



## Development of Multimedia Bilingual Learning for Early Childhood Education

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Receive: 05/08/2022

Accepted: 21/09/2022

Published: 01/10/2022

### Abstrak

Penelitian ini bertujuan untuk mendeskripsikan pembelajaran bilingual pada PAUD Kelompok B di TK Perintis II Arang Limbung Kecamatan Sungai Raya. Metode yang digunakan dalam penelitian ini adalah metode Research and Development (R&D) dengan model pengembangan ADDIE (Analysis, Design, Development, Implementation, Evaluation). Subjek penelitian ini adalah Kepala TK Perintis II, guru kelas, perilaku siswa, dan orang tua. Teknik pengumpulan data menggunakan wawancara, observasi, dan dokumentasi. Teknik analisis data melalui analisis kualitatif. Hasil penelitian menunjukkan bahwa setiap anak dapat mengembangkan bahasa secara alami. Namun perkembangan bahasa juga dipengaruhi oleh orang tua, lingkungan, dan dunia pendidikan khususnya dalam pembelajaran bilingual yaitu bahasa Indonesia dan bahasa Inggris. Siswa telah diajarkan dalam dua bahasa dan disampaikan melalui menyanyi, bermain, dan menari. Hal ini menarik siswa untuk mengikuti pelajaran dengan perasaan cinta dan gembira. Oleh karena itu, tujuan dari penelitian ini adalah untuk mengembangkan media pembelajaran bahasa Inggris agar kemampuan kognitif anak dapat ditingkatkan. Kesimpulan dari studi program ini menunjukkan bahwa program bilingual di PAUD memberikan hasil yang positif bagi perkembangan bahasa anak.

**Kata Kunci:** Pengembangan, Kemampuan Kognitif, Pendidikan Anak

### Abstract

*This study aims to describe bilingual learning in PAUD Group B in TK Perintis II Arang Limbung, Sungai Raya District. The method used in this study is the Research and Development (R&D) method with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. The subjects of this study were the Head of Pioneer II Kindergarten, class teachers, student behavior, and parents. Data collection techniques use interviews, observations, and documentation. Data analysis techniques through qualitative analysis. The results showed that every child can develop language naturally. However, language development is also influenced by parents, the environment, and the world of education, especially in bilingual learning, namely Indonesian and English. Students have been taught in two languages and delivered through singing, playing, and dancing. This attracts students to follow the lesson with a feeling of love and joy. Therefore, the purpose of this study is to develop English learning media so that children's cognitive abilities can be improved. The conclusions of this program study show that the bilingual program in ECCE provides positive results for children's language development.*

**Keywords:** Development, Cognitive Ability, Learning Media

## Introduction

Kindergarten is a form of early childhood education on a formal path. In the Regulation of the Minister of Education and Culture of 2014 Article 1 it is stated that:

"Early Childhood Education, hereinafter abbreviated as PAUD, is a coaching effort aimed at children from birth to the age of 6 (six) years which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness to enter further education".

Early Childhood Education (PAUD) is a coaching program for children aged 0-6 years to prepare for further education. The focus of early childhood development includes cognitive and physical aspects of motor. The scope of cognitive development includes learning and problem solving, logical thinking, and symbolic thinking [1], [2]

The main purpose of organizing Early Childhood Education is to form quality Indonesian children, namely children who grow and develop in accordance with the level of development so that they have optimal readiness in entering basic education and reduce life in adulthood [3].

Physical motor development includes health and safety, but also total motor and fine motor skills. By practicing cognitive abilities, children can think, understand, and explore their environment. The child will also have the knowledge and ability to solve problems, as well as the ability to understand the world. This ability also allows the child to process sensory information and new things. Cognition is not only about learning information, but also the process of thinking.

One of the important lessons to train children's cognitive abilities is language skills [1]. Language is an aspect of development that needs to be developed between the ages of 3-4 years because it is a medium of communication for children to be part of a social group. The language itself can be spoken, painting, written, and signature. The features of language development at the age of 5-6 years are as follows: 1) receiving the language through hearing others. 2) expressing language; 3) listening and retelling stories in order and easy to understand.

The cognitive development of the child and the development of language are closely related. Language plays a very important role in children's thought processes. Language makes it easier for children to understand new information and skills [4], [5]. Children not only need to learn their "mother tongue", but also need to learn a foreign language from an early age. By learning a foreign

language as early as possible, children can improve their cognitive abilities. When children learn a foreign language, they have more cognitive flexibility and concentration. In addition, children can learn foreign languages wherever they are used. Distinguishing the place of use of the mother tongue with the foreign language learned trains their brains to focus. That way, his cognitive muscles are also trained.

Learning is the process of interaction between students between students and educators by involving parents and learning resources in the learning and play atmosphere in ECCE units or programs [6][7]. Learning activities in early childhood are essentially the development of a concrete curriculum in the form of a set of plans containing several learning experiences through play given to early childhood based on the potential and developmental tasks that must be mastered to achieve the competencies that must be possessed by children. Considering that English learning is given to children from an early age, the learning needs to be adjusted to the level of development of the child.

According to the Child Development Achievement Level Standard Article 7, child development as referred to in paragraph (1) is an integration of the development of aspects of religious and moral values, psychomotor, cognitive, language, and social emotional, as well as art. Of course, all of this is inseparable from the kindergarten curriculum made, especially in the English learning program, should be designed simply, attractively, and still pay attention to the principles of children's learning. In addition, for the English learning material taught to children to be easily absorbed and mastered by children optimally, the teacher must also could teach appropriately and be able to create a conducive learning environment. That way the child's learning atmosphere will always be joyous and more meaningful, of course[8].

Based on the results of preliminary observations at TK Perintis II, Arang Limbung Village, Kec Sungai Raya, on August 1-10, 2022. It was found that out of 43 children there were 37 children who had difficulty in expressing or speaking in English, this was because at the time of learning the teacher was less active in speaking English with the child, so the child was less in the vocabulary treasury and the child had difficulty in pronunciation in English. The method used to introduce English vocabulary for children also still uses the lecture method. As we know that the method of discourse for children is very ineffective. The lecture method makes the child bored because it is monotonous and

unattractive to the child, there is no motivation for the child to learn and listen to what is said or conveyed by the teacher. So that in the development of the language, children will find it difficult to express what they want to convey.

Foreign language learning for children can use interesting learning media. The use of learning media in the learning process can help the effectiveness and delivery of learning content and messages in the learning process of children of this age [9]

The provision of stimulation through interesting, and innovative methods and media is very important to be given in learning poses to give a meaningful impression, especially to develop children's speech skills. One of the methods or techniques that can be used to develop a child's speech is the storytelling method. Haenillah argues that the storytelling method is one of the methods in the aspect of language development that aims to improve speaking skills.

Therefore, the purpose of this study is to develop English learning media so that children's cognitive abilities can be improved to Improve the Speaking Ability of Children Aged 5-6 Years in TK Perintis II.

### Methodology

This research uses research and development methods or in English (Research and Development). Research and development is a research method used to produce a particular product, and test the effectiveness of that product.

According to Borg and Gall [10], defining development research as follows "Educational Research and Development (R&D) is an industry based development model in which the findings of research are used to design new products and procedures which then are systematically field-tested, evaluated and refined until they meet specified criteria of effectiveness, quality, or similar standards."

The purpose of using this research method is to create products that are able to provide effectiveness in learning by using video as a learning medium in learning. The video used is based on videoscribe from Sparkol.

The research and development model used in this study refers to the steps with the ADDIE model. According to Aldoobie (2015: 68) research and development of this model aims to "helps in creating and developing effective, appealing, and efficient instructional materials within a supportive

environment using art, science, learning, and instructional theory."

This model consists of five research and development steps, namely Analyze, Design, Develop, Implement, and Evaluate which is an elaboration of ADDIE.

For more details, it is presented in the chart image as below 3.1

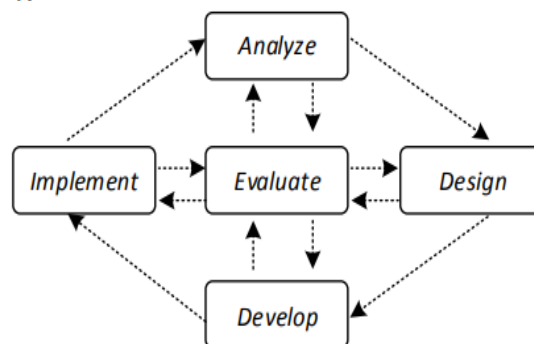


Figure 3.1 ADDIE Development Model

The research procedure is carried out in accordance with the model used, in this procedure will be described in detail the technical implementation of the research from the initial stage to the final stage, namely the production of learning media that are suitable for use.

Analysis. In this stage, we take several steps, starting with a) conducting interviews with parents to analyze their characteristics, needs in learning, and asking questions about material that is considered difficult and necessary to be used as development material. b) conduct interviews with educators who can provide the material about student learning outcomes, then evaluate and conclude problems for follow-up.

Design. At this stage, learning design is carried out which is focused on 3 activities, namely the selection of material that is in accordance with the characteristics of students, learning concepts and strategies, forms and methods of assessment and evaluation.

Development. In this stage we must prepare all the needs that will be the material for development. in this preparation, ideas are also carried out on the media, selecting the images to be used that are considered appropriate and supporting the material, choosing the background, and making learning media. After the media is finished, the next thing to do is validation by the three validators and evaluation of the assessment.

Implementation. At this stage, the results of the development are tested to determine the attractiveness and effectiveness in learning this trial

is carried out to get information from students about the media presented, in the test will be tested in small classes and large classes.

Evaluation at this stage the evaluation is carried out at each stage, evaluation is carried out when there must be improvements to the learning media being developed. Evaluation is carried out by experts, evaluation of validation results, and product trials. At this stage the evaluated media will produce a better media than before.

The data analysis technique used in this study is a quantitative descriptive analysis technique that explains the results of product development in the form of learning media. The data obtained by experts and parents of students will be analyzed using quantitative descriptive analysis techniques. The quality of learning media will be illustrated from the results of assessments conducted by experts. Experts will fill out a feasibility table and fill in a description of suggestions, and later the results of the assessment become the basis for analyzing the feasibility of the product and the quality of learning media.

## Results And Discussion

The main result of this research and development is an English bilingual learning medium developed using the ADDIE model. The stages of it can be seen as follows:

### Analysis

The first thing that was done at this stage was to observe the study room and interview several parents and teachers of Pioneer II Kindergarten. Based on the results of the observation and interview, it was concluded that some of the learning support tools, and bilingual learning made from teaching textbooks with the applied learning model are conventional. Some parents of students added that the creation of learning media is the right idea to support bilingual learning and increase students' motivation and interest in learning.

### Design

Design Stage The activities at this design stage consist of media design, interface design, and design of English bilingual learning media development.

The media or teaching materials chosen are bilingual learning videos based on sparkol video scribe which aims to increase the interest in student motivation in bilingual learning, make it easier for students in the process of developing English language skills, and become flexible and independent teaching materials because their use can be done anytime and anywhere.

### Development

In this stage, video creation is carried out as a learning medium to be developed, starting from the selection of material, translating the material, choosing images choosing symbols, and making sounds to be inserted in explaining the content of the material. The finished media is then validated by the three validators: material experts, media experts, and design experts.

### Implementation

Implementation After the product is validated and has been completed at the development stage, the next step is implementation by testing learning media to students on a small scale (small class) and large scale (large class).

### Evaluation

The evaluation carried out is a formative evaluation to strive to improve the learning media developed. Evaluation is carried out throughout the process of implementing the five steps of the research model. At this stage, it becomes a stage in reviewing and providing an assessment of the product from the development. The learning media developed by researchers is considered suitable for use and is used as one of the learning materials.

## Discussion

This study resulted in the application of Bilingual Learning Media in English for early childhood which is expected to improve the cognitive abilities of early childhood, both the ability to see, listen, process information, remember, and repeat what is seen and heard. This learning media focuses on learning several English words in several categories, including the categories of Animals, Fruits, Food, Means of Transportation, Family, Colors, Shapes, and Objects. In addition, in this application there is also a Quiz menu to retest children's learning outcomes.

### Analysis

The first stage carried out is the analysis stage (analyze). This stage results in knowing that the learning process in the classroom teachers still use the lecture method and only use package books that have been provided by the government in the school library as teaching materials. While learners still have difficulty in understanding and solving problems with lessons that already use bilingual, until learners consider that the lingual b lesson is difficult to understand and boring.

### Design

The next stage is design. The activities in this stage are, the selection of teaching materials, the selection of formats and the simple initial design of a teaching material. The teaching material chosen is the development of learning media based on sparkol

video scribe software, the material presented is compiled from several sources equipped with guidelines for working on questions, sample questions, and practice questions. Bilingual as the language used can add insight to students' knowledge in English.

The selection of sparkol video scribe software as a learning media development tool because sparkol video scribe has a feature to insert writing, images, and sounds simultaneously, so it is very good to use as a learning media development tool.

#### Development

The next stage after the design of learning media is the development stage, which is the main (main) stage in making or developing media into a whole starting from video making, material expert validation, media expert validation and linguist validation, the purpose of validation is to obtain input, criticism, and suggestions to make a better media so that the media can be declared feasible to be implemented on the subject research.

#### Implementation

Taham has a general procedure, namely preparing teachers and preparing students. Teachers must adjust the actual learning environment so that students can begin to build new knowledge and skills necessary to close the gap in student performance in learning. Development and evaluation activities signal the final stage of the implementation phase.

#### Evaluation

Evaluation is the process of seeing (evaluating) whether the learning system being built is successful, in accordance with the expectations of development at the beginning or not. Evaluation is a process carried out to provide value to learning programs [11].

The determination of evaluation criteria, the selection of appropriate evaluation tools, and the implementation of evaluations become general procedures related to the evaluation stage. The teacher must identify the success rate of learning, recommend improvements to subsequent competencies of a similar scope, stop all work, transfer all responsibility for the implementation and evaluation of the project to the appointed administrator or manager, and focus on the evaluation stage.

At this stage only formative evaluation is used aimed at collecting data on the effectiveness and efficiency of English bilingual learning media to achieve the goals set. The data is intended to improve and improve the learning media concerned

to make it more effective and efficient. Formative evaluation consists of expert reviews, individual evaluations, small group evaluations, and field tests.

Pransiska (2018) revealed that for many years public opinion on the use of multilingualism in early childhood is feared to have a bad impact on children's cognitive and language abilities. However, the results of his research show that the positive impact of multilingual use in early childhood is greater than the negative impact.

Children who use multilinguals have better cognitive development performance than children with monolinguals. This is of course supported by the readiness of teachers, teaching methods, and supporting learning media used.

Early childhood learning is carried out by playing using learning media, both real media, audio media, visual media, environmental media, and audiovisual media, so that separating all aspects of early childhood development from ECCE learning media can run effectively [12].

According to Solehuddin in Suyadi, et al (2015) stated that the purpose of ECCE education is to facilitate optimal and comprehensive child growth and development in accordance with the norms and values of life adopted. Now many parents are very busy with their work so that in educating children less than optimally with early childhood education can help children develop with their potential intellectual (cognitive), social, emotional, and psychomotor with the use of appropriate learning media.

According to Munir [13] multimedia gives a new nuance in obtaining information through reading activities. Multimedia-assisted reading can provide several benefits, namely making reading more dynamic by giving a new dimension to words. Especially in terms of conveying meaning, words in multimedia applications can be triggers that can be used to expand the scope of text to examine a particular topic more broadly multimedia does this not only by providing more text but also bringing the text to life by including sounds, images, music, animations, and videos. With multimedia-based documents, it can overcome the problems faced such as the difficulty of not rediscovering the topic of a previously read book. It can even search the entire text using keywords about one or more topics. In addition, multimedia documents can show references not only to the topics listed in the document itself, but also to other documents related to the document.

## Conclusion

From the research and discussion that the author has described above, the following conclusions can be drawn: (1) In the implementation of learning in this bilingual-based kindergarten, the learning method is very important, especially to teach children English, the learning method should be fun and easier for children (Fun & Easy). (2) video scribe media for color recognition for early childhood that has been developed can be used in kindergartens as a learning medium. The implications of the development of bilingual learning media in this study have that it can improve the ability to recognize English in children as expected by researchers in the development of this bilingual media, then can direct concentration to children in conducting learning in class, can stimulate children to learn to recognize colors and letters, (3 ) The use of multimedia reading learning in children has been arranged based on the needs of children consisting of: learning videos, worksheets and letter cards made based on the theme and sub theme that takes place. When using learning videos, children do their own with the assistance of the teacher, and the use of worksheets equipped with pictures, through prior briefing from the teacher.

## Suggestion

Based on the results of research that has been carried out, it is necessary to formulate several suggestions in the use of this model so that it can take place productively, effectively, efficiently, and better. Based on the results of research and development, here are some suggestions that researchers can convey, namely: (1) The results of this study are expected to provide information to teachers on how to develop multimedia reading learning in children aged 5-6 years in Kindergarten Perintis II, (2) For the principal, it can be used as a consideration in learning activities using multimedia, especially in reading learning activities for children aged 5-6 years in Kindergarten I Pioneer II and a reference in improving academic abilities in the field of educational technology.

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