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THE ANALYSIS OF ARABIC SYNTACTIC LEARNING IMPROVEMENT THROUGH INTERACTIVE QUIZZES AND IMRITHY MEMORIZATION

Umi Machmudah[1*], Abdul Wahab Rosyidi[2], Abd Haris[3], Hakeem Kasem[4] and Ahmad Nurcholis[5]

[1,2,3] Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia,
[4] Deakin University, Australia
[5] IAIN Tulungagung, Indonesia.
*Corresponding author: machmudah@pba.uin-malang.ac.id

Abstract
Nowadays, learning *Nahwu* (Arabic Syntactic) is not difficult. Apart from memorizing nadzom (syii'ir), students can also use interactive *nahwu* media. Learning *Nahwu* is nothing but training to master the rules, because it requires media and methods that can help accelerate the students' understanding. In accordance with the theory of "Learning Pyramid" shows that by the demonstrations students mastered 30% of knowledge and through practice students mastered 75%. This quantitative research is a correlational study that examines the correlation between Interactive Quizzes (x_1) and Nadzom 'Imrithy' memorization (x_2) with *Nahwu* Learning Outcomes (y). There are 20 questions on QUINARU that are randomly selected from a total of 100 including multiple choice and true-false. These questions was tested on 15 students of the *Al Ishlahiyah* Islamic Boarding School in Malang. The object of this research is the students of Islamic boarding school who are the teaching candidates of religion material and Arabic language at the elementary education. This drill and practice media directs students to do several exercises to increase their dexterity in mastering the rules. By multiple linear regression, the results show that Interactive Quizzes and 'Imrithy' Memorization have a positive effect on the learning outcomes of *Nahwu*. The regression coefficient values for x_1 and x_2 are 0.716 and 0.206, respectively. This shows that the higher the student retention rate, the higher the learning outcomes will be.

Keywords: *Nahwu,* Interactive quizzes, Drill and Practice, 'Imrithy' memorization

INTRODUCTION
Until today, *nahwu* learning in *Salaf* Islamic boarding schools tends to be taught conventionally, monotonous and less attractive without the use of media [1]. This is proofed by the experience of several students of Islamic boarding school when they

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were still studying at Madrasah Aliyah. The *nahwu* learning without media is applied in activities where the teacher reads the material by translating each word in the book and explaining the material with several examples on the board, while students listen to it. That is, the material as a learning message is transferred without intermediaries. In fact, learning using media will attract the attention of students much more, they will feel at home with full attention from beginning to end. In addition, the media provides a function to facilitate students in learning material, that it can improve student learning outcomes. Moreover, if the media is based on information technology, whether it is in the form of audio aids, visual aids, audio visual aids, a series of activities, or a series of projects or computer-based ones [2]. The use of interactive media which includes a series of online quizzes produces better student learning outcomes than simply applying conventional methods [3]. The more impressions students receive, the more effective the learning will be. In other words, the effectiveness of teaching and learning is determined by the conditions that color student activities.

The *nahwu* learning material taught at the *Al Ishlahiyah* Islamic Boarding School in Malang consists of three levels, namely *Nahwu Jurumiyah, Imrithy*, and *Alfiyah.* Students will find it easier to learn Arabic grammar when they have a good understanding of the basics of *nahwu* which is described in the *Nahwu Jurumiyah* material [4]. The majority of students revealed that learning *nahwu* was very complex and difficult, so that the appropriate learning media would make it easier to improve their understanding. Some experts argue that the use of computer-based media or Computer Assisted Instruction (CAI) for material in the form of conceptual principles indicates a high level of effectiveness. CAI offers several advantages over traditional approaches, including helping teachers reduce administrative activities to collect and assess homework, enter test scores, and redistribute time-consuming homework [5].
Among the computer-based technologies that can be applied as a solution in *Nahwu* learning is the i-Spring Suite - Quiz Maker application, a software that functions as a quiz creation provider to help assess students' competencies and knowledge, train their work skills, and strengthen the learning [6]. There are several types of exercises provided by i-Spring Suite - Quiz Maker such as Multiple Choice, True-False, Hotspot, Multiple Response, Numeric, Matching, Drag the Words, and Select from Lists [7]. One of the methods that can be applied using i-Spring Suite - Quiz Maker is drill and practice. Drill and practice is used as a means to gain dexterity, accuracy, opportunity and skills [8]. S. E. Smaldino, et. al [9] sated that drill and practice directs students to improve their dexterity/dexterity and fluency/fluency in a skill that students acquire overall through practice [9]. The main purpose of this method is to ensure that students understand the prerequisite skills for the day's lesson. Practices and exercises for students include checking or reviewing the previous day's work to step into new skills and concepts [10]. This study aims to analyze the correlation between the Interactive

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Quizzes model "Drill and Practice" as the independent variable 1 (x_1) and *Nadzom 'Imrithy'* memorization as the independent variable 2 (x_2) with *Nahwu* Learning Outcomes as the dependent variable (y).

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LITERATURE STUDY

The Learning Media

R. Heinich, et. al [11] stated that the media is the plural form of the medium, is a communication intermediary, in the form of something that contains information between the source and receiver [11]. SL Chang [12] also argue that the media is a tool that delivers learning messages. BA Adegoke [13] said that the use of informatics technology in the learning process will create a sense of joy because students interact with pictures, videos, and animations. The teaching-learning process is essentially a communication process. In this process, there are three important components that play a role, namely: the conveyed message which in this case is the curriculum (objectives, materials, methods, media, and evaluation), the communicators, namely; teacher, and the the student as the communicant. In order to make the communication process run smoothly or take place effectively and efficiently, tools called learning media are needed.

In general, Arabic learning media can be classified into two groups which are electronic and non electronic media. R. Heinich, et. al [11] classified language learning media into three classifications: Audio visual aids (as *Samiyah-al Bashoriyah*), a group of activity series (*majmuatul amal*), and practicum (*majmuatul mulakhadhoh*). In addition, Q. Faryadi et. al [14] classified Arabic learning media or aids according to the dominance of the senses used. The senses and organs that are actively used in language are hearing, sight and speech tools. Learning media used as learning aids can be classified into three broad categories: hearing aids (audio aids), visual aids (visual aids), and visual aids (audio - visual aids). Along with the development of science and technology, a third type of media has been developed based on a computer that can present audio-visuals accompanied by an interactive approach using drill and practice models. This *Nahwu* learning evaluation media was developed through the i-Spring Suite - Quiz Maker application.

Drill and Practice Model

Drill and practice is a learning model that guides students through a series of exercises and practices that have been designed to hone new or existing skills [11]. The drill method is a training method which is a good way of teaching to instill certain habits. Drill and practice is also used as a means of obtaining dexterity, accuracy, opportunity and skills [15]. S. E. Smaldino, et. al [9] stated that drill and practice directs students through exercises to improve dexterity and fluency in a skill. The main purpose of drill and practice is to ensure that students understand the prerequisite skills for the day's

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lessons. The practical activities and exercises for students include: checking or relearning the previous day's work to move on to new skills and concepts [10].

Nahwu Learning Outcomes

Learning outcomes are a key factor for developmental inspection, which is an indicator by which student learning outcomes are assessed [16], and even elements of student learning evaluation and school satisfaction [17]. M Marcell [18] suggested that learning is a process that arises from actions taken based on experience [18]. Thus, a strong social influence is generated through the participation and interaction of learning with teachers or classmates, and student performance can be used as an indicator of evaluation after their participation in learning activities.

BS Bloom [19] mentioned six types of cognitive behavior, as follows:

a. Knowledge, attains the ability to remember about things that have been learned and stored in memory. Knowledge is related to facts, events, understanding of rules, theories, principles, or methods.
b. Understanding, includes the ability to grasp the definition and the meaning of what is learned.
c. Application, includes the ability to apply methods and rules to deal with the real and new problems. For example, using the principles.
d. Analysis, includes the ability to break down a unity into parts so that the overall structure can be well understood. For example, reducing the problem into small parts.
e. Synthesis, includes the ability to form a new pattern. For example, the ability to compile a program.
f. Evaluation, includes the ability to form opinions about several things based on certain criteria. As the example is the ability to assess test results.

Based on the description above, it is concluded that learning outcomes are the abilities that students have after receiving their learning experiences. These abilities include cognitive, affective, and psychomotor aspects. The learning outcomes can be seen through evaluation activities that aim to obtain evidentiary data that will show the level of student ability in achieving learning objectives.

Application of Drill and Practice in Arabic Grammar Learning (Nahwu)

The word *nahwu* has several meanings, including direction and similar. *Nahwu* according to the term is the science of rules (points) taken from the Arabic kalam, to find out the law of words that are not compiled (such as calling, *idgham*, removing and changing letters) and the state of the word (Arabic sentence) when it is arranged (such as *I 'rob and mabni*) [20]. Abu Aswad Ad Duali was the first figure who introduce *nahwu* science on the orders of Amirul Mukminin 'Ali bin Abi Tholib R.A.

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Drill and practice is used to train students to use concepts, rules or procedures that have been taught previously. The *nahwu* science material is in the form of conceptual principles or rules, and according to S. E. Smaldino, et. al [9] the use of computer-based media for learning content in the form of conceptual principles has a high level of effectiveness. Drill and practice directs students through exercises to improve dexterity or dexterity and fluency or fluency in a skill. In this case, the interactive quiz computer-based media with drill and practice techniques guide the students to improve their skills in remembering, memorizing, identifying, and applying the principles of *nahwu* science through training by answering the questions displayed [8], [15].

Nahwu science is the science of Arabic grammar, which is a foreign language for Indonesian people. In general, effective foreign language learning uses the form of drill and practice [11]. In the learning process, training is needed to hone students' understanding, so that there is an increase in the quality of mastery and understanding of the material. When the level of understanding increases, the learning objectives will be easily achieved.

QUINARU Interactive Media

QUINARU (*Nahwu Jurumiyah* Interactive Quizzes) is a learning medium in the form of an application with the .html extension developed using the i-Spring Suite Quiz maker. I-Spring Suite – Quiz-Maker is an authoring tool that can be used by educators in creating various kinds of interactive questions, ranging from multiple choice questions, true - false, matchmaking to essay questions. I-Spring Suite – Quiz-Maker is a handy tool for designing quizzes with drag-n-drop, audio, video, and equation questions [22]. QUINARU is included in the interactive multimedia category with drill and practice methods. It is designed to train the students' dexterity and skills in understanding *Nahwu* through questions practices.

Ability to Memorize 'Imrithy'

Memorization as a learning method has been commonly used by Muslims since classical times until right now. However, it needs to be emphasized that the rote method in Islamic education is intended to support and help understanding [23]. Thus, the application of the memorization method does not only emphasize textually, but must also involve or touch a higher realm of learning ability [23]. It means that memorization is not only an intellectual ability limited to memory, but also comes to understanding, analysis and evaluation.

One of the books that uses the memorization method in the learning process is the Imrithi book, which is a continuation of the *al-ajurumiyah* book which is the basic book for understanding Arabic grammar. The *Imrithy* book itself is actually a development of the al-*ajurumiyah* book which was then made *nadzom* to make it easier to memorize.

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Expressions in the form of *nadzam* (poetic) are easier and faster to memorize than those in the form of narrative (prose).
Learning through practice, including the "drill and practice" method which is applied in interactive quizzes in *nahwu* learning with "Quinaru" occupies 75% of the average student retention. Meanwhile, demonstration including "memorizing" occupies 30%.

Between Drill & Practice and 'Imrithy' Memorization

As in the theory of "Learning Pyramid" (Figure 1), the activities of students by honing their skills through the "interactive quiz" of the drill and practice method will have a higher impact than students who only memorize the rules through *syiir* or *nadzam* [24].

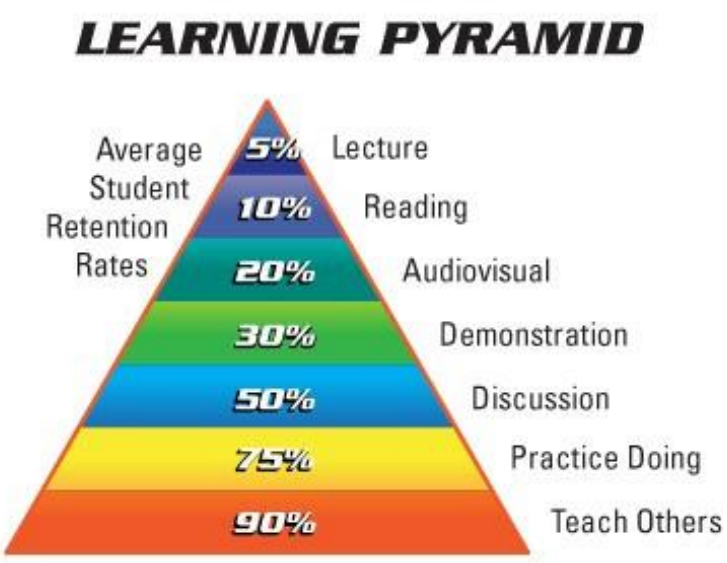

Figure 1. Learning pyramid [24]

RESEARCH METHODS

The Approach and The Type of Research

This research was conducted with a quantitative approach. The method applied is correlational research which examines the relationship between variables. The data analysis used is based on inferential statistics by applying multiple linear regression. This analysis aims to find a pattern of relationship that can be described mathematically between two independent variables (x_1 and x_2) and a dependent variable (y).

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Data collection

In this study, two independent variables were introduced, namely Interactive Quiz as x_1 and Memorization of 'Imrithy' as x_2 with a dependent variable in the form of *Nahwu* Learning Outcomes as y. The exercises on QUINARU totaled 20 items randomly selected from a total of 100 questions entered into system includes multiple choice and true-false types. The media trial was applied to 15 students of the *Salafiyah Putri Al Ishlahiyah* Islamic Boarding School Malang who were studying the *Nahwu Jurumiyah* material. The object of this research is the students of Islamic boarding school who are the teaching candidates of religion material and Arabic language at the elementary education. Media implementation is carried out by applying the drill and practice model. Through this method, students are directed to do several exercises that aim to improve their dexterity and fluency of a skill. Furthermore, the results of the assessment of this exercise are referred to as x_1 data. The 'Imrithy' memorization method was applied to 15 other students. This series of memorization assessments were then used as x_2 data.

Data Analysis Technique

Data analysis was performed using inferential statistical methods by applying multiple linear regression models. In more detail, this study examines the correlation between variables x_1 and y and variables x_2 and y, and compared which variables are more effective and have a high correlation with the learning outcomes of *nahwu*.

Testing Data Analysis Requirements

In order to ensure that the research variables can be analyzed using multiple linear regression models, the following data analysis requirements were tested.

Residual Normality Test

One of the tests in the regression model is related to the normality of the residuals. Normality testing uses the Kolmogorov-Smirnov test, where the hypothesis is formulated as follows:

H_0 = Residual normally distributed
H_1 = Residual not normally distributed

The Normality Test of Y Regression Residual on x_1

The test results using the Kolmogorov-Smirnov show that the value of p_{value} is 0.889 or greater than the value of $\alpha = 0.05$, so it can be concluded that the residuals are normally distributed.

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The Normality Test of Y Regression Residual on x_2

The test results using the Kolmogorov-Smirnov show that the value of p_{value} is 0.203 or greater than the value of α = 0.05, so it can be concluded that the residuals are normally distributed.

Glejser Heteroscedasticity Testing

This test aims to determine whether the regression model finds an inequality of variance from the residual value of one observation to another. Ideally, in a regression model there is no symptom of heteroscedasticity as indicated by the constant variance of the residual value. In this study, the Glejser Test was applied by regressing the independent variables on their absolute residual values. Based on the analysis, the significance value (Sig.) of 0.225 and 0.404 were obtained for the QUINARU Interactive Quizzes (x_1) and 'Imrithy' Memorization (x_2) variables, respectively. Because the significance of the two variables shows a number greater than 0.05, it is concluded that there is no symptom of heteroscedasticity in the regression model.

RESULTS AND DISCUSSION

Pearson Bivariate Correlation Testing

This correlation analysis aims to measure the degree of closeness of the relationship between variables expressed by the correlation coefficient value and symbolized by the letter "r". This correlation test fulfills the following requirements.

1. If the value of Pearson Correlation (r_{count}) > r_{table}, then there is a correlation between the independent and dependent variables.
2. If the value is Sig. <0.05, then there is a significant correlation between the independent and dependent variables.

The results of data processing using computer program indicate that the r_{count} value for variable x_1 is 0.966 greater than r_{table} = 0.514, thus it is concluded that there is a significant correlation between variables x_1 and y. As for variable x_1, the Sig value is obtained. of 0.000, less than 0.005, indicating a significant correlation between variables x_1 and y.

Determine the y Multiple Regression Equation for x_1 and x_2

The y multiple regression equation for the two variables is obtained through data processing using computer program. From the results of data processing, the multiple regression equation y over x_1 and x_2 can be formulated as follows.

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$$y = 14.039 + 0.716x_1 + 0.260x_2$$

with the regression coefficient for the Interactive Quizzes and Memorization 'Imrithy variables, respectively $b_1 = 0.716$ and $b_2 = 0.206$.

Testing the significance of the multiple correlation coefficient y on x_1 and x_2

The multiple correlation coefficient significance test or the coefficient of determination in multiple linear regression aims to measure how much the ability of all independent variables (x_1 and x_2) to explain the variance of the dependent variable (y). From the analysis, the value of R square is 0.938, which means that the effect of the two variables (Interactive Quiz and Memorization 'Imrithy') is 93.8%.

The significance test for the coefficient of the multiple regression equation y on x_1 and x_2 was carried out to test the second and third statistical hypotheses, namely:

1. The second hypotheses

$H_0 = \beta_1 \geq 0$

$H_1 = \beta_1 < 0$

2. The third hypotheses

$H_0 = \beta_2 \geq 0$

$H_1 = \beta_2 < 0$

The hypothesis testing is carried out using computer software, with the results of y multiple regression analysis on x_1 and x_2. The results of data processing using computer software, it appears that the P value value for the QUINARU Interactive Quizzes variable (x_1) = 0.019 at $\alpha = 0.05$ then for the second hypothesis H_0 is rejected, so it can prove that the QUINARU Interactive Quizzes variable (x_1) has a significant effect partially on the Nahwu Learning Outcomes variable (y).

For the value of p_{value} on the Hafalan 'Imrithy' (x_2) is 0.343, which means that for the third hypothesis H_1 is rejected, so it can be concluded that the 'Imrithy' memorization (x_2) variable does not have a partial significant effect on the *Nahwu* Learning Outcomes (y).

Data Description

The midterm score variable (y) has a range of x> 92.02 for the high category; 69.44 ≤ x ≤ 92.02 for the medium category, and x <69.44 for the low category. Based on categorization shows that the midterm Score (y) is 13.33% for the high category, 73.33% for the medium category and 13.33% for the low category.

The result shows that the overall midterm score of the research respondents is in the medium category (Table 1).

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Table 1.Variable Score Category of Midterm Score (y)

Category	Scores	Total	Percentage
High	X > 92,02	2	13,33%
Medium	69,44 ≤ X ≤ 92,02	11	73,33%
Low	X < 69,44	2	13,33%

The Quinaru test result variable (x_1) has a range of x > 87.78 for the high category, 62.88 ≤ x ≤ 87.78 for the medium category, x <62.88 for the low category. Based on the categorization, it shows that the results of the Quinaru Test (x_1) are 20% for the high category, 60% for the medium category and 20% for the low category. These results show that in general the Quinaru test results on respondents are in the moderate category (Table 3).

Table 2. Variable Score Category of the Quinaru Test Results (x_1)

Category	Scores	Total	Percentage
High	x > 87,78	3	20%
Medium	62,88 ≤ x ≤ 87,78	9	60%
Low	x < 62,88	3	20%

The *nadhom Imrithy* memorizing ability variable (x_2) has a range of x > 92.82 for the high category, 66.52 ≤ x ≤ 92.82 for the medium category, x < 66.52 for the low category. Based on the categorization, it shows that the Ability to memorize *nadhom Imrithy* (x_2) the object of the research is 26.66% for the high category, 66.66% for the medium category and 6.66% for the low category.
These results show that the understanding of the respondent's *nadhom Imrithy* memorization ability is in the moderate category in generally (Table 3).

Table 3. Variable Score Category of *Nadhom 'Imrithy'* Memorizing Ability (x_2)

Category	Scores	Total	Percentage
High	x > 92,82	4	26,66%
Medium	66,52 ≤ x ≤ 92,82	10	66,66%
Low	x < 66,52	1	6,66%

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Based on the results of the categorizations that have been described, it can be seen that the tendency of the midterm results is generally moderate. It can be stated that the success of students in their education is also influenced by the ability to memorize *nadhom Imrithy* and their own Quinaru test results.

The Influence of the QUINARU Interactive Quizzes (x_1) on *Nahwu* Learning Outcomes

The results of data processing using computer program, shows that the value of p_{value} for the creativity variable (x_1) = 0.019 which means significant at α = 0.05, then for the second hypothesis H0 is rejected, so it can be concluded that the QUINARU Interactive Quiz variable (x_1) has an effect partially positive towards Nahwu Learning Outcomes (y). The regression coefficient value for the QUINARU Interactive Quiz variable (x_1) is 0.716. These results indicate that every one unit increase in the QUINARU Interactive Quiz variable (x_1), the Nahwu Learning Outcomes (y) variable has increased by 0.716 times.
The results of the data analysis show that the higher the results of the Quinaru interactive quizzes, the Nahwu learning outcomes will be higher too.

The Effect of 'Imrithy Memorization (x_2) on Learning Outcomes of Nahwu (y)

The results of data processing using computer software, it can be seen that the value of p_{value} for the creativity variable (x_2) = 0.343 which means greater than α = 0.05, so for the second hypothesis H_1 is rejected, so it can be concluded that the variable of 'Imrithy' memorization (x_2) has no partial effect on *Nahwu* Learning Outcomes (y).
The regression coefficient value for the QUINARU Interactive Quiz variable (x_2) is 0.206. These results indicate that every one unit increase in the 'Imrithy' memorization (x_2) variable, the *Nahwu* Learning Outcomes (y) variable has increased by 0.206 times.
The results of the data analysis show that the higher the 'Imrithy' Memorization Ability', the higher the *Nahwu* learning outcomes.

Simultaneous Correlation of QUINARU Quiz (x_1) and of 'Imrithy' (x_2) on Nahwu (y) Learning Outcomes

The results of data processing using computer program obtained a significance value of F_{count} (p_{value}) = 0,000, which means that the QUINARU Interactive Quizzes (x_1) and 'Imrithy' (x_2) memorization together (simultaneously) have an effect on *Nahwu* Learning Outcomes (y). The value of R Square obtained = 0.938. This shows that the influence of the QUINARU Interactive Quizzes (x_1) and 'Imrithy' Memorization (x_2) variable on the *Nahwu* Learning Outcomes (y) variable is 0.938 or 93, 8%.

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CONCLUSION

Interactive Quizzes (x_1) and 'Imrithy' Memorization (x_2) have a positive influence on the of students' *nahwu* learning outcomes. The results of data processing using computer program by applying multiple linear regression models indicate that the regression coefficient values for x_1 and x_2 are 0.716 and 0.206, respectively. That is, for each improvement in one unit of the x_1 variable, the *nahwu* (y) learning outcome variable has increased by 0.716 and applies to the regression coefficient value x_2. Thus, the regression coefficient value of Interactive Quizzes is higher than 'Imrithy' Memorization.

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