



Development of Pop-Up Book Media to Teach Vocabulary for Mental Retardation Special School

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Abstract

This research was carried out based on the results of observations on mentally retarded students at SLB Jatiwiratama Selopuro in the vocabulary subject. This study aims to develop learning media in the form of pop-up book and find out how the level of feasibility of the media. This research was conducted on mentally retarded children at special school. The research method used is Research and Development (R & D) which adopted from Borg and Gall where researchers take 4 stages of the existing 10 stages. The stages include (1) Need analysis, (2) Product development, (3) Product testing, (4) Product revision. Determination of eligibility is done by validate the learning experts, and media experts. After that, the researcher do product testing. Research and development produces pop-up book media that are suitable for use based on the assessment of (1) Media expert validators get an assessment of 95.5% (2) Learning expert validators received a 9% rating. Assessment of student responses gets an assessment percentage of 91.5% which is means that the media can be accepted by students. The reason for choosing this research is because the development of pop-up book media for mentally retarded children has never been researched before.

Key words: Pop-up book Media; Vocabulary; Mental Retardation;

Introduction

English is one of teaching materials in Indonesia (Saifudin Ahmad, 2019). English is the most spoken language in the world. English is an international language that has become a compulsory subject, especially in schools, and is a foreign language taught in all schools in Indonesia. English is a foreign language for Indonesians, so learning English is still behind other subjects. English is not only taught in normal schools, but also special schools. English learning in extraordinary schools is taught slightly differently because it is known where students are students with special needs. In teaching English in special schools usually has many obstacles. The most common constraints are usually students with special needs many are slow to accept the subject matter.

Children with special needs are children who have physical disabilities or deviations mental-intellectual social or emotional com-

pared with other kids his age, in the process of growth or development. So that, they need special services (M. Jannah., 2004). Children with special needs are also often known as mentally retarded because of their limited intelligence. As a result, it is difficult for children with mental retardation to attend regular school education. Mentally retarded children are not children who experience disease, but children who have disorders due to deviations, both physically, mentally, intellectually, emotionally, attitudes, and significantly behaviourally.

Mental retardation is a condition of the development of a child's intelligence that experiences obstacles so that he does not reach the stage of development optimally. Then, in the learning process children with special needs are different from normal children. Children with mental retardation should get a special class where teachers teach basic skills such as the concept of time, self-skills, self-care and hygiene,

and vocational training that trains children so that children can apply them in their daily lives. So that, even though the child has a cognitive deficiency, he can still survive in his environment.

The subjects in this study were class VIII mentally retarded students. The subject was chosen because the researcher wanted to know the effectiveness of the media if it was applied to mentally retarded students. Based on the results of interviews with classroom teachers, the factors causing the low vocabulary mastery of mentally retarded students in class VIII at SLB Jatiwiratama Selopuro include the lack of media use in learning English, lack of student memory. Based on the results of the questionnaire, all students had problems with vocabulary.

For learning English vocabulary, there are many media that can be used. From a variety of learning media, the researcher chose pop-up book media in an effort to improve vocabulary mastery skills of mentally disabled children. In this study, researcher will create creative and fun learning media. Pop-up book is a book that has three-dimensional elements that can move and provide more interesting storyline visualization, starting with a picture that can move when its pages are opened (Dzuanda, 2011). Pop-up book media is perceived as a very appropriate instructional media, in addition to how to make it easy, safe to use, easy storage, media is also very interesting so that students do not get tired of looking, open and read are kept constant. Pop-up books are a creative learning medium in the form of books that contain information in three-dimensional form that is displayed on book pages that can also be moved so that students don't get bored when reading them. The pop-up book appearance is very interesting because it has three-dimensional elements and kinetic motion. When the page is opened or pulled, the collection of object pieces in the book will open and move so that it can form according to the original object and the visual appearance looks more attractive.

Media is an important component in the learning process to support learning activities. The use of media will help teachers and students in the learning process. Through the use of appropriate media and in accordance with learning needs, the learning objectives will be easily achieved. Learning vocabulary is appropriate to use pop-up books for children with special

needs where we know that they are very happy with interesting learning. Mentally retarded children like to learn with something real, and what we know is where a pop-up book will present something with its real form. From the student needs questionnaire, it was found that 100% of students wanted interesting learning using pop-up book media.

With the media used, it is hoped that it can increase student motivation and help students, especially in learning vocabulary so that learning objectives can be achieved properly. In this pop-up book the researchers provide several pictures of objects around them. Based on the facts above, it can be seen that the problem faced by students is the lack of vocabulary. Therefore, researcher is challenged to raise the title which aims to describe the process of developing of pop-up book to teach vocabulary for mental retardation students eight grade SLB jatiwiratama selopuro and describe the result of developing pop-up book to teach vocabulary for mental retardation students eight grade SLB jatiwiratama selopuro.

Material and Method

This research method is research and development. The development carried out in this research is the making of learning media. According to (Mededict D Gall, n.d.), Research and Development (R&D) study in education is to develop and validate the educational products and the steps consisting of study findings, developing the products based on the findings, field testing and revising the product.

This research was carried out on mentally retarded children SLB Jatiwiratama Selopuro. The time of the study was carried out in the second semester of the 2021/2022 academic year. The purpose of this study was to develop learning media in English vocabulary lessons. The subjects of this study were students with mental retardation in grade VIII SLB Jatiwiratama Selopuro.

The research procedures include:

1. Need Analysis

The researcher analysed student's problems in learning English, especially in vocabulary. To obtain data at the need analysis stage, the researchers used:

a. Questionnaire

In this study using a questionnaire on the preliminary research data and the final results.

- b. Unstructured Interview
Research interviews used to teachers are unstructured interviews.
2. Product Development
In developing products, researchers need to adjust product development with needs analysis.
3. Product Testing
The researcher trial the product to know its effectiveness. The trial can be conducted in any classrooms of eight grades of junior high school students in SLB Jatiwiratama Selopuro.
4. Product Revision
The researcher revised the product as an appropriate media for eight grade of junior high school students in SLB Jatiwiratama Selopuro.

Data And Data Source

1. Data
 - a. Data about students' need (preliminary study)
 - b. Data about available media (preliminary study).
2. Data Source
 - a. In research and development, this research was conducted in class VIII SLB Jatiwiratama Selopuro with four mentally retarded male students. The sampling technique used by the researcher is a saturated sample technique, which is a sampling technique when all members of the population are used as samples (Sugiyono, 2017).
 - b. In class VIII students mental retardation SLB Jatiwiratama Selopuro the teacher used picture card for learning.

Research Instruments

The instruments of this research are questionnaire, and interview.

1. Questionnaire

The instruments used in this research and development included a student needs questionnaire and a student satisfaction questionnaire for grade VIII students with mental retardation at SLB Jatiwiratama Selopuro. This questionnaire about student needs is used to collect information about student responses to the pop-up book learning media that was developed. This questionnaire contains a statement of the student's need for pop-up book media by filling in the statement column. Meanwhile, a questionnaire about student satisfaction was used to obtain data about student satisfaction after they use the product. But before the questionnaire is

given to students, the questionnaire is validated first by the instrument validator.

2. List of Questions

List of question in this research is a list of questions for the teacher when the researcher needs analysis.

Data Collection Technique

The technique of collecting data in this research was start from need analysis by using:

1. Survey Technique

In this study using a questionnaire on the preliminary research data and the final results. In the preliminary research used a paper questionnaire about student needs and in the final result was use a paper questionnaire for student satisfaction.

2. Unstructured Interview

The research interviews used for the teacher were unstructured interviews, with the aim of exploring more detailed information during the preliminary research and then analysing the needs of the teacher on the basis of the information obtained from the results of the interviews. Interview was useful for the researcher for getting data by making dialogue with teacher as source of information or data.

Validation

Validation is a measure that shows the level of validity or authenticity of an instrument. A valid instrument has high validity and there is low validity for less valid instruments. (Arikunto, 2010) the validity instrument test is intended to achieve accurate measurement. (et al, 1966) it is said that a product is true if it can calculate what should be calculated. Product validation was carried out to assess whether the Pop-up book media was being developed and learning was valid or not. The product validity test was carried out by a team of experts consisting of learning and media expert.

Reliability

Data analysis techniques used to analyse the result of validation is to calculate the final value of the item in question. The following formula calculates the average value according to (Arikunto, 2010):

$$P = \frac{\sum x}{\sum xi} x 100\%$$

Table 1. Percentage of Validity

Percentage %	Validity Category
85%-100%	Very Valid
70%-84%	Valid
55%-69%	Less Valid
40%-45%	Invalid

Note:

P = Validity

$\sum x$ = Number of assessment answers

$\sum xi$ = Highest number of answers

From the table above it can be seen that to calculate validity used the formula from Arikunto where the percentages are: (1) 40%-45% can be said to be invalid, (2) 55%-69% can be said to be less valid, (3) 70%-84% can be said to be valid, and (4) 85%-100% said to be very valid.

Data Analysis

The data analysis in this research is descriptive quantitative analysis data. Researcher used questionnaires for quantitative data sources which were analysed used eligibility formula, as follows (Arikunto, 2010):

$$\Sigma = \frac{X}{N} \times 100\%$$

Note:

Σ = Eligibility

X = Total Score Obtained

N = Maximum Score

The data from the responses of students and lecturers in the form of a questionnaire were analyzed using the following steps:

$$\text{Skor Tanggapan}(\%) = \frac{\text{Jumlah Skor yang didapat}}{\text{Jumlah Skor Maksimal}} \times 100\%$$

The percentage that has been obtained is then adjusted to the following parameters (Arikunto, 2010):

<21% = Very Implorer

1 – 40% = Less Feasible

41 – 60% = Decent Enough

61 – 80% = Feasible

81 – 100% = Very Decent

Results and Discussion

The Result Of Need Analysis

In the analysis phase, the researcher identified the need for additional English learning media for teachers and students. Identify the need for additional learning media by giving questionnaires to students and conducting unstructured interviews with SLB Jatiwiratama Selopuro teachers. The purpose of conducting this analysis is to assist teachers in the teaching and learning process so that the difficulties experienced by students can be overcome by using learning media that will be developed by researchers.

Questionnaires and interviews were conducted on teachers and students of class VIII SLB Jatiwiratama Selopuro. In filling out the questionnaire, the researcher involved the teacher because of the student's condition which made it impossible to read a lot without being explained one by one in detail. Before the researchers designed learning media, the results of the questionnaire and interview activities can be described as follows:

First, the existing learning media are deemed less effective for students, as we know that students with special needs need an interesting learning so that they do not get bored easily. This was also confirmed during the interview, the teacher stated that the vocabulary learning media that had been used so far were only flashcards and made students less interested because the media used was monotonous.

Second, understanding of learning media is very lacking, because teachers use the same learning media when teaching. This also confirmed in the interview, the teacher stated that he did not know about the pop-up book media. Because the teacher who teaches mentally retarded students is still new, so the understanding of the learning media is still lacking

Third, because the teacher does not know the learning media, then teachers do not know effective learning media to teach mentally retarded students, but the teacher hopes that the learning media created can attract students' interest in learning. This was confirmed in the interview, the teacher stated that the learning media for mentally retarded students is a simple, clear and interesting media so that students are not easily bored and easy to understand the material.

Based on the explanation above, it can be seen that teachers do not know about pop-up book media and teachers only teach using makeshift media. Based on the identification results, it is also known that students need an interesting

learning so that they are enthusiastic about learning

Based on the identification of learning media needs above, the researcher followed up with the design of media and learning as expected by the class VIII teacher of mentally retarded students. Design results and results Identification of learning media produces a media product that can increase student interest and make it easier to learn. From the questionnaire on student needs, it was found that a percentage of 100% of students needed interesting learning to learn vocabulary, students liked to use learning media other than LKS books by obtaining a percentage of 75%, and it was found that a percentage of 100% of students wanted interesting learning using pop-up book media.

The Process Of Development

The Initial Process Development of pop-up book learning media is problem identification analysis in the form of an analysis of the needs of students and teachers. The results obtained from this stage found problems that require the development of pop-up book learning media so that students are interested and easy to learn. The initial stage is that the researcher chooses the type of disability and grade level that will be the object of research. After determining the object of research, the researcher determines the indicators and materials. Researchers determine learning indicators based on basic competencies 3.4 and core competencies 4.4 with vocabulary material.

The development stage aims to produce a finished product that in the form of learning media that has passed the stage of media expert revision. Validation that have been obtained from learning experts do not revision and suitable for teaching. Therefore, the product can continued at the testing stage. This learning media was tested on students. Aspects included in Student questionnaires show that students are interested in using the media to learn. The above procedure process has represents research and development developed by (Mededict D Gall, n.d.) where the application of development design principles is according to the steps to be taken sequentially.

Product Result

Show in Figure 1.

Expert Judgement

- a. Media Expert Validation Result show in Table 2.
- b. Learning Expert Validation Result show in Table 3.



Figure 1. Product Result

Table 2. Media expert validation results

Criteria	Score	Max Score	Percent	Category
Graphic Feasibility Aspect	43	45	95,5%	Very Decent

Table 3. Learning expert validation results

Score	Max Score	Percent	Category
46	50	92%	Very Decent

The Try-Out

Learning media product testing activities generate data on the effectiveness of the learning media used. Exercises are carried out by giving tests to students according to the material being tested. The test results can be explained as following table 4:

It is known that from the test scores with a total of 4 students all completed 100%. Because the value is not less than KKM. Thus, researcher feel that the learning media received are in accordance with what is expected score.

Revision

The media expert gives suggestion from the product. The suggestion can be seen in the

Table 4. List of student scores the trial

No	Students Name	Score	Info	
			Comple te	Not Yet
1	Subject 1	85	√	
2	Subject 2	85	√	
3	Subject 3	75	√	
4	Subject 4	95	√	
	Total	340	4	
	Range	85	100%	

Table 5. Revisions from media experts

Suggestion	Revision
Additional core competencies and basic competencies in media	Core competencies and basic competencies have been added to the media
Show pictures in media are real pictures	All the pictures in the media have been replaced with real pictures

Table 5:

Revisions are made on the advice of media experts who have validated this product. Media experts suggest Core competencies and additional basic competencies in media and Showing pictures in media are real pictures so that the book is suitable and immediately to be tested.

Discussion

The implementation of the action in this research was to increase vocabulary mastery skills through the use of Pop Up book media for mentally retarded students of class VIII SLB Jatiwiratama Selopuro. Considerations in choosing learning media are seen in the learning competencies, the characteristics of the target students, the time available, the costs required, and the technical quality of the media. Judging from the considerations above, it can be concluded that the Pop Up book media can be used because it is in accordance with the characteristics of mentally retarded children where the learning must be interesting.

Pop Up book media is used because the display of objects or images on Pop-up is in the form of three dimensions which aims to provide an attractive visual appearance and feels real, but the researcher chose two-dimensional pop-ups due to the limited time of manufacture and also felt that the two dimensions were in accordance with the needs of students. Accordance with the opinion of

(Dzuanda, 2011) explains that Pop-up media is a book-shaped media that has moving parts or has 3-dimensional elements so as to provide interesting visualizations, starting from images that can move when the page is opened.

In this research, the researcher compares the results of the validation with previous studies by Muhammad Sholeh (2017) with the research title "Pengembangan Media Pop-Up Book Berbasis Budaya Lokal Sub Tema Keberagaman Budaya Bangsaku Siswa Kelas IV Sekolah Dasar Skripsi". The comparison is as follows:

1. Learning expert assessment result

In previous studies there was no validation to learning experts but to material experts, and previous research Meets the valid criteria with the results of the material expert test reaching 97% validity level with the "very good" category. While in this study, the results of the validation of learning experts, it can be said that this learning media has a very decent level of validity by obtaining a validity percentage of 92%.

2. Media expert assessment results

In previous studies, the results of the media expert test reached a 91% validity level with the "very good" category and deserved to be tested. While in this study the validation results to media experts, it can be said that this learning media has a very good level of validity. This is evidenced by the results of the assessment of the media validator obtaining a percentage of 95.5%.

Another difference is in the research subjects taken. In the previous study, the subjects taken were fourth grade elementary school students, while in this study the research subjects were VIII grade SLB students

Conclusion

In the end, it can be summarized as follows: (1) the process of developing pop-up book in improving the vocabulary mastery of mentally retarded students of class VIII SLB Jatiwiratama Selopuro. The process starts from: (a) need analysis, (b) product development, (c) produk testing (d) produk revision. (2) The result of developing pop-up book. The results showed that the pop-up book media was valid to be used by mentally retarded students for learning English vocabulary. This pop-up book media is feasible in two aspects, namely media (95.5%), and learning (92%). Based on this product satisfaction

questionnaire for mentally retarded students to learn English vocabulary, it can be seen from the results of student satisfaction using the product to get a percentage (91.5%).

Suggestion

Based on the results of research and discussion, the researchers provide some suggestions as follows:

1. For Teachers. Teachers are expected to be more creative and innovative in use learning media that are attractive to students and in accordance with a concrete picture of the object so that the vocabulary taught becomes easy for students to understand.
2. For the Principal. Principals are expected to provide learning media that can support student learning, especially in classes that require learning related to children's vocabulary acquisition.
3. For other researchers. Researchers can develop pop-up book media into 3-dimensional form.

References

- Arikunto, S. (2010). *Prosedur Penelitian Suatu Pendekatan Praktik*. PT. Rineka Cipta.
- Dzuanda. (2011). *Perancangan Buku Cerita Anak Pop Up; Tokoh-tokoh Wayang Berseri; Seri "Gatokaca"*. Surabaya. Skripsi. Institut Teknologi Sepuluh November Surabaya.
- et al, B. W. & H. (1966). *No Title Exeptional Children* (fifth edit).
- M.Jannah., D. I. dan. (2004). *Tumbuh Kembang Anak Usia Dini dan Reaksi dini pada*. Insight Indonesia.
- Mededict D Gall, B. W. R. J. P. G. N. (n.d.). *Educational Research and Introduction* (Sevent Ed). Pearson Education.Inc.
- Saifudin Ahmad. (2019). Error Analysis on Grammar in Writing News Item Text Made by The First Year Students of MA Syekh Subakir Ngelegok Blitar. *Journal Of Development Research*, 20–24.
- Sugiyono. (2017). *Metode Research & Development*. Penerbit Alfabet.