DEVELOPMENT OF DIGITAL NAHWU MATERIAL TO IMPROVE READING SKILLS FOR STUDENTS

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Abstract

Developing digital nahwu material to improve the reading skills of Arabic language education students is one of the alternatives to facilitate the functional and contextual learning process of nahwu. This research approach is research and development based on Multimedia Instructional Design using the ADDIE model through five stages: analysis, design, development, implementation, and evaluation. Two data analysis techniques were used: (1) qualitative descriptive analysis, which is used to process data from reviews from linguists, material experts, media experts, lecturers, and students; (2) quantitative descriptive analysis, which is used to determine the difference or significance of pretest and posttest scores. Based on the data and analysis, it can be concluded that the development of *Nahwu al-Basith* media is through five steps: analysis, design, development, implementation, and evaluation. At the implementation stage, the feasibility test was carried out on the Expert/expert, obtained validation results from experts 1, 2, and 3, respectively, 87.5%, 87.5%, and 90%. Then, the *Nahwu al-Basith* media is very feasible to be applied in the Nahwu learning process. At the same time, the percentage of media and material (content) on users obtained 93%, which means it is very feasible to use. Based on the average value of the posttest, it is included in the excellent category with a score of 95 on kalam and i'rob material and 94 on i'rob isim material. Thus, the learning can be successful. The effectiveness of *Nahwu al-Basith* media is included in the excellent category, with results obtained of 100%. In contrast, the interview results show that *Nahwu al-Basith* is very effective and motivates students.

Keywords: Reading Skills, Digital Nahwu, *Nahwu al-Basith.*

1. INTRODUCTION

Islamic Religious Higher Education institutions have long been considered to contribute significantly to producing religious teachers who play an important role in shaping and guiding Islam in Indonesia. Several Islamic Religious Higher Education institutions (PTKI) have designed various programs and policies to enhance students' Islamic competencies, including reading classical Islamic *turâts* (*qirâ'atul kutub*). According to Masdar F. Mas'ud, one of the competencies of Islamic Higher Education graduates is Arabic language skills, minimum mastery of reading the book of *turâts* (*kitab gundul*). This competency is necessary to independently study Islamic sciences contained in Arabic-language books or books written in Arabic script, which are masterpieces of classical scholars' thoughts written in a pre-modern format (Mas'ud, 1988).

As academics in Islamic studies, the skill of reading classical texts is an inseparable part of PTKI students, especially students of the Arabic Language Education department. Among the learning outcomes of Arabic Language Education is mastering the knowledge and steps of communication, both oral and written, using Arabic in line with academic and professional developments. UIN Maliki Malang has been very focused on the program of mastering the reading of classical texts for students of the Arabic Language Education program. Various events are held annually to improve

students' ability to read classical texts, such as *musabaqah qirâ'atul kutub* (MQK), reading training sessions, and reading exams as prerequisites before students take their thesis exams. However, no path is without obstacles. Unfortunately, students' skill levels remain weak. In this context, the former rector of UIN Maliki Malang, Prof. H. Imam Suprayogo, stated that the problem still haunting PTKI students is their limited mastery of Arabic and the reading of classical texts (Suprayogo, 2015).

This is very unfortunate, considering they are conditioned as graduates in the field of Islamic studies but cannot study their field through primary resources in Arabic. Instead, they can only delve into their major through secondary resources, using translated works and interpretations developed by Indonesian thinkers and scholars. Consequently, they cannot directly use recognized methods to study the Quran and Hadith and the intellectual works of Middle Eastern scholars as commonly practiced by classical Muslim scholars such as kiai and santri. In this context, the science of Nahwu becomes a fundamental and strategic science, both theoretically and practically, to develop students' reading skills, especially to understand and explain various written Arabic discourses. (Aziz et al., 2022) (Rahmawati et al., 2022)

Nahwu is one of the linguistic sciences and one of the most crucial elements in understanding the Arabic language (Hamdah et al., 2022). The word nahwu in terms of language is the mashdar form of the word نحوا , which means towards, direction, side, like, size, part, and destination (Ma'luf, 1986). In terminology, Nahwu is the science that discusses the state of each word ending, whether it changes (*mu'rab*) or remains the same (*mabni*) in a sentence (Al Thanthawiy, 1997). Unfortunately, the perception that Nahwu is difficult to learn has become ingrained in students' mindsets, especially those just beginning to study it (Hakim et al., 2013). This is understandable considering Nahwu taught in Indonesia is heavily influenced by the salaf pesantren tradition, which treats Nahwu as the "substance" of the Arabic language. Furthermore, the orientation of Nahwu learning tends to be traditional and reductionist, not functional and contextual. Moreover, many Nahwu rules are philosophical and not pragmatic (Pohan, 2023). Therefore, it is deemed important to design a functional and textual Nahwu learning media that prioritizes contextual understanding because memorizing the rules does not necessarily mean they are meaningful or function optimally. (Muklason et al., 2023) (Amrullah, 2024) (Isnaini et al., 2023).

Based on the above assumptions, it is necessary to conceive a program to develop digital Nahwu material to improve the reading skills of Arabic Language Education students as an alternative to facilitate the functional and contextual Nahwu learning process. Considering that one of the information and communication technologies widely favored by 21st-century students is Android-based smartphones, this digital Nahwu material development will provide Nahwu content and include explanatory videos to help students understand Nahwu practices in reading skills. Additionally, quizzes are provided to deepen the previously presented material. Attractive illustration icons are expected to keep users from getting bored while utilizing and absorbing the material in the application. Through the practical use of this application, students can learn independently, thereby improving their reading skills.

This paper will describe the development of digital Nahwu material to improve reading skills for Arabic Language Education students at Maulana Malik Ibrahim State Islamic University Malang. It will also explore the validity and effectiveness of this digital Nahwu material development in enhancing students' reading skills.

2. METHODS

The type and approach of this research are research and development, commonly referred to in English as Research and Development (R&D). As quoted by Amir Hamzah in his book, R&D is defined as an effort to develop a product for use in specific activities and not to test a theory. Meanwhile, Borg and Gall, in the same book, explain that R&D is a process used to develop or validate existing products or new products (Hamzah, 2019).

This research on the development of learning media is based on Multimedia-Based Instructional Design using the ADDIE model. The ADDIE model, developed by Dick and Carey (1996), consists of five research phases: (1) Analysis; (2) Design; (3) Development; (4) Implementation; (5) Evaluation. The ADDIE model was deliberately chosen to help create effective learning programs and ensure a more systematic process.
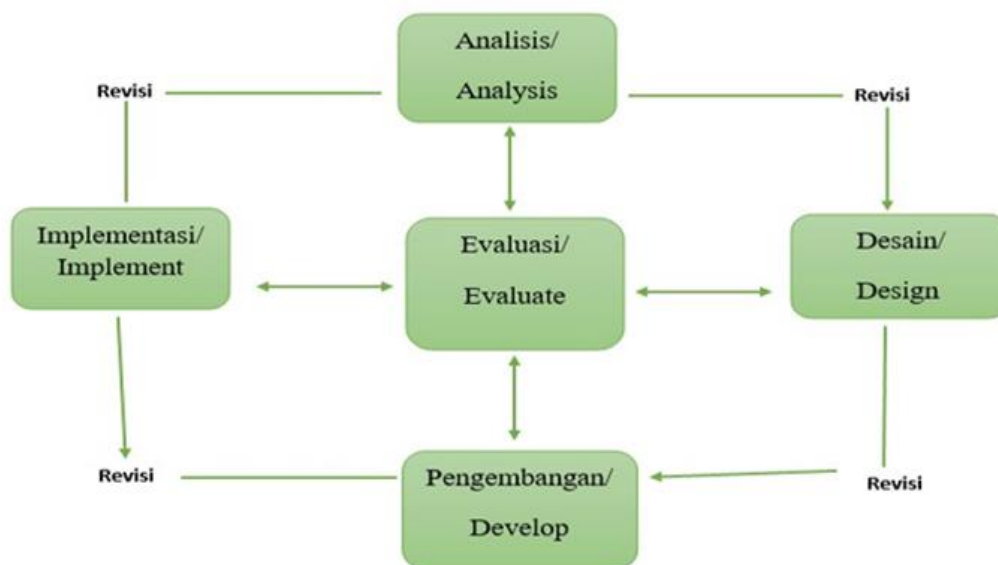

Figure 1

Additionally, this research employs the system development model known as the SDLC (Waterfall) model. The Waterfall model is highly sequential, starting from the beginning, proceeding through the process, and concluding with testing. The following are the stages of the Waterfall model (Shalahudin, 2019):

1) System Requirements Analysis: The process of gathering requirements is carried out intensively and specifically for software needs to understand what kind of software is needed by the user. The software requirements specifications at this stage need to be documented.

2) Design: Software design is a multi-step process focusing on designing software program creation, including data structure, software architecture, interface representation, and coding procedures. This stage translates software requirements from the analysis stage into a design representation that can be implemented into a program in the next stage. The software design produced at this stage also needs to be documented.

3) Code Generation: The design must be translated into software programs. The output of this stage is a computer program in accordance with the design created in the design stage.

4) Testing: Testing focuses on the logical and functional aspects of the software and ensures that all parts have been tested. This is done to minimize errors and ensure that the output produced is as desired.

5) Support/Implementation: It is possible for software to undergo changes after being delivered to the user. Changes can occur due to errors that appear and are not detected during testing or because the software needs to adapt to a new environment. The support or maintenance stage can repeat the development process starting from the specification analysis stage for new software changes.

The subjects of this research are students from the Arabic Language Education department of UIN Maulana Malik Ibrahim Malang, class of 2022, who are currently taking the Nahwu course. The number of students who are the subjects of this research is 16.

In the development of the *Nahwu al-Basith* application, data is collected from five sources: (1) interviews, used to gather data on the initial situational analysis and the background issues in this research, (2) literature study, used to explore knowledge related to learning media and applications in printed books and on the internet, (3) questionnaires, used at the implementation stage to measure the feasibility of the product created, both in the review stages by language experts, material experts, media experts, lecturers, and students during field trials, (4) tests, used at the implementation or application stage, conducted through pre-tests and post-tests in the form of multiple-choice questions to measure students' knowledge before and after using the *Nahwu al-Basith* application with a pre-experimental design (One Group Pretest Posttest). The data collection instruments in this development research are interviews, questionnaire sheets, objective test sheets, and product development reports.

In this research, two types of data are obtained: (1) qualitative data for product design and validation, (2) quantitative data for product validation and product effectiveness. Qualitative and quantitative data are obtained from reviews by language experts, material experts, media experts, lecturers, and students, starting from the needs analysis process to field trials.

Two data analysis techniques are used in this development research: (1) qualitative descriptive analysis, which is used to process data from reviews by language experts, material experts, media experts, teachers, and students. This data analysis technique is performed by grouping information from qualitative data through feedback, responses, criticism, and suggestions for improvement found in questionnaires and interview results. The analysis results are then used to revise the developed product; (2) quantitative descriptive analysis used to process data obtained through questionnaires in percentage form. In this research, the data analysis technique used to determine the difference or significance of pre-test and post-test scores is the paired sample t-test (if the data is normally distributed) and the Wilcoxon rank test (if the data is not normally distributed). Additionally, the Normalized Gain (N-gain) calculation determines each student's score improvement.
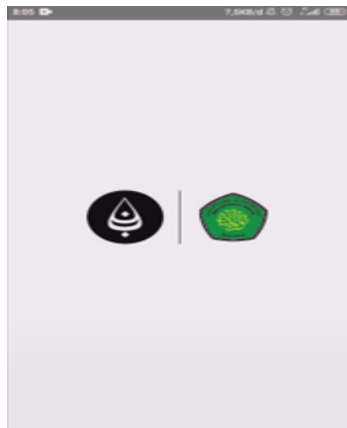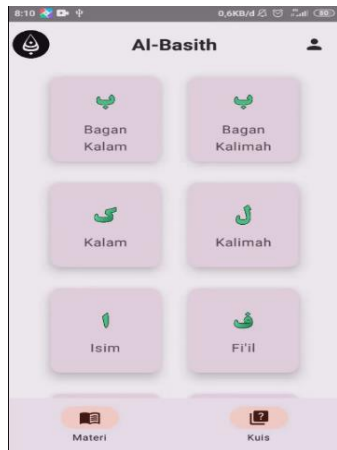
3. RESULT AND DISCUSSION

3.1 Media Development Steps

3.1.1 Analysis

Table 1

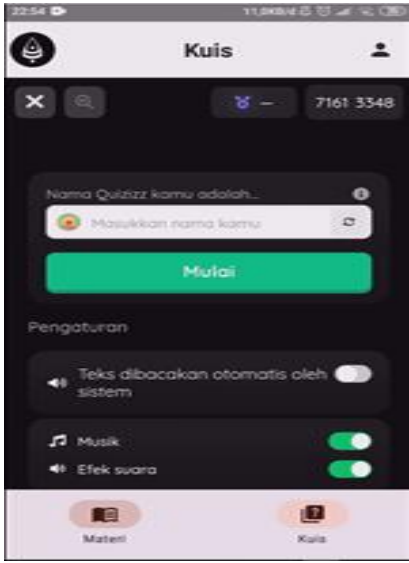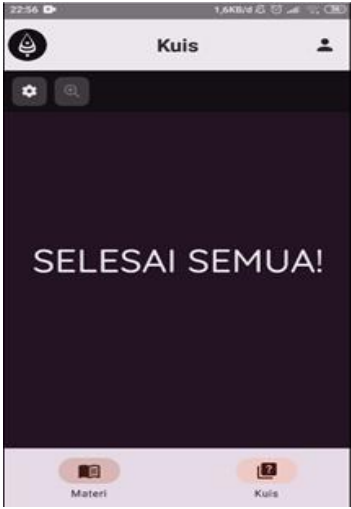|	
Gaps	: 40% of the 2022 A2 class students taking the Nahwu 1 course experience difficulties due to the vast scope of the Nahwu material. Additionally, 20% feel confused by the numerous i'rob markers. Meanwhile, another 25% find it challenging to study Nahwu material independently. Moreover, 15% feel that they have limited references or Nahwu books available. This is compounded by the density of the Nahwu material being covered in just 16 meetings.
Purpose	: Increasing understanding of Nahwu material is expected to enhance reading skills among students.
Learners	: PBA students from the 2022 cohort who are currently taking the Nahwu 1 course (Class A2).
Technology	: Android Based
Development Media	: IDE Android Studio, library realm, Canva, Website s.id, Google Form, Quizizz
Method	: Drill and Practice
Content	: *Nahwu* Material and Quiz

3.1.2 Design

No.	Part	Appearance
1	Homepage	
2.	List Materials	

| 4 | Click the available menu, and the next material will appear. | |
| 4. | Open the Quiz Menu | |

| 5. | The quiz is available in two versions: Google Forms and Quizizz. | |

6.	The preparation menu display before proceeding to the questions involves entering your name and setting music and sound effects if needed.	
7.	The final page.	
8.	Detailed results display.	
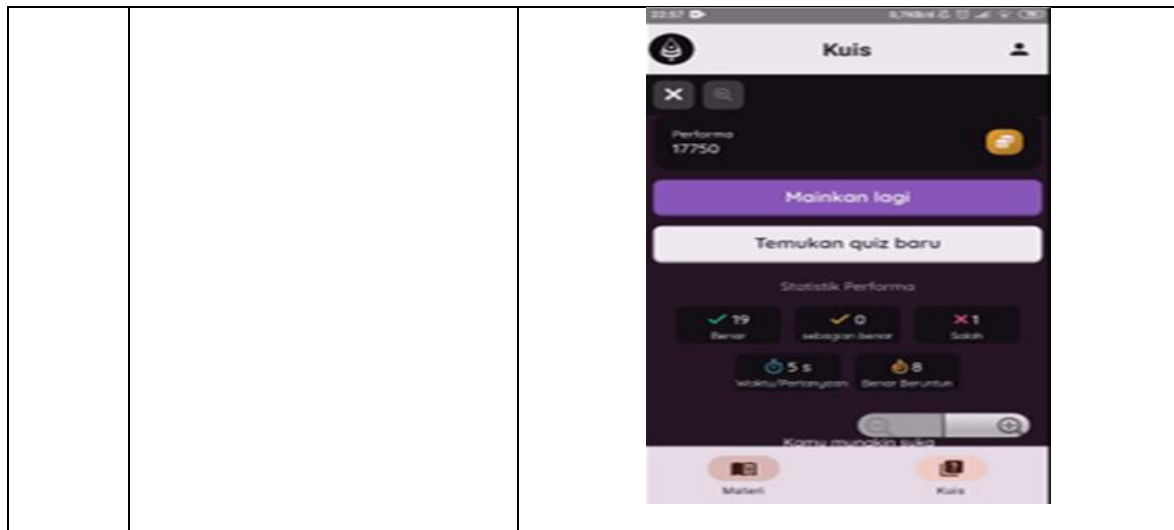
3.1.3 Development

Nahwu al-Basith was developed using the Android Studio IDE, with the use of the Realm library, Canva, the s.id website, Google Forms, and Quizizz. Its content includes comprehensive Nahwu materials starting from kalam, I'rob, marfuat, manshubat, majrurot, majzumat, and tawabi', accompanied by 25-50 multiple-choice and true/false questions per topic.

3.1.4 Implementation

Nahwu al-Basith is released online. Here, "online" means users can access the *Nahwu al-Basith* application via a browser by typing the following address: https://s.id/nahwu-al-basith-apk or scanning the QR Code below.

Figure 2: QR Address

Based on the data analysis conducted, the validation results from experts 1, 2, and 3 were obtained. The data showed percentage figures of 87.5%, 87.5%, and 90% respectively. According to the eligibility criteria table by Arikunto (2009), the *Nahwu al-Basith* media is very suitable for use in *Nahwu* learning processes. Meanwhile, the presentation of the media and content (materials) from *Nahwu al-Basith* users showed 93%, which means it is very suitable for use.

Evaluation

A trial of *Nahwu al-Basith* was conducted in 2 learning sessions, and the results were as follows:

Table 2: Pretest-Post Test Scores for the Kalam and I'rob Chapters

No.	User Name	Pretest	Posttest
1.	S. S. Z.	70	85
2.	A. J. C.	80	100
3.	H. K.	75	95
4.	A. B. A.	80	100
5.	C. E. D.	85	100
6.	L. M.	70	90
7.	A. T. S.	80	100
8.	B. L.R.	65	90
9.	M.I.	70	100
10.	L. A. Q. Z.	60	80
11.	F. R. F.	75	90
12.	N. S.	80	100
13.	S.F.F.	80	100
14.	A. N. W.	75	100
15.	B. A. N.	60	90
16.	Z. H.	70	100
Σ		1175	1520
%		73	95

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	73,44	16	7,465	1,866
	POSTTEST	95,00	16	6,583	1,646

Paired Samples Correlations		N	Correlation	Sig.
Pair 1	PRETEST & POSTTEST	16	,746	,001

Paired Samples Test		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRETEST -POSTTEST	-21,562	5,072	1,268	-24,265	-18,860	-17,004	15	,000

According to Singgih Santoso, the guidelines for decision-making in the Paired Sample T-Test based on the significance value (Sig.) from the SPSS output are as follows (S. Santoso, 2014):

1) If the Sig. (2-tailed) value is < 0.05, then Ho is rejected and Ha is accepted.

2) If the Sig. (2-tailed) value is > 0.05, then Ho is accepted and Ha is rejected.

Ho: There is no average difference between pretest and posttest results, meaning there is no effect of using the *Nahwu al-Basith* media on improving the learning outcomes of A2 class students in the Kalam and I'rob chapters. Ha: There is an average difference between pretest and posttest results, meaning there is an effect of using the *Nahwu al-Basith* media on improving the learning outcomes of A2 class students in the *Kalam* and *I'rob* chapters.

Based on the Paired Samples Test output table above, it is known that the Sig. (2-tailed) value is 0.000 < 0.05, so Ho is rejected and Ha is accepted. Therefore, it can be concluded that there is an average difference between pretest and posttest results, meaning there is an effect of using the *Nahwu al-Basith* media on improving the

learning outcomes of A2 class students in the *Kalam* and *I'rob* chapters, with the mean paired differences value being -21.562. This value indicates the difference between the average pretest learning outcomes and the average posttest learning outcomes, and this difference ranges from -24.265 to -18.860 (95% Confidence Interval of the Difference Lower and Upper).

Table 2: Pretest-Post Test Scores for the I'rob Isim Chapter

No.	User name	Pretest	Posttest
1.	S. S. Z.	60	95
2.	A. J. C.	70	100
3.	H. K.	70	95
4.	A. B. A.	60	90
5.	C. E. D.	60	100
6.	L. M.	65	90
7.	A. T. S.	60	90
8.	B. L.R.	65	90
9.	M.I.	65	95
10.	L. A. Q. Z.	60	85
11.	F. R. F.	70	90
12.	N. S.	65	100
13.	S.F.F.	70	100
14.	A. N. W.	70	90
15.	B. A. N.	60	90
16.	Z. H.	65	100
Σ		1035	1500
%		65	94

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	64,69	16	4,270	1,067
	POSTTEST	93,75	16	5,000	1,250

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRETEST & POSTTEST	16	,293	,271

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRETEST - POSTTEST	-29,062	5,543	1,386	-32,016	-26,109	-20,971	15	,000

Ho: There is no average difference between pretest and posttest results, meaning there is no effect of using the *Nahwu al-Basith* media on improving the learning outcomes of A2 class students in the I'rob Isim chapter. Ha: There is an average difference between pretest and posttest results, meaning there is an effect of using the *Nahwu al-Basith* media on improving the learning outcomes of A2 class students in the *I'rob Isim* chapter.

Based on the Paired Samples Test output table above, it is known that the Sig. (2-tailed) value is 0.000 < 0.05, so Ho is rejected and Ha is accepted. Therefore, it can

be concluded that there is an average difference between pretest and posttest results, meaning there is an effect of using the *Nahwu al-Basith* media on improving the learning outcomes of A2 class students in the *I'rob Isim* chapter, with the mean paired differences value being -29.062. This value indicates the difference between the average pretest learning outcomes and the average posttest learning outcomes, and this difference ranges from -32.016 to -26.109 (95% Confidence Interval of the Difference Lower and Upper).

3.2 Effectiveness of the Media

The effectiveness of a media can be seen from the completeness of the learning outcomes. Below is a table of criteria for the completeness of test learning outcomes referring to Eko Putro Widoyoko as quoted by Maharani (Maharani, 2012). The formula to determine the completeness of learning outcomes:

$$\text{Ketuntasan} = \frac{\text{Jumlah siswa yang tuntas}}{\text{Jumlah siswa yang mengikuti test}} \times 100\%$$

Table 3: Table of Criteria for Completion of Learning Outcome Tests

Percentage (%)	Category
$P > 80$	Very Good
$60 < p < 80$	Good
$40 < p < 60$	Pretty good
$20 < p < 40$	Not good
$p \leq 20$	Not Good/Very Poor

Explanation:

p: Completeness of the learning test

Based on the table of scores from the use of the *Nahwu al-Basith* media, it can be seen that there are 16 users whose scores are equal to or exceed the minimum completeness criteria (KKM). The calculation can be done using the following formula:

$$= \frac{16}{16} \times 100\%$$

$$= 100\%$$

With a result of 100%, the *Nahwu al-Basith* media falls into the category of very good, or in other words, it is very effective based on the table of criteria for the completeness of learning test results above.

Apart from quantitative data, the effectiveness of a media can also be seen from qualitative data, including interviews. Based on the interviews we conducted with 16 users of Nahwu al-Basith,

1) The effectiveness of *Nahwu al-Basith*

Received two responses: 2 people stated that *Nahwu al-Basith* is very effective for Nahwu learning, and the rest stated that *Nahwu al-Basith* is effective for Nahwu learning.

2) Aspect of Increasing Motivation

It received a unanimous response: more motivated in learning Nahwu.

4. CONCLUSION

Based on the data and analysis presented in the previous chapter, it can be concluded that the development of the *Nahwu al-Basith* media followed 5 steps: analysis, design, development, implementation, and evaluation. In the implementation stage, a feasibility test was conducted on experts, resulting in validation scores of 87.5%, 87.5%, and 90% from experts 1, 2, and 3, respectively. Therefore, the *Nahwu al-Basith* media is highly suitable for use in the Nahwu learning process. Meanwhile, the presentation results of the media and content (materials) from users showed 93%, which means it is highly suitable for use. Based on the average posttest scores, it falls into the excellent category with a score of 95 in the kalam and i'rob materials and 94 in the i'rob isim materials. Thus, the learning can be considered successful. The effectiveness of the *Nahwu al-Basith* media falls into the very good category with a result of 100%, while interview results show that *Nahwu al-Basith* is very effective and motivates students.

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