RESEARCH ARTICLE

DEVELOPING MOBILE LEARNING MEDIA FOR ARABIC MUFRODAT COURSE FOR UNIVERSITY STUDENTS DURING THE COVID-19 PANDEMIC

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Manuscript Info
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Abstract
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The purpose of this study was to develop mobile learning media for the Arabic Mufradatcourse during the COVID-19 pandemic and see the feasibility and effectiveness of the developed media for mastering Mufrodat. The Alessi and Trollip development model was used that consisted of planning, designing, and developing stages. The validation score obtained from the product design experts was 4.7 or 94%, from the material experts was 4.6 or 93%, and from the media experts were 4.6 or 96.25%. It means that the developed product was highly feasible to use. The result of the one-to-one learner trial was 2.9 or 94%, the small-group trial was 7.8 or 89%, and the large-group trial was 18.5 or 93%. To test the product's effectiveness, a t-test was performed using $t_{observed} > t_{critical} = 62.5 > 2.093$, where the difference in learning outcomes was 38.75. it can be concluded that the mobile learning media for the Arabic Mufradatcourse during the COVID-19 pandemic was highly feasible and effective to be used in the Arabic Mufrodat course in Indonesia.

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Introduction:-
Mastering the Mufrodat (Arabic vocabulary) is essential since it is the basic requirement in learning Arabic(Rahmawati, 2017). Mufrodat is an element of language that must be possessed by Arabic learners to help them master the writing and speaking skills(Nurbayan, M.A, 2014). Based on interviews with students who took the Mufrodat course in the Arabic Education Study Program of the Tarbiyah and Teacher Training Faculty of UIN RadenIntan Lampung, the learning process was conducted face-to-face with a whiteboard as the learning media. Thus, the students often experienced challenging to remember the material and were inhibited in mastering Mufrodat. This is in line with the results of previous research conducted by Fuad (2019) that motivation and students' retention to learn Arabic is low, and it is difficult to understand the meaning of each new vocabulary because the method of delivering the material is monotonous through lecturing methods and low variety of learning media. According to Masai & Milton (2015), some factors make it difficult for students to master vocabulary,

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namely frequency, abstractness, cognateness, part of speech, semantic relation between the words, audio and visual aids inflectional complexity.

Furthermore, internal and external factors inhibit learners from mastering foreign languages(Islam, 2015). The internal factors consist of interests, talents, and motivation and the external factors consist of teacher, curriculum, syllabus, material, strategy, media, environment, and evaluation(Koderi, 2017).

Nowadays, the world is shocked by the deadly virus known as CoronaVirusDisease 2019 or COVID-19, which has become an inevitable pandemic in Indonesia. The positive case of COVID-19 in Indonesia caused some citizens to lose their lives(Febriani et al., 2020). It has been recognized by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) that coronaviruses have influenced social systems, namely education and recovery in universities. During the pandemic period, environmental situations have prompted a change in strategy and learning media from face-to-face learning to digital learning. This is also done in other countries(Basilaia & Kvavadze, 2020). For this reason, the integration of technology and learning is the primary key in developing various models of Arabic learning in this emergency period(Febriani & Anasruddin, 2020). In their research, Febriani and Anasruddin recommend that the appropriate use of digital information technology will be able to influence four language skills and also influence the results of Arabic learning optimally.
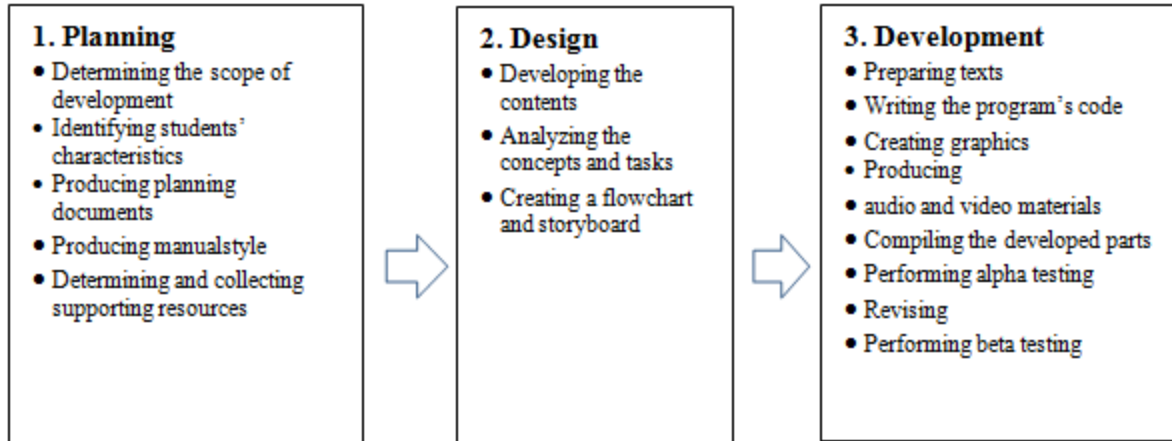
The observation results showed that the majority of students owned smartphones, although not used as learning media. During the teaching and learning process, students used books borrowed from the library. Smartphones are now prevalent in every level of society. Smartphones can be an appropriate learning media; thus, a mobile learning application for Arabic vocabulary was designed(Basyir et al., 2016).

The researchers believed that smartphones could be developed into learning media that can increase students' motivation and ability to strengthen the retention of Mufrodat material and other Arabic language skills. According to Heinich, an effective and efficient learning media must be able to 1) be a means for students to obtain the skills needed; 2) provide a stimulus for students to explore the knowledge and skills; 3) able to make students remember the content or subject matter (retention); and 4) able to apply the abilities learned under the right conditions(Koderi & Syahrial, 2018).

One effort to overcome the difficulty of Arabic learning and maintain the learning during the pandemic period is the development of mobile learning as an appropriate medium(Martha, Z. D., Adi, E. P., & Soepriyanto, 2018). Mobile learning is a learning model that utilizes mobile devices for learning(Koderi. Achmad Maulana. Dwi Prasetyo, 2019). Through mobile learning, students can study independently, wherever and whenever they want to. As stated by Lehner, et al, quoted by Siraj, mobile learning has the power to conduct teaching and learning activities anytime and anywhere, even while working(Saedah Siraj, 2004)and during the COVID-19 period(Basilaia & Kvavadze, 2020). It can foster students' interest and enthusiasm in learning so that it will be able to improve the mastery of Arabic Mufrodat because through mobile learning. Arabic Mufrodat can be presented more attractively and comprehensively by displaying the material in images, audio, and video. It also enables the students to avoid virus infections during the pandemic.

Research Method:-
This research employed the research and development method through qualitative and quantitative approaches. The qualitative data was obtained through interview and observation techniques, while the quantitative data was obtained from the results of the feasibility test and the product's effectiveness. The development model used was the one proposed by Alessi and Trollipwhich, consisting of three major stages: planning, design, and development(Por et al., 2012). The development model is illustrated as follows:

1. Planning
- Determining the scope of development
- Identifying students' characteristics
- Producing planning documents
- Producing manualstyle
- Determining and collecting supporting resources

2. Design
- Developing the contents
- Analyzing the concepts and tasks
- Creating a flowchart and storyboard

3. Development
- Preparing texts
- Writing the program's code
- Creating graphics
- Producing
- audio and video materials
- Compiling the developed parts
- Performing alpha testing
- Revising
- Performing beta testing

Figure 1:- The Modification of Alessi and TrollipDevelopment Model.

In the planning stage, the researchers interviewed the students. They observed the study program to obtain data about the problems of Arabic learning during the pandemic period to synchronize the conditions, objectives, and needs of students. For this reason, the researchers formulated learning objectives and behaviors to be achieved by students. In the design stage, the researchers compiled the developed materials, analyzed the concepts and tasks, and made flowcharts and storyboards. In developing and implementing the evaluation stage, the researcher wrote the program's code, created graphics, produced video and audio, and compiled parts into applications and installed them. After the final draft had been produced, alpha testing was done to validate the experts' product. According to the experts, the product that had been declared valid or feasible and revised was beta tested. The beta testing consisted of a one-to-one trial, small-group trial, and large-group trial. To find out the effectiveness of the developed mobile learning media, the researchers conducted pre-test and post-test. The pre-test and post-test results were tested for their normality and homogeneity. After the data had been considered normal and homogeneous, then the t-test was performed using the following formula:

$$t = \frac{\bar{x}1 - X2}{\sqrt{\frac{\sum x1^2 \sum x2^2 +}{n1 + n2 +}n3.\frac{n1 + n2}{n1n2}}}$$

X   = Average sample
$\sum x^2$ = The squared sum of sample
n   = The number of samples

Results and Discussion:-
Media Design:
The developed mobile learning media design was appropriate to the syllabus of the Arabic Study Program of Tarbiyah and Teacher Training Faculty UIN RadenIntan Lampung, which consisted of general purposes, particular purposes, and learning indicators. The app's storyboard design included the home page, content page, usage instructions, development goals, vocabulary learning materials in the form of text, audio, and pictures, as well as exercises(Koderi et al., 2019). Adobe Photoshop CS3 software was used to design the media display. This stage was critical because all displays in the application were designed at this stage. Text typing was done using Microsoft Word 2013 software with traditional Arabic fonts. The photos and images were appropriated to fit the theme.

Development and Implementation:
Based on the needs analysis, to overcome the lack of interest and poor learning outcomes, the developed learning media was focused on the Arabic lessons based on mobile learning. The material source was the printed books commonly used in learning and then packaged more attractively and equipped with pictures, audio, video, and evaluation to support the learning(Koderi et al., 2019). This learning media containedMufrodatmaterial sourced from students' printed books. This learning media consisted of 3 chapters with the following sections: 1) Al Amal; 2) Al Dam; 3) Al Laham; 4) AlkhairShobah; 5) Haiya Al Jamiah.

The display of material on mobile learning media is equipped with attractive images, sounds, and colors to facilitatestudents' memorization (Munir, 2012). Also, this mobile learning media provides examples of Arabic

vocabulary in the form of sentences in video format so that students would not feel bored. This learning media contains questions that are presented to evaluate learning. The exercises in this learning media are divided into two, namely choosing the correct answer and matching the pictures. The exercises are complemented with a timer and direct score display to increase students' interest and memorization.

The Alpha Testing of the Product:
The alpha testing or product validation involved design experts, material experts, and media experts. The validation instrument for the design experts consisted of 10, namely 1) the appropriateness between curriculum and material; 2) the appropriateness between the material and learning objectives; 3) the accuracy of learning indicators; 4) the appropriateness of evaluation and material; 5) the language of the material and illustrations; 6) the relevance of the material and needs; 7) the ease of the material; 8) the appropriateness of the language; 9) the interactiveness of the presentation; 10) the encouragement to study independently. The items of the instruments were in the form of aLikert scale. Before the instruments were used to validate the product, they were first validated by a language expert to ensure the validity of concepts and constructs. The average percentage of validation by the design expert was 4.7 or 94%. The result indicated that the developed product was suitable to be used in learning.

The instrument validation by material experts consisted of 10 indicators, namely 1) the appropriateness between curriculum and material; 2) the ease of the material; 3) the accuracy of the material; 4) the accuracy of the terms; 5) the accuracy of the images and illustrations; 6) the appropriateness between the material and the development of the Arabic language; 7) the interactiveness of the presentation; 8) the ability to encourage students to ask questions; 9) the ability to promote independent learning; 10) evaluation. The instruments were contained in a Likert scale that consisted of five scales. Before the instruments were used to validate the product, they were first validated by a language expert to ensure the validity of concepts and constructs. The average percentage of validation by the material experts was 4.6 or 92%. The result indicated that the developed product was suitable to be used in learning.

The validation instrument by media experts consisted of eight assessment indicators, namely 1) simple application display; 2) The display attractiveness; 3) easy to read and has good contrast; 4) the navigation keys function correctly; 5) the audio functions properly; 6) the application is easy to use; 7) the application can be used without problems; 8) the application is errors free. The average percentage of the media experts' validation was 4.6 or 92.5%. It indicated that the product is suitable to be used in learning. The alpha testing results or product validation from the design experts, material experts, and media experts are illustrated in the following figure.
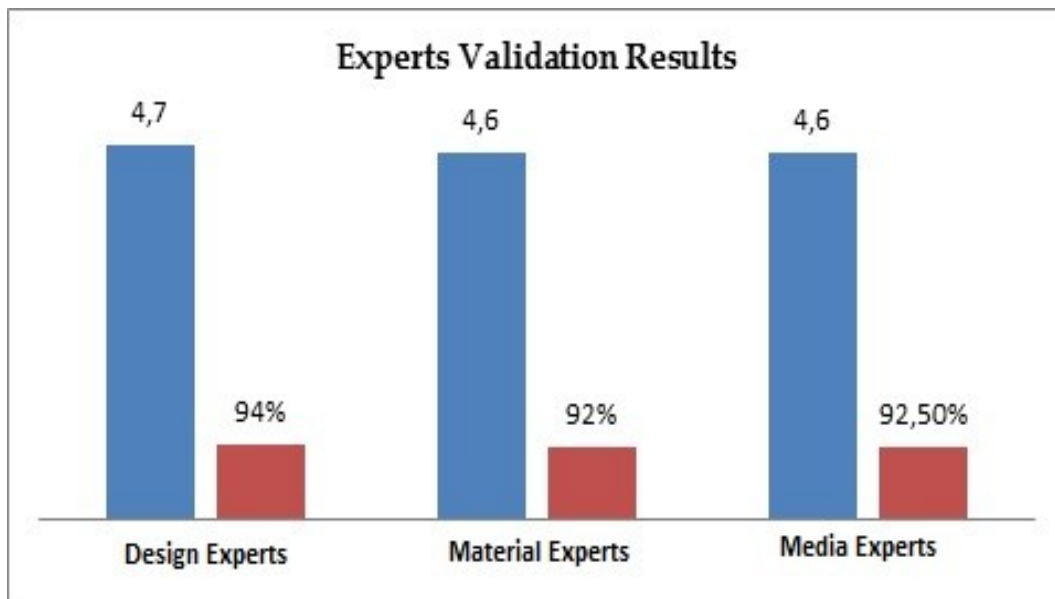

Figure 6:- The Results of Experts Validation.

Furthermore, there were some inputs and suggestions from the experts as a form of media optimization. The inputs were to adjust the font size, the audio, and the home page display.

Beta Testing:
Beta testing or product evaluation is a process to obtain data regarding the usefulness of the developed product. For that purpose, the product was tested through a one-to-one leaner trial, small-group trial, and field trial. The instrument used in beta testing consisted of 10 indicators, namely 1) the language aspects that are suitable to the subjects' characteristics; 2) do not contain sensitive words; 3) easy to understand; 4) add interest; 5) easy to use; 6) the links and tools are functioning correctly; 7) the contrast between text and graphics; 8) the audio is functioning correctly; 9) innovative; and 10) have relevant evaluations(Sharon E. Smaldino, Deborah L. Lowther, 2008). The instrument was in the form of the Guttman scale. The instrument had been validated by language experts so that it possessed concept and construct validity.

The one-to-one learner trial on three respondents obtained an average score of 2.9 or 94%. The small-group trial on nine respondents obtained an average score of 7.8 or 89%. The large group trial on 20 respondents obtained an average score of 18.5 or 93%.
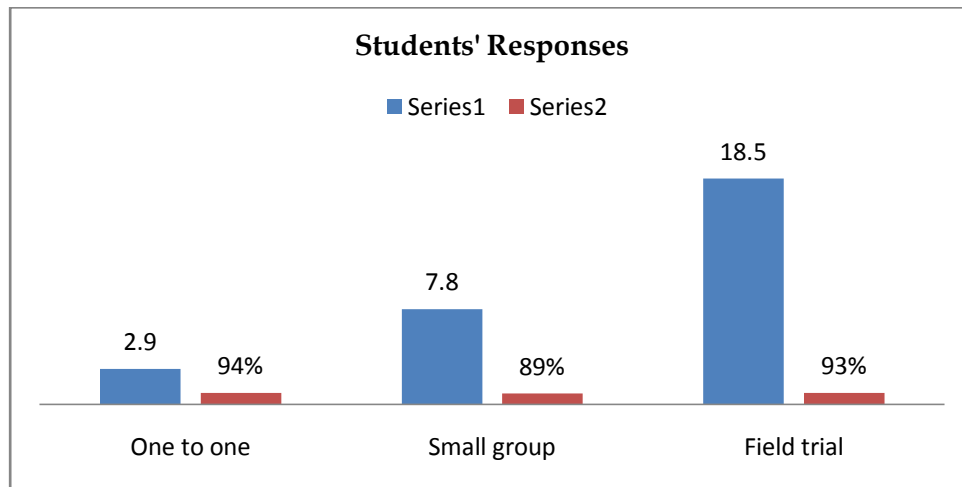
Figure 7:- The Results of Beta Testing.

To determine the effectiveness of the developed media, the researchers performed two tests, namely pre-test and post-test, in the form of multiple-choice questions. A paired sample t-test was used in calculating the pre-test and post-test scores. The average score of the pre-test was52.25, and the average score of the post-test was 87.5. Thus, there was an increase of 38.75 between pre-test and post-test.

To perform the t-test, prerequisite tests needed to be performed, which consisted of normality and homogeneity tests. The normality test was done using thetheLiliefors formula, while the homogeneity test was performed using F-test. The normality and homogeneity tests indicated that the pre-test and post-test data were normally distributed and homogeneous.

Based on the results of the t-test, it was found that $t_{observed} = 62.5$ while the $t_{critical} = 2.093$ at a significance level of $\alpha = 0.05$. The result of the comparison between the values was $t_{observed} > t_{critical} = 62.5 > 2.093$. it means that H_0 was rejected, and H_1 was accepted. It can be concluded that the mobile learning media was very effective to be used in the Arabic Mufrodatcourseduring the COVID-19 pandemic at the Arabic Language Study Program of the Tarbiyahand Teacher Training Faculty of UIN RadenIntan Lampung.

This study's results are reinforced by the research of Ameiri et al. (2012)that creatively and innovatively designed Arabic learning materials through mobile learning will facilitate students in learning Arabic anytime and anywhere. The developed mobile learning media designed according to the COVID-19 pandemic will make it easier for students to continue learning independently without a face-to-face meeting(Adzmi, 2020). The developed learning media had been designed simply by considering the students' needs in mastering the Mufrodat. The developed learning media was developed according to the students' needs to follow the objectives to be achieved(Shaikh& Khoja, 2012). The material is presented sequentially accompanied by text, images, and sound to be more interesting and easy to remember(Junaidu, 2008).

Conclusion:-

The mobile learning media for the Arabic Mufrodat course during the COVID-19 pandemic at the Arabic Education Study Program of the Tarbiyah and Teacher Training Faculty of UIN RadenIntan Lampung has developed the process of planning, design, and development. The developed product can be used offline using smartphone devices. The material contained in the learning media is according to the syllabus. The material has been modified in the form of text, images, audio, and interactive exercises.

The alpha testing indicated that the learning media is suitable to be used during the COVID-19 pandemic. The overall response of the one-to-one learner trial, the small-group trial, and the large-group trial indicated that the developed learning media is useful to increase the mastery of Mufrodat even though students have a different level of abilities.

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