren* is a routine activity. the vocabulary is given every two days by the language department by posting the vocabulary on the board. the vocabulary given is three vocabularies every two days, then the students must memorise. Vocabulary given in the mosque to students will be written on the blackboard and taught how to mention it, after which students are required to write the vocabulary in their notebooks. Apart from being taught in the mosque, the vocabulary given will also be posted on the announcement board along with examples of its use in sentences.

> P1: *“*…. Every Friday, the vocab is memorised by the language department*.”* (interviewed on 30 April 2024).
>
> P6: “After being given the vocab, we are required to memorise it every Friday.” (interviewed on 12 July 2024).

As a part of the evaluation, the students must memorize the vocabulary they have acquired in one week for the Language Department. Hopefully, with regular repetition, students can internalize new vocabulary more effectively, ensuring they memorize, understand, and use the words correctly. This approach, although simple, has been proven effective in significantly improving the language skills of students

English language teaching in *pesantren* is not only limited to language teaching outside the classroom by providing vocabulary. However, lessons also

take place in the classroom by the teacher. Vocabulary learning in class mostly still uses the materials available in the book. In the *pesantren,* there is a computer lab that they usually use for learning, in language learning they usually use the lab for listening material.

In learning with augmented reality, students have three meetings to learn with this technology. In the first meeting, the researcher introduced students to AR technology, explained its benefits in vocabulary learning, and provided initial experience using AR applications. The researcher also explained what features are contained in the AR application that can be used. in the second meeting, students are directed to Utilise AR applications for vocabulary learning in more depth. Students are given the task of finding new vocabulary using an AR application. After getting some new vocabulary, the students are asked to make sentences using the vocabulary they have learned with Augmented Reality. In the third meeting, the students learned vocabulary again with augmented reality. After the vocabulary learning, the researcher interviewed the students about their experience in using augmented reality in vocabulary learning.

2. Students' Experiences on Augmented Reality

Research conducted on the implementation of Augmented Reality (AR) materials in a boarding school aimed at improving students' vocabulary, produced in-depth findings through thematic analysis. in this study, researchers used Flashcards with Augmented reality from Octagon Company as materials to introduce new vocabulary. Data collected through student interviews, and observations revealed several key themes.

Table 4.1. The Findings of the Data

Phase 1: ***Familiarization with the data***	**Phase 2 dan 3:** ***Producing and analysing the code***	**Phase 4:** ***Reviewing themes***	**Phase 5:** ***Naming themes***
• *"If I learn like this, I memorise the vocab faster because there are already animated pictures that move, and there is also a voice besides the vocab."*	• Easy to memorize • Pronunciation is available	Improve students' ability to memorise and recall vocabulary	Retention
• *"so it's easy to remember the vocab, miss. Because there are already moving pictures, there is music and sound too, which makes it easier to remember.*	• Easy to remember • It's have music		
• *"It's fun to learn, there*	• Fun	many features	Motivation

are cute pictures"	• Lots of images available	that support student learning motivation
• - ... *not bored, because there are many cards, the animation is also good."*	• Not getting bored • Good animation	
• *When you scan the picture, it's fun, especially when the animation comes out. So I'm excited to scan and learn more vocab."*	• Moving animation • excited to scan and learn more vocab	
• *"recommended to be applied here, but no mobile phones allowed here."*	• forbidden to bring handphone	Rules in Islamic Boarding School Challenges
• *"This is good, but it's difficult if you want to implement it here because the rules are not allowed to bring mobile phones here."*	• Difficult to implement • Rules	

a. Improved Retention

The thematic analysis showed that students retained vocabulary better when using AR materials. The 3D visualizations and interactive features helped students form stronger associations with new words, which posits that combining visual and textual information enhances learning. It makes it easier for them to remember the vocabulary they see and is accompanied by interesting animations. in addition, the app is also equipped with pronunciation tools that can help students improve their skills. Vocabulary learning with AR in *pesantren* is an innovation that can improve students' information retention. As the learning experience becomes more interactive and engaging.

> P4: “If I learn to like this, I memorise the vocab faster because there are already animated pictures that move, and there is also a voice (pronunciation) besides the vocab.” (Interviewed on 12 July 2024)
>
> P2: “I can quickly memorise because there are pictures and the sound is heard too. So you can also know how to pronounce it.” (Interviewed on 12 July 2024)
>
> P5: “It's better than the book because there are animations, music, and the voice (pronunciation) is also taught.” (Interviewed on 12 July 2024)
>
> P6: “Very helpful, because there is a picture directly shown so it is easy to know and easy to remember.” (Interviewed on 12 July 2024)

The use of Augmented reality in learning vocabulary can improve students' ability, especially in memorising vocabulary. From the opinions given by P1 and P2, they stated that they are easier to memorise the vocabulary given

because they can see the animation related to the vocabulary. Besides being easier to remember, they can also listen to the correct pronunciation of the vocabulary. This is also supported by P5 who stated that learning using augmented reality is more fun than learning using books as usual.

> P1: “It's very recommended. The problem is that English is difficult to pronounce, so this is great for learning because it includes pronunciation and pictures, so it's easy to remember.” (interviewed on 12 July 2024)

> P3: “Because it is beneficial, the goal is to make it easier to remember vocabularies, and indeed the results are easier to remember than usual, Miss” (interviewed on 12 July 2024)

After feeling the positive impact of the use of Augmented reality on teaching English, especially vocabulary, students recommend using Augmented reality more widely for learning, especially language learning in *pesantren.* Augmented reality flashcards that are used not only display engaging visuals and facilitate memory but also have an impact on improving pronunciation skills, which are often a challenge for students in learning English.

To strengthen the study's results, the researcher conducted an assessment for the students. the assessment results strongly supported improving students' vocabulary retention through Augmented Reality. The average student score reached 81,93 indicating increased students' ability to remember and understand the vocabulary learned using Augmented Reality flashcards. This shows that this learning method is effective in helping students reconstruct new words in their long-term memory. Thus, using augmented reality in vocabulary learning contributes significantly to improving students' memory.

The use of Augmented Reality (AR) in English vocabulary learning has shown significant promise in improving students' retention rates. AR technology provides an interactive and immersive learning experience that traditional methods often lack. by incorporating 3D visuals, animations, and gamified elements, AR makes vocabulary learning more engaging and enjoyable. for instance, students can interact with virtual objects that represent words, enhancing their understanding and recall through sensory and contextual reinforcement. This interactive approach not only captures students' attention but also aids in deeper cognitive processing, making the learned material more memorable.

Augmented Reality (AR) is highly relevant during English language learning sessions, both as part of the curriculum and in supplementary educational activities. AR technology brings a new dimension to learning by creating interactive and immersive experiences that captivate students' interest. AR can transform traditional lessons into engaging visual and interactive experiences, making complex vocabulary and grammar concepts more accessible and easier to understand. in supplementary activities, AR can provide additional practice and reinforcement outside the classroom, offering students the opportunity to engage with the material in a more personalized and enjoyable way. This dual application of AR ensures that students remain engaged and motivated, ultimately enhancing their retention and mastery of the English language.

b. Increased Motivation

English is profound and transformative. AR technology revolutionizes traditional language learning by providing interactive and immersive experiences that captivate students' attention and enthusiasm. Unlike conventional methods, AR integrates engaging visual elements and real-time interactions, making learning English more dynamic and enjoyable. This immersive approach stimulates students' curiosity and actively involves them in learning, leading to increased motivation and a more profound commitment to mastering the language. AR presents visually appealing and contextually relevant educational content, which fosters a more engaging learning environment, significantly boosting students' motivation and overall academic experience.

> P5: “Better than learning from books” (interviewed on 12 July 2024)

> P6: “More interesting, than just using writing” (interviewed on 12 July 2024)

> P1: “It's more fun to use this (Augmented Reality), because it's more exciting, if it's a book, it can get boring”. (interviewed on 12 July 2024)

> P3: “It is more interesting because it is not only the text or writing that is learnt but also the images and sounds. in addition, it is easy to remember because there is a picture that also has an explanation, Miss.” (interviewed on 12 July 2024)

Using augmented reality in learning is something new for students. This technology motivates them because they feel that learning with AR is better than learning with books (P5) and more interesting than just seeing or memorizing writing (P6). Apart from the fact that they have a new experience besides learning

from books, they also feel interested and motivated because the AR Flashcards used in learning have diverse images and attract their attention. in addition, the experience of the opportunity to scan the available photos and bring up the animation makes them more interested and motivated to see more pictures and animations, which indirectly increases their motivation to learn vocabulary.

The observation results showed a significant increase in students' enthusiasm when learning using Augmented Reality (AR). Students seemed more active and engaged during the learning session compared to traditional teaching methods. they showed high interest in the vocabulary provided through AR. This increased enthusiasm can be seen in more cheerful facial expressions, enthusiasm in following instructions, and positive responses to learning activities. This increase can be seen in many students who voluntarily want to try the AR application and interact with its features, which shows greater interest and curiosity toward learning.

In addition, students' participation in class also increased significantly with the use of AR. Observations noted that students contributed more frequently to class discussions and participated in group tasks. AR makes learning more exciting and provides opportunities for students to learn interactively and collaboratively. When using AR to learn new vocabulary, students actively help each other understand and remember words and practice using the language in sentences. AR has successfully created a dynamic and participatory learning

environment, which supports improved understanding and retention of learning materials.

Initially, students exhibited high engagement and excitement when introduced to AR-based learning activities. This initial enthusiasm was evident through their active participation and eagerness to interact with the AR applications, which provided a significant departure from traditional teaching methods. The interactive and visually stimulating nature of AR was instrumental in capturing and maintaining students' attention, leading to a more dynamic learning environment.

Further data analysis indicated that AR significantly contributed to increased intrinsic motivation among students. the immersive experiences created by AR allowed students to engage with educational content hands-on, which was previously unattainable through conventional methods. This engagement was reflected in students' positive feedback and their preferred AR-enhanced lessons over traditional ones.

Additionally, AR fostered a sense of curiosity and exploration in students. the ability to interact with and manipulate digital objects in a real-world context encouraged students to ask questions and seek out further information. Observations noted increased spontaneous discussions and collaborative efforts among students, driven by their interest in the AR content. This shift towards a more inquiry-based learning approach highlights how AR can transform students'

attitudes toward learning, making it a more engaging and intellectually stimulating process.

The research also identified a positive correlation between the use of AR and students' perceived relevance of the learning material. by connecting abstract concepts to interactive visualizations, AR helped students see the practical applications of their studies, thereby enhancing their perceived value of the lessons. for instance, students found it easier to relate historical events or scientific phenomena to their real-world implications through AR simulations, which further motivated them to engage with the subject matter.

C. Implementation Challenges on Augmented Reality in *Pesantren*

Pesantren has rules that are quite different from most schools in general. One of the most prominent is the prohibition of bringing or using electronic items such as mobile phones and laptops. This is a challenge that must be faced in the use of Augmented reality in *pesantren.*

> P3:" I want to use it here too, but I can't bring my mobile phone." (interviewed on 12 July 2024)
>
> P2: "This is good, but it's difficult if you want to implement it here because the rules are not allowed to bring mobile phones here." (interviewed on 12 July 2024)
>
> P4: "recommended to be applied here, but no mobile phones allowed here" (interviewed on 12 July 2024)

The students hope to be able to implement augmented reality for vocabulary learning in *pesantren*, however, the regulation that prohibits students

from bringing mobile phones is one of the obstacles in implementing AR in *pesantren.* While P5 stated that she did not recommend the use of AR in *pesantren.* this is because of the regulations of the *pesantren* that will make it difficult to apply. But according to her, if there is a possible solution for the implementation of AR in *pesantren,* then it is something good.

> P5: “Not recommended, because here you can't bring a mobile phone, so it can't be used.” (Interviewed on 12 July 2024)
>
> P5: “Hmmm, if it turns out that it can be used (AR), It’s Recommended.” (Interviewed on 12 July 2024)

Pesantren faces several challenges in integrating AR technology into their educational systems. one of the most significant obstacles is the limited technological infrastructure, as many *pesantren* lack the advanced devices and stable internet connectivity required for AR applications. Additionally, there is often a prohibition against students bringing gadgets such as smartphones into the *pesantren,* which further complicates the use of AR technology. This restriction stems from a desire to maintain focus on religious and educational activities, but it also limits the availability of personal devices necessary for accessing AR content. Furthermore, the existing curriculum may not be designed to accommodate AR, necessitating substantial adjustments and coordination between educators and administrators. Teacher training is another critical issue, as instructors must be adequately prepared to use and integrate AR tools effectively into their teaching practices.

There is a need for technology and internet availability in *pesantren* to support a more effective and interactive language learning process. Technology, such as computers, tablets, smartphones, and fast and stable internet access, enables various digital learning tools, including innovative language learning applications and platforms. From the observation, the use of technology in *pesantren* has yet to be maximized, especially in vocabulary learning. Technology such as projectors, computers, and audio are still limited to delivering teaching materials, listening, or watching videos.

With access to technology and the internet, students can access broader learning resources, interact with the subject matter interactively, and communicate with native language speakers through online platforms. in addition, teachers can also utilize technology to develop teaching methods that are more varied and adaptive to students' needs. With the support of adequate technology and internet infrastructure, *pesantren* may find it easier to maximize the potential of modern learning, which may hinder the development of student's language competence. therefore, investment in technology and the internet is essential and urgent to improve the quality of education in *pesantren.*

B. Discussion

1. Students' Retention in Vocabulary Learning

Through interactive visual encounters, augmented reality (AR) showed significant potential in improving students' retention. AR applications provide students with a dynamic and captivating learning environment by including

interactive and immersive aspects.[65] By bringing material to life, enhancing motivation, and facilitating individualized learning, interactive graphics in augmented reality (AR) improve student retention through immersive and interesting learning experiences. With the help of these apps, students may interact with 3D models, see difficult ideas in real-time, and interact with the content from a variety of perspectives, which improves comprehension and recall of the subject matter.[66]

Immersive experience refers to a state in which a person feels fully engaged and immersed in an environment or activity, such that they lose awareness of the outside world and become intensely focused on the experience. in education and technology, immersive experiences are often achieved through technologies that create highly realistic and interactive simulations or environments. Immersive experiences involve stimulating multiple senses, such as sight, hearing, and sometimes touch, to create a sense of presence within the digital environment. for example, in augmented reality (AR), students can see 3D objects and listen to sounds related to the learning material, which makes the learning experience more immersive.

Immersive experiences allow users to interact with elements in the environment they are exposed to. these interactions may include manipulation of

[65] Shubham Gargrish et al., "Measuring Effectiveness of Augmented Reality-Based Geometry Learning Assistant on Memory Retention Abilities of the Students in 3D Geometry," *Computer Applications in Engineering Education*, 2021, https://doi.org/10.1002/cae.22424.

[66] Soumik Rakshit et al., "Augmented Reality for Education Based on Markerless Dynamic Rendering," in *Proceedings of the 1st IEEE international Conference on Networking and Communications 2023, ICNWC 2023*, 2023, https://doi.org/10.1109/ICNWC57852.2023.10127337.

digital objects, exploration of virtual features, or participation in activities that require an active response from the user. This interactivity makes users feel more involved and contribute to the experience. Virtual reality (VR) and augmented reality (AR) are often used to create immersive experiences. VR creates a virtual environment where users can interact with the digital world. At the same time, AR adds digital elements to the real world, creating an additional layer of information that can be accessed through smartphones or AR glasses.

Immersive experiences often lead to a sense of 'presence,' which is the feeling of being inside the simulated environment. This can increase student engagement and motivation in a learning context by making the subject matter more interesting and relevant. Research shows that immersive experiences can improve understanding and retention of information more effectively than traditional learning methods. Immersive experiences affect physical and sensory aspects and can influence users' emotional and cognitive responses. for example, in a learning simulation, students may experience higher feelings of engagement and motivation and more easily remember the information they have learned because the experience feels more real and meaningful.

Students who are actively engaged and enjoy the learning process tend to remember information better and longer. According to this study, students who utilized augmented reality (AR) felt more enthused and driven to acquire language, which eventually increased retention. Additionally, AR offers a deeper and more significant context for vocabulary development. Through simulations and scenarios presented by augmented reality technology, students can observe

how words are utilized in authentic contexts. This helps students understand and retain words in appropriate conditions.

Through simulations and scenarios presented by Augmented Reality (AR) technology, students can observe how words are utilized in authentic contexts, significantly enhancing their understanding and application of language. AR allows learners to interact with immersive, 3D environments where vocabulary is not just presented as abstract concepts but is contextualized within realistic situations. This approach helps students grasp the practical use of words in various scenarios, making their learning experience more relevant and impactful. AR simulations provide a dynamic platform for contextual learning, which improves vocabulary retention by allowing students to engage with language in meaningful contexts.[67] AR can create realistic, interactive experiences that support deeper cognitive processing of language, leading to better comprehension and usage. these insights underscore the value of AR in bridging the gap between theoretical knowledge and practical application, thereby enhancing students' overall language proficiency and engagement.

AR allows students to see things and ideas in an interactive three-dimensional form. for example, students can learn vocabulary about jobs, they can see AR animations that visualize them doing activities that match their jobs. Visualizations like this help students understand and remember the material because they can see abstract concepts become more real, in addition to

[67] Murat Akçayır and Gökçe Akçayır, "Advantages and Challenges Associated with Augmented Reality for Education: A Systematic Review of the Literature," *Educational Research Review*, 2017, https://doi.org/10.1016/j.edurev.2016.11.002.

combining various forms of media such as text, images, audio, and video, which help enrich the learning experience and improve information retention.

AR involves multiple senses in the learning process, such as visual, auditory and kinesthetic. This multisensory experience helps to enhance learning and improve information retention. AR's ability to engage these senses simultaneously allows for a richer and more dynamic learning environment. AR enhances visual learning by overlaying digital information onto the physical world, making abstract concepts more tangible and understandable.[68] Additionally, auditory elements in AR applications can provide real-time feedback and pronunciation guides, which are crucial for language learning.[69]

Kinesthetic learning is supported through interactive features that require physical movement, such as manipulating 3D objects or performing tasks that reinforce learning through action.[70] Experts agree that this multisensory approach not only aids in better retention of information but also increases student engagement and motivation. the integration of visual, auditory, and kinesthetic elements in AR creates a holistic learning experience that addresses diverse learning styles and needs, making it a powerful tool in modern education.

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[68] Shao Chen Chang and Gwo Jen Hwang, "Impacts of an Augmented Reality-Based Flipped Learning Guiding Approach on Students' Scientific Project Performance and Perceptions," *Computers and Education*, 2018, https://doi.org/10.1016/j.compedu.2018.06.007.

[69] María Blanca Ibáñez and Carlos Delgado-Kloos, "Augmented Reality for STEM Learning: A Systematic Review," *Computers and Education*, 2018, https://doi.org/10.1016/j.compedu.2018.05.002.

[70] Ángela Di Serio, María Blanca Ibáñez, and Carlos Delgado Kloos, "Impact of an Augmented Reality System on Students' Motivation for a Visual Art Course," *Computers and Education*, 2013, https://doi.org/10.1016/j.compedu.2012.03.002.

Besides supporting learning by utilising the collaboration of multisensory experience, augmented reality learning media can also support students to conduct self-evaluation. Augmented Reality (AR) allows students to self-evaluate the material provided, fostering a more autonomous and reflective learning process. Through interactive AR applications, students can receive immediate feedback on their performance, helping them identify areas of strength and weakness. AR's real-time feedback mechanisms enable learners to monitor their progress and adjust their learning strategies accordingly.[71] This self-evaluation capability is particularly valuable in language learning, where students can practice vocabulary and grammar in a simulated environment and instantly see the results of their efforts.

AR applications often include quizzes, interactive exercises, and performance tracking, which encourage students to take ownership of their learning. By engaging in self-evaluation, students can develop critical thinking and self-regulation skills, leading to more effective and personalized learning outcomes. The ability of AR to support self-assessment not only enhances the learning experience but also aligns with modern educational approaches that emphasize student-centred learning and continuous improvement.

Another factor that can improve student retention is fun repetition. Fun repetition improves student retention by making it an interesting and non-boring learning experience. One of the main ways to reduce boredom is by utilizing

[71] Kun Hung Cheng and Chin Chung Tsai, "Affordances of Augmented Reality in Science Learning: Suggestions for Future Research," *Journal of Science Education and Technology*, 2013, https://doi.org/10.1007/s10956-012-9405-9.

methods that make learning fun. By integrating elements of games, challenges, and exciting interactions, students remain engaged and motivated, positively impacting their interest and engagement. Research shows that positive learning experiences can strengthen students' understanding and memory, reducing the boredom that often inhibits learning.

Active student engagement is a crucial factor influencing retention through enjoyable repetition. Methods such as educational games and AR applications allow students to interact directly with the subject matter so that they not only passively receive information but also actively process and apply it. This active engagement strengthens recall as students are more cognitively engaged with the material learned.[72] In addition, the repetition of material in relevant and exciting contexts, such as real-life scenarios, makes it easier for students to remember information by associating it with familiar and enjoyable contexts.

2. Students Motivation in Vocabulary Learning with Augmented Reality

An alternative definition of motivation is internal circumstances that stimulate, guide, and carry out behaviour toward a particular goal.[73] In the context of education, motivation is described as a condition in which students need to meditate and experience disruption; it manifests itself again and persists in their attention during any given lesson. To produce the skills and abilities required to

[72] Ruth Colvin Clark and Richard E. Mayer, *E-Learning and the Science of instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning: Third Edition*, *E-Learning and the Science of instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning: Third Edition*, 2012, https://doi.org/10.1002/9781118255971.

[73] J.M.P. Andreu, "Meta-Analysis about Gamified Learning Experience in Physical Education | Metaanálisis Sobre Experiencias Didácticas Gamificadas En Educación Física," *Revista Complutense de Educacion*, 2023.

accomplish objectives requires that students pay closer attention to every subject throughout the entire teaching-learning process. Additionally, for the involvement of one side without the other to be fruitless, this state needs to be present in both teachers and students.[74]

AR technology appears to have a positive impact on student motivation. This level of satisfaction can be attributed to several factors. the factors of entertainment, gamification, and fun, can all be considered as key factors of the positive attitude that the participants had towards AR. Students feel motivated when learning using AR because they get ‘something new’ that is different from what they got or learned before. The AR display with funny and interesting animations, makes students not bored in learning.

a. Entertainment Factor

The entertainment produced by AR technology can increase students' interest and engagement in learning.[75] The use of interesting and interactive animations makes the learning process more enjoyable for students. For example, when learning vocabulary in a foreign language, students can see and interact with 3D objects depicting the words, which is visually and sensorially more engaging than conventional learning methods.

The entertainment produced by Augmented Reality (AR) technology can significantly increase students' interest and engagement in learning. AR integrates

[74] Antonio Amores-Valencia, Daniel Burgos, and John W. Branch-Bedoya, “the influence of Augmented Reality (AR) on the Motivation of High School Students,” *Electronics (Switzerland)*, 2023, https://doi.org/10.3390/electronics12224715.

[75] Akçayır and Akçayır, “Advantages and Challenges Associated with Augmented Reality for Education: A Systematic Review of the Literature.”

fun and interactive elements into educational content, transforming traditional lessons into captivating experiences. for instance, students learning vocabulary can interact with 3D models, play educational games, and receive immediate feedback, making the learning process enjoyable and immersive. AR's ability to combine educational material with entertaining features leads to higher levels of student motivation and participation.[76]

Figure 4.1. Augmented Reality Amination Display

[76] Akçayır and Akçayır.

Figure 4.2. Augmented Reality Flashcard

Augmented reality (AR) flashcards represent a significant advancement in educational technology, particularly in language learning. one of the most notable impacts of AR flashcards is their ability to incorporate entertainment into the learning process, which plays a crucial role in increasing students' motivation to learn English. by transforming traditional flashcards into interactive, visually stimulating experiences, AR provides a more engaging and enjoyable way for students to acquire new vocabulary and language skills. This fusion of learning

with entertainment, or "edutainment," captures students' interest and makes the learning process less monotonous.[77]

The entertainment value of AR flashcards is primarily derived from their interactive features. Unlike conventional flashcards, AR flashcards can present dynamic 3D models, animations, and sound effects, making learning more immersive. for instance, when a student points their device at an AR flashcard featuring a new vocabulary word, it might display an animated scene or object visually representing the word. This engaging visual representation helps students better understand and remember the word's meaning, making the learning experience more memorable and enjoyable.

Furthermore, AR flashcards often incorporate gamified elements that enhance their entertainment value. these can include interactive quizzes, puzzles, or challenges related to the vocabulary being studied. by integrating these game-like features, AR flashcards create a playful learning environment where students are motivated to complete tasks and achieve higher scores. This element of friendly competition and achievement increases student engagement and fosters a sense of accomplishment and progress in their language learning journey.

The entertainment aspect of AR flashcards also helps reduce the cognitive load associated with language learning. Traditional language learning methods can sometimes be overwhelming or tedious, leading to disengagement. AR

[77] Chen and Chan, “Using Augmented Reality Flashcards to Learn Vocabulary in Early Childhood Education.”

flashcards, however, break down complex language concepts into visually engaging and interactive components, making them more accessible for students to digest. This reduction in cognitive load allows students to focus more on learning and less on overcoming the inherent difficulties of language acquisition.

The novelty and excitement of AR can sustain students' attention and interest over longer periods by enhancing situational interest, improving learning achievement, and increasing engagement in various educational settings, leading to better retention and understanding of the material.[78] The immersive nature of AR creates a sense of presence and involvement that traditional teaching methods often lack. This heightened engagement is crucial for deep learning, as it encourages students to explore and interact with the content more thoroughly. By making learning more enjoyable and interactive, AR not only enhances student engagement but also promotes a more positive attitude towards education, ultimately contributing to improved academic outcomes.

b. Gamification Factor

Gamification factor also plays an important role in increasing student motivation, particularly in the context of Augmented Reality (AR) in education. by incorporating game-like elements such as points, badges, leaderboards, and challenges into learning activities, AR makes the educational experience more

[78] Diah Ayu Setyaningsih et al., "Augmented Reality in influencing interest in Learning Mathematics," *Union: Jurnal Ilmiah Pendidikan Matematika* 12, no. 1 (2024): 202–14, https://doi.org/10.30738/union.v12i1.16536.

engaging and competitive.[79] Gamification leverages students' natural tendencies for competition and achievement, which can drive them to invest more time and effort in their studies. the implementation of gamification in educational settings has been shown to enhance students' motivation and participation.[80] This is especially true when students can track their progress and compare it with their peers, adding a layer of social interaction and competition that further stimulates their desire to learn.

A dynamic and captivating learning environment is created by the gamification elements of augmented reality, which include point systems, interactive challenges, and rewards that can keep students engaged. these gamified elements appeal to students' natural desires for competition and achievement, making learning more enjoyable. Furthermore, AR's interactive nature allows for personalized learning experiences where students can learn at their own pace and in their style. This personalization not only boosts engagement but also helps cater to diverse learning preferences and needs, making the educational experience more inclusive and effective.

Experts agree that the interactive and immersive nature of AR, combined with gamification, creates a powerful tool for education. Gamified learning environments increase students' intrinsic motivation by making the learning

[79] Aris Triwahyu Febriansah, Aris Syaifuddin, and Yerry Soepriyanto, "Perkembangan Gamifikasi Di Bidang Pendidikan," *Scholaria Jurnal Pendidikan Dan Kebudayaan* 14, no. 2 (2021): 177–86.

[80] Wang Xiaoshang et al., "investigating the Effects of Gamification Elements on Student Motivation, Engagement, and Academic Performance in Higher Education Courses," *Preprints*, 2024, https://doi.org/10.20944/preprints202405.0428.v1.

process more enjoyable and fulfilling.[81] in language learning, gamification can be particularly effective, as it allows students to practice vocabulary and grammar in a fun and engaging way, reducing the monotony often associated with rote memorization. the immediate feedback provided by AR games helps students understand their mistakes and learn from them in real time, which enhances their learning outcomes and retention rates.

Moreover, gamification through AR can cater to different learning styles and preferences, making it a versatile tool for educators. Students who might struggle with traditional teaching methods often find gamified AR activities more accessible and motivating. by providing a variety of challenges and rewards, AR can keep students of all levels engaged and motivated to learn.[82] This approach not only improves academic performance but also fosters a positive attitude towards learning, encouraging students to become lifelong learners. the combination of AR and gamification thus holds great potential to transform educational practices and significantly boost student motivation and achievement.

AR allows students to see the immediate results of their efforts, such as earning points or reaching certain levels in a learning application. these achievements provide positive feedback that increases the sense of accomplishment and encouragement to continue learning. increased sense of

[81] Lorena Jaramillo-Mediavilla et al., "Impact of Gamification on Motivation and Academic Performance: A Systematic Review," *Education Sciences* 14, no. 6 (2024): 639, https://doi.org/10.3390/educsci14060639.

[82] Craig A. Anderson et al., "Violent Video Game Effects on Aggression, Empathy, and Prosocial Behavior in Eastern and Western Countries: A Meta-Analytic Review," *Psychological Bulletin*, 2010, https://doi.org/10.1037/a0018251.

achievement refers to the feeling of accomplishment or success that students feel when they reach a goal or successfully complete a specific task. in an educational context, this means students feel proud and satisfied after reaching a milestone or completing a learning activity, which can strengthen their motivation to continue learning and try harder. AR allows students to see the immediate results of their efforts, such as earning points or reaching certain levels in a learning application. these achievements provide positive feedback that increases the sense of accomplishment and encouragement to continue learning. increased sense of achievement refers to students' accomplishment or success when they reach a goal or complete a specific task. in an educational context, this means students feel proud and satisfied after reaching a milestone or completing a learning activity, which can strengthen their motivation to continue learning and try harder.

Positive feedback often accompanies an increased sense of achievement, which confirms that students' efforts are paying off. For example, when students complete a quiz well or successfully reach a certain level in a gamification-based learning application, they receive an award or recognition. This positive feedback provides an emotional boost that strengthens students' confidence and motivation to keep learning.

When students feel a sense of achievement, they feel more confident in their ability to overcome challenges and achieve learning goals. Increased confidence helps students feel more competent, increasing their motivation to keep trying and learning. A positive sense of achievement makes students feel that

their efforts are worthwhile and effective, which motivates them to stay committed to their learning.[83]

A sense of achievement can strengthen intrinsic motivation, which is the drive to do an activity because you enjoy the process and feel satisfied with the achievement itself. Students who experience success are more likely to feel excited and confident with the learning process, not just the result. High intrinsic motivation encourages students to continue engaging in learning activities because they find personal value and satisfaction in the experience.

Students' achievement is closely related to goal setting, where students set small and medium-sized goals that can be achieved within a specific timeframe. When students accomplish these goals, they feel a sense of accomplishment, which provides the impetus to continue setting and achieving higher goals. This process creates a positive cycle where consistent achievement encourages students to continue to strive and improve their achievements

3. Implementation Challenges

a. *Pesantren* Rules on Electronic Devices

It is crucial to understand the technology used when implementing Augmented Reality-based instructional activities as it directly impacts the probability and intensity of discomfort. in this case, electronic devices such as tablets, laptops, or smartphones are required. According to some previous studies

[83] Hardianti Hardianti, "Gamification in EFL: Exploring the Use of Gamification Strategies to Enhance Student Motivation and Engagement," *intelektium* 5, no. 1 (2024): 8–15, https://doi.org/10.37010/int.v5i1.1531.

on the use of augmented reality, smartphones were used as assistive technology in about half of the implementations of those studies.[84] The main reason is that every student has one, which allows them to create customised activities without having to share them with other students.

One of the main challenges in implementing AR in *pesantren* is the limited technological infrastructure. Many *pesantren* do not yet have access to advanced technological devices and stable internet networks, which are prerequisites for running AR applications.[85] In addition, there is a prohibition for students to bring smartphones to *pesantren*. These limitations make it difficult for *pesantren* to widely and effectively adopt AR in daily teaching and learning activities.

Pesantren's policy on bringing electronic devices or smartphones is usually implemented to keep students focused on studies and religious activities as well as to avoid distractions caused by the use of electronic devices. While this policy serves a good purpose, it also hinders the application of AR technologies that mostly require the use of smartphones or other mobile devices. This restriction adds another layer of complexity in the effort to integrate modern technology into the *pesantren* education system. Apart from the regulations on the use of smartphones in *pesantren*, according to researchers, other challenges must

[84] Özge Koç, Emin Altun, and H. Gülru Yüksel, "Writing an Expository Text Using Augmented Reality: Students' Performance and Perceptions," *Education and information Technologies*, 2022, https://doi.org/10.1007/s10639-021-10438-x.

[85] Wu et al., "Current Status, Opportunities and Challenges of Augmented Reality in Education."

be anticipated by *pesantren* in the application of Augmented reality as one of the learning media.

b. Curriculum Integration

Integrating technology into the curriculum is essential for modernizing education and enhancing learning outcomes. When effectively incorporated, technology can transform traditional teaching methods by providing interactive and engaging learning experiences. Technology integration can significantly impact student learning, with its effects being more pronounced when aligned with pedagogical strategies and learning goals. By leveraging digital tools and resources, educators can create dynamic lesson plans catering to diverse learning styles and needs, increasing student engagement and motivation.[86]

Technology integration also enhances collaboration and communication among students. Digital tools such as collaborative platforms (e.g., Google Workspace and Microsoft Teams) allow students to collaborate on projects, share resources, and provide real-time peer feedback. Technology can facilitate collaborative learning environments where students engage in higher-order thinking and problem-solving tasks. The platform not only supports group work but also prepares students for the collaborative nature of the modern workforce.[87]

[86] Rashi Malik, "Impact of Technology-Based Education on Student Learning Outcomes and Engagement," in *Proceedings of the 17th INDIACom; 2023 10th international Conference on Computing for Sustainable Global Development, INDIACom 2023*, 2023.

[87] Bundit Anuyahong and Nattida Pucharoen, "Exploring the Effectiveness of Mobile Learning Technologies in Enhancing Student Engagement and Learning Outcomes," *international Journal of Emerging Technologies in Learning*, 2023, https://doi.org/10.3991/ijet.v18i18.40445.

In addition to improving student engagement and collaboration, technology integration helps educators access a wealth of resources and data for learning planning and assessment. Tools such as data analytics and learning management systems (LMS) provide teachers with insights into student performance, enabling more informed instructional decisions. Technology-based data collection and analysis can lead to more effective teaching strategies and better educational outcomes. Educators can use these tools to track progress, identify trends, and adjust their teaching methods to meet student needs better.

The implementation of AR in *pesantren* also requires careful curriculum adjustments and readiness. the readiness of the school curriculum to implement Augmented Reality (AR) is crucial to ensure this technology can be used effectively in the learning process. one of the first steps that needs to be taken is the customisation of the curriculum to integrate AR technology into various subjects. the curriculum should be designed in such a way that it not only covers relevant subject matter but also provides space for the use of interactive technologies such as AR.

The curriculum in *pesantren* may not have been designed to accommodate the use of technology such as AR, thus requiring a comprehensive revision. these adjustments include integrating AR materials into the existing syllabus as well as determining how to evaluate them by technology-based learning methods. Curriculum adapted to AR technology can increase student engagement and

facilitate deeper learning. therefore, it is crucial to align the curriculum with the needs and potential offered by AR.[88]

This curriculum adjustment does not only require material changes but also takes time and coordination between various stakeholders. *Pesantren* managers, teachers, and education policymakers must work together to design an effective curriculum. This process includes training teachers to master AR technology and new teaching methods, as well as providing adequate resources. Without a proper curriculum and supportive facilities, the use of AR can become undirected and not provide maximum benefits for students. A well-designed curriculum ensures that AR technology is used effectively to achieve specific learning objectives. It also prevents wastage of resources and ensures that students have a meaningful learning experience.

To integrate AR effectively, the curriculum must be customised to include the use of this technology in various subjects. Teachers need to liaise with curriculum developers and educational technologists to identify areas where AR can add significant value. for example, in science lessons, AR can be used to visualise complex concepts that are difficult to explain through text or static images. With the right curriculum adaptation, AR can be a powerful tool to enrich

[88] Khaled Takrouri, Edward Causton, and Benjamin Simpson, "AR Technologies in Engineering Education: Applications, Potential, and Limitations," *Digital*, 2022, https://doi.org/10.3390/digital2020011.

students' learning experiences and improve their understanding of the subject matter.[89]

c. Teacher Readiness in Implementing AR

The effective integration of technology in education hinges significantly on teachers' readiness to implement and utilize these tools effectively. As educational technology becomes increasingly prevalent, educators must be well-prepared to leverage these innovations to enhance the learning experience. Teacher readiness encompasses familiarity with technological tools and the ability to integrate them into pedagogical practices meaningfully. Recent studies highlight that with adequate preparation, the potential benefits of technology in education may be fully realized, which underscores the importance of investing in teacher readiness for technology-enhanced learning environments.

Teachers have an important role in utilising technology and ensuring its effectiveness in learning. the presence of teachers can enhance the impact of augmented reality technology on student learning outcomes. [90] the teachers should have an important role in exploring useful technology-based teaching practices to develop more creative teaching methods. A deep understanding of the use of technology and its focus in education is needed, as many teachers face practical challenges in the application of technology and need appropriate training and development to support their desire to use technology effectively.

[89] Ibáñez and Delgado-Kloos, "Augmented Reality for STEM Learning: A Systematic Review."

[90] Sabiha Shams, "the Effect of 3D Virtual Reality Technologies on Learning: A Qualitative Research," *World Neurosurgery*, 2019.

One key aspect of teacher readiness is professional development. ongoing training is essential for teachers to stay updated on technological advancements and instructional strategies. Effective professional development programs focus on practical application and allow teachers to practice using technology in classroom settings. Such programs help educators build the necessary skills to integrate technology into their teaching practices, thus improving their confidence and competence in using these tools effectively. This preparedness enables teachers to design and deliver lessons that utilize technology to enhance student engagement and learning outcomes.

The teachers' training should cover the technical aspects of AR devices, such as operating the application and the required hardware, and pedagogical strategies for integrating AR into the learning process. Teachers must understand how AR can enrich subject matter and increase student engagement. An effective training programme should also include hands-on practical sessions where teachers can test and experiment with AR technology in their teaching context.[91]

Another critical component of teacher readiness is access to resources and support. Teachers need adequate resources, such as hardware, software, and technical support, to effectively implement technology in their classrooms. teachers who have access to well-maintained technological resources and technical support are more likely to use technology effectively in their teaching. the availability of these resources ensures that teachers can address technical

[91] Matt Bower et al., "Augmented Reality in Education - Cases, Places and Potentials," *Educational Media international*, 2014, https://doi.org/10.1080/09523987.2014.889400.

issues promptly and focus on delivering high-quality instruction. Thus, providing teachers with the necessary tools and support is essential for successfully integrating technology into the curriculum. Schools or universities should provide the necessary resources, such as AR devices, access to educational apps, and adequate technology infrastructure. in addition, educational institutions should create an environment that supports innovation and experimentation, where teachers feel comfortable to try new approaches and share experiences with peers. This support should also include readily available technical assistance to handle problems that may arise during the use of AR in the classroom.[92]

d. Distraction in the Implementation of Augmented Reality

The visually rich and engaging nature of Augmented Reality (AR) can inadvertently create a sensory overload for learners, especially when the content is visually dense. This excessive stimulation can divert students' attention away from the core educational material and towards the novelty of the technology itself. Research indicates that cognitive function can be compromised when students are bombarded with visual information, resulting in decreased learning effectiveness.

Furthermore, the captivating visuals in AR can distract students from the main learning objectives. A phenomenon known as peripheral attention may occur, where learners become engrossed in non-essential elements within the AR environment. for example, if an AR application contains elaborate animations or

[92] Ardian Arief et al., "Analysis of Teacher Readiness in the Implementation of the independent Curriculum in SDN Serut Baru Gedangsari Gunungkidul," *Taman Cendekia: Jurnal Pendidikan Ke-SD-An* 7, no. 01 (2023): 27–35, https://doi.org/10.30738/tc.v7i01.14771.

interactive features unrelated to the lesson, students may be tempted to explore these distractions rather than focusing on the crucial educational content.

The novelty and excitement surrounding augmented reality (AR) can sometimes overshadow the learning objectives. Students may become more fascinated by the technology, spending time understanding its mechanics or experimenting with its visual capabilities rather than focusing on the educational content. This distraction can hinder the retention of important knowledge and ultimately impact overall learning achievement.

Successful integration of AR into the classroom requires careful instructional planning to ensure that visual elements enhance rather than hinder learning. With careful consideration, AR can disrupt the established flow of traditional teaching methods, creating a disjointed learning experience where students need help connecting AR content to a broader educational framework. the possibility of such disruption is particularly pronounced among younger students or those quickly enamoured by technology. these learners may have difficulty transitioning from engaging AR environments to more conventional learning activities, disrupting their learning progress.[93]

Augmented Reality (AR) interactive features are designed to increase student engagement and ease understanding of abstract concepts. However, these features can also be a significant source of distraction, diverting students' attention

[93] George Papanastasiou et al., "Virtual and Augmented Reality Effects on K-12, Higher and Tertiary Education Students' Twenty-First Century Skills," *Virtual Reality*, 2019, https://doi.org/10.1007/s10055-018-0363-2.

from the actual learning objectives. Some of the mechanisms that cause this distraction include focussed attention on irrelevant interactive elements, over-exploration of AR features, and imbalance between interactivity and learning content.

Interactive features in AR, such as 3D animations, sound effects, and simulations, are often eye-catching. However, if these elements are not directly related to the learning objectives, they can distract students' focus from the core material. When students are more interested in how the animation works than in the information conveyed through the animation, they are less likely to absorb the learning content well.[94] When students are given the freedom to interact with various elements in AR, there is a risk that they will explore those features without focusing on the learning objectives. Students are often encouraged to experiment with the technical aspects of AR, which can distract them from the material to be learnt. This is primarily a problem when the features offer a more engaging experience than the subject matter itself.

In education, Augmented Reality (AR) promises a more engaging and interactive learning experience. However, if not designed carefully, this technology can distract students from the primary purpose of learning. Too often, we see AR that prioritises entertainment over education. Engaging interactive features, such as stunning animations and realistic simulations, can indeed attract students. However, the underlying learning content is not presented profoundly

[94] Dunleavy, Dede, and Mitchell, "Affordances and Limitations of Immersive Participatory Augmented Reality Simulations for Teaching and Learning."

and meaningfully. In that case, students will only be trapped in temporary fun if they understand the concepts.

In this context, it is important to maintain a balance between interactive aspects and learning content. AR should be a tool to enrich students' understanding of the material, not just a tool to make learning more fun. the learning objectives will not be achieved if the interactive features obscure or replace the substantial content. Students may remember the interesting visual effects more than the core concepts that the teacher wants to teach.

C. Implications

The implications of this research have several important aspects. From a practical perspective, the results show that the use of Augmented Reality (AR) materials in Islamic boarding schools can be an innovative and effective method to improve students' vocabulary. Students' positive experiences with AR may encourage other Islamic educational institutions to adopt similar technology to enrich language learning.

For theoretical implication, this study adds to the literature on the integration of modern technology in traditional education, showing that AR can be adapted to specific educational contexts such as *pesantren.* In terms of policy, the findings may influence education policymakers to consider investing in educational technology as a tool to improve the quality of teaching and learning in *pesantren*. The last, this study opens up opportunities for more in-depth follow-up research on the long-term impact of using AR in language education as well as

how this technology can be adapted to other subjects. Finally, from a social and ethical perspective, this study underlines the importance of ensuring that technologies introduced in educational settings are in line with Islamic values and principles, and promote inclusivity and accessibility for all students.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

A. Conclusion

This study explores students' experiences in using Augmented Reality (AR) materials in Islamic boarding schools to improve their language vocabulary. the results showed that students responded very positively to the use of AR technology. Students felt more interested and motivated to learn new vocabulary through AR materials compared to conventional methods. the interactive and visual learning experience presented by AR helps students more easily understand and remember new vocabulary, which in turn improves their language skills.

To get results from the students' experiences, the researcher used semi-structured interviews. in this interview, the respondents will answer several questions about their experiences while using augmented reality in learning vocabulary. the data obtained from the respondents will then be processed to obtain results. With the thematic analysis technique, the results of this study state that three main things arise in the implementation of Augmented reality in *pesantren* to learn vocabulary.

The result of this study found that there are three main themes of students' experience with augmented reality. First is retention, where according to students using augmented reality they find it easier to remember or memorise the vocabulary given. Second, there is an increase in student motivation in learning due to the entertainment and gamification factors. Third is the challenges faced in

the use of augmented reality in *pesantren* which include limited facilities, teacher readiness, and integration with the curriculum.

B. Limitation

In conducting this research, the researcher faced several limitations or obstacles the researcher faced. First, the students are unfamiliar with the use of augmented reality technology, so researchers need time to familiarise students with this technology. The second, the existence of regulations on the prohibition or restriction of the use of electronic goods such as smartphones resulted in obstacles in this implementation process because the tools provided by researchers were not commensurate with the number of students, so the learning process was hampered. The third, the duration of time used in this study is quite limited because it is carried out outside of school hours while students have a busy schedule in pesantren.

C. Suggestions

After conducting the research, the researcher provides several suggestions, the first, it is recommended that *pesantren* start exploring and implementing Augmented Reality (AR) materials in their curriculum to improve vocabulary learning. the introduction of this technology could start gradually to ensure a smooth transition. The second, to optimise the use of AR, intensive training for teachers is necessary. This training should include how to operate AR technology, integration into lesson plans, and methods of evaluating its effectiveness. The third, *Pesantren* need to improve facilities and technological infrastructure to

support the implementation of AR. This includes the provision of adequate hardware such as tablets or smartphones that support AR applications.

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APPENDICES

Appendix 1. Research instrument

LEMBAR PEDOMAN WAWANCARA

No	Aspek yang Diamati	Indikator	Pertanyaan Wawancara
1	Pengajaran bahasa inggris di pesantren	Methode pengajaran bahasa inggris yang digunakan	1. Methode apa yag digunakan oleh pengjara untuk mengajarkan Bahasa Iggris kepada siswa di pesantren ini?
			2. Apakah ada bagian khusus yang betanggung jawab dalam pengajaran ataupun aspek bahasa lainnya di pesantren?
			3. Bagaimana metode pengajaran kosakata yang diterapkan di pesantren ini?
2	Pengalaman Siswa	Pengalaman siswa saat menggunakan Augmented reality dalam belajar	1.Bagaimana proses pembelajaran kosa kata yang anda pelajari sebelumnya?
			1. Bagaimana perasaan anda saat pertama kali menggunakan materi augmented reality untuk belajar kosakata bahasa inggris?
			2. Apakah menurut anda penggunaan augmented reality membuat pembelajaran kosakata lebih menarik? Mengapa?
			3. Apakah anda merasa lebih mudah mengingat kosakata yang dipelajari melalui augmented reality dibandingkan dengan metode tradisional? Mengapa demikian?

			4.Apakah anda merekomendasikan penggunaan augmented reality kepada teman-teman anda untuk belajar kosakata bahasa inggris? Mengapa atau mengapa tidak?
			5. Menurut anda, bagaimana materi augmented reality dapat ditingkatkan untuk membantu belajar kosakata bahasa inggris dengan lebih efektif?
			6. Bagaimana pendapat anda tentang perbandingan antara pembelajaran kosakata menggunakan augmented reality dengan pembelajaran menggunakan buku atau aplikasi biasa?
			7. Apakah ada momen khusus atau pengalaman tertentu dengan augmented reality yang sangat berkesan bagi anda dalam pembelajaran kosakata?

LEMBAR OBSERVASI

Nama Sekolah :

Hari/Tanggal :

No	Aspect	Observations	Description
1	Jenis Teknologi	Proyektor	
		Laptop/Komputer	
		Tablet / Smarphone	
		Perangkat Audio (Speaker, headphone, dll)	
2	Penggunaan Teknologi dalam pembelajaran	Untuk presentasi materi	
		interaksi dengan Siswa (kuis online, dll)	
		Penugasan Daring	
		Menonton Vidio/audio	
		Kolaborasi antar siswa	
3	integrasi Kurikulum dengan Teknologi	Penggunaan kurikulum sesuai dengan kurikulum	
		Penggunaan teknologi untuk tujuan pembelajaran Bahasa inggris	
		HUbungan penggunaan teknologi dengan kemampuan siswa dalam Bahasa inggris	
4	Respon Siwa	Antisiasme siswa terhadap penggunaan teknologi	
		Partisipasi siswa dalam aktivitas dengan menggunakan teknologi	
5	Penggunaan Waktu	Seberapa efisien penggunaan waktu dalam penggunaan teknologi	
		Pemanfaatan teknologi untuk mengoptimalkan waktu pembelajaran	
6	Kesesuaian Sumber Daya Teknologi dengan kebutuhan pembelajaran Bahasa inggris	Ketersediaan sumber daya teknologi di pesantren	
		Kesesuaian sumber daya teknologi dengan kebutuhan pembelajaran Bahasa inggris	
		Ketersediaan akses internet	

LEMBAR VALIDASI INSTRUMEN

A. PENILAIAN TERHADAP KONSTRUKSI PEDOMAN WAWANCARA

Istilah tabel berikut dengan memberikan tanda centang (√) pada kolom yang disediakan

5: Sangat Baik

4: Baik

3: Cukup Baik

2: Kurang Baik

1: Tidak Baik

No	Kriteria Penilaian	Skala Penilaian					Saran/ Perbaikan
		1	2	3	4	5	
1	Pedoman wawancara dirumuskan dengan jelas					√	
2	Pedoman wawancara mencakup aspek: a. Pengajaran Bahasa di Pesantren				√		
	b. Pengalaman Belajar Siswa				√		
3	Batasan pedoman wawancara dapat menjawab tujuan peneliti					√	

B. PENILAIAN TERHADAP PENGGUNAAN BAHASA

Istilah tabel berikut dengan memberikan tanda centang (√) pada kolom yang disediakan

5: Sangat Baik

4: Baik

3: Cukup Baik

2: Kurang Baik

1: Tidak Baik

No	Kriteria Penilaian	Skala Penilaian					Saran/ Perbaikan
		1	2	3	4	5	
1	Pedoman wawancara menggunakan bahasa indonesia yang sesuai dengan kaidah bahasa yang baik dan benar				√		
2	Pedoman wawancara menggunakan bahasa yang mudah dipahami dan dimengerti					√	
3	Pedoman wawancara menggunakan bahasa yang komunikatif					√	
4	Pedoman wawancara bebas dari pernyataan yang dapat menimbulkn penafsiran ganda				√		

C. PENILAIAN TERHADAP MATERI PEDOMAN WAWANCARA

Istilah tabel berikut dengan memberikan tanda centang (√) pada kolom yang disediakan

5: Sangat Baik

4: Baik

3: Cukup Baik

2: Kurang Baik

1: Tidak Baik

No	Kriteria Penilaian	Skala Penilaian					Saran/ Perbaikan
		1	2	3	4	5	
1	Pedoman wawancara yang digunakan dapat menggali aspek-aspek yang berhubungan dengan pengajaran bahasa di Pondok Pesantren					√	
2	Pedoman wawancara yang diguankan dapat menggali informasi mengenai pengelaman siswa dalam menggunakan teknologi Augmented Reality (AR) dalam pembelajar vocabulary di pesantren				√		

Secara umum pedoman wawancara ini:

(mohon berikan tanda centang (√) sesuai penilaian Bapak/Ibu)

LD : Layak Digunakan	
LDR : Layak Digunakan dengan Revisi	√
TD : Tidak Layak Digunakan	

Palopo, 10 Juli 2024

Dosen Ahli,

(Dewi Furwana,M.Pd.)

LEMBAR VALIDASI

LEMBAR OBSERVASI

Petunjuk:

Istilah tabel berikut dengan memberikan tanda centang (√) pada kolom yang disediakan

5: Sangat Baik

4: Baik

3: Cukup Baik

2: Kurang Baik

1: Tidak Baik

No	Aspek yang Diamati	Kriteria	Skala Penilaian					Saran/ Perbaikan
			1	2	3	4	5	
1	Kejelasan instruksi	instruksi mudah dipahami dan jelas dalam memberikan panduan kepada pengamat					√	
2	Keselarasan Butir Soal	Setiap butir observasi sesuai dengan tujuan penelitian					√	

3	Kejelasan Butir Observasi	Setiap butir observasi dinyatakan dengan jelas dan tidak ambigu					√	
4	Kesesuaian format	format lembar observasi konsisten dan memudahkan dalam pengisian					√	
5	Kesesuaian Bahasa	Bahasa yang digunakan sesuai dengan subjek penelitian					√	
6	Kelengkapan instrumen	Semua aspek yang ingin diobservasi telah tercantum dengan lengkap					√	
7	Validitas Isi	Isi dari instrumen sudah mencakup semua aspek yang relevan dengan penelitian					√	
8	Reliabilitas	instrumen dapat memberikan hasil yang konsisten jika digunakan oleh pengamat yang berbeda atau pada waktu yang berbeda					√	
9	Kesesuaian Waktu	Waktu yang disediakan untuk pengisian lembar observasi cukup					√	
10	Kesesuaian dengan Subjek	instrumen sesuai dengan karakteristik subjek yang diobservasi					√	

Secara umum pedoman wawancara ini:

(mohon berikan tanda centang (√) sesuai penilaian Bapak/Ibu)

LD : Layak Digunakan	√
LDR : Layak Digunakan dengan Revisi	
TD : Tidak Layak Digunakan	

Palopo, 10 Juli 2024

Dosen Ahli,

(Dewi Furwana, M.Pd.)

Appendix 2. interview Transcript

P1: '..... iya kak, jadi kami itu diberikan kosakata setiap 2 hari sekali. Setiap hari Senin, Rabu, dan Jumat kak. (Diwawancarai pada tanggal 30 April 2024)

P3: '.... kalau pembelajaran vocab di sini, vocab diberikan di masjid setelah Ashar sama bagian bahasa, nanti di sana juga akan dikasih tahu ke siswa bagaimana cara membacanya atau pronuncationnya." (Diwawancarai pada tanggal 12 Juli 2024)

P4: "Kami belajar kosakata setiap 2 hari sekali. diberi kosakata di masjid. kosakatanya itu ditulis di papan tulis, dan kami diajari cara mengucapkannya kak. (Diwawancarai pada tanggal 12 Juli 2024)

P1: " setiap hari jum'at itu kak, harus ki menghafal itu kosakata ke bagian Bahasa

P6: "setelah diberikan vocabnya, harus dihafalkan setiap hari ju'at ke bagian Bahasa kak" (Diwawancarai pada tanggal 12 Juli 2024)

P4:" Kalau belajarnya seperti ini kak (dengan augmented reality) lebih suka kak. Lebih cepat untuk hafal vocabnya karna sudah ada gambar nya yang bergerak-gerak, dan ada juga suaranya (pronunciation) nya selain gambarnya. (Diwawancarai pada tanggal 12 Juli 2024)

P2:" saya lebih cepat hafal kak karna sudah ada gambarnya dan ada juga suaranya yang bisa didengar. Trus, bisa ki juga belajar bagaimana penyebutannya kak" . (Diwawancarai pada tanggal 12 Juli 2024)

P5:" lebih bagus daripada buku kak (AR), karena ada animasi-animasinya, ada music sama suaranya (pronunciation) juga diajarkan kak." (Diwawancarai pada tanggal 12 Juli 2024)

P6:" membantu sekali kak, karna ada gambarnya (animasi) yang langsung muncul jadi mudah ditau dan mudah juga diingat." (Diwawancarai pada tanggal 12 Juli 2024)

P1:" Rekomendasi banget kak, masalahnya bahasa inggris itu susah pronunciation-nya jadi bagus sekali ini dipakai untuk belajar karena ada pronounciation-nya, ada juga gambarnya jadi gampang diingat." (Diwawancarai pada tanggal 12 Juli 2024)

P3:" Karena sangat membantu, tujuannya untuk memudahkan mengingat vocabs dan memang hasilnya lebih mudah diingat dari biasanya Miss" (Diwawancarai pada tanggal 12 Juli 2024)

P5:" Lebih bagus daripada (menggunakan) buku)" (Diwawancarai pada tanggal 12 Juli 2024)

P6:" lebih menarik kak dari pada cuman liat tulisan (Diwawancarai pada tanggal 12 Juli 2024)

P1:" lebih seru pakai ini (Augmented Reality), karena lebih menarik, kalau buku biasanya bosan." (Diwawancarai pada tanggal 12 Juli 2024)

P3:" lebih menarik kak, karena bukan Cuma text atau tulisan yang dipelajari, tapi ada gambar sama suaranya. Dan juga lebuh gampang diingat karna ada gambarnya (animasi) yang ada penjelasannya miss." (Diwawancarai pada tanggal 12 Juli 2024)

P3:" mau juga digunakan (augmented reality) disini, tapi tidak boleh bawa hp" (Diwawancarai pada tanggal 12 Juli 2024)

P2" bagus ini kak, tapi kalau mau digunakan disini susah kak karna ada peraturan yang larang bawa hp kesini." (Diwawancarai pada tanggal 12 Juli 2024)

P4:" recommended untuk digunakna disini, tapi dilarang bawa hp" (Diwawancarai pada tanggal 12 Juli 2024)

P5:" tidak direkomendasikan kak, karna dilarang bawa hp jadi tidak bisa dipake" (Diwawancarai pada tanggal 12 Juli 2024)

P5:" hmmm, kalau bisa ji digunakan disini kak, jadi recommended (untuk digunakan)" (Diwawancarai pada tanggal 12 Juli 2024)

Appendix 3.

NO	NAMA	NILAI
1	A M A	94
2	A C Z	72
3	N R S	70
4	N N A	70
5	R I S	70
6	T S	46
7	A M	70
8	H R R	100
9	S S	100
10	A Z A	100
11	M R	82
12	N A Z	94
13	U I	91
14	H A W	88
15	R P S	82
	JUMLAH	**1229**
	RATA RATA	**81,93**

Curriculum Vitae

Fitrah Amalia Sofyan, lahir di Luwu pada tanggal 1 Februari tahun 1999. Penulis merupakan putri pertama dari pasangan bapak Sofyan, S.P. dan ibu Gusriani, S.P. Penulis penempuh Pendidikan dasar di SDN 227 Larompong pada tahun 2005 hingga tahun 2011. Kemudian, penulis melanjutkan Pendidikan tingkat menengah pertama di Pondok Modern Nur El-Haq Komba dan diselesaikan pada tahun 2014. Ditahun yang sama, penulis memutuskan untuk melanjutkan studi di Pondok Modern Darusslam Gontor Putri Kampus 3 di Widodaren, Ngawi, Jawa Timur dan lulus pada tahun 2017. Selanjutnya penulis dipercaya untuk melanjutkan Pendidikan di Universitas Darussalam Gontor pada program studi Hubungan Internasional (HI) dan lulus pada tahun 2021 dengan IPK 3,48. Saat ini, penulis melanjutkan pendidikannya pada Program Magister Pascasarjana Institut Agama Islam Negeri Palopo pada program studi Tadris Bahasa Inggris.