Development of a Digital Dictionary for Measuring Arabic Language Education Students Retention

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Abstract

Digital Dictionary is an inseparable part of education and teaching. For this reason, higher education institutions are more enthusiastic about measuring the retention of Arabic language education students in learning activities. This study aims to measure the retention of Arabic language education students by developing a Digital Dictionary in tertiary institutions. This research is research and development with the Gagne and Briggs model; this research has steps such as analysis, identification of needs, setting general and specific goals, identifying alternative ways of meeting needs, designing components of the system, analysis (required resources, available resources, constraints), activities to overcome obstacles, select and develop materials, design research procedures, field trials, adjustments, revisions, further evaluations, summative evaluations, operational implementation and produce Digital Dictionary teaching materials. The subjects of this study were 40 students and two educators. The results of this study are proven by the results of written tests carried out after using the Digital Dictionary; the results are that 69.5% of students can use the Digital Dictionary tool, which is easy to carry anywhere and can increase student learning motivation. Thus, the Digital Dictionary developed using the Gagne and Briggs model can be used properly. The limitation of this research is that the researcher only conducts research by creating a Digital dictionary in one educational institution.

Keywords: *Digital Dictionary, learning media, retention.*

INTRODUCTION

It is entering the 21st century, known as the century of knowledge that will be the primary foundation in all aspects of life (Arbyn et al., 2020). The era of educational transformation in the 21st century is a stream of change in which educators and students will both play an essential role in the success of learning (McDonald et al., 2019; Murillo-Zamorano et al., 2019; Silalahi et al., 2022). The Age of Knowledge is an era that has significantly influenced the world of education and employment (Murillo-Zamorano et al., 2019). Educators not only master academic, pedagogic, and social knowledge, an educator must be able to master IT for the preparation of planning and implementation of technology-

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based learning models in learning activities (Anoum et al., 2022; Demina et al., 2022; Dewi S et al., 2022; Gabriela et al., 2022; Hartini et al., 2022; Nadya et al., 2022). Technology is science and the application of behavioral sciences systematically and systematically as a tool to solve problems. (Zhou et al., 2020; Munthe et al., 2021). This technology is usually referred to as advanced technology that, when used correctly, will get accurate results, and this technology is also easy to use (Joana et al., 2023, 2023; Maria et al., 2023; Yuri et al., 2023). The use of technology-oriented learning principles is one of modern education management, for example, the use of mobile learning in learning.

In general, using the latest technology can positively impact the learning process (Nascimento et al., 2019). Especially to measure student retention and student memory to remember the material being taught in the long term (Payne-Sturges et al., 2018). The benefit of technology is to make things easier, and with technology, all the work produced is better (Andoni et al., 2019). Information flowing quickly and rapidly is one sign of technological development (Sharma et al., 2019). The role of technology in learning is to form collaborative relationships and build meaning that is easier to understand (Frank et al., 2019). The realm of education is one of the domains that get the impact of technological developments; technological developments at this time have affected various aspects of human life (Fhirnanda et al., 2023; Kurniawan et al., 2023). Education is an effort carried out in a planned and conscious manner to assist students in learning in a conducive atmosphere (Brown, 2018). Education develops and develops a person's talents and interests for personal and public interest, participation in democracy, and is a community innovation source (Lövdén et al., 2020; Herman et al., 2022). This effort is part of the educational aspect needed in learning and technological development.

Learning media supports students' learning process to increase their understanding of the material being studied (Jansen et al., 2020; van Thao et al., 2021). One of the critical roles of learning media is to facilitate lecturers in conveying material to students (Chugh & Ruhi, 2018). The module is one of the learning media used to convey learning material (Zhao et al., 2019). At the tertiary level, lecturers usually use modules to assist the learning process for students (Sogari et al., 2018). Modules are used to simplify and clarify the presentation of material so that it is not too verbal (Chayambuka et al., 2018). The module aims to train students to be honest and learn independently with the guidance of educators (Xia et al., 2019). The characteristics of the module are straightforward and easy to understand, contain a complete description of the learning material, have transparent sources, and so on (Zhu et al., 2019). As is the case with modules in Arabic language learning media courses with Digital Dictionary development material.

Digital Dictionary is a computer-based dictionary that is small and easy to carry anywhere (Z. Sun et al., 2018). Using a Digital Dictionary is a way to develop a learning media using a printed dictionary which can be seen as less practical and impractical. Searching for vocabulary is still manual, with one-by-one meanings of vocabulary, which can be time-consuming (Furenes et al., 2021). The function of this Digital Dictionary is as a word breaker in its search method to search for the right word and provide word references by the user if the vocabulary sought is not found. (Wu et al., 2018; Hanif et al., 2023). The function of this Digital Dictionary is as a word breaker in its search method to search for the right word and provide word references by the user if the vocabulary sought is not found. With the Digital Dictionary, it makes it easier for students to look up vocabulary without taking up much time. Of course, the Digital Dictionary is more practical than a manual Arabic dictionary (Serale et al., 2018; Shi et al., 2021). The use of the Digital Dictionary can also positively impact the learning process, especially in remembering the vocabulary in the Digital Dictionary.

The Digital Dictionary that has been developed is more oriented toward mobile learning, judging by the number of users who find it more practical because it can be used directly on mobile phones. However, the Digital Dictionary can also be used on computers (Karami & Rabbani, 2017). The Digital Dictionary that has been developed is more oriented toward

mobile learning, judging by the number of users who find it more practical because it can be used directly on mobile phones. However, the Digital Dictionary can also be used on computers. (Luong et al., 2019). The benefits of mobile learning are that it can foster enthusiasm and motivate students to learn so that the delivered material can be adequately understood and facilitate the teaching and learning process. The learning process will run well if students retain well (Kumar Basak et al., 2018). This resulted in a statistical calculation of 100% obtained from media experts, material experts 80%, a percentage score of 75% from individual trials, a percentage score of 80%, and field trials 70%.

Learning Arabic with the Digital Dictionary is necessary to make it easier for students to find Arabic vocabulary (Heikal et al., 2018). Digital Dictionary-based learning media strongly supports learning Arabic among students (Wu et al., 2018). The critical role of Arabic learning media is to increase student learning motivation, provide reliable data, and seek reliable and reliable information (J. Sun et al., 2020). The characteristics of learning media are that the subject matter is presented clearly and straightforwardly, the learning flow is clear, the learning objectives are clear, and the instructions for using the tools in learning are also apparent (Mumford & Miller, 2018). Criteria that need to be considered by lecturers when choosing learning media are the accuracy of the media (Amrina et al., 2022; Fathia et al., 2022; Lumbantoruan et al., 2022; Mufid et al., 2022), the content of teaching materials, the ease of obtaining media, and the skills of lecturers in using it (Kuhn et al., 2018). The benefits of learning media for students are as a tool to facilitate the interaction of lecturers and students and to help students learn optimally (Al-Fraihat et al., 2020). The position of learning media is not just a teaching aid but part of the learning process; therefore, learning media is very important to support the success of learning. (Stieglitz et al., 2018). The Digital Dictionary aims to make it easier for students to find complex vocabulary (Brammertz & Mendelowitz, 2018). In the current information age, the behavior patterns of users who use the internet more to find the meaning of specific vocabulary; therefore, using a Digital Dictionary is essential now (Trembach, 2019). Using the Digital Dictionary makes teaching and learning more interesting (Bagade et al., 2020). Hopefully, this will increase the motivation and learning outcomes of Arabic language education students, especially in Arabic language learning media courses through the Digital Dictionary.

(Melinda & Ningrum, 2020) states in his research entitled 'Development of a Digital Dictionary to Measure Student Retention in Madrasah Ibtidaiyah (PGMI) Teacher Education' that a Digital Dictionary can increase student retention by using a Digital Dictionary. According to (Ardianti & Susanti, 2022), Stating in their research entitled 'Development of Android-Based Interactive Learning Media in Vocational High School Financial Accounting Subjects', learning media is a tool needed to support Arabic learning activities; the media must be made attractive and make it easier for students to find Arabic vocabulary manually. Meanwhile, Engelhardt et al. (2019), Stating in their research entitled 'The Influence of Accounting Skills, Digital Literacy and Human Literacy on the Job Readiness of Prospective Accountants in the Era of Digital Technology Disruption' that the increase and development of the use of digital technology cause various changes that cause disruption and create comfort and threaten the continuity of various professions. According to Pangkerego et al. (2021) stated in their research entitled 'The Effect of the Blended Learning Model on Simulation Learning Results and Digital Communication' that this was intended to determine the effectiveness of using the blended learning model to develop student learning outcomes in class X. According to Stieglitz et al., (2018) who stated in his research entitled 'Social Positions and Collective Sensessing in Crisis Communication' that technological developments have developed rapidly, this is evidenced by the emergence of sophisticated technological equipment that has changed the lifestyle of today's humans. According to (Pangkerego et al., 2021) in their research entitled 'The Effect of the Blended Learning Model on Simulation Learning Outcomes,' the blended learning model combines two offline and online learning models. To modern automated technology (Z. Sun et al., 2018) (Allemani et al., 2018; Macaro et al., 2018). Previous research took much time to

find vocabulary because it was done manually, while this research took little time to find the meaning of specific vocabulary.

This study seeks to re-examine the influence of the Digital Dictionary; by using the Digital Dictionary media, it is hoped that students can more easily understand Arabic vocabulary they have yet to understand. Digital Dictionary learning has significant benefits, so it should be considered for lecturers to use as a learning medium. The Digital Dictionary's purpose is to make it easier for students to understand Arabic vocabulary. With the existence of learning media, students have many choices that are used for media according to their characteristics. Based on the explanation above, it is necessary to take action to overcome a learning problem; the researchers developed a Digital Dictionary media to assist learning for Arabic language education students.

METHOD

Digital Dictionary learning media was developed according to procedures in research that apply the Gagne and Briggs model by Robert M. Gagne; this theory is also called Gagne's learning theory. Gagne's theory is a series of learning steps based on learning abilities, learning events, and the division of learning types (Lin et al., 2018). Meanwhile, the Briggs learning model is teaching-oriented because the lecturer will work as a designer of instructional activities (Ferentinos, 2018). This Digital Dictionary learning media is used to convey the contents of teaching materials and includes physical tools used in learning (Alayba et al., 2018; Larabi Marie-Sainte et al., 2019). The type of research that will be carried out in Development Research, namely research that takes existing products with improvements so that they become more perfect or this research is carried out to create new products (Elnagar et al., 2018; Ghallab et al., 2020; Heikal et al. ., 2018). The development of this digital dictionary is significant in measuring the retention of Arabic language education students.

This study uses the Gagne and Briggs model, which consists of 12 stages or steps briefly described in the table below.

Table 1. Stages and steps of research

Stages	Steps	Activity
Analysis and Identification of Needs	1	Analyze and know the need for a research
Setting general and specific goals	2	Research must have a general purpose and specific goals
Identify alternative ways of meeting needs	3	Considering opportunities, threats, strengths, and weaknesses in an alternative research
Designing the components of the system	4	**Required Components:** ❖ Input (data entered into the information system) ❖ Output (results that have been processed into information that researchers can use) ❖ Process (a collection of procedures) ❖ Technology (the part that functions to process inputs, produce inputs and produce expenditures)
Analysis	5	❖ Required resources ❖ Available resources ❖ Constraints
Activities to overcome obstacles	6	The obstacle that is often faced is the lack of knowledge to use or access research

Select or develop subject matter	7	Dick and Carey suggest three patterns: ❖ The author designs individual study materials ❖ The author changes and chooses teaching materials that are appropriate to the learning strategy ❖ The author does not use the material but conveys learning according to a strategy that has been prepared.
Design student research procedures	8	Designs, frameworks, sketches, and designs deliberately made by researchers as a reference for the research to be made.
Field trials, formative evaluations, and teacher education	9	❖ Field trials, namely the stage carried out to test the feasibility of the media. ❖ Formative Evaluation is an assessment that aims to improve the learning that has been given.
Adjustment, Revision, and Further Evaluation	10	The process of reviewing, checking, and improving research conducted.
Summative Evaluation	11	
Operational implementation	12	Evaluation is used for assessments used in student performance decisions.

Time and place The research was carried out at UIN Mahmud Yunus Batusangkar. This research was conducted in October 2022. The subjects and objects of this research were material and media and language validators, lecturers, and students. The method used in this research is qualitative. The object of this research is the feasibility of Digital Dictionary learning media to measure the retention of Arabic language education students. The data collection technique used in this study is Observation (conducted non-participantly, the researcher is not present to observe students, and the researcher observes students in a structured manner while studying on campus or at home by analyzing conditions after or before the development of the Digital Dictionary), and Questionnaire. Material Feasibility Test (carried out by distributing questionnaires to students; the purpose of distributing this Questionnaire is to find out the responses of students and lecturers to the media being developed).

RESULTS AND DISCUSSION

RESULTS

The results of developing Digital Dictionary learning media for Arabic language education media courses are through initial and final analysis. The development of this media is carried out by analyzing the material for Digital Dictionary learning media, which is carried out by filling in a questionnaire and collecting material. After that, it continued with the creation of video media by designing the appearance of the media and then entering the material (Digital Dictionary) so that a video is produced. The video was then validated by media, material, and language experts regarding the subject matter. Tests on students were conducted to obtain media data and media assessments in terms of language, media, and material. The trial or validation stage is intended to obtain opinions about the media being made. The results of the feasibility assessment of Digital Dictionary video learning media in Arabic learning media courses are:

Media Feasibility Validation Sheet

The results of trials on media experts were used to validate the media's eligibility; validation of this media's feasibility was studied, aiming to find out the shortcomings of the Digital Dictionary media that the researchers made as a medium for learning Arabic. In this study, the data obtained consisted of students. The assessment or data obtained from the media feasibility validation sheet results is an assessment of the Digital Dictionary learning media. Validation assessment by students is done by filling out a questionnaire. This study aims to obtain learning media that are suitable for use and can make it easier for students to find the desired vocabulary. So the researchers provide recommendations for improvement. Data from the Digital Dictionary media research results on the media eligibility validation sheet can be seen in the table below.

Table 2. Media Feasibility validation sheet.

No	Assessment Aspects	Strongly agree (SS)	agree (S)	Disagree (TS)	Strongly Disagree (STS)	Criteria
1	Arabic language education students need Digital Dictionary	69,2%	30,8%	-	-	Strongly agree (SS)
2	The Digital Dictionary is so practical to use that it has become a technology tool that is much-loved by students	50%	47,5%	2,5%	-	Strongly agree (SS)
3	Digital Dictionary is today's technology that has been widely used both among students and lecturers	47,5%	40%	12,5%	-	Strongly agree (SS)
4	Digital Dictionary is a computer-based dictionary that is easy to carry anywhere	57,5%	40%	2,5%	-	Strongly agree (SS)
5	Learning Arabic with the Digital Dictionary is very necessary to make it easier for students to find Arabic vocabulary	52,5%	47,5%	-	-	Strongly agree (SS)
6	The function of the Digital Dictionary is as a word breaker tool in the search method so that it can find the correct	68,4%	28,9%	2,7%	-	Strongly agree (SS)

	vocabulary and provide reliable references					
7	Digital Dictionary is a tool to support the success of learning Arabic	50%	47,5%	2,7%	-	Strongly agree (SS)
8	The use of the Digital Dictionary makes it easier for students to find complex vocabulary	62,5%	37,5%	-	-	Strongly agree (SS)
9	Digital Dictionary is needed by students, especially Arabic language education students	60%	32,5%	7,5%	-	Strongly agree (SS)

Information:

SS = Strongly Agree

S = Agree

TS = Disagree

STS = Strongly Disagree

The data from the research trials can be described as follows: 40 students were tested in this study, and the results of the students' highest assessment of the feasibility validation of Digital Dictionary development learning media to measure retention of Arabic language education students obtained the highest percentage of 69.2%, based on the percentage of achievement of media eligibility validation, is included in the strongly agree category. The results of the second highest student assessment of the eligibility validation of the Digital Dictionary development learning media to measure retention of Arabic language education students obtained the highest percentage of 47.5%, based on the percentage of achieving media eligibility validation, included in the agreed category (S). The results of the three highest student assessments of the eligibility validation of the Digital Dictionary development learning media to measure the retention of Arabic language education students obtained a percentage of 12.5%, based on the percentage of achieving media eligibility validation, included in the disagree category (TS). Moreover, the lowest student research results on the validation of the feasibility of learning media development of the Digital Dictionary to measure retention of Arabic language education students obtain a percentage of 0%, based on the percentage of achievement of media eligibility validation, included in the category of strongly disagree (STS).

Material Feasibility Validation Sheet

The results of trials on media experts were used to validate the feasibility of the material. Validation of the feasibility of this material was examined, aiming to find out the shortcomings of the Digital Dictionary media that the researcher made as a learning medium. In this study, the data obtained consisted of students. The assessment or data obtained from the results of the material eligibility validation sheet is in the form of an assessment of the Digital Dictionary learning media. Validation research by students was carried out by filling out a questionnaire. This study aims to obtain learning media that are suitable for use and can make it easier for students to find Arabic vocabulary properly and correctly. So the researchers provide recommendations for improvement. Data from Digital

Dictionary media research results on the material eligibility validation sheet can be seen in the table below:

Table 3. Material Feasibility Validation Sheet

No	Assessment Aspects	Strongly agree (SS)	agree (S)	Disagree (TS)	Strongly Disagree (STS)	Criteria
1	Learning Digital Dictionaries following essential competencies	47,5%	45%	2,5%	1,25%	Strongly agree (SS)
2	The breadth of Digital Dictionary material follows basic competence	32,5%	55%	12,5%	-	agree (S)
3	Learning Digital Dictionaries following essential competencies	56,4%	35,9%	2,5%	1,2%	Strongly agree (SS)
4	Examples of learning media contained in the Digital Dictionary are clear	42,5%	50%	7,5%	-	agree (S)
5	The pictures contained in the Digital Dictionary are very accurate	42,5%	52,5%	2,5%	-	agree (S)
6	The use of Arabic language learning media contained in Digital Dictionary is related to everyday life	45%	50%	5%	-	agree (S)
7	This Digital Dictionary learning encourages student curiosity	41%	25,6%	10,3%	23,1%	Strongly agree (SS)
8	Digital Dictionary is a handy printable dictionary	52,5%	37,5%	10%	-	Strongly agree (SS)
9	Sequential Digital Dictionary concepts	22,5%	67,5%	10%	-	agree (S)
10	Availability of student worksheets in Digital Dictionary learning	51,3%	43,6%	7,5%	-	Strongly agree (SS)
11	Systematic subject matter according to Digital Dictionary learning	42,5%	50%	7,5%	-	agree (S)
12	The material contained in this	42,5%	50%	7,5%	-	agree (S)

	Digital Dictionary can make students think critically				
13	Digital Dictionary learning makes students more creative and communicative	51,3%	43,6%	2,5%	-	Strongly agree (SS)
14	Digital Dictionary learning increases student curiosity and respects the opinions of others	53%	47%	-	-	Strongly agree (SS)
15	Digital Dictionary learning trains students to be able to think and have the courage to explain answers	48,7%	51,3%	-	-	agree to S)

Information:

SS = Strongly Agree

S = Agree

TS = Disagree

STS = Strongly Disagree

The data from the trial results of this study can be described as follows: 40 students became the object of research. The results of the student's highest assessment of the validation of the feasibility of the Digital Dictionary development learning material to measure retention of Arabic language education students obtained the highest percentage of 67.5%, based on the percentage of achieving media eligibility validation, included in the Agree (S) category. The results of the second highest student assessment of the eligibility validation of learning material for Digital Dictionary development to measure retention of Arabic language education students obtained the second highest percentage of 56.4%, based on the percentage of achieving material eligibility validation included in the Strongly Agree (SS) category. The results of the three highest student assessments of validating the feasibility of learning material for Digital Dictionary development to measure retention of Arabic language education students obtained a percentage of 53%, based on the percentage of achievement of material eligibility validation included in the strongly agree category. Furthermore, the results of the lowest student assessment of material eligibility validation, Digital Dictionary development learning to measure retention of Arabic language education students, obtained the lowest percentage of 1.2%, based on the percentage of attainment of material eligibility validation results included in the strongly disagree category (STS).

Language Feasibility Validation Sheet

The results of trials on media experts were used to obtain language eligibility validation; this language feasibility validation was examined to discover the shortcomings of the Digital Dictionary media that researchers made as learning media. In this study, the data obtained consisted of students. Assessment or data obtained data consisting of students. The assessment or data obtained from the language eligibility validation sheet results is an assessment of the Digital Dictionary learning media. Validation research by students was carried out by filling out a questionnaire. This study aims to obtain learning media that are suitable for use and can make it easier for students to find the desired Arabic vocabulary.

So the researcher provides recommendations for improving the data from the Digital Dictionary media research results on the language feasibility validation sheet, which can be seen in the table below:

Table 4. Language Feasibility validation sheet

No	Assessment Aspects	Strongly agree (SS)	agree (S)	Disagree (TS)	Strongly Disagree (STS)	Criteria
1	Digital Dictionary has the correct sentence structure	65%	25%	10%	-	Sangat Setuju (SS)
2	Digital Dictionary has effective sentences	41%	51%	5%	3%	agree (S)
3	Digital Learning Dictionary the ease of presenting material that is easy for students to understand	65%	30%	3%	2%	Sangat Setuju (SS)
4	Digital Dictionary learning following the level of student emotional development	41%	51,3%	5,7%	3%	agree (S)
5	Digital Dictionary has language precision	42,5%	47,5%	10%	-	agree (S)
6	Digital Dictionary has term accuracy	57,5%	35%	7,5%	-	Sangat Setuju (SS)
7	The Digital Dictionary has precise orders	61,5%	35,5%	4%	-	Sangat Setuju (SS)
8	Digital Dictionary learning follows the intellectual development of students	65%	30%	3%	2%	Sangat Setuju (SS)
9	Digital Dictionary has standard words	50%	42,5%	7,5%	-	Sangat Setuju (SS)

Information:

SS = Strongly Agree

S = Agree

TS = Disagree

STS = Strongly Disagree

The data from the trial results of this study can be described as follows: 40 students were tested in this study, and the results of the highest student assessment of the feasibility validation of learning language development of the Digital Dictionary to measure retention of Arabic language education students obtained the highest percentage of 65%, based on the percentage of attainment of language eligibility validation included in the strongly agree category (SS). The results of the second highest student assessment of language eligibility validation, Digital Dictionary development learning to measure retention of Arabic language education students, obtained a percentage of 61.5%, based on the percentage of achievement of language eligibility validation included in the strongly agree (SS) category. The results of the three highest student studies on language eligibility validation, Digital

Dictionary development learning to measure retention of Arabic language education students obtained a percentage of 57.5%, based on the percentage of achievement of language eligibility validation included in the strongly agree category (SS). The results of the lowest student assessment of language eligibility validation, Digital Dictionary development learning to measure retention of Arabic language education students, obtained a percentage of 2%, based on the percentage of attainment of language eligibility validation included in the strongly disagree category (STS).

Examples of Digital Dictionary Image Shapes

The picture above is a Digital Dictionary, a form of application used to develop a Digital Dictionary (print dictionary). This media is a tool that can be carried anywhere and is small. Digital Dictionary contains Arabic vocabulary or microdata that students can use in searching for Arabic vocabulary. The use of this Digital Dictionary is very influential on students majoring in Arabic language education or Islamic religious education because the presence of the Digital Dictionary will make it easier for students to find complex vocabulary. The characteristics of the learning media are that the Digital Dictionary material is presented, the learning flow is clear and not long-winded, the instructions for using the tool are clear, and the purpose of learning the Digital Dictionary is clear. Nowadays, using a Digital Dictionary is necessary because today's students are more inclined to use the internet than manually search for Arabic vocabulary. The positive impact of this Digital Dictionary is that it makes it easier for students to find Arabic vocabulary and is more practical. Therefore, students should be able to use this Digital Dictionary properly and correctly.

DISCUSSION

The result of this research is the development of a Digital Dictionary to measure the retention of Arabic language education students. Using the Digital Dictionary makes it easy for students to find Arabic vocabulary. The advantages of this Digital Dictionary are that it is small, practical, and, most importantly, easy to carry anywhere. Digital Dictionary is very suitable for use by Arabic language education students. The steps in developing this Digital Dictionary reference the Gagne and Briggs model development. The research steps in this development are as follows: The research and development steps of the Gagne and Briggs

model are: To be able to find out the analysis and identification of needs in research or for a study, the first step taken is to analyze and identify the needs will be used in the development of the Digital Dictionary later. To identify the development of the Digital Dictionary, the thing to do first is to know who is involved in the development of the Digital Dictionary and describe it or analyze the information obtained later. The analysis is also called the effort or effort made by someone in observing an object in depth to be investigated further. Analysis and identification of needs is a process or initial step that must be taken when conducting research in the field later.

The next step is setting general goals and specific goals; general goals are broad and general statements that describe the desired result of the development of the activity after it has been implemented. Furthermore, specific goals are statements that can be measured by the deadline for achieving general and specific goals. The purpose of this study is also called the formulation of the problem. Every research must have a goal; if the researcher does not have clear goals, then the implementation of the research is not going well, or it can also stop in the middle of the road because it needs clear goals. Therefore, before conducting research, researchers must know the purpose of the research so that the research runs smoothly and the researcher is not negligent in his research. The purpose of the research is also called the formulation of the problem, which is what can help researchers conduct research according to the research path.

After determining the general and specific goals, the next step is identifying alternative ways to meet the needs. In identifying alternatives, what can be done is to consider the opportunities, threats, strengths, and weaknesses of an alternative. Alternative identification is also called the decision-making process to identify research that can be carried out to overcome problems in the research being conducted. Alternative identification is carried out to answer the question of whether a research plan has been carried out correctly or not. In a study, there must be alternative identification because if not, the research will not run properly. The research will go well if the researcher is careful about what he is studying. Therefore researchers must be able to overcome any problems and constraints that exist in a study so that research goes well and correctly.

Designing the components of the system is something that is needed to support the smooth running of an information system, namely input (data entered into the information system that is useful for obtaining the necessary information), process (a collection of several procedures that contain events or sequences of implementation that are interrelated to one another. Processes can occur in humans, nature and others), output (results that have been processed into information that can be used by the recipient or can also be called data that is processed into a specific form and processed through a device), technology (the part that functions to processing input, entering input and producing output. The steps taken in designing information systems are collecting and studying data to become a data structure that is by the system to be created, formulating problems, and analyzing problems that will arise later.

The analysis is a step that must be done after designing the components of the system. An analysis is a process for examining, changing, cleaning, and making research modeling that aims to find helpful information so that it can provide guidance to researchers in making a decision on the research question. The analysis is also called the activity of observing objects by rearranging the components that have been studied in detail. The analysis consists of the necessary sources (primary data, namely data obtained directly from the main source, primary data in the form of direct interviews with research, while secondary data, namely data obtained from a second source, for example, the results of available sources or the results of interviews with a second party), available sources (sources of problems, observations, education from theory, literature, social issues, practical situations, personal experience, and others, constraints (lack of funding in research, lack of advice and infrastructure, limitations time and others).

The next step is an activity to overcome an obstacle in research development. Indeed, some obstacles are encountered, so the research does not go well. Some of the obstacles that are often encountered are lack of knowledge to use or access learning applications, limited quota availability, signal interference, and unsupportive electronic devices; as a researcher, you must be able to overcome the problems you face; the method is to record all problems or failures that occur in a study so that researchers can repeat research and produce satisfactory data. Researchers must also be firm about any problems that arise in research. Furthermore, researchers must also take quick steps to overcome obstacles in research so that the research goes well and correctly and all problems can be overcome.

The next step is to develop and select learning materials. Learning material is a science, attitude, and skill students must master to meet predetermined competency standards. Dick and Carey suggest three patterns for designing and delivering learning: the writer designs individual learning materials, the writer changes and selects teaching materials according to the learning strategy, and the writer does not use materials but conveys learning according to the strategies that have been prepared. The types of learning material are facts (everything genuine usually contains names of people, place names, symbols, historical events, and so on). Concepts (new ideas that arise from the results of someone's thinking, which includes understanding, special features, core or content, and others). Principles (a vital matter which includes formulas, propositions, paradigms, theorems, and others). Procedure (sequential stages in carrying out an activity and chronology of an event). Attitudes or values (results of one's learning, for example, the value of affection, enthusiasm, and interest in one's learning).

The next thing to do is to design student research procedures; in general, the research design is a framework, sketches, and research designs deliberately made by the researcher as a reference for the research. The steps in this research design are formulating the problem to be studied and determining the type and source of data. The types of research designs are qualitative research, quantitative research, descriptive research, experimental research, correlational research, diagnostic research, and exploratory research. The research procedure is also called the stages or steps for collecting valuable data to answer research questions posed in a study that discusses the research sample, research location, research design, research population, and research subjects which are intended to discuss the design of student research procedures.

Field trials, formative evaluations, and teacher education are carried out in this step. Field trials are the stage carried out to test the feasibility of the media to produce suitable media; the activities carried out at this stage are to conduct trials of the Digital Dictionary learning media with more respondents. The trials carried out aim to review the results of student respondents on the feasibility test of the learning media. Formative Evaluation is an assessment that aims to improve, monitor, collect, and evaluate information to improve the learning that has been given, or formative Evaluation, which is also known as a series of teacher and student activities during the learning process. Teacher Education is training, teaching, and research to produce the best graduate teachers who teach at the elementary school level up to tertiary institutions.

Next is Adjustment, Revision, and Further Evaluation. Revision is also interpreted as reviewing, checking, improving, and updating a study conducted in a study. Revision is often used in scientific works, books, company reports, etc., and Advanced Evaluation is an evaluation carried out simultaneously with determining a study's value. Further Evaluation aims to find out a study or the effectiveness of a study. A decision taken in a study is also called an evaluation. Adjustments in research are needed because, in a study, there must be compatibility between one and another; if a study is not appropriate, then the research is considered ineffective and will not go well. Therefore the researcher must be careful about his research.

The next step is the Summative Evaluation, which is an evaluation that is used for assessment and produces a value or number used in a student's performance decision. Summative Evaluation determines the success of achieving the desired learning objectives; summative assessment is usually given at the end of learning, producing a value at the end of learning. Summative Evaluation is carried out at the end of learning. For example, when a student has graduated on a summative assessment at the end of his studies, the student can continue studying the subject he likes. So, summative Evaluation is the same as the final value of a lesson. Students in the final exam can develop Summative Evaluation; students can use all their abilities at the end of learning so that they get satisfactory and promising results. Summative Evaluation is carried out when someone has completed all the learning material.

Operational implementation is the implementation of learning media that must follow research procedures so that it has helped facilitate a good and correct learning process in the research process. This research aims to improve the quality of student learning and the learning process. These steps make it easier for students to use the Digital Dictionary; based on the steps above, the Gagne and Briggs model is a learning model that describes how a learning process is designed systematically and well from start to finish. This learning activity is very suitable to be applied to relatively new educational programs. In Indonesia, the learning process includes the development of a Digital Dictionary, which is carried out in tertiary institutions, such as using a Digital Dictionary at UIN Mahmud Yunus Batusangkar. The initial stage in this learning process is to develop Digital Dictionary learning, which aims to make it easier for students to find practical Arabic vocabulary and easy to carry anywhere by using the Digital Dictionary.

Modern technology is being developed at this time, which is sophisticated and certainly can help students search for Arabic vocabularies, such as Digital Dictionary development media. Digital Dictionary is a computer-based dictionary that is smaller, more practical, and more interesting. Digital dictionaries can make it easier for students to find Arabic vocabulary. The purpose of developing a Digital Dictionary is to assist students in finding Arabic vocabulary, especially students majoring in Arabic education at UIN Mahmud Yunus Batusangkar. An essential role in this Arabic language learning media is to develop student enthusiasm for learning and motivate students to study harder. The model developed in the development of the Digital Dictionary to measure the retention of Arabic language education students is the Gagne and Briggs model. Robert M. Gagne proposed this theory, also called the gain learning theory. Gagne's theory is a series of learning steps based on learning abilities, learning events, and the division of learning types.

Meanwhile, Briggs' learning model is lecturer-oriented because the lecturer will work as a designer of instructional activities. The time and place of this research were carried out at UIN Mahmud Yunus Batusangkar. The object of research from the development of the Digital Dictionary to measure the retention of Arabic language education students is the feasibility of learning media. Moreover, the method used in this study is qualitative.

The Gagne and Briggs model has twelve steps, namely: analysis and identification of needs, setting general goals and specific goals, identifying alternative ways of meeting needs, designing components of the system, analysis (required resources, available resources, and obstacles), activities to overcome obstacles, select or develop subject matter, design student research procedures, field trials, formative evaluations, teacher education, adjustments, revisions, further evaluations, summative evaluations, and operational implementation. At the trial stage, there are material eligibility validation sheets, media eligibility validation sheets, and language eligibility validation sheets. The media feasibility validation sheet has the highest percentage of 69.5%, which is in the strongly agree category. The material feasibility validation sheet has the highest percentage of 67.5%, which is in the agreed category. On the language feasibility validation sheet, the highest percentage of 65% gets the category of strongly to agree.

CONCLUSION

Based on the discussion above, it can be concluded that the Digital Dictionary development learning media can be a reference or benchmark for students in determining Arabic vocabulary and can add insight and knowledge, especially about Arabic language learning media courses, to measure retention of Arabic language education students. The results of filling in the answers from 40 students concerning the validity of the material's eligibility, the language's, and the media's eligibility validity obtained the highest percentage of 69.2%. Based on the research results, the achievement of Digital Dictionary learning media is included in the appropriate category to be used as a learning media that can help students in the learning process and can increase student learning motivation.

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