



Interactive PowerPoint-Based Educational Games: Media to Stimulate Group B Children's Language Skills

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ABSTRAK

Anak kesulitan mengembangkan bahasa karena proses pembelajaran masih berpusat pada guru dan kurangnya konsentrasi anak. Penelitian ini bertujuan untuk mengembangkan media game education menggunakan powerpoint interaktif pada sub tema serangga. Jenis penelitian ini ada penelitian pengembangan menggunakan model ADDIE. Subjek penelitian ini adalah masing-masing satu orang ahli rancang bangun, ahli isi/materi, ahli desain instruksional, dan ahli media. Terdapat pula subjek uji coba perorangan, subjek uji coba kelompok kecil, dan subjek efektivitas produk. Data yang dikumpulkan berupa data kuantitatif dengan metode angket dan observasi. Teknik analisis data yang digunakan yaitu analisis deskriptif kuantitatif dan statistik inferensial. Hasil uji ahli secara berurutan memperoleh hasil yakni rancang bangun produk memperoleh skor 90,90% dengan kualifikasi sangat baik, isi media 96,67% dengan kualifikasi sangat baik, desain instruksional 93,75% dengan kualifikasi sangat baik, dan media pembelajaran 95% dengan kualifikasi sangat baik. Uji coba produk kepada subjek meliputi pengujian perorangan memperoleh skor 95% dengan kualifikasi sangat baik dan pengujian kelompok kecil memperoleh skor 94,17% dengan kualifikasi sangat baik. Hasil uji efektivitas menunjukkan bahwa $t_{hitung} > t_{tabel}$ ($8,878 > 1,761$), sehingga terdapat pengaruh yang signifikan. Artinya, diketahui bahwa kebaruan media game education berbasis powerpoint interaktif layak dan efektif digunakan untuk anak PAUD, serta mampu stimulasi kemampuan bahasa anak. Implikasi penelitian ini mencakup peningkatan daya tarik dan interaktivitas dalam pembelajaran, sehingga memberikan pengalaman belajar yang lebih menarik.

ABSTRACT

Children have difficulty developing language because the learning process is still centered on the teacher and the child's lack of concentration. This research aims to develop educational game media using interactive PowerPoint on the insect sub-theme. This type of research is development research using the ADDIE model. The subjects of this research were each a design expert, content/materials expert, instructional design expert, and media expert. There are also individual test subjects, small group test subjects, and product effectiveness subjects. The data collected is quantitative data using questionnaire and observation methods. The data analysis techniques used are quantitative descriptive analysis and inferential statistics. The results of expert tests sequentially obtained results, namely product design scored 90.90% with very good qualifications, media content 96.67% with very good qualifications, instructional design 93.75% with very good qualifications, and learning media 95% with very good qualifications. Product trials on subjects included individual testing which obtained a score of 95% with very good qualifications and small group testing obtained a score of 94.17% with very good qualifications. The results of the effectiveness test show that $t\text{-count} > t\text{-table}$ ($8.878 > 1.761$), so there is a significant influence. This means that it is known that the new interactive PowerPoint-based educational game media is suitable and effective for PAUD children, and is able to stimulate children's language skills. The implications of this research include increasing attractiveness and interactivity in learning, thereby providing a more interesting learning experience.

1. INTRODUCTION

Early childhood education (PAUD) is one way to facilitate children's growth and development (Cintyani & Tirtayani, 2020; Zeptyani & Wiarta, 2020). Early childhood is seen as having different characteristics based on age and education that need to be specialized (Dewi & Mukhtar, 2022; Aprita &

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Kurniah, 2021). Early childhood education is basically an effort to facilitate ongoing development in children. Development in early childhood is an increase in children's abilities and awareness in knowing themselves and interacting with their surrounding environment along with their physical growth (Pratiwi et al., 2021; Nisa et al., 2021). Early childhood education is the process of fostering the growth and development of children from birth to six years as a whole (Mulia & Kurniati, 2023; Nelly & Mayar, 2020). This process covers all aspects of development, including physical, motor, intelligence, social-emotional aspects, and appropriate language so that children can grow and develop optimally (Salamah & Roza, 2023; Syahrul & Nurhafizah, 2021). At this time, early childhood is synonymous with joy, fun and joy. This happens because early childhood is a time when children tend to be more open. This period is also often called the golden age, that is, 80% of the child's brain is already working and is marked by rapid changes in every development, both in physical, motoric, language, cognitive, social, emotional, moral, religious and artistic aspects (Sari et al., 2021; Sukatin et al., 2020). Therefore, it is important for early childhood education to provide the right stimulation to help children grow and develop optimally during this period.

Language is part of an aspect of children's development that must be stimulated optimally. Language is a tool for thinking, expressing oneself and communicating (Lestari, 2021; Zahro et al., 2020). Language skills are very important in the context of forming information, concepts, solving problems, understanding communication, feelings and thoughts. Through language, humans can communicate and interact with other people either verbally, in writing, symbols, body language, and so on. Apart from that, humans can also understand themselves, understand other people, the universe, the Almighty Creator, and can position themselves as creatures who have culture. Language is closely related to every individual's development. Language development also greatly influences other developments, such as cognitive development and interaction with the surrounding environment.

Children use speech not only for social communication, but also to help them complete tasks (Ismaya et al., 2022; Saputra & Suryandi, 2021). Therefore, early childhood education is the right target in developing every aspect of children's development optimally. Language is one aspect of child development that is very important, because it is a yardstick for measuring (parameters) in development. Language is the most important preparatory skill, because children need language skills to be successful at school and in life (Hoar, 2023; Hayati & Na'imah, 2022). At the age of 5-6 years, the language development achievements experienced by children are that children are able to understand language (receptive), convey language (expressive), as well as early literacy through play (Yuswati & Setiawati, 2022; Ni'mah et al., 2020). This ability certainly supports children's learning process at the next school level.

If language skills are neglected, it is feared that children will experience less than optimal growth and development. Therefore, language learning is very crucial in early childhood. This is where early childhood education plays an important role in developing and encouraging early childhood language development. Vocabulary is important in order to be able to use a second language. Without a broad vocabulary, a person cannot use the structure and function of language in comprehensive communication. The richer the vocabulary you have, the greater your child's language skills will be. Vocabulary is words that belong to a language or a person who forms the language concerned or are used by a person or group of children concerned. Vocabulary can also be interpreted as a collection of words that a person knows or is part of a particular language (Rahman et al., 2021; Hakim, 2017). In the process of language development in early childhood, there is a need for learning materials that can be applied to children's language development. Learning media is a tool or intermediary in providing material to students during the learning process (Wuladari et al., 2023; Maharuli & Zulherman, 2021). Learning media used in Early Childhood Education usually include printed materials (magazines, story books), educational game tools (APE), audiovisual materials, posters and flannel boards (Sumilat & Siwij, 2023; Yuliasari & Permata, 2021; Indriyani & Hastuti, 2021). However, in reality, the application of media in learning has not been fully implemented by educators to develop aspects of children's development.

There are difficulties for children in language development because the learning process is only centered on the teacher. Apart from that, children also do not concentrate during learning, so the child lacks enthusiasm for the teacher during the learning process. Teachers only use media in the form of Student Worksheets (LKPD) and children's books in the learning process, then the teaching and learning process still uses conventional learning such as lectures or through assignments. Most children are asked to listen so that children become passive. The importance of teachers understanding classroom management is very necessary so that the learning process is more active and able to increase children's learning activities (Fajri et al., 2022; Rejeki & Suwardi, 2021). Apart from that, the use of media is still relatively low and the level of completion in aspects of language development, especially in children's vocabulary, is in the sufficient category, children only barely understand learning, and children's understanding is still very poor.

Based on interviews at the Pembina Denpasar State Kindergarten, it was found that children at school at the age they should have been able to master vocabulary and reading were starting at the age of

5-6 years. However, when conducting an interview with the teacher in group B, it was discovered that the children were unable to remember or memorize the existing vocabulary, especially for children's letter recognition, which was very minimal. They seem to have difficulty and look confused when completing letters or guessing letters. In addition, when learning is carried out, children pay less attention to the teacher. The method used by group B teachers during the learning process also still uses the lecture method and textbooks that are available at school.

The results of the observations that have been made show that the teacher's strategy in the learning process does not create a learning atmosphere, so that the learning process is less than optimal. In delivering the material, the teacher seemed overwhelmed because he only relied on the book and the children were very noisy. However, the teacher tried to attract the children's attention using concrete learning media, but only lasted a short time because the children were bored. The teacher feels that the teaching media is not appropriate because it has not been able to arouse children's curiosity about the material the teacher wants to convey. Therefore, schools must be able to overcome this problem by changing the learning media used. The use of teaching media must be accompanied by the use of electronic learning media so that it can attract children's interest and curiosity about the material presented by the teacher. Media is anything that can be used to convey learning, so that it can stimulate children's attention and interest in learning activities to achieve a goal (Italiana & Watini, 2022; Swastyastu, 2020). The intended media is in the form of educational games. Educational games are interesting to develop because they have significant advantages in their visualization in the form of animation which can improve children's memory. The pattern of educational games requires players to learn, so they can solve problems or questions in the game. The instructions and tools provided by the game will guide players to actively explore information, so they can enrich their knowledge while playing. The results of previous research show that educational games can be a solution to problems in learning (Jaya et al., 2023; Erianto et al., 2022; Dewi & Agung, 2021).

Based on the literature review that has been carried out, there has been no research that has developed learning media using the PowerPoint application with insect sub-theme material for group B children. This research aims to develop educational game media using interactive PowerPoint on the insect sub-theme. By developing interactive PowerPoint-based educational game media on animal themes with insect sub-themes, this research provides an innovative solution to improve the quality of learning. This media can not only increase children's enthusiasm through a more interactive and interesting approach, but can also help overcome the weaknesses of conventional learning methods. The use of this media can create a more dynamic learning environment and facilitate children's active participation in the teaching and learning process. The implications of this research include increasing attractiveness and interactivity in learning, thereby providing a more interesting learning experience.

2. METHOD

This research is a type of research into the development of learning media in the form of educational games based on interactive PowerPoints to stimulate the language development of group B children. The development model chosen is the ADDIE (Analyze, Design, Development, Implementation, Evaluation) development model. The ADDIE model was chosen because the flow in the ADDIE model is suitable for developing educational games. The choice of the ADDIE model as the development stage for a learning product was based on the consideration that this model has systematic, simple steps and is also easy to implement. ADDIE consists of five steps, namely: (1) analysis stage, (2) design stage, (3) development stage, (4) implementation stage, and finally (5) evaluation stage. The analysis stage is carried out by identifying the child's problem needs and defining what will be developed. The design stage is the design of a concept for a product that is developed as a solution based on the results of the analysis that has been carried out. The development stage is carried out by making a product according to the design. The implementation stage is validation by experts and trials with subjects to find out the responses or opinions of learning media users, then it will be implemented to find out whether the product being developed is effectively used to help support the learning process. The evaluation stage is a process to see whether the media development that has been designed has been successful or in accordance with the expectations that have been planned or expected.

The subjects involved in this research were one design expert, content/material expert, instructional design expert, and media expert each. The individual test subjects in this research were three group B children at the Pembina Denpasar State Kindergarten. The small group trial subjects were 9 children from group B at the Pembina Denpasar State Kindergarten. The subjects for product effectiveness were 15 children from group B at the Pembina Denpasar State Kindergarten. The data collection method in this research uses questionnaires and observation.

Questionnaires or questionnaires are used to collect data about the feasibility of media design and the validity of media products from experts. Observations are used to collect data about the development of students' learning competencies after implementing media products in learning. The questionnaire in this research contains various statements or questions that are made based on the aspects you want to assess. Meanwhile, data collection for observations uses an observation form. The research instrument grid can be presented in Table 1, Table 2, Table 3, Table 4, and Table 5.

Table 1. The Design Expert Instrument Grille

No.	Aspect	Indicator	No. Item	Many Items
1.	Development model used	a. Suitability of the development model used with the characteristics of the product produced	1	2
		b. Accuracy of reasons for selecting a development model	2	
2.	Development stages	a. Suitability of the development stages carried out with the development model used	3	2
		b. Accuracy of depiction of development stages	4	
3.	Clarity, practicality, and chaos	a. Clarity of development stages based on the development model used	5	3
		b. The level of practicality of the development process carried out	6	
		c. Collapse of development steps	7	
4.	Evaluation	a. The accuracy of the evaluation design according to the model used	8	4
		b. Clarity of the evaluation instruments developed	9	
		c. Validity and reliability of the evaluation instrument used	10	
		d. The accuracy of the test subjects involved	11	
Lots			11	

Source :Tegeh (2021) with modifications

Table 1. The Material Expert Instrument Grid

No	Aspect	Indicator	Item No	Many Items
1.	Curriculum	a. Suitability of material with basic competencies	1	3
		b. Suitability of material to learning indicators	2	
		c. Suitability of material to learning objectives	3	
2.	Material	a. Material accuracy	4	8
		b. Depth of material	5	
		c. Material completeness	6	
		d. Material attractiveness	7	
		e. Suitability of material to children's characteristics	8	
		f. The material is supported by appropriate media	9	
		g. Material is easy to understand	10	
		h. The concepts presented can be logically explained clearly	11	
3.	Language	a. The language used is easy to understand	12	2
		b. Use of appropriate and consistent language	13	
4.	Evaluation	a. Clarity of target learning outcomes	14	2
		b. The material presented helps remember previous abilities and knowledge	15	
Lots			15	

Source: Arsini & Kristiantari (2022) with modifications

Table 2. The Media Expert Instrument Grid

No	Aspect	Indicator	Item No	Lots Item
1.	Message design	a. Display quality is good	1	8
		b. The screen display is harmonious and balanced	2	
		c. Accurate use of typeface	3	
		d. Accurate use of font size	4	

No	Aspect	Indicator	Item No	Lots Item
		e. Accurate use of text spacing	5	
		f. Accuracy in the use of sound effects	6	
		g. Use of images to support learning	7	
		h. Use of audio to support understanding of the material	8	
2.	Operation	a. Ease of using media	9	
		b. Media can arouse children's motivation	10	3
		c. Media can be used repeatedly	11	
3.	Precision, technique, and clarity	a. Consistency with theme	12	
		b. Material accuracy	13	
		c. Media can help children in the learning process	14	4
		d. Media can help children understand the material	15	
Lots				15

Source :Sudarma et al., (2015)with modifications

Table3. The Instructional Design Expert Instrument Grid

No	Aspect	Indicator	Item No	Many Items
1.	Objective	a. Clear learning objectives	1	
		b. Consistency between objectives, materials and evaluation	2	2
2.	Strategy	a. Learning activities that can motivate	3	
		b. Give children the opportunity to learn independently	4	4
		c. Presentation of interesting material	5	
		d. Systematic delivery of material	6	
3.	Evaluation	a. Understanding learning objectives	7	2
		b. Evaluation of activities that have been implemented	8	
Lots				8

Source :Suarthama (2016)with modifications

Table4. The Individual and Small Group Test Instrument Grid

No	Aspect	Indicator	Item No	Lots Item
1.	Message design	a. Product design	1	
		b. Text readability	2	
		c. Clarity in the image	3	4
		d. Clarity in sound	4	
2.	Material	a. Accuracy of material content	5	
		b. Ease of understanding the material	6	3
		c. Benefits of learning media	7	
3.	Operation	a. Ease of operation	8	
		b. Instructions for use are provided	9	2
4	Motivation	a. Media can help children in the learning process	10	1
Lots				10

Source :Suarthama (2016)with modifications

This research uses two data analysis techniques, namely quantitative descriptive analysis and inferential statistical data analysis techniques. Quantitative descriptive analysis is a way to analyze or process data using a systematic way of compiling data in the form of numbers and percentages regarding the object under study so that you can obtain general conclusions. Meanwhile, inferential statistical analysis is used to determine the level of effectiveness of the product being developed on children's language abilities before and after using the media. This data was collected using pre-nontest and post-nontest results.

3. RESULT AND DISCUSSION

Result

The development of educational game media in this research used interactive PowerPoint containing insect sub-theme material. This research uses the ADDIE development model which includes five stages, namely the first stage of analysis, the second stage of design, the third stage of development, the fourth stage of implementation, and the final or fifth stage of evaluation. The first, in the analysis stage, it is known that children cannot remember or memorize existing vocabulary, especially for children's letter recognition. Students seem to have difficulty and look confused when completing letters or guessing letters. The implementation of children's learning pays less attention to the teacher. The media used by teachers during the learning process still uses lecture methods and textbooks that are already available at school. Apart from that, the teacher's strategy in the learning process does not build a learning atmosphere, so the learning process is less than optimal. The teacher's delivery of material seemed overwhelmed because it only relied on books and the children were very noisy. However, the teacher tried to attract the children's attention using concrete learning media, but only lasted a short time because the children were bored. This usually happens because the learning media is less interesting. Analysis of learning facilities shows that the classrooms are comfortable and have complete and adequate learning facilities. Apart from that, the school already has an LCD, projector, computer, speakers and each teacher has a laptop. Based on the competency analysis and learning indicators, insect material was chosen because this material is an important lesson to be taught to children.

The second, the design stage which is carried out before entering the development stage. This stage is carried out so that the interactive PowerPoint-based educational game media has a clear design. Determining hardware in this research refers to the tools used for the process of creating and using educational game media, namely laptops. While software refers to the application used to develop interactive PowerPoint-based educational games, it is clear that the PowerPoint application is used. Meanwhile, to create animated elements that will be inserted into Powerpoint, help using the Adobe Illustrator application. Flow chart or a flow diagram of an interactive PowerPoint-based educational game media was created to provide an overview of the flow of product creation in order to facilitate the process of compiling the content of educational game media. Storyboarding from interactive PowerPoint-based educational game media containing visual designs and descriptions on slides sequentially in text form. The preparation of the daily learning implementation plan (RPPH) aims to design the learning process using interactive PowerPoint-based educational game media with animal themes and insect themes that have been developed. In this way, learning activities are arranged systematically. The media assessment instrument was prepared to assess educational game media products produced from aspects of the content of learning materials, instructional design and learning media that have been created.

The third, the third stage of development. This development stage is a product manufacturing and testing activity. The initial stage of product development begins with designing images or elements that will be used in PowerPoint such as backgrounds, images of various insects, as well as adding text according to the name of the insect using the Adobe Illustrator application. At this stage, the process of combining text, images, sound, sound effects, and arranging the position is carried out to produce interactive PowerPoint slides like the previously designed product, namely an interactive PowerPoint-based educational game media. After the educational game media that has been developed has been produced, the educational game media is then assessed or reviewed by experts using the questionnaire that has been created. The results of reviews from experts, in the form of suggestions or comments, are used as a reference to improve or revise the educational game media that has been developed. Apart from that, the results of the review are also used to determine the suitability of the product that has been developed so that it can be tested on children at the product trial stage. The media development process and final results of the interactive PowerPoint-based educational game media with the insect sub-theme can be presented in [Figure 1](#).

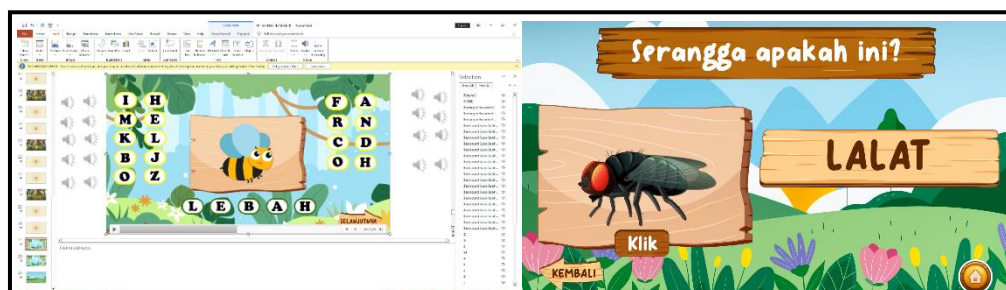


Figure 1. The Development of Educational Game Media in the PowerPoint Application

Fourth, the implementation stage, namely the product trial stage. The results of the development were applied to children by testing the product on 12 children consisting of 3 people in individual trials and 9 people in small group trials. Then, game education media was applied in a lesson involving all children in the B2 group at the Pembina Denpasar State Kindergarten to find out the effectiveness of game education media. The effectiveness of animated video media on learning outcomes is seen by providing pre-nontest and post-nontest observation questionnaires.

Fifth, the evaluation stage, namely the processing of data that has been collected in the previous stage. In this research, the evaluation carried out is a formative evaluation to measure or assess the product through validation from learning content experts, instructional design experts, and learning media experts. Apart from that, an evaluation was also carried out to determine the effectiveness of animated video media by analyzing the pre-nontest and post-nontest results. The percentage of achievement level for design and construction experts is 90.90%, which is a very good qualification. However, there are several comments and suggestions from design and construction testing experts, namely the use of dotted lines in flow diagrams and in storyboards it is necessary to add beginning and ending sounds.

The percentage level of achievement of learning content expert results is 96.67% which is in very good qualifications. However, there are comments and suggestions from learning content testing experts, namely improving the shape of mosquitoes and flies so that they more closely resemble real animals and make it easier for young children to understand the learning content presented. The percentage of achievement level for instructional design experts is 93.75% which is in very good qualifications and there is no input from instructional design experts. However, given positive comments regarding game education media, therefore game education media does not need to be revised. The percentage of achievement level for learning media experts is 95%, which is a very good qualification. However, there are several comments and suggestions from learning media experts, namely turning off background animations so as not to disturb children's concentration and adding instructions for using the media being developed. The percentage level of achievement of individual test results is 95% which is in the range of 90-100% with very good qualifications, and there are no suggestions for revision. Finally, the percentage level of achievement of small group test results is 94.17% which is in the range of 90-100%. This percentage indicates very good qualifications, and there are no suggestions for revision.

The effectiveness of the development of educational game media which was carried out using the observation questionnaire method from the results of the pre-nontest and post-nontest given to 15 children in group B of the Pembina Denpasar State Kindergarten. The effectiveness of the educational game being developed can be seen from the results of the analysis carried out using inferential statistical tests using the t-test technique for correlated samples. The average student score in the pre-nontest was 59.67 and the average student score after the post-nontest was 85.33. The results of the t-test for correlated samples obtained a tcount of -8.878. Then tcount is compared with ttable with $db = n - 1 = 15 - 1 = 14$. The ttable value for db 14 with a significance level of 5% ($\alpha = 0.05$) is 1.761. So from the results of this analysis it can be compared that tcount is greater than ttable, so H_0 is rejected and H_1 is accepted. This means that there is a significant difference in children's language abilities before and after using an interactive PowerPoint-based educational game with an insect theme in group B of the Pembina Denpasar State Kindergarten.

Discussion

The results of a review of interactive PowerPoint-based educational game media from learning content experts on learning material components obtained a percentage of 96.67% with very good qualifications and this score was given after revision. The learning material assessment criteria are assessed from the curriculum, material, language and evaluation aspects. One of the statements in the questionnaire is the suitability of indicators, basic competencies and learning objectives. This statement received a score of 4, which means it is highly approved by experts. Making learning media must be able to lead students to achieve learning goals. This is in line with previous research which states that media should be chosen so that it can support the achievement of previously determined learning objectives (Fitri & Ardipal, 2021; Sihombing, 2021). The educational game media developed includes an understanding of insects and is supported by images that match their original form. Material explained using pictures and sound can make it easier for children to understand complex material because it can concretize abstract material. This is supported by previous research which states that the use of images and sound in explaining material can facilitate the delivery of learning material (Ramadanti & Arifin, 2021; Setiadi & Haidar, 2021). Based on the assessment carried out by learning content experts, it can be said that the interactive PowerPoint-based educational game media that has been developed based on learning content is suitable for use by children in learning activities, especially in the insect sub-theme.

The results of a review of interactive PowerPoint-based educational game media from instructional design experts obtained a percentage of 93.75% with very good qualifications. The assessment criteria for

subject matter are assessed from the aspects of objectives, strategies and evaluation. One of the statements on the questionnaire, namely giving children the opportunity to learn independently, received a score of 4, which means it is highly approved by experts. Independence must be introduced to children as early as possible, this is because independence will avoid being dependent on other people (Ramadanti & Arifin, 2021; Hasanah, 2020). Learning instructional design is developed to help a person's learning process.

Learning design is an overall systematic process that helps educators design learning that is appropriate to instructional goals, effective and efficient. Learning design can create a communicative and interactive learning process between educators and students. Learning design is a work procedure used in the learning process so that learning can be carried out well and produce good output (Saptaria & Setyawan, 2021; Hidayat & Nizar, 2021). Based on the assessment carried out by instructional design experts, it can be said that interactive PowerPoint-based educational game media is suitable for use by children in learning activities, especially in the insect sub-theme.

The results of the learning media expert review obtained a percentage of 95% with good qualifications and this score was given after revision. Assessment criteria include message design, operation, and accuracy, technique, clarity. Media that has variations and interesting visuals in it will foster children's interest and attraction to learning (Purwianto & Fahyuni, 2021; Susilo & Yuliane, 2020). Expert comments that are revisionary to learning media include adding instructions for using the media. The use of appropriate learning media can influence the maximum achievement of learning objectives, creating learning media that is interesting and appropriate to the child's character, namely learning while playing, will make it easier for students to learn and also improve language aspects in children (Anggreani & Satrio, 2021; Suradinata & Maharani, 2020). Based on the assessment carried out by learning media experts, it can be said that interactive PowerPoint-based educational game media is suitable for use by children in learning activities. The results of the review of interactive PowerPoint-based educational game media from individual and small group trials each obtained a percentage score of 95% with very good qualifications and 94.17% with very good qualifications and these scores were given after revision. The assessment criteria for product trials include: (a) message design, (b) material, (c) operation, and (d) motivation. Judging from the comments given by respondents/students, interactive PowerPoint-based educational game media received a positive response. This educational game media product can be accessed via laptop.

Android-based learning media makes children happier in the learning process. This is in line with previous research which states that Android media makes children more enthusiastic because the material can be packaged with relevant images and sounds, and students can learn anytime and anywhere (Rahayu et al., 2022; Gunadi, 2020). Interactive PowerPoint-based educational game media makes children interested and doesn't get bored quickly when learning. Education in early childhood must receive special attention because this age is a fundamental development for children or known as the golden age (Sutansyah et al., 2023; Zakaria et al., 2022; Wahyuni et al., 2020). With the existence of interactive PowerPoint-based educational game media, it can make it easier for students or children to stimulate children's language skills on the insect sub-theme. In this way, children become motivated to learn and can improve children's learning outcomes. The average score of children after carrying out the pre-nontest was 59.67 and the average score of children after carrying out the post-nontest was 85.33. Based on the children's average scores on the pre-nontest and post-nontest, there was an increase as seen from the score on the observation questionnaire which was still low during the pre-nontest implementation. Then, after being given the application of the developed media, namely interactive PowerPoint-based educational games, there was an increase in the observation questionnaire scores, so that the post-nontest results were better than the pre-nontest scores. This is certainly influenced by the implementation of interactive PowerPoint-based educational games. After carrying out manual calculations, the t-count result was -8.878. Then tcount is compared with ttable with $db = n - 1 = 15 - 1 = 14$. The ttable value for db 14 with a significance level of 5% ($\alpha = 0.05$) is 1.761. So from the results of this analysis it can be compared that tcount is greater than ttable so that H_0 is rejected and H_1 is accepted.

This shows that there is a significant difference in children's language abilities before and after using an interactive PowerPoint-based educational game with an insect theme in group B of the Pembina Denpasar State Kindergarten. This is proven by an increase in children's vocabulary skills and children are more interested in learning after using educational game media compared to before using media. Interactive PowerPoint-based educational game media has been designed in such a way that aims to increase children's focus in participating in learning activities, as well as media created based on ways to stimulate children's language skills. Thus, it can be seen that interactive PowerPoint-based educational game media is effectively applied to the animal theme, the insect sub-theme for group B children at the Pembina Denpasar State Kindergarten.

Based on the appearance aspect, educational games are made to suit children's characteristics and are of course very easy to use. By choosing the right learning media, the quality of teaching and learning can

be improved, namely becoming more effective and creating a new atmosphere for children. Educational games can be used independently or in groups by children. The media display is designed to be as attractive as possible with a combination of colors and images that suit the characteristics of early childhood so that it is attractive to children. Based on the research carried out, it can be understood that the use of educational game media will have a positive impact and effective results for children. Educational game media is able to help teachers in distributing teaching material, and it will be easier for children to understand the teaching material presented by the teacher.

Some of the advantages of interactive PowerPoint-based educational game media are: (1) explanations of the material provided are easily understood by children because this educational game media is equipped with moving images, sound and writing; (2) helps increase children's focus on the meditation part; (3) can help teachers in delivering material; and (4) can be opened anytime and anywhere because it can be accessed via a laptop. However, this interactive PowerPoint-based educational game media has a very large educational game PowerPoint file size, so it requires a large amount of storage space and can only be accessed via a laptop or cellphone that has a PowerPoint application. Empirically, the use of educational game media, especially interactive PowerPoint-based media, can bring positive impacts and effective results in children's learning. The main advantage lies in its ability to help teachers convey teaching material more interactively, using moving images, sound and writing which makes explanations easier for children to understand. In addition, this media can increase children's focus on the material through meditation aspects, provide support to teachers in the teaching process, and allow flexible access via laptops, allowing children to learn anytime and anywhere. Thus, the use of educational game media, especially those based on interactive PowerPoint, can create a more enjoyable and efficient learning experience for children.

The novelty of interactive PowerPoint-based educational game media in this research was proven to be feasible and effective for stimulating children's language skills. The implications of this research can include increasing attractiveness and interactivity in learning, thereby providing a more interesting learning experience. The results of this research can also be used as a guide for educators in designing learning media that suits the characteristics and needs of early childhood. The limitation of this research is that the research focus is only on the animal theme with the insect sub-theme, so the results may not be directly applicable to other themes or sub-themes. Apart from that, this research is limited to certain age groups and educational environments. For further research, it is recommended to expand the scope of themes and age groups and explore other aspects such as children's emotional responses to this learning medium and the long-term impact on their language abilities.

4. CONCLUSION

The research results show that the development of interactive PowerPoint-based educational game media was declared successful. This is proven by the fact that there is a significant difference in children's language abilities before and after using an interactive PowerPoint-based educational game with an insect theme in group B of the Pembina Denpasar Kindergarten. The novelty of interactive PowerPoint-based educational game media is suitable and effective for children at the Early Childhood Education (PAUD) level. Educational game media can help teachers in distributing teaching material; it will be easier for children to understand the teaching material presented by the teacher; and it can stimulate children's language skills.

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