DEVELOPMENT OF INDONESIAN LANGUAGE TEACHING MATERIALS BASED ON EDUCATIONAL GAMES

IMAS MASTOAH

Student of Universitas Negeri Jakarta, Indonesia.

MOHAMAD SYARIF SUMANTRI

Professor, Universitas Negeri Jakarta, Indonesia.

GUSTI YARMI

Professor, Universitas Negeri Jakarta, Indonesia.

ZULELA

Associate Professor, Universitas Negeri Jakarta, Indonesia. Email: ImasMastoah_9919920007@mhs.unj.ac.id

Abstract

The aim of this study was to develop Indonesian language teaching materials based on interactive educational games in order to improve the beginning reading skills of second grade students in elementary schools. This Research and Development research uses the Dick and Carey Model. Model Dick and Carey. Data was collected using the validation method from experts. Presentation of data tested by learning design experts. Input and suggestions from design experts regarding Indonesian Language Teaching Materials Based on Interactive Educational Games are used as the basis for determining whether the media is appropriate or not. The results of the study concluded: (1) Development of Indonesian Language Teaching Materials Based on Interactive Educational Games was developed based on an analysis of the needs of teachers and students through a needs questionnaire provided by the developer, (2) Validation results of material experts, media experts, and design experts on the product development of Teaching Materials Indonesian Language Based on Interactive Educational Games with very feasible criteria to be developed, and (3) Based on the results of research on the development of Indonesian Language Teaching Materials Based on Interactive Educational Games it can be concluded that Digital Book learning media is used in developing abilities in designing creative, innovative and interesting learning

Keywords: Basic; Science; Education; Teaching; Reading

INTRODUCTION

The first step in reading to students in elementary schools (SD) starts with preliminary reading, as according to (Zulela MS, Reza Rachmadtullah, 2017) that learning to read in elementary schools very strategically functions to improve human resources, not only that reading the beginning is the basic capital for students in order to know the various meanings of the various contents of the subjects studied at school.

Based on data obtained from the Central Statistics Agency (BPS), which has been conducted since 2012, it has been revealed that there are 17.66% stated that Indonesian children have an interest in reading. this is categorized as having very low reading interest, not only that in March 2016 the Indonesian nation was declared to have ranked 60th out of 61 countries related to reading interest, not only that Indonesia can be said to be at the bottom above Botstana which

ranks 61st in reading interest category. Thus it is very necessary in the teaching and learning process in the classroom requires a lot of teacher skills, starting from the skills to recognize student characteristics, subject matter characteristics, environmental conditions characteristics to skills in choosing media, teaching materials and learning resources. These skills must always be honed by the teacher in an effort to improve the quality of the teaching and learning process which will be seen in the learning outcomes obtained by students.

The function of learning media is as a teaching aid, which supports the use of teaching methods that are applied or used by teachers (Aghni, 2018; Nurseto, 2012; Rifai, 2017). One of them is game learning media, in this case you can use cellphones and computers as a complement to more interactive learning media. To make it more fun, teachers can package material into interesting teaching materials, by applying technology in education, game-based learning media can be created (Tanjung, 2019; Wibowo & Suyadi, 2021; Yolanda Br Sembiring, 2020).

Interactive Educational Game is a game that aims to provoke children's learning interest in subject matter while playing, so that with happy feelings it is hoped that children can more easily understand the subject matter presented. Anjani et al., (2016); Kuswanto, (2019; Wahyuningtyas et al., (2017) explained that educational games are one of the game themes that try to provide educational value in a game, so that games that initially only function as entertainment media can eventually also be used as learning or training media. (Ansari & Rosnelly, 2020; Rebollo et al., 2021; Ropero-Padilla et al., 2021).

This educational game-based interactive multimedia was chosen for several reasons (Andari, 2020; Ansari & Rosnelly, 2020; Herfandi et al., 2020). First, almost all children are currently more active in playing games, be it via mobile phones or computers, because for children games are something that is fun and they really like it. Through something that is liked, it is hoped that students will be more interested in learning so that the learning process will be easier to understand, and Second, by using interactive multimedia students can easily remember the material provided. Given the importance of the Indonesian language subject for students and the constraints experienced in learning related to media, it is necessary to develop a media that can accommodate students' needs in increasing their learning motivation, so that students at SDN Mekar Jaya, Serang Regency, class II, take part in Indonesian language lessons. Reading literacy material can absorb the material taught well and learning objectives can be achieved as well as forming a personality that is aware of the importance of learning Indonesian (Junaedi & Suardi, 2020; Keluanan, 2018; Rahayu & Fujiati, 2018).

The Dick and Carey model defines development research as a process used to develop and validate educational products. The steps of this process are usually referred to as the R&D cycle, which consists of studying research findings related to the product to be developed, developing a product based on these findings, field testing in the setting where it will be used eventually, and revising it to correct deficiencies. Found in the stage of submitting the test. In more rigorous programs of R&D, this cycle is repeated until field-test data indicates that the product meets the defined behavioral goals (Sugiono, 2015). Whereas (Richey, 1976) defines development research as a systematic study of the design, development and evaluation of learning programs, processes and products that must meet the criteria of validity, practicality,

and effectiveness. Whereas (Plomp, 1993) adding the criteria "can show added value" in addition to the three criteria. According to (Dalman, 2019) Beginning reading is an activity of recognizing letters, identifying linguistic elements, recognizing the relationship between spelling and sound patterns, reading speed and delay in reading. At this stage the child is introduced starting from the shape of the letters of the alphabet from A/a to Z/z. after the child is introduced to vowels, consonant letters the child is introduced to how to read syllables, and compose sentences. In this case the child is introduced to assembling words, forming syllables, and forming sentences. Beginning reading is introduced and given in the lower grades of Elementary Schools (SD), namely from grade one to grade three. This is where students must be trained to be able to read fluently before they enter reading comprehension or advanced reading. Reading the beginning that has been adopted from the concept of literacy which is often known as (Basic Reading) as referred to by UNESCO. The essence of reading the beginning is operationally taught in low grade elementary schools (Kuntarto, 2013). Examining the nature of reading at the beginning of receptive abilities in sound aspects and how to connect them (Mabunga & Yani, 2019). According to (Costikyan, 2013) The essence of the game comes from the English language which means game. According to the game is a form of art in which participants, called players, make decisions to manage the resources they have through objects in the game in order to achieve goals. Ismail, (2009) define the game as something, while the word education comes from English, namely education which means education. According to (Prensky, 2005)) Educational games are games that are designed to be learned, but can still offer play and fun. Educational games are a combination of educational content, learning principles and computer games. From the experimental results it was found that the Personalized Education Computer Game not only increased learning motivation, but also increased student achievement. (Miller, 2003)

According to (Wijaya, Tasril and Utomo, 2020; Junus et al., 2021; Miluningtias and Shofiyah, 2021) revealed that "Game" means "Game". The game referred to in the game also refers to the notion of "intellectual playability". While the word "Game" can be interpreted as the arena of decisions and actions of the players. There are targets that players can achieve. Intellectual agility, at some level, is a measure of the extent to which the game is interesting to play to the fullest. Based on the above understanding, it can be concluded that games are part of one of the learning media that can motivate and facilitate students in the learning process and are adapted to the characteristics of students.

RESEARCH METHODOLOGY

This Research and Development research uses the Dick and Carey Model. The effectiveness of this approach lies in the accuracy in analyzing the learning components in the system. This model aims to solve learning problems programmatically with a systematic sequence of activities, which consists of ten stages, namely: (1) identify instructional goals (identify goals), (2) conduct instructional analysis (analyze learning), (3) analyze learners and contexts (analyze learners and contexts), (4) write performance objectives (formulate specific objectives), (5) develop assessment instruments (develop assessment instruments), (6) develop instructional strategy (develop learning strategies), (7) develop and select materials (develop and select

learning materials), (8) design and conduct formative evaluation of instruction (design and implement formative evaluation of learning), (9) revise instruction (revise learning), (10) design and conduct summative evaluation (design and perform a summative evaluation). According to Dick and Carey, the process flow for developing teaching materials is as follows:

The results of product development are in the form of teaching materials that have been tested for theoretical and empirical feasibility. In the feasibility process, several steps (stages) are carried out, namely starting with the Expert Test, one to one Test, Small group Test and finally the large group test or often called the Field Test. Then the research conducted a feasibility test starting from media experts, linguists and material experts, so that from several experts the product results from this development were in the form of "Indonesian language teaching materials based on interactive educational games to improve early reading skills in Class II Elementary Schools"

Researchers in developing this product used a qualitative descriptive method, in which this method is an in-depth method of how facts, reality and symptoms. In the most appropriate method of using how effectively the use of game-based Indonesian language teaching materials can improve reading skills in grade II elementary school students. The same is true of previous research that product validation was carried out through a qualitative descriptive analysis by classifying information from input, suggestions, responses, and criticisms obtained from data collection instruments. Quantitative descriptive data is also used to process data obtained through tests and questionnaires in the form of descriptive percentages (Supriatna, 2022) The results of the draft teaching materials that have been made in the form of prototypes, the next step is for the researchers to carry out the testing, repair and refinement stages and then directly validated by experts starting from material experts, linguists and media experts.

RESULT AND DISCUSSION

1. Material Expert Validation Results

The results of the material expert test in this study were carried out by three material experts, namely Dr. Helaluddin, M.Pd (UIN Sultan Maulana Hasanuddin Banten), Dr., Gusti Yarmi, M.Pd, (Jakarta State University) and Prof. Dr. Sugiyono, M. Pd, (Yogyakarta State University). The average results of material expert testing are as follows:

Table 1:Average material expert validation results

Number	Validator name	Indicators				Sum	Average	%
		Suitability of SK and Kd materials	Material accuracy	Material support	Material up-to-date			
1	Dr. Helaluddin, M.Pd	15	34	24	19	92	4,84	97%
2	Dr. Gusti Yarmi, M. Pd	13	30	24	18	85	4,47	89%
3	Prof. Dr. Sugiono, M. Pd	13	32	19	19	83	4,36	87%

The above assessment of game-based teaching materials given to material experts. From the percentage results in the table above when viewed from the histogram as shown below:
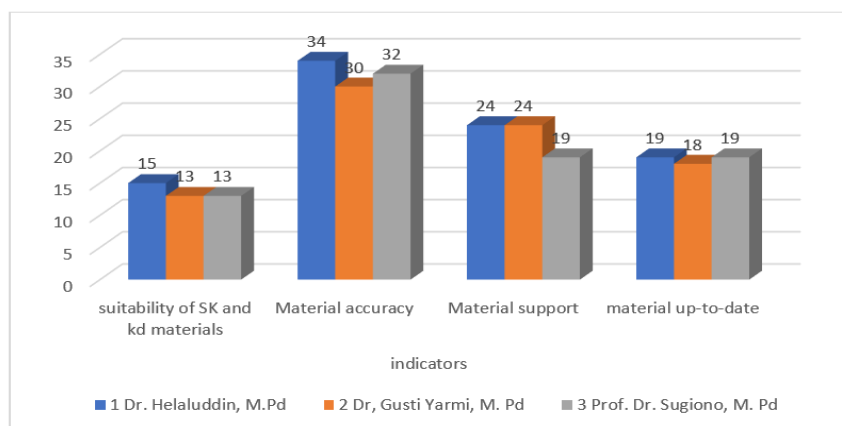
Diagram 1: Material Expert Validation Assessment

2. Media Expert Validation Results

The method used by the developer in generating this data is to provide a questionnaire, in this way the researcher can get the results of the assessment and input or suggestions to the developer so that this provides a solution as a revision of the teaching materials being developed. Below the developer describes in tabular, narration and diagram form the results of the media. The data validation results are as follows:

Table 2: Media Expert Validation Results

Number	Name of validator	Indicators				Sum	Average	%
		Presentation Design	Interaction Use	Accessibility	Feed back			
1	Dr. Uwes Anis Chaerumaen	45	19	20	4	88	4,19	84%
2	Dr. Ika Lestari,M.Si	50	23	24	5	102	4,85	97%
3	H. Dr. Eko Wahyu Widower, M.Si	45	22	23	5	95	4,52	90%
4	Prof.Dr.H.Sholeh Hidayat.M.Pd	41	16	16	5	78	3,71	74%
5	Dr. Lukmannul hakim	45	25	24	5	99	4,71	94%

Source: Data Analysis, 2023

Based on the results of media expert validation of game-based teaching materials, it can be seen from the table above, that the average product assessment results produce an average value of 4.7. With this it is categorized as a "Good" assessment. The results of the media expert's assessment of this game-based Indonesian language teaching material are made in the form of a histogram below.
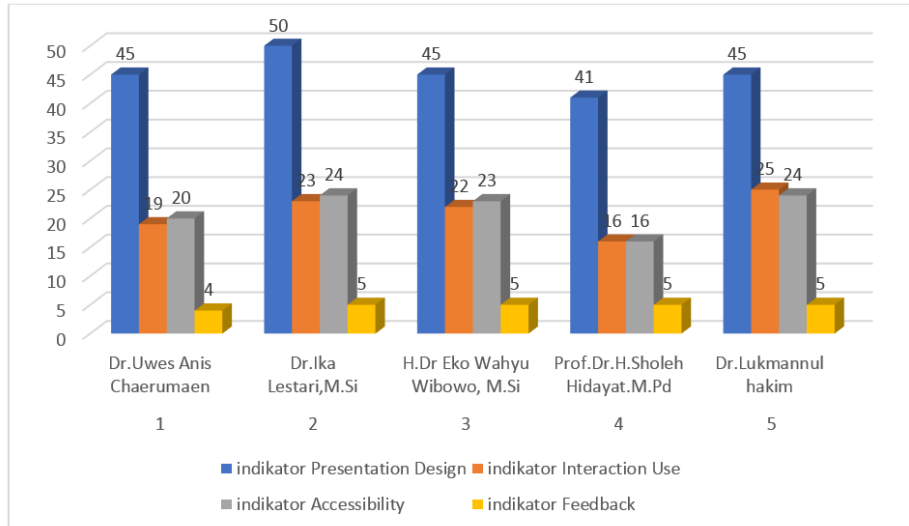
3. Media Expert Results Graph

Diagram 2: Media Expert Validation Assessment

Looking at the results of the histogram above, it can be seen that the developer gets a higher average value of 4.7. This is when referring to the Likert scale that this includes the "Good" category so that the developer's conclusion is that this teaching material is feasible to use or try out

4. Linguist Validation Results

The assessment on the linguist questionnaire included several indicators including straightforwardness, communicativeness, instructiveness, suitability for the development of students and suitability for language rules and the use of the term symbol or icon. Looking at the aspects of the five indicators, the results of data from linguists are as follows:

Table 3: Language Validation Result Data

Name of validator	Indicators						Sum	Average	%
	Straight forward	Communicative	Interactive	Sustainability For Student Development	Conformity With the Rules of Language	Use of Terms, Symbols, Or icons			
Dr. Anindtya Sri Nugraheni, M.Pd	14	10	10	9	9	9	61	4,6	94%

Source: Data Analysis, 2023

From the data above the developer describes that based on the average assessment results it produces 4.6, where this data is in the eligibility category which assumes "very good" from the percentage of linguists based on the table above achieving a feasibility of 94%, so it is categorized as "very good" " From the results of the percentage, average and results per indicator can be seen in the form of a histogram as shown below:
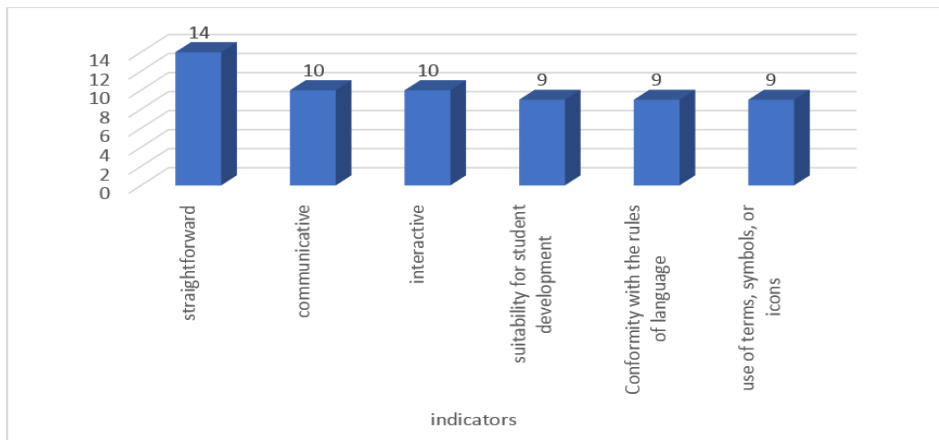
Diagram 3: Linguist Validation Assessment

Based on the diagram above that in the assessment of the linguist includes indicators of straightforward, communicative, interactive conformity with the development of students, conformity with language rules and the use of terms, symbols or icons categorized properly, the results of the conclusions of linguists have the "Good" category.

5. DISCUSSION

Indonesian Language Teaching Materials Based on Interactive Educational Games "PEBI" is intended for Class II students at SDN Mekar Jaya, Serang, Blessing Regency, as a companion book for learning resources that the author has compiled with the contents of the material according to the syllabus for Indonesian subjects. The topic of Beginning Reading Ability is the initial material for students to know and understand Indonesian language subjects. By referring to the basic theory that the Interactive Educational Game program "PEBI" is one of the internet-based learning that can increase the intensity of student learning by using their cellphones. In this learning concept, the "PEBI" Interactive Educational Game brings the benefits of just having material that can be accessed at any time and visualization of interesting material via mobile devices. Dwiyogo (2013) further said that the "PEBI" Interactive Educational Game is an enrichment if students quickly master or understand the subject matter presented by face-to-face educators are given the opportunity to access the "PEBI" Interactive Educational Game which was indeed developed for students, so that it will further strengthen the level of mastery of students towards the subject matter conveyed by the teacher in the classroom.

The use of information and communication technology in the world of education continues to develop with various strategies which basically can be grouped into the Electronic Learning (E-Learning) system as a form of learning by utilizing the "PEBI" Interactive Educational Game. The term "PEBI" Interactive Educational Game can also be said as a form of learning that utilizes mobile devices and technology. The Interactive Educational Game "PEBI" is a development of E-Learning. The term Interactive Educational Game "PEBI" refers to handheld

and mobile IT devices which can be in the form of PDAs (Personal Digital Assistants), cellular phones, laptops, tablet PCs, and so on. Interactive Educational Game "Ms. GEBI" can make it easier for users to access learning content anywhere and anytime, without having to visit a certain place at a certain time. Interactive Educational Games "PEBI" are related to learning mobility, in the sense that students should be able to be involved in educational activities without having to go to a certain physical location. (Panji Wisnu Wirawan, 2011: 22-23). From this source of information, it is the basis for the author to develop learning media for the Interactive Educational Game "PEBI". The Interactive Educational Game Program "PEBI" is an internet-based learning program that can increase student learning intensity by using their mobile phones. In this learning concept, the "PEBI" Interactive Educational Game brings the benefits of just having material that can be accessed at any time and visualization of interesting material via mobile devices. As for the results of media trials conducted on 33 Class II students at SDN Mekar Jaya, Serang Regency, it turned out that they gave a positive response to the use of the "PEBI" Interactive Educational Game as a learning medium.

By looking at the results of the questionnaire answers and comments on 33 students, it can be said that the Interactive Educational Game "PEBI" has an attractive appearance and is more practical than books in physical form. Students are motivated to read because the Interactive Educational Game "PEBI" has the advantage of being directly connected to the internet so that students can access deeper information if students still need additional information. The author also completes the Interactive Educational Game "PEBI" with various practice questions which include objective and subjective questions. So that students can practice at home as assignments given to students. The author can take an assessment of activities while at home, for example students identify early reading skills. The results of observations made by students will produce various data variations. The interactive educational game "PEBI" which the author arranges also functions as an interesting learning resource. From the data from the recapitulation of student questionnaire answers, a percentage of 93% was obtained for individual trials, 90% for small group trials and 91% for field trials, so that the opinion can be obtained that the material in digital books prepared by the author can foster students' interest in reading, due to their appearance. Interesting and different from the package book. Students also think that the "PEBI" Interactive Educational Game is more efficient because you don't have to buy expensive textbooks, and it's practical because it's easy to carry, and it's connected to the internet so it can be read anywhere via a Smart Phone.

CONCLUSION

The results of data collection from content experts, design experts, media experts, individual trials, small group trials, large group trials, Game-Based Indonesian Teaching Materials (Educational Games) carried out in class IV students, it can be concluded: (a) Submission learning materials in Indonesian Based Subjects using Game-Based Indonesian Teaching Materials (Educational Games) based on material expert questionnaires with an average number of 4.6, then Game-Based Indonesian Teaching Materials (Educational Games) are very suitable for use by grade IV students, (2) With a questionnaire that has been collected from media experts who provide data with an average number of 4.7, it requires revision of the time

allocation so that the product of Game-Based Indonesian Teaching Materials (Educational Game) is appropriate for students to use in order to increase interest in learning, (c) Questionnaires that have been distributed to linguists who provide data with an average number of 4.6 due to Bah products This Game-Based Teaching of Indonesian (Educational Games) does not make students bored but can increase students' activeness in learning Indonesian Subjects.

Recommendation

Based on the results of research on the development of Indonesian Language Teaching Materials Based on Interactive Educational Games, it can be recommended that Digital Book learning media should always be used in developing students' abilities while learning to design creative, innovative and interesting learning

Consent and Ethical Approval

The results of this study are the results of research in the field of Indonesian language learning which has actually been carried out for approximately two years. This manuscript is part of the Ph.D. dissertation research results that have been examined by supervisors 1, 2, and 3.

Competing Interests

Author have declare that no competing interests exist

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