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Designing Dysking (Dysarthria's Speaking) As Interactive Learning Media for Dysarthria Students

Lailatul Fitri Latifah[1], Iin Baroroh Ma`arif[2], Luluk Khoirun Nisak Nur[3], Yuyun Bahtiar[4]
[1,2,3,4]English Department, KH. A. Wahab Hasbullah University
*Email: lailatuliffah0@gmail.com

ABSTRACT
The objective of this research is to find out how the "DysKing (Dysarthria`s Speaking)" application can help dysarthria students in learning to speak. It is hoped that the results of this research can help teachers' strategies in teaching speaking skills through "DysKing (Dysarthria`s Speaking)" especially for students with dysarthria. This research involved 4 Dysarthria students at SMPLB Tunas Harapan I Tembelang Jombang in the Academic Year 2022/2023. This research uses the R&D research and development method with the ADDIE research model (Analysis, Design, Development, Implementation, Evaluation). This research was conducted at SMPLB Tunas Harapan 1 Tembelang Jombang. Data were collected through qualitative data. The researcher analyzed based on the results of observations and interviews. The results of this research show that the result of media validation got a 4.46 score which was in the "good" category, and the result of material validation got a 4.19 score. The result of students` responses got a 4.3 score in was "good" category. With these results, "DysKing (Dysarthria`s Speaking)" is suitable to be used as learning media for dysarthria students. In addition, this research can also be used as a reference for other researchers in developing English learning media for different student levels.

Keyword: *DysKing Application; Learning Media; Speaking Skill; Interactive Learning Media*

INTRODUCTION
Education has an important role in the development of a country, that is realizing the dreams and hopes of the nation. Therefore, the government continues to improve the quality of education in Indonesia. The government hopes that the teaching-learning process can go well and student achievement can improve. The Indonesian government is serious about carrying out the education of children and adults. The Indonesian government provides various kinds of education pathways to improve the quality of education in Indonesia such as formal education, nonformal education, general education, and special education (Ma' & Afidah, 2018).

Formal education is education organized in public and private schools. This educational pathway has a regular and systematic process by following clear educational requirements, starting from basic education, secondary education, and higher education (Fatoni, 2020). Nonformal education is one of the educational terms that appeared in educational studies in the late seventies that can be implemented with structured and tiered processes outside formal education. So, non-formal education is an educational pathway whose learning process is provided for people who do not have time to finish their education in formal education. (Wahyu et al., 2018)

Therefore, formal education and non-formal education are included in general education because it is very important for one's life to support the nation in the world of education

Education in general can be developed through various activities, such as value cultivation, developing character, religious values, learning and training in moral values, and so on (Fatoni, 2020). However, not all children can participate in these various activities because each child has a different level of intelligence. Therefore, the Indonesian government also provides special education for children who have difficulties in the learning process.

Special education commonly referred to as inclusive education is an education system that provides services and opportunities for all children, including children with disabilities and children who have intelligence potential and special talent to participate in education and learning in one educational environment together with children in general (Romadhon et al., 2021). As seen from the level of intelligence of children who have disabilities, it is not easy to understand learning material and teachers will find it more difficult to provide material to children with disabilities than children in general, therefore researcher developed a learning media that can help teachers to make it easier to provide learning material to children who have disabilities.

Learning Media is a learning tool used by someone using tools made to facilitate the delivery of material when teaching at school. Things like that really help teachers in teaching at school and are a solution to make children feel happy when learning and not feel bored (Magdalena et al., 2021). Besides, learning media is needed by children with disabilities, one of which is for dysarthria children who can help them learn to speak through speaking skills media.

Dysarthria is a motor language disorder that derives from a neurological injury involving the motor component of language and is characterized by a poor articulation capacity of the phonemes. in practice, dysarthria is a condition in which problems are inherent in the muscles responsible for producing language, often making words extremely difficult. Any language subsystem can be involved and lead to impairments in the intelligibility, audibility, naturalness, and effectiveness of voice communication. (Giulio, 2020)

Speaking skills is one of the ways to convey opinions or ideas to others. However, for students with dysarthria, speaking is not an easy thing. Therefore, teachers must choose the right strategies and media to provide learning to children, especially children with disabilities. Through observations at SMPLB Tunas Harapan I Tembelang, the researcher found data that most teachers use books as learning media in English subjects. This causes students to become bored to learn and assume that English is a difficult subject.

To overcome this case, the researcher tried to design a "DysKing (Dysarthria`s Speaking)" application to help speak for dysarthria students. Based on the description above, the researcher took the title Designing "DysKing (Dysarthria`s Speaking)" as an interactive learning media for dysarthria students. The researcher hopes this learning media can help students to learn English in class.

METHOD

Research Design

The researcher used Research and Development (R&D) as a research design. According to Haryati, 2013 (as cited inAndreyani & Kuswida Bhakti, 2023) R&D method is a research method used to produce certain products and test the effectiveness of these products. The R&D method is a research method that produces innovation either a new product or develops an existing product to be more attractive by specific learning objectives. In this research, the researcher uses the Research and Development (R&D) method. In this method, some models could be applied by the researcher, especially for product-oriented models such as ADDIE, ASSURE, Kemp, Borg Gall, etc. The researcher uses ADDIE (Analysis, Design, Development, Implementation, and Evaluation) for learning media.

Research Procedure

The researcher used the ADDIE model because this model has systematic stages of work. Each stage is evaluated and revised so that the resulting product becomes more valid.

The ADDIE model has five phases: Analysis, Design, Development, Implementation, and Evaluation. The product developed in this research is the development of interactive learning media for dysarthria students at SMPLB Tunas Harapan 1 Tembelang Jombang.

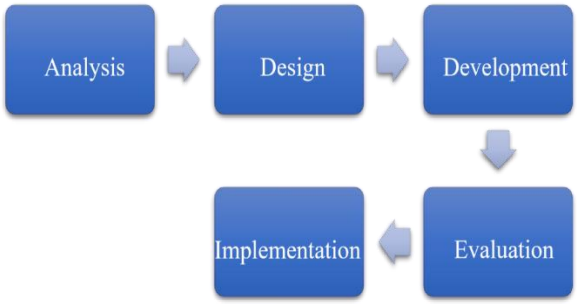


Figure 1. Design of ADDIE Model

Analysis

At this stage, the researcher conducted field studies using observation. The observation was conducted at SMPLB Tunas Harapan 1 Tembelang Jombang in April 2023. In this analysis, the researcher uses questionnaires for students and interviews for teachers as instruments.

Design

The researcher used a storyboard as the first step in making the product. In the next step, the researcher used Microsoft PowerPoint to determine the images, video, and sounds included in the product. After the product has gone through the Microsoft PowerPoint stage, the next step is exporting to the Ispring Suite 11 and then making it an application through the Website to APK Builder.

Development

This stage is to produce media that can help motivate and supplement learning (Tatang Aditya, 2018). After the product is designed and developed, the next step is validation by validators. The material expert validates the suitability of the material contained in the product with the learning material and also improves the product developed by the researcher. Furthermore, media experts also validate product content's appearance, animation, and clarity to make it easier for students to use this learning media.

Implementation

The fourth stage in the ADDIE model is implementation. The researcher conducted implementation at SMPLB Tunas Harapan 1 Tembelang Jombang. At this stage, the researcher conducts learning by using the product. After the implementation is complete, students take a test using the teaching material product assessment questionnaire that has been provided.

Evaluation

At this evaluation stage, the researcher made final revisions to the products developed based on suggestions obtained from field notes at the previous implementation stage. This stage so that the product developed is truly feasible and can be used with a wide range of schools. This last stage is the conclusion of all stages which is useful to see whether all previous stages have been successful or if there is still something that needs to be improved (Martatiyana et al., 2023).

RESULT AND DISCUSSION

Result of Analysis

At this stage, the researcher conducted analysis through interviews and questionnaires to know what students need in learning activities, especially in terms of speaking skills. The researcher interviewed one of the teachers, who is Mr. Ika Prasetia, S.Pd. as headmaster at SMPLB Tunas Harapan 1 Tembelang Jombang. In addition, to interviews, the researcher also used questionnaires for students. The researcher has analyzed several students at SMPLB Tunas Harapan 1 Tembelang Jombang.

Result of Design

The design stage was carried out before the product actually developed. The design carried out was the design of the product flow that would be developed. “DysKing (Dysarthria`s Speaking)” was made using Ispring Suite 11 by taking PowerPoint templates from Google Chrome. The researcher has designed an application with the storyboard.

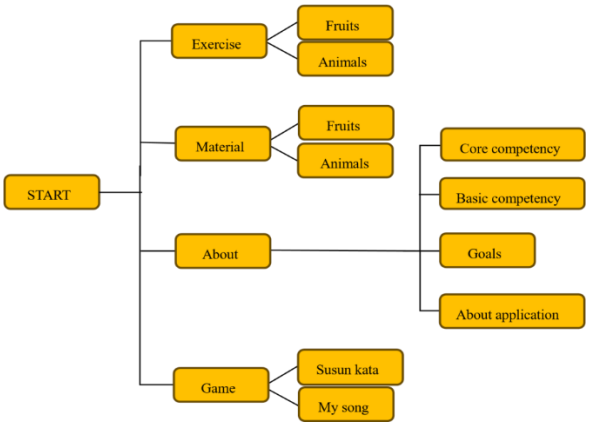


Figure 2. Storyboard of product

Result of Development

At this development stage was the validation of the research product carried out by two experts, that is media experts and material experts. The result from validation explains the materials and suggestions about video and pictures contained in the media then it will be fixed according to the advice from the experts. The data analysis technique used to calculate the score from the questionnaire used the Likert scale technique with five answer choices. Furthermore, the score obtained is converted into a value with a Likert's scale as shown in the table below:

Table 1. Likert`s Scale

Criteria	**Score**
Very good	5
Good	4
Enough	3
Low	2
Very low	1

(Sugiyono, 2013)

The data collected was then analyzed by finding the average score or mean, formula according to Sudjana, 2005 p. 67 (as cited in Saputri, 2017) as follows:

$$Xi = \frac{\sum x}{N}$$

Description:

Xi : Average Score (Mean)

∑x : Total Score

N : Number of Questionnaires

Result of Media Validation

This research had 2 validators as the media validators. The first media validator was Mr. Moh. Anshori Aris Widya, M. Kom as a Lecturer in the Faculty of Industrial Technology at Kh. A. Wahab Hasbullah University.

Table 2. First Media Validation

No	Media validation Aspect	Number Question	Score
1.	Design	1-2	9
2.	Text	3-5	12
3.	Image	6-10	22
4.	Audio	11-12	8
5.	Packing	13-14	9
6.	Usage	15-16	9
7.	Navigation	17	4
Total Score			73

The data was calculated with the formula:

$$Xi = \frac{\sum x}{N}$$

$$Average = \frac{Total Score}{Number of Questionnaire} = \frac{73}{17} = 4{,}29$$

The result of the first media validation was assessed or validated by Mr Moh. Anshori Aris Widya, the next was calculated the result of the validation sheet, the researcher got an average score of 4.29 which meant that the media was suitable for use as learning media.

The second media validator was Mr. Ino Angga Putra M. Pd as Vice Rector at Kh. A. Wahab Hasbullah University.

Table 3. Second Media Validation

No	Media Application Aspect	Number Question	Score
1.	Design	1-2	9
2.	Text	3-5	15
3.	Image	6-10	23
4.	Audio	11-12	10
5.	Packing	13-14	8
6.	Usage	15-16	10
7.	Navigation	17	4
Total Score			79

The data was calculated with the formula:

$$Xi = \frac{\sum x}{N}$$

$$\text{Average Score} = \frac{\text{Total Score}}{\text{Number of Questionnaire}} = \frac{79}{17} = 4{,}64$$

The result of the second media validation was assessed or validated by Mr. Ino Angga Putra M. Pd, the next was calculated as the result of the validation sheet. The researcher got an average score of 4.64 which meant that the media was suitable to use as learning media.

From the result of the two media validators, researcher totaled the results of the two validators, and the average score obtained was as follows:

= Validator 1 + Validator 2
= 4,29 + 4,64
= $\frac{8,93}{2}$
= 4,46

So, the average result obtained by the researcher after completing validation 1 and validation 2 is 4.46, which meant that the media was feasible to develop in terms of display and material as learning media.

Result of Material Validation

Such as the media validation, in this research has two material validators. The first material validator was Mrs. Ulfa Wulan Agustina M. Pd as Lecturer at the KH. A. Wahab Hasbullah University.

Table 4. First Material Validation

No	Material Validation Aspect	Number Question	Score
1.	Curriculum	1	4
2.	User	2-5	16
3.	Opening	6-7	8
4.	Core	8-12	20
5.	Closing	13-15	11
Total Score			59

The data was calculated with the formula:

Xi = $\frac{\sum x}{N}$

Average Score = $\frac{Total\ Score}{Number\ of\ Questionnaire} = \frac{59}{15}$ = 3,93

The result of the first material validation was assessed or validated by Mrs. Ulfa Wulan Agustina M. Pd, then calculated the result of the validation sheet, the researcher got an average score of 3.93, which meant that the material was suitable to use as learning material.

The second material validator was Mrs. Endah Purnamaningsih, S. Pd as English teacher at SMPLB Tunas Harapan 1 Tembelang Jombang.

Table 5. Second Material Validation

No	Material Validation Aspect	Number Question	Score
1.	Curriculum	1	4
2.	User	2-5	18
3.	Opening	6-7	9
4.	Core	8-12	24
5.	Closing	13-15	12
Total Score			67

The data was calculated with the formula:

Xi = $\frac{\sum x}{N}$

Average Score = $\frac{Total\ Score}{Number\ of\ Questionnaire} = \frac{67}{15}$ = 4,46

The result of the second material validation was assessed or validated by Mrs. Endah Purnamaningsih, S. Pd, then calculated the result of the validation sheet, the researcher got an average score of 4,46, which meant that the material was suitable to use as learning material.

From the results of the two material validators, researcher totaled the results of the two validators, so that the scores obtained were as follows:

= Validator 1 + Validator 2
= 3,93 + 4,46
= $\frac{8,39}{2}$
= 4,19

So, the average result obtained by the researcher after completing validation 1 and validation 2 is 4.19, which means that the material was suitable to be used as English learning material at SMPLB Tunas Harapan 1 Tembelang.

Result of Product Revision

The researcher revised the product according to the suggestions and responses. Suggestions from media experts and material experts indicate that the media needs to be further developed to become a learning media suitable for use. The product revision details were as follows:

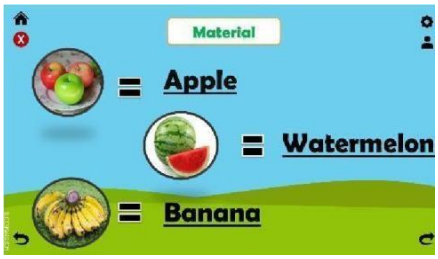
Before validation **After validation**

The menu display looks confusing

After revision, the display is easier for students to understand

Less attractive display

After revision, it becomes more interesting to play



The material is cluttered and the images are too small

After revision, students can choose fruits or animals. In addition, the pictures and text are bigger than before.

Result of Implementation

The researcher used a laptop to apply the product in the classroom. The researcher implemented the product by explaining how to use this "DysKing (Dysarthria`s Speaking)" application. Then the researcher tested students using this application by showing the material in the application and then giving quizzes provided in the application. After the researcher gave a questionnaire as an instrument to get the students` responses and find out the feasibility of the product. The results of implementation from respondents were used as a reference for product improvement so that the product can be better in the learning process.

Table 6. Implementation Collected Data

Respondent	Question										Total
	1	2	3	4	5	6	7	8	9	10	
Student 1	4	5	4	4	5	4	4	4	5	5	44
Student 2	5	4	3	5	5	5	4	3	5	4	43
Student 3	4	3	4	5	4	3	4	5	5	5	42
Student 4	5	4	5	4	4	4	5	3	5	4	43
Grand Total											172

According to the assessment result by respondents, the total score is 172. The total score was then calculated using the formula explained earlier to know the eligibility of the learning media. The calculation is as follows:

$$Xi = \frac{\sum x}{N}$$

$$\textit{Average Score} = \frac{\textit{Total Score}}{\textit{Number of Participants}} = \frac{172}{4} = 43$$

The average score from the respondents is 43. The data was then calculated again with the following formula:

$$\textit{Average Score} = \frac{\textit{Total Score}}{\textit{Number of Questionnaire}} = \frac{43}{10} = 4{,}3$$

So, the assessment result by respondents is 4.3, which is included in the category good and worth to using.

Result of Evaluation

The results of the trial show that the "DysKing (Dysarthria`s Speaking)" application can help students, especially in learning English. Data obtained by the researcher through questionnaires showed that the product was feasible to use as an English learning media for students who have difficulty in speaking skill**.**

CONCLUSIONS

Based on the result of this research and development, it could be concluded that this Research and Development designed by the researcher was "DysKing (Dysarthria`s Speaking)" to help the students who have difficulties in speaking skills at SMPLB Tunas Harapan 1 Tembelang Jombang. "DysKing (Dysarthria`s Speaking)" was designed by using Microsoft PowerPoint to edit and create the assets of the product. "DysKing (Dysarthria`s Speaking)" was developed by the researcher through Ispring 11 and then made into an application using Web to APK.

Based on the result of media validation, a score of 4,46 was obtained in the category of "Good", and the result of material validation was obtained a score of 4,19 in the category of "Good". So, based on the result of this research, it could be concluded that "DysKing (Dysarthria`s Speaking)" was declared feasible to be used as a learning media, especially for students who have difficulty in speaking skill.

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