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# DEVELOPMENT OF LEARNING MEDIA PIMCA (PINTAR MEMBACA) TO HELP BEGINNING READING OF GRADE 1 SDN DUNGKEK 1

*by Nisfil Maghfiroh*

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## DEVELOPMENT OF LEARNING MEDIA PIMCA (PINTAR MEMBACA) TO HELP BEGINNING READING OF GRADE 1 SDN DUNGKEK 1

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### Abstract

The aim of the research development is to: 1) Develop Pimca (Pintar Membaca) learning media to help students be able to begin reading; and 2) Know the response of teachers and students to the learning media pimca to help them read the beginning. This research refers to the 4D development model which includes the stages of definition, design, development, and dissemination. This development is only carried from the define stage, design, to the development stage. The instrument used in this research was the media design validation sheet and the feasibility of the material. The results of media design validation get a percentage of 80% of media design experts. The validation of material feasibility gets a percentage of 77% of material feasibility experts and is categorized as very suitable and not revised. The product trial stage results in student responses from 5 students of grade II elementary school as subjects research trials. The results of student responses showed very good criteria, it is 94%. Meanwhile, the results of the teacher's response showed very good criteria, namely 100%. Based on the results of the research, it is concluded that the development of pimca media is suitable for use as a media for playing while learning because it has passed validation and has received good responses from students and teachers.

**Keywords** – Development; Media; Pimca

## 1. Introduction

Education is a necessity for every human being. These needs must be met so that human resources increase, so that development and the benefit of mankind can be created properly. <sup>2</sup> Education is a process of communication and information from educators to students that contains educational information, consisting of educators as facilitators and as part of information sources, students as learning people, and media as a means of presenting ideas, ideas, and <sup>3</sup> materials. education (Hidayati dan Heryanto, 2013). More specifically, Law No. 20 of 2003 concerning the national education system explains that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual, religious, self-control, personality, intelligence strengths. , noble character, and skills needed by himself, society, nation and state. From this explanation, it can be understood that education cannot be separated from the learning process.

Trianto (2009:17) Explains that learning is a conscious act of an educator to teach his students in order to achieve a desired goal, while according to Slameto (2010: 1) explains that, in the education process in schools learning activities are things that Most importantly, <sup>7</sup> this means that the success or failure of educational goals depends on how the learning process is experienced by students. The learning process is said to be effective if the various components in teaching and learning activities can run well and maximally. The components in these teaching and learning activities include teachers, students, teaching materials, learning models, learning methods, and learning media. Of the umpteen components of learning, one that is considered important and very influential in teaching and learning activities is the learning media.

Learning media is one of the components of teaching and learning activities that have a major <sup>6</sup> role in creating the success of teaching and learning activities in the classroom. With the media, learning will be more interesting, concrete, easy to understand, save time and energy, and learning outcomes will be more meaningful (Hamalik 2007: 51). In this case the learning media is used by the

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teacher as a means of communication with students regarding the material being taught. If communication is not connected, or difficult to be accepted by students, teaching and learning activities are less effective.

In the era of globalization as it is today, the use of technology media is very important as a support for learning and is always undergoing improvement and progress. Various media have been created to support the process of teaching and learning activities. Sudjana (2009: 3-4) classifies media in teaching and learning activities in the form of graphic (two-dimensional) media such as pictures, photos, graphs, charts or diagrams, posters, cartoons, and comics. Three-dimensional media, such as solid models, cross-sectional models, stacking models, and work models. Projection media such as slides, films, use of OHP, and others. And the use of the environment as a learning medium. In learning technology gave birth to a new innovation known as e-learning (electronic learning). E-learning is a learning process that utilizes electronic devices such as TV, PDA, Tape and CD-ROM containing tutorials, or learning materials. However, e-learning is more emphasized connected to (LAN, WAN and Internet) which can make it easier for students to access information and teaching materials online. Nurkholis (2013) explains that e-learning is a teaching and learning activity or learning process that utilizes electronic devices such as computers connected to the internet. However, this causes not all institutions to be able to implement it, especially for private educational institutions or institutions in rural areas which are relatively minimal in terms of finance. However, these obstacles can be solved by the emergence of more modern learning practices known as m-learning (mobile learning). Adam (2015) explains that the term m-learning refers to the use of modern technology products that are practical in nature such as PDAs, iPods, Tablet PCs, and cellphones/handhpones or smartphones.

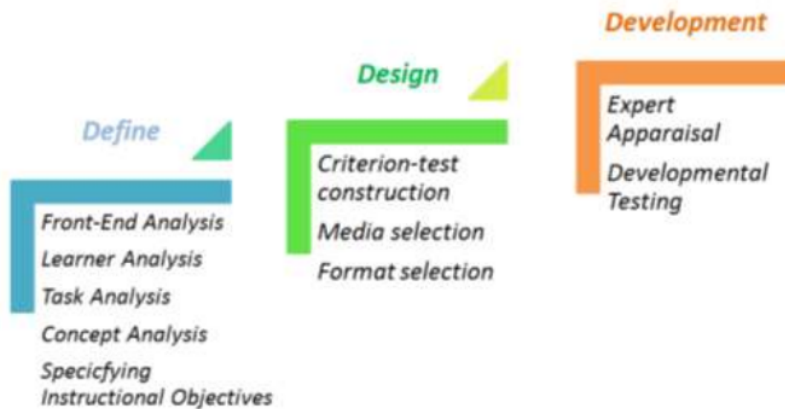
the application of m-learning using an android smartphone as a medium in learning is now a daily necessity that is used to communicate, the development of Pimca (Pintar Membaca) media as well as overcoming media limitations is expected to overcome the problems of learning to read for students at SDN

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Dungkek 1 Sumenep. Through some of the reasons above, researchers need to develop learning media based on the Pimca (Pintar Membaca) application in developing more modern learning media according to the times and the main thing is to help students learn to read more easily. Aim of the research developmen areto: 1) Develop Pimca (Pintar Membaca) learning media to help students be able to begin reading; and 2) Knowing the response of teachers and students to the learning media pimca (Pintar Membaca) to help read the beginning.

## 2. Method

The development method on pimca media uses steps adapted from Thiagarajan's 4D model development (Sugiyono, 2014) namely the define, design, develop, and disseminate stages. This development is only carried out from the define stage to the development stage due to the limited time in the research. With the stages of the development model as follows:



### *Define*

Front-End analysis activities aim to find and ascertain what problems students have in the learning process at SDN I Dungkek. The initial analysis was carried out by direct observation of the civil servant teacher or class I teacher in the form of interviews. The learner analysis was carried out to observe the students' initial abilities and basic character of students. Student analysis was also

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carried out by direct observation of the first grade teacher and followed by interviews. Task analysis is to identify the content in learning so that it can ensure the scope of the learning material that is understood related to the material to be delivered through the media to be developed, namely the pimca media. This task analysis is carried out by mapping and identifying students' skills in completing tasks in observation activities. Concept analysis is carried out to find out how fluently students read in class I the main concepts in thematic learning materials which will later be arranged in the systematics of learning materials which will then be used as material in the developed Pimca media. The specifying instructional objectives is an activity of changing task analysis to concept analysis through iterative stages so that later it becomes a statement of learning objectives.

#### *Design*

critterion-test construction is the preparation of the assessment instrument used to determine the feasibility of the product to be developed (pimca media). The instruments used for the research are material and linguistic expert validation instruments, design validation, format validation and also student responses. Media selection, namely the adjustment stage of learner analysis, task analysis, concept analysis, and specifying instructional objectives. From the results of the analysis activities that have been carried out, it can be seen if the right media to use is using audio-visual media in the form of pimca media. Pimca media can be used as a learning medium as well as a game tool because first graders have the characteristics of preferring to learn while playing. Format selection is to design and determine the development product in accordance with the components of making learning media. The pimca media format that will be used in this study is an application that can be installed on an android smartphone that has at least 1 RAM

#### *Development*

Expert appraisal is the feasibility assessment stage of the pimca media design. Expert appraisal t carried out by experts or experts who must be in

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accordance with their fields. Aspects that will be assessed include material, language, design and format. This stage aims to produce appropriate learning media and be used by paying attention to input from experts. Input and suggestions from experts can be used as a reference to make revisions or improvements to the products developed to make them better.

The development testing was carried out to find out or get the responses given by students to the developed Pimca media. In the development trial there are three types of trials, namely initial testing, quantitative testing and total package testing. While in this study only through two stages, namely initial testing and quantitative testing. Initial Testing is the stage used by researchers to determine student responses to products on a small scale. At this stage the type of data obtained using qualitative data which is a response from students, from student responses the researcher can find out the shortcomings of Pimca media products so that the next step is to make improvements to the product according to the suggestions from the results of student responses to the product.

Quantitative testing is a stage to find out student responses / responses to products with a larger scale, at this stage students are given a response questionnaire sheet that must be filled out which <sup>1</sup> has been provided by the researcher, from the results of the questionnaire provided by the researcher, researchers can find out the shortcomings in the Pimca media from questionnaire results. From the results of the response questionnaire, the percentage of eligibility can be calculated and at a later stage, improvements are made to the deficiencies that exist in Pimca media based on student responses that have been received.

The research subjects were Class II students at SDN Dungkek 1. In the initial testing phase, 5 students in class I used this subject for credibility and quality, and at the quantitative testing phase, 10 students in class I (Thiagarajan & Semmel, 136). There are two types of data on the development of Pimca media, namely <sup>6</sup> qualitative data and quantitative data. Qualitative data is obtained from input and suggestions from validators as well as student and teacher responses for



improvements to the developed product. Meanwhile, quantitative data were obtained from the validator's assessment score and the teacher and student respondents' scores about the developed Pimca (Pintar Membaca) media. Scoring of the instrument using a Likert scale with 4 options. Researchers use a Likert scale because the Likert scale is a bipolar scale method that can find out positive or negative responses about a statement and the Likert scale is widely used in questionnaires, research and surveys. In addition, the Likert scale also has a relatively high reliability compared to other scales and makes it easier for researchers to process data.

Data collection is a method used for the smooth running of a research and to obtain original data. In this study, researchers used <sup>8</sup> data collection techniques, observation, interviews and questionnaires. In the data collection instrument, the researchers used the Pimca media validation sheet, namely material validation, language, design and format as well as student and teacher response questionnaires. Product validation, student dan teacher responses are known by using a questionnaire distribution that uses a Likert scale of 4, 3, 2, and 1. Quantitative data were analyzed using the formula:

$$\% \text{ criteria} = \frac{A}{B} \times 100\%$$

Information :

A : total answer score

B : number of students

The criteria for material validation, language, design and format are shown in table 1, and the criteria for analyzing student and teacher responses are shown in table 2.

**Table 1.** Product validation criteria

| Category | Eligibility Percentage | Criteria                                |
|----------|------------------------|---|
| 4        | 76%-100%               | Appropriate and not revised             |
| 3        | 51%-75%                | Quite appropriate and a little revision |
| 2        | 26%-50%                | Not suitable and lots of revisions      |
| 1        | 0%-25%                 | Not suitable and a total revision       |

Adapted from Handayani, Yuwono, and Madja (2013)

**Table 2.** Response analysis criteria

| Category | Percentage   | Criteria    |
|----------|--------------|-------------|
| 4        | 81,26-100%   | Very good   |
| 3        | 62,51-81,25% | Well        |
| 2        | 43,76-62,50% | Pretty good |
| 1        | 25-43,74%    | Not good    |



Adapted from Sofiana, Dp and Nugroho (2012)









### 3. Result and Discussion

#### *Describe the development of Pimca (Pintar Membaca) Media*

The results of developing pimca (Pintar Membaca) learning media to help read the beginning of grade 1 at SDN Dungkek 1 are: pimca media, material and media validation, student and teacher responses, and pimca media revisions. Pimca media development is shown in table 3.

**Table 3.** Pimca Media Development Results

| Design  | Name and Function   | Design  | Name and Function   |
|---|---|---|---|
|  | The appearance of the pimca application on the Android cellphone screen |  | <p><b>Pimca Media Home Screen:</b></p> <p><b>On the main menu:</b></p> <ol style="list-style-type: none"> <li>1. ABC Letters<br/>Contains the letters of the alphabet.</li> <li>2. Vowels, A, I, U, E, O.</li> <li>3. Syllable</li> <li>4. Can read which is a combination of Alphabet Letters and Vowels.</li> </ol> |

|   |  |   |  |
|---|--|---|--|
|    | <p><b>Alphabet Letters from A-Z:</b><br/>When you click on one of the letters of the alphabet, the sound of the letters of the alphabet will appear.</p> |    | <p>The image of one of the letters of the alphabet that has been clicked</p> |
|    | <p><b>Vowel:</b><br/>If you click on one of the vowels, the sound of the vowel will appear.</p>  |    | <p>one of the vowels that has been clicked</p>                               |
|   | <p><b>Syllables:</b><br/>When clicked, the sound will come out from a combination of vowels and consonants.</p>  |   | <p>one of the syllables that have been clicked</p>                           |
|  | <p><b>Can Read:</b><br/>When clicked, a combination of consonants and vowels will come out in the form of one word.</p>                                  |  | <p>one of the words that has been clicked</p>                                |

Media is everything that exists in our environment that can be used as an introduction or intermediary to convey information from the sender of the message to the recipient of the message (Romadhoni, 2016). There is also

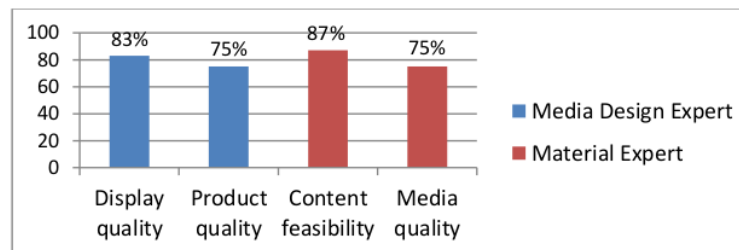
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according to Ramadhan (2018) which states that the <sup>5</sup>media is a means of distributing <sup>5</sup>messages or learning information that the message source wants to convey to the target or recipient of the message. Based on these opinions, it can be said that the <sup>5</sup>media is a means of connecting or distributing <sup>4</sup>messages between teachers and students in the learning process so that what is conveyed by the teacher is more easily accepted and understood by students.

The first step in the define stage, there are several stages, the first is the initial-late analysis. Zahroya (2019) states that the initial and final activities aim to find and determine the problems faced <sup>8</sup>by students in the learning process. This is similar to what <sup>8</sup>the researcher did by conducting direct observations on class I students and class I teachers in the form of interviews to find and determine the problems faced by students and learning activities. At this stage, the results were obtained based on interviews with homeroom teachers of class I and class I students, namely, in learning activities there were some students who could not read so that students felt less interested and felt bored. This is because students who cannot read and how to teach teachers are monotonous and do not use the media. Then the second stage is student analysis, researchers observe students' initial abilities and students' basic character by observing so that researchers know the concept of media that is appropriate and in accordance with the student's character. At this stage it is known that grade I students tend to like games or are more interested in learning activities using media.

The second step, Design is the second stage in the development of a 4D model. In this stage, the researcher prepares the benchmark reference test which is the preparation of the assessment instrument used <sup>9</sup>to determine the feasibility of the Pimca (Pintar Membaca) media. The instruments used are product design validation instruments and material validation on pimca (Pintar Membaca) media that were developed. Noviana (2018) states that the selection of media is the adjustment stage of learner analysis, task analysis, concept analysis, and specifying instructional objectives.

The third step, development. At this stage the researcher conducts an expert assessment which is the feasibility assessment stage of the Pimca media design. Aspects that will be assessed in this research include product and material design. This stage aims to produce media that is feasible and used by taking into account input from experts. From the results of validation, input and suggestions from experts, the next step is to revise or improve the products developed to make them better. Pimca media in this development must be validated so that it can be said that it is suitable for use by students and used as media for playing while learning. Noviana (2018) states that expert assessment is carried out by experts or experts in accordance with their fields. This is because the media can be said to be feasible if it is validated by experts. In this validation, the validator fills out a validator sheet containing indicators filled in by the validator according to Pimca (Pintar Membaca) media products. The validators in this study consist of several experts, namely media design experts, material experts. The percentage of media and material validation is shown in Figure 1.







**Figure 1.** Percentage of PIMCA Media Development Validation Results

Pimca media must be validated so that it can be said to be suitable for use by students and used as a medium for playing while learning. The feasibility of Pimca Media can be determined from the results of media design validation and material experts. In the validation of the media design, it gets a percentage of 80% which is included in the very appropriate category and is not revised. Handayani, Yuwono and Madja (2013) suggest that if the media has a qualification value of 75%-100%, it can be said to be appropriate and has no revision. As for the results of the material expert validation, the percentage of 77% is included in the very appropriate category and is not revised. Based on the results of the percentage of

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**validation** of media design and material experts by several experts, the development of Pimca media has been declared feasible. Revision of media design and material experts on the development of pimca (Pintar Membaca) media is carried out after being validated by experts or validators. Revisions are made based on input from experts or validators. Pimca media revision is in table 4. Furthermore, the researchers conducted a trial phase to determine the responses given by students and teachers to Pimca (Pintar Membaca) media.

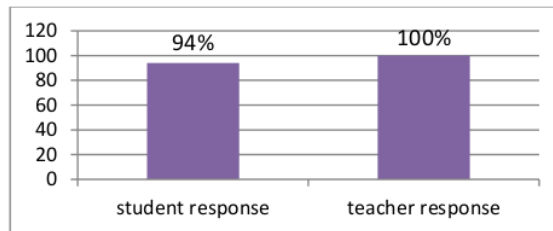
**Table 4.** Pimca Media Revision

| Information         | Revised Section | Description   | Revised results  |
|---------------------|-----------------|---|--|
| Media Design Expert | No revision     | -   | -  |
| Material Expert     | Syllables       | The combination of the letters of the alphabet and vowels is not complete<br> |   |
| Material Expert     | Audio           | sound presentation is not practical<br>                                      |  |

*Student And Teacher Responses To Pimca (Pintar Membaca) Media*

The pimca (Pintar Membaca) media that was developed should be tested in class I, totaling 10 students to find out the response to the pimca (Pintar Membaca) media. The data obtained at this stage was obtained from the distribution of class teacher and student response questionnaires by researchers who were filled in by class teachers and second grade students to Pimca media products. However, due to the current COVID-19 outbreak, schools have been

closed for an unknown period of time. So this causes the researcher to only carry out quantitative trials on 5 grade II students. The percentage of student and teacher responses is shown in Figure 2.



**Figure 2.** Percentage of Student and Teacher Response

Response is a response by the respondent to something. (Zahroya, 2019) Responses are very important to find out the responses of students and teachers to Pimca media. So that researchers know the lack of products, and as a reference to improve the products developed so that they can then be used by students. Student and teacher responses used two stages, namely initial data test and quantitative test. The results of the initial data test through interviews with students and teachers, there is no improvement in Pimca (Pintar Membaca) media. In the quantitative test of student responses, 94% were obtained in the very good category (Sofiana, 2012). The results of the teacher's response obtained a percentage of 100% with a very good category (Sofiana, Dp, and Nugroho, 2012). These results indicate that the development of Pimca (Pintar Membaca) media received a very good response from research respondents, so that Pimca (Pintar Membaca) media was declared feasible to be used as a medium for playing while learning.

#### 4. Conclusion

The results of media design validation get a percentage of 80% of media design experts. The validation of material feasibility gets a percentage of 77% of material feasibility experts and is categorized as very suitable and not revised. The product trial stage results in student responses from 5 students of grade II elementary school as subjects research trials. The results of student responses

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showed very good criteria, it is 94%. Meanwhile, the results of the teacher's response showed very good criteria, namely 100%. <sup>4</sup> Based on the results of the research, it is concluded that the development of pimca media (Pintar Membaca) is suitable for use as a media for playing while learning because it has passed validation and has received good responses from students and teachers.

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# DEVELOPMENT OF LEARNING MEDIA PIMCA (PINTAR MEMBACA) TO HELP BEGINNING READING OF GRADE 1 SDN DUNGKEK 1

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## DEVELOPMENT OF LEARNING MEDIA PIMCA (PINTAR MEMBACA) TO HELP BEGINNING READING OF GRADE 1 SDN DUNGKEK 1

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### Abstract

The aim of the research development is to: 1) Develop Pimca (Pintar Membaca) learning media to help students be able to begin reading; and 2) Know the response of teachers and students to the learning media pimca to help them read the beginning. This research refers to the 4D development model which includes the stages of definition, design, development, and dissemination. This development is only carried from the define stage, design, to the development stage. The instrument used in this research was the media design validation sheet and the feasibility of the material. The results of media design validation get a percentage of 80% of media design experts. The validation of material feasibility gets a percentage of 77% of material feasibility experts and is categorized as very suitable and not revised. The product trial stage results in student responses from 5 students of grade II elementary school as subjects research trials. The results of student responses showed very good criteria, it is 94%. Meanwhile, the results of the teacher's response showed very good criteria, namely 100%. Based on the results of the research, it is concluded that the development of pimca media is suitable for use as a media for playing while learning because it has passed validation and has received good responses from students and teachers.

**Keywords** – Development; Media; Pimca

## **1. Introduction**

Education is a necessity for every human being. These needs must be met so that human resources increase, so that development and the benefit of mankind can be created properly. Education is a process of communication and information from educators to students that contains educational information, consisting of educators as facilitators and as part of information sources, students as learning people, and media as a means of presenting ideas, ideas, and materials. education (Hidayati dan Heryanto, 2013). More specifically, Law No. 20 of 2003 concerning the national education system explains that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual, religious, self-control, personality, intelligence strengths. , noble character, and skills needed by himself, society, nation and state. From this explanation, it can be understood that education cannot be separated from the learning process.

Trianto (2009:17) Explains that learning is a conscious act of an educator to teach his students in order to achieve a desired goal, while according to Slameto (2010: 1) explains that, in the education process in schools learning activities are things that Most importantly, this means that the success or failure of educational goals depends on how the learning process is experienced by students. The learning process is said to be effective if the various components in teaching and learning activities can run well and maximally. The components in these teaching and learning activities include teachers, students, teaching materials, learning models, learning methods, and learning media. Of the umpteen components of learning, one that is considered important and very influential in teaching and learning activities is the learning media.

Learning media is one of the components of teaching and learning activities that have a major role in creating the success of teaching and learning activities in the classroom. With the media, learning will be more interesting, concrete, easy to understand, save time and energy, and learning outcomes will be more meaningful (Hamalik 2007: 51). In this case the learning media is used by the

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teacher as a means of communication with students regarding the material being taught. If communication is not connected, or difficult to be accepted by students, teaching and learning activities are less effective.

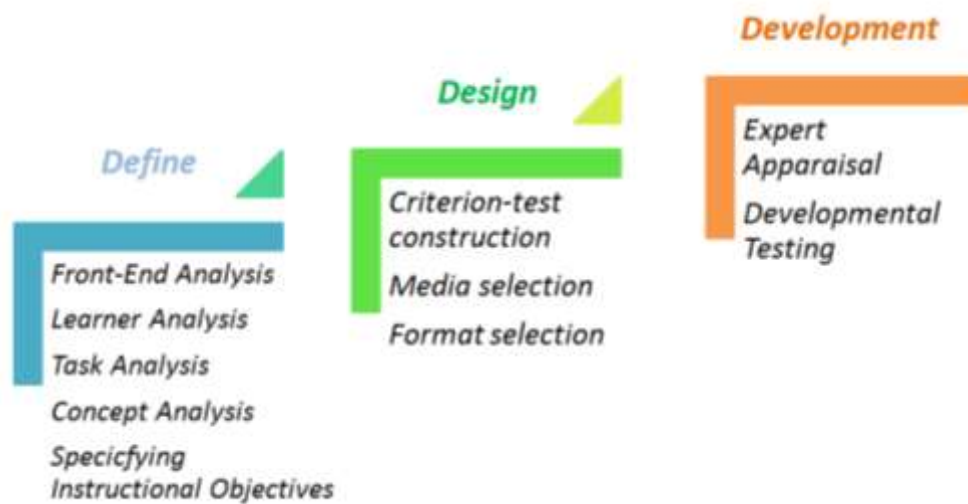
In the era of globalization as it is today, the use of technology media is very important as a support for learning and is always undergoing improvement and progress. Various media have been created to support the process of teaching and learning activities. Sudjana (2009: 3-4) classifies media in teaching and learning activities in the form of graphic (two-dimensional) media such as pictures, photos, graphs, charts or diagrams, posters, cartoons, and comics. Three-dimensional media, such as solid models, cross-sectional models, stacking models, and work models. Projection media such as slides, films, use of OHP, and others. And the use of the environment as a learning medium. In learning technology gave birth to a new innovation known as e-learning (electronic learning). E-learning is a learning process that utilizes electronic devices such as TV, PDA, Tape and CD-ROM containing tutorials, or learning materials. However, e-learning is more emphasized connected to (LAN, WAN and Internet) which can make it easier for students to access information and teaching materials online. Nurkholis (2013) explains that e-learning is a teaching and learning activity or learning process that utilizes electronic devices such as computers connected to the internet. However, this causes not all institutions to be able to implement it, especially for private educational institutions or institutions in rural areas which are relatively minimal in terms of finance. However, these obstacles can be solved by the emergence of more modern learning practices known as m-learning (mobile learning). Adam (2015) explains that the term m-learning refers to the use of modern technology products that are practical in nature such as PDAs, iPods, Tablet PCs, and cellphones/handhpones or smartphones.

the application of m-learning using an android smartphone as a medium in learning is now a daily necessity that is used to communicate, the development of Pimca (Pintar Membaca) media as well as overcoming media limitations is expected to overcome the problems of learning to read for students at SDN

Dungkek 1 Sumenep. Through some of the reasons above, researchers need to develop learning media based on the Pimca (Pintar Membaca) application in developing more modern learning media according to the times and the main thing is to help students learn to read more easily. Aim of the research developmen areto: 1) Develop Pimca (Pintar Membaca) learning media to help students be able to begin reading; and 2) Knowing the response of teachers and students to the learning media pimca (Pintar Membaca) to help read the beginning.

## 2. Method

The development method on pimca media uses steps adapted from Thiagarajan's 4D model development (Sugiyono, 2014) namely the define, design, develop, and disseminate stages. This development is only carried out from the define stage to the development stage due to the limited time in the research. With the stages of the development model as follows:



### *Define*

Front-End analysis activities aim to find and ascertain what problems students have in the learning process at SDN I Dungkek. The initial analysis was carried out by direct observation of the civil servant teacher or class I teacher in the form of interviews. The learner analysis was carried out to observe the students' initial abilities and basic character of students. Student analysis was also

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carried out by direct observation of the first grade teacher and followed by interviews. Task analysis is to identify the content in learning so that it can ensure the scope of the learning material that is understood related to the material to be delivered through the media to be developed, namely the pimca media. This task analysis is carried out by mapping and identifying students' skills in completing tasks in observation activities. Concept analysis is carried out to find out how fluently students read in class I the main concepts in thematic learning materials which will later be arranged in the systematics of learning materials which will then be used as material in the developed Pimca media. The specifying instructional objectives is an activity of changing task analysis to concept analysis through iterative stages so that later it becomes a statement of learning objectives.

### *Design*

criterion-test construction is the preparation of the assessment instrument used to determine the feasibility of the product to be developed (pimca media). The instruments used for the research are material and linguistic expert validation instruments, design validation, format validation and also student responses. Media selection, namely the adjustment stage of learner analysis, task analysis, concept analysis, and specifying instructional objectives. From the results of the analysis activities that have been carried out, it can be seen if the right media to use is using audio-visual media in the form of pimca media. Pimca media can be used as a learning medium as well as a game tool because first graders have the characteristics of preferring to learn while playing. Format selection is to design and determine the development product in accordance with the components of making learning media. The pimca media format that will be used in this study is an application that can be installed on an android smartphone that has at least 1 RAM

### *Development*

Expert appraisal is the feasibility assessment stage of the pimca media design. Expert appraisal is carried out by experts or experts who must be in



accordance with their fields. Aspects that will be assessed include material, language, design and format. This stage aims to produce appropriate learning media and be used by paying attention to input from experts. Input and suggestions from experts can be used as a reference to make revisions or improvements to the products developed to make them better.

The development testing was carried out to find out or get the responses given by students to the developed Pimca media. In the development trial there are three types of trials, namely initial testing, quantitative testing and total package testing. While in this study only through two stages, namely initial testing and quantitative testing. Initial Testing is the stage used by researchers to determine student responses to products on a small scale. At this stage the type of data obtained using qualitative data which is a response from students, from student responses the researcher can find out the shortcomings of Pimca media products so that the next step is to make improvements to the product according to the suggestions from the results of student responses to the product.

Quantitative testing is a stage to find out student responses / responses to products with a larger scale, at this stage students are given a response questionnaire sheet that must be filled out which has been provided by the researcher, from the results of the questionnaire provided by the researcher, researchers can find out the shortcomings in the Pimca media from questionnaire results. From the results of the response questionnaire, the percentage of eligibility can be calculated and at a later stage, improvements are made to the deficiencies that exist in Pimca media based on student responses that have been received.

The research subjects were Class II students at SDN Dungkek 1. In the initial testing phase, 5 students in class I used this subject for credibility and quality, and at the quantitative testing phase, 10 students in class I (Thiagarajan & Semmel, 136). There are two types of data on the development of Pimca media, namely qualitative data and quantitative data. Qualitative data is obtained from input and suggestions from validators as well as student and teacher responses for

improvements to the developed product. Meanwhile, quantitative data were obtained from the validator's assessment score and the teacher and student respondents' scores about the developed Pimca (Pintar Membaca) media. Scoring of the instrument using a Likert scale with 4 options. Researchers use a Likert scale because the Likert scale is a bipolar scale method that can find out positive or negative responses about a statement and the Likert scale is widely used in questionnaires, research and surveys. In addition, the Likert scale also has a relatively high reliability compared to other scales and makes it easier for researchers to process data.

Data collection is a method used for the smooth running of a research and to obtain original data. In this study, researchers used data collection techniques, observation, interviews and questionnaires. In the data collection instrument, the researchers used the Pimca media validation sheet, namely material validation, language, design and format as well as student and teacher response questionnaires. Product validation, student dan teacher responses are known by using a questionnaire distribution that uses a Likert scale of 4, 3, 2, and 1. Quantitative data were analyzed using the formula:

$$\% \text{ criteria} = \frac{A}{B} \times 100\%$$

Information :

A : total answer score

B : number of students

The criteria for material validation, language, design and format are shown in table 1, and the criteria for analyzing student and teacher responses are shown in table 2.

**Table 1.** Product validation criteria

| Category | Eligibility Percentage | Criteria                                |
|----------|------------------------|---|
| 4        | 76%-100%               | Appropriate and not revised             |
| 3        | 51%-75%                | Quite appropriate and a little revision |
| 2        | 26%-50%                | Not suitable and lots of revisions      |
| 1        | 0%-25%                 | Not suitable and a total revision       |

Adapted from Handayani, Yuwono, and Madja (2013)

**Table 2.** Response analysis criteria

| Category | Percentage   | Criteria    |
|----------|--------------|-------------|
| 4        | 81,26-100%   | Very good   |
| 3        | 62,51-81,25% | Well        |
| 2        | 43,76-62,50% | Pretty good |
| 1        | 25-43,74%    | Not good    |



Adapted from Sofiana, Dp and Nugroho (2012)









### 3. Result and Discussion

#### *Describe the development of Pimca (Pintar Membaca) Media*

The results of developing pimca (Pintar Membaca) learning media to help read the beginning of grade 1 at SDN Dungkek 1 are: pimca media, material and media validation, student and teacher responses, and pimca media revisions. Pimca media development is shown in table 3.

**Table 3.** Pimca Media Development Results

| Design  | Name and Function   | Design   | Name and Function   |
|---|---|--|---|
|  | The appearance of the pimca application on the Android cellphone screen |  | <p><b>Pimca Media Home Screen:</b></p> <p><b>On the main menu:</b></p> <ol style="list-style-type: none"> <li>1. ABC Letters<br/>Contains the letters of the alphabet.</li> <li>2. Vowels, A, I, U, E, O.</li> <li>3. Syllable</li> <li>4. Can read which is a combination of Alphabet Letters and Vowels.</li> </ol> |

|   |  |  |  |
|---|--|--|--|
|    | <p><b>Alphabet Letters from A-Z:</b><br/>When you click on one of the letters of the alphabet, the sound of the letters of the alphabet will appear.</p> |    | <p>The image of one of the letters of the alphabet that has been clicked</p> |
|   | <p><b>Vowel:</b><br/>If you click on one of the vowels, the sound of the vowel will appear.</p>  |   | <p>one of the vowels that has been clicked</p>                               |
|  | <p><b>Syllables:</b><br/>When clicked, the sound will come out from a combination of vowels and consonants.</p>  |  | <p>one of the syllables that have been clicked</p>                           |
|  | <p><b>Can Read:</b><br/>When clicked, a combination of consonants and vowels will come out in the form of one word.</p>                                  |  | <p>one of the words that has been clicked</p>                                |

Media is everything that exists in our environment that can be used as an introduction or intermediary to convey information from the sender of the message to the recipient of the message (Romadhoni, 2016). There is also

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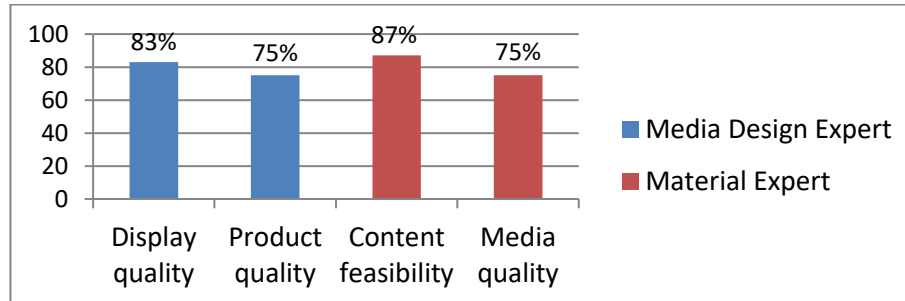
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according to Ramadhan (2018) which states that the media is a means of distributing messages or learning information that the message source wants to convey to the target or recipient of the message. Based on these opinions, it can be said that the media is a means of connecting or distributing messages between teachers and students in the learning process so that what is conveyed by the teacher is more easily accepted and understood by students.

The first step in the define stage, there are several stages, the first is the initial-late analysis. Zahroya (2019) states that the initial and final activities aim to find and determine the problems faced by students in the learning process. This is similar to what the researcher did by conducting direct observations on class I students and class I teachers in the form of interviews to find and determine the problems faced by students and learning activities. At this stage, the results were obtained based on interviews with homeroom teachers of class I and class I students, namely, in learning activities there were some students who could not read so that students felt less interested and felt bored. This is because students who cannot read and how to teach teachers are monotonous and do not use the media. Then the second stage is student analysis, researchers observe students' initial abilities and students' basic character by observing so that researchers know the concept of media that is appropriate and in accordance with the student's character. At this stage it is known that grade I students tend to like games or are more interested in learning activities using media.

The second step, Design is the second stage in the development of a 4D model. In this stage, the researcher prepares the benchmark reference test which is the preparation of the assessment instrument used to determine the feasibility of the Pimca (Pintar Membaca) media. The instruments used are product design validation instruments and material validation on pimca (Pintar Membaca) media that were developed. Noviana (2018) states that the selection of media is the adjustment stage of learner analysis, task analysis, concept analysis, and specifying instructional objectives.

The third step, development. At this stage the researcher conducts an expert assessment which is the feasibility assessment stage of the Pimca media design. Aspects that will be assessed in this research include product and material design. This stage aims to produce media that is feasible and used by taking into account input from experts. From the results of validation, input and suggestions from experts, the next step is to revise or improve the products developed to make them better. Pimca media in this development must be validated so that it can be said that it is suitable for use by students and used as media for playing while learning. Noviana (2018) states that expert assessment is carried out by experts or experts in accordance with their fields. This is because the media can be said to be feasible if it is validated by experts. In this validation, the validator fills out a validator sheet containing indicators filled in by the validator according to Pimca (Pintar Membaca) media products. The validators in this study consist of several experts, namely media design experts, material experts. The percentage of media and material validation is shown in Figure 1.





**Figure 1.** Percentage of PIMCA Media Development Validation Results

Pimca media must be validated so that it can be said to be suitable for use by students and used as a medium for playing while learning. The feasibility of Pimca Media can be determined from the results of media design validation and material experts. In the validation of the media design, it gets a percentage of 80% which is included in the very appropriate category and is not revised. Handayani, Yuwono and Madja (2013) suggest that if the media has a qualification value of 75%-100%, it can be said to be appropriate and has no revision. As for the results of the material expert validation, the percentage of 77% is included in the very appropriate category and is not revised. Based on the results of the percentage of

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validation of media design and material experts by several experts, the development of Pimca media has been declared feasible. Revision of media design and material experts on the development of pimca (Pintar Membaca) media is carried out after being validated by experts or validators. Revisions are made based on input from experts or validators. Pimca media revision is in table 4. Furthermore, the researchers conducted a trial phase to determine the responses given by students and teachers to Pimca (Pintar Membaca) media.

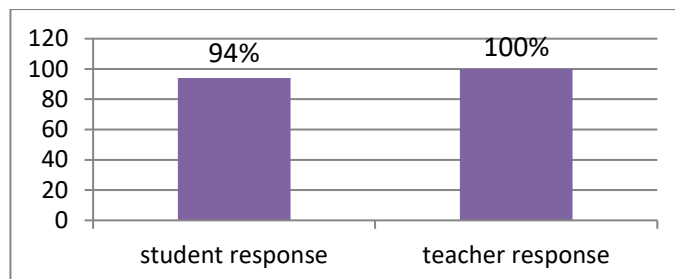
**Table 4.** Pimca Media Revision

| Information         | Revised Section | Description   | Revised results   |
|---------------------|-----------------|---|---|
| Media Design Expert | No revision     | -   | -   |
| Material Expert     | Syllables       | The combination of the letters of the alphabet and vowels is not complete |   |
| Material Expert     | Audio           | sound presentation is not practical                                       |  |

*Student And Teacher Responses To Pimca (Pintar Membaca) Media*

The pimca (Pintar Membaca) media that was developed should be tested in class I, totaling 10 students to find out the response to the pimca (Pintar Membaca) media. The data obtained at this stage was obtained from the distribution of class teacher and student response questionnaires by researchers who were filled in by class teachers and second grade students to Pimca media products. However, due to the current COVID-19 outbreak, schools have been

closed for an unknown period of time. So this causes the researcher to only carry out quantitative trials on 5 grade II students. The percentage of student and teacher responses is shown in Figure 2.



**Figure 2.** Percentage of Student and Teacher Response

Response is a response by the respondent to something. (Zahroya, 2019) Responses are very important to find out the responses of students and teachers to Pimca media. So that researchers know the lack of products, and as a reference to improve the products developed so that they can then be used by students. Student and teacher responses used two stages, namely initial data test and quantitative test. The results of the initial data test through interviews with students and teachers, there is no improvement in Pimca (Pintar Membaca) media. In the quantitative test of student responses, 94% were obtained in the very good category (Sofiana, 2012). The results of the teacher's response obtained a percentage of 100% with a very good category (Sofiana, Dp, and Nugroho, 2012). These results indicate that the development of Pimca (Pintar Membaca) media received a very good response from research respondents, so that Pimca (Pintar Membaca) media was declared feasible to be used as a medium for playing while learning.

#### **4. Conclusion**

The results of media design validation get a percentage of 80% of media design experts. The validation of material feasibility gets a percentage of 77% of material feasibility experts and is categorized as very suitable and not revised. The product trial stage results in student responses from 5 students of grade II elementary school as subjects research trials. The results of student responses



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showed very good criteria, it is 94%. Meanwhile, the results of the teacher's response showed very good criteria, namely 100%. Based on the results of the research, it is concluded that the development of pimca media (Pintar Membaca) is suitable for use as a media for playing while learning because it has passed validation and has received good responses from students and teachers.

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