

Development of E-APE Interactive Media for Language Learning for Early Childhood

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To Cite This Article: <https://doi.org/10.53797/icccmjssh.v3i2.1.2024>

Received 3 January 2024, Revised 17 January 2024, Accepted 31 January 2024, Available online 2 February 2024

Abstract: The research has several objectives including 1) knowing what needed by teachers and students for media for development, 2) making media development designs, 3) analyzing the feasibility of media development and 4) analyzing the has an E base –APE for the continuation of language teaching and learning for early childhood in Donorojo District, Jepara Regency. Research conducted by researchers refers to the theory of Brog and Gall, namely the process of research and gathering information, planning, initial product development, initial trials, product improvements, field trials, final product improvements and then dissemination. Testing for the level of effectiveness uses a quasi experiment, non-equivalent control group design and documentation prerequisite test carried out included normality tests, homogeneity tests, hypothesis analysis using product validity tests and effectiveness tests using the best T test. This study provided several results including, 1) there is a “needed” for the continuity of language teaching and learning for early childhood in Donorojo District, Jepara Regency, 2) the design of interactive media development which has an E-APE basis named AYOMA or let’s Learn Together with a wide selection of themes such as the theme of yourself, sports, transportation to the environment. The design is presented in electronic form that utilizes a mixture of brown base colors, accompanied by photos, vocabulary to music to attract children’s desire to learn, 3) The level of feasibility of developing E- APE interactive media in the context of teaching early childhood language in Donorojo District, Jepara Regency has very good validity test results on material, language, media, 1, media 2 so that it can be concluded that interactive media that has an E-APE basis is suitable for use for teaching and learning activities, 4) The results show that has an E-APE basis is effective for improve children’s language skills compared to teaching and learning activities that do not utilize interactive media on an E-APE basis.

Keywords: Early childhood, Language, Interactive Media E-APE.

1. Introduction

Everything that happens to a child is related, just like language development. Language development that occurs in children is related to the cognitive and neurological abilities they have. Often children who have good cognitive abilities are concluded as children who are likely to have good language and speech skills. To help their growth children need to be stimulated, for example by being included in preschool programs.

Children who receive structured education will be more stimulated in their development (Mulyasa, 2016). In research conducted by the Ministry of Health (2019), data was obtained, namely 8% of children in Indonesia suffer from speech and language delays. As many as 17% of children around the age of 5 years suffer from speech and language disorders, in more 6,4 % suffer from speech disorders, 6% suffer from language disorders and the rest suffer from speech and language disorders.

In his Observation Bloom et al, (2016) stated that children with a range of 4 years of age, their intelligence capabilities have reached 50 %, at the age of 8 years develop up to 80% and will be fully formed when the child is 18 years old or an adult. The child’s process of growing and developing has started when he has in the womb, therefore it is imperative to pay attention to this so that his intelligence, health level and psychological state are well formed.

Fitria et al, (2020) Argue that children aged 0 to 6 years are in their golden age so that parents and teachers have an important function in observing the growth and development of children who will determine when they become adults. Language is an intermediary for communicating with people. Language is the regularity of speech, ideas and emotions that functions as a means of communication between humans and is composed of listening, speaking, writing and reading activities. Play too are essential demands and needs for children because through play children can meet the

demands and development needs of the dimensions of cognitive, creativity, language, emotion social life values and attitude (Sun et al., 2023) .

Language functions to convey one's ideas and feelings which can be done by expressing them directly or in writing. Children's language skills are divided into 2, namely receptive abilities (understanding of the spoken language they hear) and expressive abilities. Receptive abilities in children are focused on the child's habit of capturing information correctly.

The use of language is applied by anyone, including children, so that language has an important function to influence children's success. Often children with high speaking frequency are considered as children who have good intellectual abilities (intelligent) The existence of language is very necessary for children in the learning process, honing their Listening, speaking. Writing and also reading skills. Adhani (2016) said that interactive learning media is needed by children to motivate and increase their enthusiasm for learning and language, because language is the most important aspect in the world of education.

Multimedia Based learning media (E-APE) has proven to be effective in helping solve children's problems in learning. Following are some of the results of previous research such as what was done by Susanti et al, (2022) where he stated that teachers use instructional media to achieve learning objectives. Norita (2021) says that calculation learning media has met the necessary qualifications. Aisyah (2019) said that the ritatoon game can be converted into a tool to develop cognitive abilities in group A children in Kindergarten LAB UM. Lowokmaru District, Malang City. Harliza and kurniah (2020) concluded that the use of E-APE succeeded in increasing children's language skills with the results of trials in small and large groups belonging to the very good category. Fitriani (2016) explained that playing roles using APE is in line with the roles played which can help the development of children. Indonesian language subject is that they cannot utilize interesting learning model and varied method

Based on the pre-research conducted on August 25, 2022 with research subjects namely early childhood in Donorojo District, Jepara with specifications on RA An-Nur Tulakan, RA Putra Bangsa Bndungharjo, Tk Ta 01 Darul Ulum Bndungharjo, it was found that children have high language skills. Not enough. This conclusion was drawn based on observations made, namely that students were found unable to respond to questions or orders given by the teacher because they had not been able to properly capture the information provided. This was clearly seen in the expressions on the faces of the students when they received questions or directions.

Based on the results of interviews conducted with teachers on August 25 2022, it was found that there were problems in the form of underdeveloped language skills in children due to limitations in APE both in type and number. APE that is owned is only magazines, puzzles, cards with picture blocks, Loospart and lego, so it still needs development on APE specifically for children.

Harliza and kurniah (2020) argue that teaching and learning activities can run successfully depending on the media used. APE needs to be carefully designs so that it can become a tool for generating motivation, enthusiasm and a desire to learn in children. Anitah (2019) provides an understanding of APE as a message sending tool, in this case learning material from the sender, namely the teacher to the recipient, namely students (children).

Interactive media normally refers to products and services on digital computer-based systems which respond to the user's actions by presenting content such as text, moving image, animation, video and audio. Sutopo (2017) said that the use of APE allows users to have possibility to choose the part they want to study without the need to wait for all sequences to be completed.

The development of interactive learning media can be carried out using the R&D (Research and development) research method in order to obtain output in the form of a product. So far APE has been widely used for teaching and learning activities, but the use of APE in PAUD itself is still relatively minimal, especially in remote rural areas. From the explanation above, researchers want to develop E-APE in language learning for early childhood in Donorojo District, Jepara Regency. The title to be appointed is development of E-APE Based Interactive Media for language Learning for early Childhood in Donorojo District, Jepara Regency.

Based on the formulation of the problem above, the purpose of this research is as follows:

1. Describe and analyze data on teacher and student needs for the development of of-E-APE based interactive media for language learning in early childhood in Donorojo District Jepara Regency.
2. Describe and analyze the design of developing interactive media based on E-APE for language learning in early childhood in Donorojo District, Jepara Regency.
3. Describe and analyze the feasibility of developing interactive based on E-APE for learning in early childhood in Donorojo District Jepara Regency.
4. Analyzing the effectiveness of developing interactive media for language based on E-APE for language learning in early childhood in Donorojo District Jepara Regency.

2. Method

Based on the ten steps of research and development or research and Development (R&D) of the Borg and Gall model, due to various considerations (time and cost limitation), this research was only carried out up to steps 7, in the form of a final model that was feasible for applied in the field. The seven steps are describe as follows .:

Stage 1 : Research and information gathering.

The steps taken in this stage are conducting interviews and observing the learning process carried out by the teacher.

Stage 2 : Planning and data collection

At this stage the researcher conducted a review of the core competencies and basic competencies to determine the indicators to be achieved, conducted a study of the literature for material collection, made a gird of research instruments to be used, validation sheets, observation sheets and interview guidelines.

Stage 3 : Initial product development

This stage is in the form of making interactive learning media based on E-APE for language in early childhood. The steps taken are determining the material used, namely: habitation of character, sympathy, independence, responsibility, sharing, helping and cooperation in children. Making game steps which are then made in an application software so that it can be played in the form of a game on a laptop/computer.

Stage 4: Product Validation

After the media is compiled, it is then validation by experts using assessment score and suggestions for improvement. The validators in this study are experts : materials, media and linguists.

Stage 5: Phase I Product revision

At this stage revisions were made based on suggestions from the validator during the validity test. Revisions are made to correct deficiencies in the learning media as a result of the product.

Stage 6: Limited Trial

At this stage individual trials were carried out on children at TK/RA AN-Nur Tulakan, Village Donorojo District Jepara Regency, then group trials were carried out with 12 children and limited trials as many as 30 children outside TK/RA AN-Nur Tulakan District, Donorojo Jepara Regency.

Stage 7 : Phase II product Revision

Revisions were made based on suggestions from experts or validators after a limited trial was conducted, the results of the revision as a refinement of the learning media are the final media or the feasibility of the media.

2.1 Research and Design

This research mrethod is research development (Research and Development). Development research is used to produce certain products, and test the effectiveness of these product (Sugiyono, 2013) with the mixed method and exploratory variant paradigms. This study used a non-equivalent control group design with data collection techniques in the from of observation,interviews, questionnaires and tests. The process of collecting data using instruments in the form of questionnaires, interview guildelines, research sheets. The data analysis in this study used qualitative and quantitative descriptive techniques.

Design Validation dar was carried out quantitatively to analyze the data obtained from the validation questionnaire of media experts, material expert and learning expert from the initial trials.

The research design used in this study included a non equivalent control group design study that is, the selected research subjects were determined to have a two) samples or groups carried out with different interventions, then observed between before and aftyer the action.

2.2 Respondents of the study

The study provided a needs analysis questionnaire by the teacher at RA-Anur as the experimental class 1 and RA Putra Bangsa as the experimental class 2 and TK TA Darul Ulum 01 as the control class. The questionnaire contains 10 questions which provide several answer choices and the respondent chooses the answer from the questionnaire it is known that the teacher uses game media in teaching in class for example : number cards, writing on the blackboard, showing pictures stuck in class and pictures of words originating from the internet that are in accordance with the material being taught, the teacher gives reasons by looking at learning media, it is easy for students to understand explain the meaning of the material just being taught.

Table 1 - Guildines for scoring and criteria.

No.	Skor	Kualifikasi
1.	5	SB (Very Good)
2.	4	B (Good)
3.	3	C (Enough)
4.	2	K (Less)
5.	1	SK (Very Insufficient)

(Source: Arifin, 2016)

Qualifications of the percentage results of the questionnaire score recap from media expert,material experts and language experts as shown in the following table

3. Findings and discussion

The results of achieving children's language skills in experimental class 1 at RA An-nur out of 15 children there were 9 children (60%) who included very good development criteria there were 3 children (20%) who were included in the criteria of developing as expected, there were 2 children (13.3%) were included in the criteria for developing and there was 1 child (6,7%) who was included in the criteria not yet developed. The results of achieving individual children's

language skills at RA Putra Bangsa in the experimental class 2 out of 15 children there were 8 children (53,3%) who were included in the criteria for very good development, there were 4 children (26,7 %) who were included in the criteria for developing as expected, there were 2 children (13,3%) who were included in the criteria for starting to develop and there was 1 child (6,7) who were included in the criteria for not yet developing.

Achievement of individual children's language skills in TK TA Darul ulum from 15 children to 2 children in the criteria for very good development, there were b2 children (13,3%) included in the criteria for developing according to expectations and there were 9 children (60%) who are included in the criteria for starting to develop and there are 2 children (13.4) who are included in the criteria for not yet developing. This can be seen from the children's language skills individually which are better than the control class which does learning without interactive media based on E-APE.

Whereas the results of achieving individual children's language skills at RA Putra Bangsa Bandungharjo out of 15 children there were 8 children (53.3%) who were included in the criteria for very good development, there were 4 children (26,7%) who were included in the criteria for developing as expected, there were 2 children (13.3%) who were included in the criteria for starting to develop and there was 1 child (6,7%) whp were included in the criteria for not yet developing.

To test the effectiveness of E-APE based interactive media, a comparison class was carried out that did not use E-APE based interactive media or was called a control class where language learning used conventional methods. The results of achieving individual children's language skills in the control class are as follows:

Table 2 - Recapitulation of children's language Ability Individual.

Criteria	RA-An-Nur (Experimen 1)	RA Putra Bangsa (Experimen 2)	TA Darul Ulum (Control)
Very well developed	60%	53,3%	13,3%
Growing as expected	20%	26,7%	13,3%
Strart Growing	13,3%	13,3%	60%
Undeveloped	6,7%	6,7%	13,4%

Based on the table above, it shows that the development of E-APE based interactive media can be effectively used in learning. This can be seen from the children's language skills individually which are better than the control class which does learning without interactive media based on E-APE.

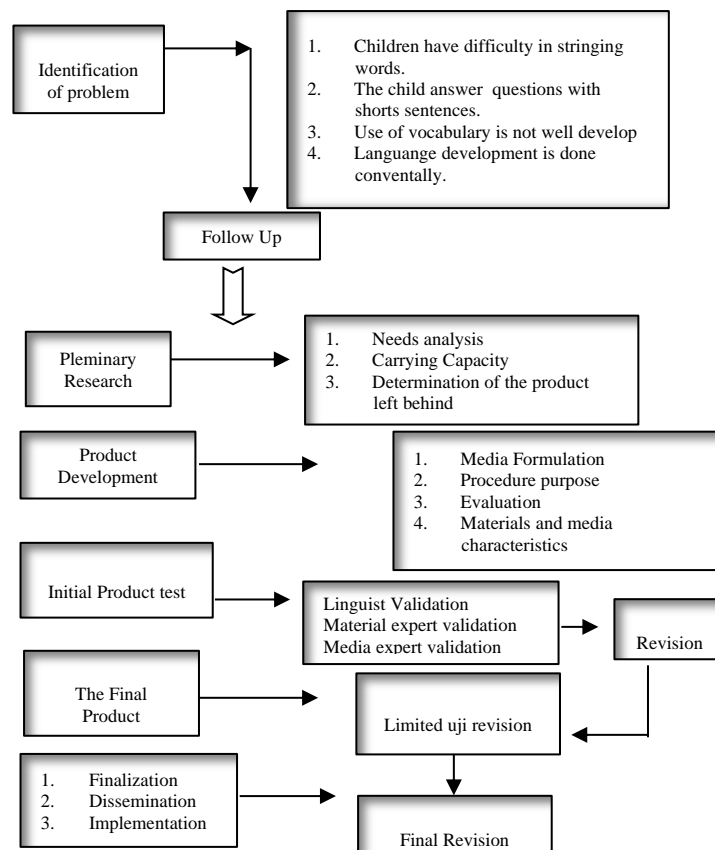


Fig. 1 - Learning design.

4. Conclusions and recommendations

Based on the description above, it can be concluded about the research entitled Development of E-APE Based interactive media for language learning for early childhood in Donorojo District, Jepara Regency' as follows:

The Results of this study include (1) both teachers and students who are the subject of this research require the development of E-APE for language lessons, with the hope that E-APE Which is experiencing development tends to collaborate in music color and vocabulary so that the material packaged becomes more attractive to students.

(2) The E-APE Development design for language lessons in this study is called AYOMA or came on learn together by displaying a large selection of themes, presented in electronic form, capable of displaying photos, vocabulary and music so that it is interesting and able to increase students desire to learn, (3) Feasibility of development E-APE for language lessons on the results of the validity test of material, language, media 1 and media 2 belong to the very good category, so E-APE is feasible to use, (4) E-APE is considered effective for improving children's abilities in language when compared without using E-APE.

Suggestions that can be put forward in this study are (1) for young children at RA An-Nur, RA Putra Bangsa, and at TK TA 01 Darul Ulum can use this E-APE tol well, because this product is packaged in a URL link that make it easier for children to learn and can be accessed using the internet, CDs or can be stored in the form. So that children can study independently at home to further hone children's language skills. (2) For teachers that electronic educational game tools or what is called E-APE can be used as a medium for carrying out activities to improve children's language skills ; (3) For schools the application of electronic educational game tools E-APE is very effective for improving language skills for children at an early age, so that in carrying out their activities it is necessary to optimize the use of existing computers laptops and can inspire teacher creativity to create technology based media in further learning activities.

Acknowledgement

The authors would like to thank the fellow authors and organizations whose intellectual properties were utilized for this study.

Conflict of Interest

The authors declare no conflicts of interest.

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