



Lakas Application to Improve Sentence Construction Skills for Deaf Students

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Abstract: This research was motivated by the lack of learning media to construct sentences for deaf students. So the purpose of the research is to develop learning media in the form of the Lakas Application (structured sentence exercises). This study uses a research and development approach method with the ADDIE design. Due to time constraints, researchers carried out the level one research stage consisting of three research steps, namely the analysis-design-development stage. The subjects of this research and development trial were related experts such as deaf student experts, deaf student tool experts and deaf student learning experts. As well as a practicality test by an educator and 2 deaf students. Data collection tools in the form of a questionnaire for the validity instrument of the Lakas Application product and an instrument for assessing the response of the Lakas Application product. The data analysis technique used is a descriptive data analysis technique. The results of this study indicate that the Adobe Flash-based Lakas Application learning media is useful and worthy of being used as a learning medium in the skill of constructing SPOK structured sentences with a validation value of 96% and a practicality test of 89%. The final form of this product is a learning media packaged in the form of an android application so that it can be opened anywhere and anytime via an android smartphone.

Keywords: *Lakas Application; composing sentences; deaf students*

I. Introduction

The assumption of Vygotsky's theory is that students have the ability to acquire new knowledge with words and language (Fitri, 2021). Language has certain rules, both in terms of sound, form, and sentence structure. The skill of constructing structured sentences is the ability to express and interpret a sentence, and is an important element in a sentence. If students have difficulty constructing sentences correctly, it will have a negative impact on the development of students in the future, one of which is children with special needs such as deaf students.

Deaf students who experience hearing impairments are constrained in obtaining information, so that in speaking which causes children to be hampered in language skills, including sentence construction skills and reversed language skills. Mastery of language rules is important to have consistency among other language users. Therefore, a person must be able to construct sentences according to the rules of language concepts, so as to avoid mistakes in the process of using language. However, this linguistic concept is often poorly understood by deaf students (Amora et al., 2016). Individuals with hearing impairments face partial or complete hearing difficulties that impact their living environment. These limitations impact language, reading and writing skills, as well as social adaptation and academic success.

Deaf students experience obstacles in accessing information and communication, so concrete or real stimulation is needed to teach the deaf. Learning media, for example, can increase students' motivation to learn, allow more direct interaction between students and their environment, and provide opportunities for students to learn independently according to their wishes and abilities (Marlina, 2019).

Visual learning media is very suitable for deaf students because visual learning media makes it easier for deaf students to digest learning materials (Rahayu et al., 2022). One of the reasons deaf students like visual learning is better visual memory. So, multimedia can help deaf students learn.

Inadequate learning media in schools makes it difficult for students to follow the learning. From the results of interviews with teachers, so far teachers have used books as a learning medium to recognize words for deaf students so that the learning atmosphere becomes stiff and the class

becomes boring because students are not enthusiastic about attending class hours. Deaf students are more interested in using visual learning media because visual learning media can be easily digested by children (Marlina, Efrina, & Kusumastuti, 2019). In Khairunnisa's study, the use of Adobe Flash application media became interesting by relying on visualization of images to stimulate words for deaf students (Khairunnisa et al., 2016).

The problem of the explanation above, led researchers to develop an application called the Lakas Application (structured sentence exercises) with an Android operating system that utilizes Adobe Flash technology. The use of this Lakas Application media has specifications that are adjusted to the needs of deaf students, where there will be an explanation first regarding the material what is a sentence and elements of SPOK which are equipped with images to help students in visualization, quiz questions that use language that students know, images displayed to describe sentences that will be arranged according to SPOK elements, correction of SPOK element words, and this Lakas Application can be used without an internet network, the important thing is that this application has been installed on the Android device used. Thus, the application that was created has been adjusted to the needs after assessing students. The Lakas Application development process involved students of the UNP Informatics Technology Department. The application contains simple sentences that are often encountered by deaf students accompanied by images to support the implementation of the application being developed. Each quiz in the Lakas Application will issue different simple words of exercise sentences. With the use of the Android-based Lakas Application learning media, it is expected to be one of the solutions to provide learning media related to sentence construction skills for deaf students.

Based on the explanation above, the problem in this study can be formulated regarding the development process, level of validity, and practicality in developing the Lakas Application for sentence construction skills for deaf students.

II. Method

The research method used in this study is using the research and development approach method. According to (Sugiyono, 2016) the research and development method is a research method that produces certain products and is used to test the effectiveness of the product. In this research and development, steps are used that are in accordance with the ADDIE development procedure through three stages, because in accordance with the purpose of the research conducted by the researcher is the development of an application. The following are the steps of research and development :

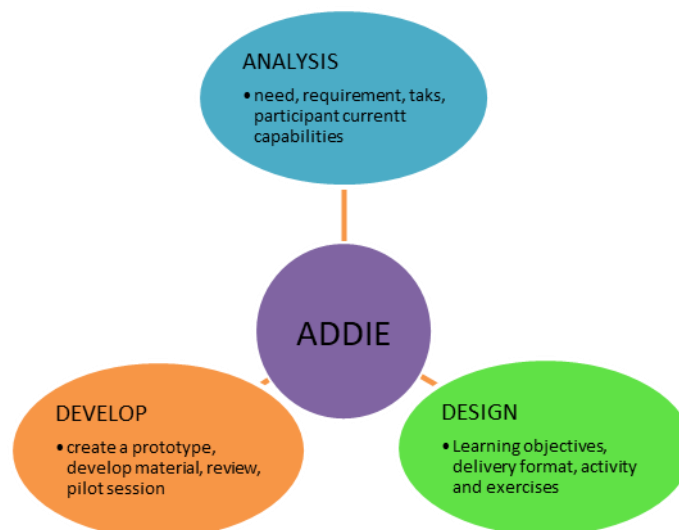


Fig. 1. Steps for implementing research and development that have been limited by ADDIE

The stages in this study start from preliminary studies, data collection, data analysis, design to application development. The data collection techniques used by researchers are observation, interviews, and documentation studies. In education, the research method and development method consists of several stages in which a product is developed, then tested, and revised based on the results of tests or field trials (Marlina, 2021). The stages in the research and development process of the Lakas Application learning model (structured sentence exercises for deaf students) are carried out in stages, where each step that is developed always refers to the results of the previous steps and ultimately a new educational product is obtained.

III. Results and Discussion

Media development for sentence-building skills for students with hearing disabilities, namely Adobe Flash-based learning media that has been developed and modified, is named Lakas (structured sentence exercises). Researchers design the Lakas Application according to the characteristics of deaf students based on the principles of learning with hearing impairments.

The results of the data acquisition will then be analyzed using a descriptive method so that researchers will describe it according to the focus of the research on the development of the Lakas Application for structured sentence-building skills for deaf students. The findings consist of 3 findings as follows:

A. *The process of developing the Lakas Application for sentence-building skills for deaf students*

The storyboard that has been developed will then be validated for the Lakas Application product and the practicality of the Lakas Application product that has been developed. Validation of the Lakas Application product involves several experts who are experienced in their fields, namely experts in tools, media, and learning materials. Each expert is directly involved in the design assessment process so that the weaknesses and strengths of the design are known. Design validation activities are carried out by opening a discussion forum and filling out instruments or questionnaires that have been made according to the Lakas Application product. Then the product practicality activity involving educators and students from SLBN 1 Sungai Pagu to find out the usefulness and benefits of the Lakas Application (structured sentence exercises).

B. *Validity of the Lakas Application for sentence construction skills for deaf students*

Validation test, on September 20, 2022 - January 15, 2023, researchers conducted a validation test of the learning media on the Lakas Application learning media to construct sentences for deaf students which was carried out by 3 experts, consisting of deaf student experts, deaf student tool experts and deaf student learning experts. In order to obtain various information that aims to revise and improve the quality of media from each field.

Through the validity test carried out, the average validity value was obtained, which was calculated as the percentage of feasibility using the Percentage of Feasibility formula using a Likert scale with a score of 94.67% in the very valid category with the statement that it did not need to be revised.

C. *Practicality of the Lakas Application for sentence construction skills for deaf students*

This activity involves educators to assess or respond to the practicality of the media when students use it. The practicality test was carried out by filling out a questionnaire in the form of a response instrument for the development of the Lakas Application.

The assessments from educators and deaf students after being combined and then analyzed, it can be concluded that the practicality of the Lakas Application media (structured sentence exercises) was calculated as the percentage of feasibility using the Percentage of Feasibility formula, getting a score of 89% with a very practical category. So the Lakas Application media can be used in constructing structured sentences.

Multimedia learning media that uses visuals, one of which is an Adobe Flash-based application. Adobe Flash-based applications are a professional authoring tool standard application program technology used to create amazing vector and bitmap animations for the purposes of creating interactive and dynamic websites. Advances in science and technology have a very large influence in various fields of education and are inseparable from the process of advancing science and

technology. In addition to helping students in the learning process, technology also plays a role for teachers, especially in utilizing facilities to enrich their teaching skills (Pratama, 2018).

Efforts that are commonly used to support the situation of deaf students in constructing sentences include the use of learning media such as several examples: the use of the picture and picture (PECS) learning model which relies on images to support the learning of deaf students (Wulandari and Marlina, 2018), and the use of I-CHAT media which helps with hearing impairments in constructing sentences from the words entered (Martantina, 2020). The use of learning media has also been proven to have an influence on deaf students in constructing sentences (Dewantoro et al, 2022).

IV. Conclusion

Assessment is based on user interface (application design), guessability (application content), learnability (application appearance), and generalization (ease of using the application) and the benefits of the application to identify its shortcomings and weaknesses. The results of the development of this research are in the form of a Lakas Application product based on Adobe Flash, which contains sentences, elements of sentences and structured sentence exercises in the form of quiz games, which are operated using a cellphone.

The validity level of the Lakas Application that has been developed has a very valid category with the statement that it does not need to be revised. So this application is expected to be used for sentence construction skills that are indeed developed according to the needs and principles of learning for deaf students. The level of practicality of the Lakas Application obtained from the responses of educators and students has a very practical category. It is concluded that the Lakas Application can be used for structured sentence construction skills for deaf students, as from the function of learning media. Based on the results of the development of this application, it can be recommended that the Lakas Application be implemented widely in the future so that deaf students can feel the usefulness of learning media in structured sentence construction skills.

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