



Development of Powtoon Learning Media in Indonesian Language Courses for Children with Special Needs

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Abstract. This current study purposes to describe the development process and quality of powtoon learning media in Indonesian for CSN lectures. In this study, the method utilized is the 4-D research model by Thiagarajan et al. This model has four stages: define, design, development, and dissemination stages. The powtoon learning media developed in this study are Indonesian learning materials for CSN about CSN concepts, CSN types and characteristics, and CSN language disorders. The designed learning media was declared valid by the material and media experts with the result of 93% for material and 92% for media, so it met the criteria of 'feasible to use without revision'. Then, the learning media was also tested on students equipped with questionnaires from students with the result of meeting the criteria of 'agree' to be used in lectures. So, it can be concluded that the powtoon learning media in the Indonesian Language Course for Children with Special Needs (CSN) is feasible and attractive for students to use.

Keywords: Learning media · Powtoon · Indonesian for children with special needs

1 Introduction

Indonesian Language Course for Children with Special Needs (hereafter CSN) is a compulsory course for Indonesian Language and Literature Education Study Program students. Several materials studied in this course are: (1) the essence/concept of CSN, (2) the types and characteristics of CSN, (3) language abilities and impairments of CSN, (4) Indonesian language learning for CSN, (5) Indonesian language learning methods for CSN, (6) Indonesian language learning media for CSN, etc. Indonesian learning activities for CSN can be carried out through face-to-face activities in an offline or online class, training, structured assignments, independent learning, and simulation to produce articles that can be presented in class discussions and degree programs. In addition, Indonesian for CSN is a characteristic course for the Indonesian Language and Literature Education Study Program at Universitas Negeri Surabaya. From this elaboration, it can be seen that the Indonesian language course for CSN plays an essential role in language learning, especially for Indonesian Language and Literature Education Study Program students.

There are many components to success and learning is a complex process for students. With abstract and high achievement targets as explained above, Indonesian lectures for CSN must be attractively packaged to excite students' learning spirit. Students' understanding of lecture material is also decided by the skill and relevance of lecturers in applying and choosing a learning medium [1].

Learning media refers to an intermediary used when learning (lectures) takes place and requires lecturers to be more innovative and creative in providing material and information to students. It is in the hope that students do not quickly feel bored during the lecture process. Learning media has become an integral part of the lecture process. The influence of learning media on other components of learning is considerable. If the learning media used is less proper and less effective, other learning components will be disrupted, and the achievement of lecture competencies will be hampered [2]. Because learning media is so important for getting lecture skills, it's important to follow the stages of development so that the production process goes smoothly and the learning media can be used effectively [3].

Today, learning media must be combined with technology since it can help make learning media more effective. This is in accordance with Laborda et al. [4], who stated that technology refers to a vehicle that has the potential to aid towards effective assessment needs and meeting learning. Current learning media can be in the form of photography, graphics, electronics, or mechanical tools to present, process, and display information verbally and audio visually [5]. One of the media in learning that can be combined with audio and visual technology is the animated video powtoon. Powtoon is an audio and visual learning medium with interesting animation characteristics in conveying messages in videos [6]. The audio-visual powtoon can be filled with lecture material in which there is a combination of animation characteristics, including hand-written script animation, cartoon animation, audio, images, music, and interesting effects of transition. In addition, it is not difficult to access and download powtoon videos from computers, laptops, and gadgets through online applications, namely YouTube because powtoon audio-visuals are based on digital multimedia.

The current digital era requires learning media that use animation methods because animation methods are more effective in improving learning outcomes than traditional teaching, as stated in [7]. To plan learning media, there are several things to look at, such as (1) analyzing the characteristics of students, (2) determining the goals to be achieved, (3) selecting, changing, and planning learning materials, (4) utilizing materials, and (5) evaluating [8].

Research on the development of powtoon animated video media has been conducted by Tiffany [9]. However, Tiffany's research discussed the validity and practicality of powtoon video-based learning media in Petroleum subject matter. In contrast, this study examines the process of developing learning media and the quality of powtoon animated video learning media in Indonesian for CSN lectures.

2 Methods

In this study, Research and Development are used. One way to improve an effective product used in school and not to test a theory is by Research and Development [10].

Meanwhile, the development model used in this study is a procedural model that is descriptive by outlining the steps to realize a product [11].

Several research models can be used in development research, such as the R2D2 (Recursive, Reflective, Design, and Development) design model by Willis and Wright [12]. In addition, there is also a research model of Define, Design, Development, and Dissemination (4-D) proposed by Thiagarajan et al. [13].

This study used a 4-D research model with four stages (define, design, development, and dissemination). The define stage aims to determine and define the learning provisions. The design stage is the stage of designing media that will be used to solve research problems. The development stage is the stage of testing and refining the product. The last stage is dissemination which refers to the dissemination of powtoon animated video learning media.

3 Results and Discussion

The results of this current research has been carried out on the existence of a learning video product using powtoon. The research model used in this development study is the 4-D model by Thiagarajan et al. In the 4-D research model, there are four stages that must be carried out, namely the define, design, development, and dissemination stages.

3.1 Define Stage

The define stage's purpose is to establish and define the learning terms, which begins by analyzing the objectives of the material limits to be developed into a learning video. Here are the stages that must be taken when analyzing the objectives.

3.1.1 Preliminary Analysis

Preliminary analysis is used to find out the initial problems in the research site so that later problems will be known [14]. From the preliminary analysis results, it is known that learning media is indispensable in lectures. The media used in learning is a way to deal with problems in schools and colleges' teaching and learning process. Interesting media which can trigger students to learn independently is undoubtedly very needed. In addition, the media development for learning must also be directed to technological progress in accordance with the current digital era so that learning media in the form of learning videos is urgently needed to optimize teaching and learning activities.

3.1.2 Analysis of Student Characteristics

As lecturers of Indonesian language courses for CSN, researchers know that many students still have difficulty in understanding learning materials during the teaching and learning process. It is because students only obtain material or information in the form of exposure, not assisted by the use of media in learning.

Regarding the results of the preliminary analysis and students' characteristics analysis, the researchers seek to develop video learning media that can be used in Indonesian

for CSN. The purpose of making videos in this learning is to make it easier for students to understand the information conveyed by lecturers and also make it easier for students to learn independently. Videos used in learning are designed using the powtoon application with an attractive look and easy to use.

3.1.3 Formulation of Learning Objectives

The learning objectives of the Indonesian language course for CSN are: (1) students are able to describe the concept of special development children, (2) students are able to tell the types and characteristics of CSN, and (3) students are able to explain language impairment in CSN.

3.2 Design Stage

The media design used to solve research problems is carried out. Some materials and storyboards were prepared to design the learning media. Then, the design results on the storyboard were followed by the creation of media for learning by using powtoon animated videos. Design products were validated by media and material experts. Below are some stages applied to the design and development of learning videos using the powtoon application.

3.2.1 Preparation of Materials

Indonesian Language for CSN lecture materials used as learning videos by researchers are concept/essence material of CSN, CSN types and characteristics, and CSN language disorders. The reason for choosing those materials (CSN concept/essence material, CSN types and characteristics) is because they are more interesting and effective if they are delivered in the form of powtoon videos. Meanwhile, the material on language disorders in CSN is chosen because the material is quite hard to grasp if only learned through printed books.

3.2.2 Creation of Storyboard

Creating a storyboard begins with an initial concept to open a learning video, followed by an introduction to the material, a presentation of the material, and then a video cover. The video opening contains the material title and the name of the supervising lecturer who is attractively designed and accompanied by music. Interesting animations or images also accompany part of the material. In closing, it contains a thanking to the users of the learning video.

The material title is displayed in the opening video. The video background is also created with an attractive display or image with audio accompaniment. The video opening display should be attractive so that students are interested to see it. Below is a preliminary or opening image of the learning video that has been designed (Fig. 1).

In material content, the learning video is filled with information or material to be discussed. Below is a display of Indonesian course material for CSN which has been developed into a powtoon learning video (Fig. 2).



Fig. 1. Examples of video opening display

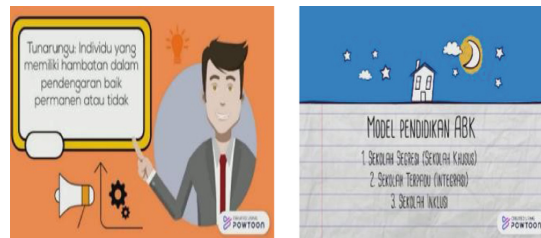


Fig. 2. Examples of material content

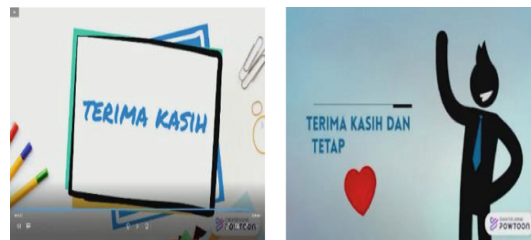


Fig. 3. Examples of video closing display

The closing part of the video is filled with thanks to students or users of learning media (Fig. 3).

3.2.3 Product Validation

Product validation questionnaire instrument is used to measure the learning videos quality for Indonesian lectures for CSN. Two types of questionnaires are developed: material validation questionnaires and media validation questionnaires.

In testing the material completeness in powtoon learning video, validation was carried out by material experts with some aspects, such as (1) the suitability and accuracy of the material used, (2) whether the material can encourage curiosity, (3) how the coherence of the sentence and the complexity of the thought flow, (4) whether the content of the material is contextual, and (5) how the presentation technique is. Below is the validation results by the material expert (Table 1).

Table 1. The data of material expert validation results

No	Aspect	Category				
		1	2	3	4	5
1	Material Suitability					✓
2	Material Accuracy					✓
3	Encouraging Curiosity					✓
4	Coherence and Demands of Mindset				✓	
5	Serving method					✓
6	Contextual				✓	

Table 2. The data of media expert validation result

No	Aspect	Category				
		1	2	3	4	5
1	Presentation					✓
2	Coloring					✓
3	Display and Screen				✓	
4	Use of Words and Language					✓
5	Animation and Sound				✓	

Validation conducted by media experts is a way to test the feasibility of powtoon, which is used as a learning medium with some aspects, such as video presentation, use of words and language according to rules, coloring, exciting displays and screens, as well as animation and sound. Below are the results of validation from media experts (Table 2).

According to the results of the questionnaire assessment, it is discovered that the average value for the learning media assessment that has been developed by the researcher is as follows.

$$\text{Value of material aspects } \frac{28}{30} \times 100\% = 93\%$$

$$\text{Value of media aspects } \frac{23}{25} \times 100\% = 92\%$$

Two qualitative advices from both experts are that the content of the video material is good enough and the learning video is also good enough. Then, the material and media expert, based on the score results on each aspect of the assessment in the validation sheet, the check mark (✓) selected to indicate the conclusion as follows:

(√) is suitable for use without revision because the material is extensive, complete, and in RPS ($> 90\%$).

(√) is suitable for use without revision because the media is clear, complete, and attractive according to RPS ($> 90\%$);

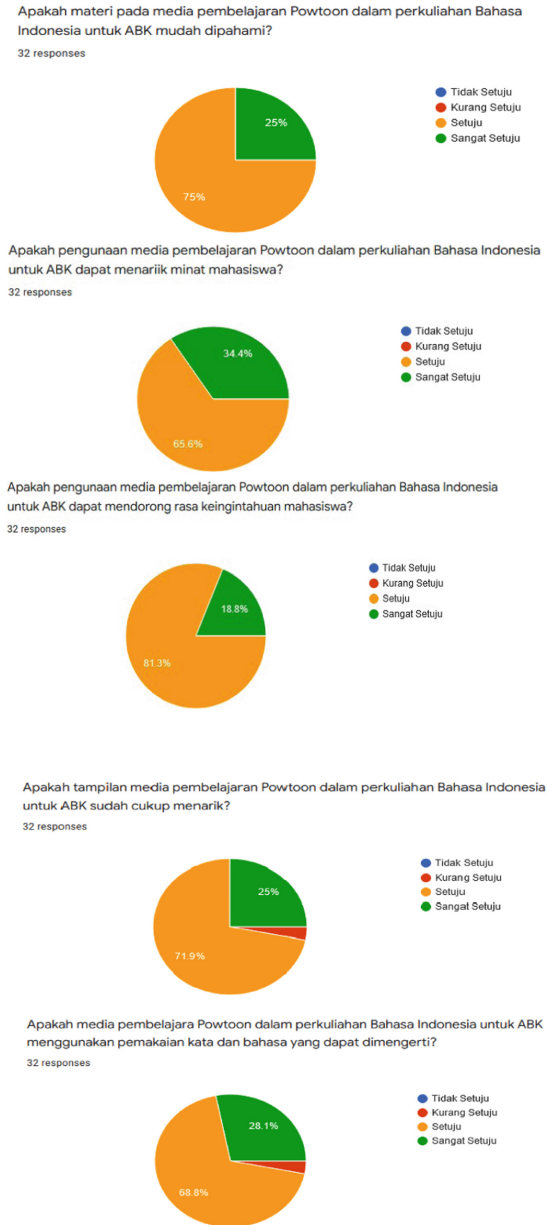


Fig. 4. Results of student questionnaires for users of powtoon learning videos.

Table 3. Recapitulation of student questionnaire results for powtoon learning media users

Question	Category			
	Disagree	Some what less agree	Agree	Strongly Agree
Can the use of Powtoon teaching media in Indonesian lectures for CSN encourage students' curiosity?			26	6
Is the display of Powtoon learning media in Indonesian lectures for CSN interesting enough?		1	23	8
Is the medium for teaching Powtoon in Indonesian lectures for CSN using words and language that are understandable?		1	22	9
Is the material on the learning media Powtoon in Indonesian lectures for CSN easy to understand?			24	8
Is the use of Powtoon learning media in Indonesian lectures for CSN able to attract students?			21	11

3.3 Development Stage

After the previous stage, the product was validated by the validator. Then, the product was tested on students of the Department of Indonesian Language and Literature Education, Universitas Negeri Surabaya, class C 2021, with a trial in a large class of 32 students. This trial aims to determine the level of ease and completeness of learning videos that researchers have designed. Finally, a questionnaire was given to students using the google form for video assessment used in learning with the help of powtoon. The powtoon learning video test results on students can be seen in Fig. 4.

From Table 3, it was found that most students answered 'agree'. It shows that powtoon video produced by the researchers was approved by users.

3.4 Dissemination Stage

At this stage, the dissemination of powtoon learning videos is carried out. A limited dissemination was carried out in this study, namely disseminating the final product resulting from the development of video-animated powtoon-based learning media to lecturers of Indonesian Language Courses for CSN and students from the Indonesian Language and Literature Department of Universitas Negeri Surabaya.

4 Conclusion

The development of powtoon learning media in Indonesian Language Courses for CSN used a 4-D research model: define, design, development, and dissemination. Through this model, three powtoon learning media (conceptual material, types and characteristics, and speech impairment in CSN) were produced. The three learning media that researchers have produced are declared valid by media experts and subject matter experts with a percentage of > 90% so that they meet the criteria of 'feasible to use without revision'. Besides, the learning media tested on students meets the criteria of 'agree'. Thus, the learning media powtoon in Indonesian Language Courses for CSN that researchers have developed can be said as feasible and attractive to use in the learning process.

Authors' Contributions. Arie Yuanita was a person in charge of conceptualizing and planning the study. Mulyono Mulyono was the one in charge of carrying out the research. Bambang Yulianto was helpful in identifying how to interpret the data. Every contributor provided insightful and helpful input, and they all had a hand in both the research and the drafting of the paper.

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