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Interactive Multimedia for Letter Recognition at Bunga Bangsa Kindergarten

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Abstract

Bunga Bangsa Kindergarten students will be taught how to recognize letters through interactive multimedia, which will be created as part of this project. When it comes to learning and teaching, using multimedia technology results in increased student involvement, interaction, and efficiency. A combination of the Lee and Owens model is utilized in this study approach. Based on the findings, it was determined that the interactive multimedia that was generated was of good quality and could recognize the youngsters' letters successfully. Based on the findings of this study, it is possible to conclude that teaching children in Bunga Bangsa Kindergarten how to recognize letters through interactive multimedia can be an effective choice for enhancing children's fundamental reading abilities. To provide students with a learning experience that is not only more enjoyable but also more significant, it is advised that teachers make more use of multimedia technology in the classroom.

Keywords: Interactive Multimedia, Student, Kindergarten

Introduction

Education is one of the most significant factors to consider when determining whether or not a nation will achieve greater heights in the future. Digital-based education is a renewal in welcoming education 4.0, which integrates cyber technology (Dimas Pradana et al., 2022). The authorities in the field of education are always looking for new ways to enhance the learning process. This is because it is well acknowledged that this comprehension is essential for developing long-term growth. This activity is conducted to enhance performance, which is its rationale. Students learn through optimizing existing learning resources (CHAIRY et al., 2024). The curriculum needs to be upgraded regularly by technology, art and scientific developments. There is currently a shift from conventional learning to fully digital learning. Media becomes a tool that facilitates human tasks in its application. In the teaching-learning process, the use of media has become crucial. If traditional learning methods are used, it will likely not fully attract students' interest in the material being taught. This can happen because, in the process of learning activities in the classroom, the implementation of methods in learning still lacks the integration of active participation of students.

The recognition of letters is the primary topic of this study project, which is being carried out with children who are now enrolled in the Bunga Bangsa Kindergarten. When it comes to teaching children in kindergarten how to read, the first thing that needs to be done is to acquaint them with the letters of the alphabet. This is the first step in the process. On the other hand, learning successes have not yet attained sufficient outcomes when teaching language learning about the language. Many kindergarten children at Bunga Bangsa Kindergarten have not been able to recognize individual letters throughout their Kindergarten education. Teachers must display initiative and originality when determining and selecting the appropriate educational technique to introduce kids to the alphabet. This is because the alphabet is becoming increasingly important to

students. Learning is an activity carried out by learners to form their knowledge (Pradana et al., 2023)

In the learning process, I often see rather passive students. Learning media refers to everything that serves as a tool to convey learning content and is intended to increase students' attention, thinking ability, and spirituality to achieve learning objectives. Learning media is defined as a tool that facilitates the delivery of messages in the learning process (Bashri et al., 2022; Nurhhayati, 2022), and here what is meant the message is educational material that makes it easier for the message to be captured. Learning media has a very important role in helping students understand a subject. The right learning media must arouse students' interest in the teaching and learning process and facilitate their understanding of its content (Muhammad & Yolanda, 2022; Puspitasari & Lestari, 2022).

Interactive multimedia combines content such as text, animation, simulation and virtual experiments that can be done interactively through computer media (Kurniawan, 2020; NUR MAJID & RASID ACHMADI, 2020). In addition, students can change their learning habits from passive to active with the help of interactive multimedia. Therefore, as part of learning in kindergarten, it is recommended that various learning media be utilized to support the learning process actively. Media is important in increasing student concentration and interest, increasing learning motivation, facilitating interaction between students and their environment, and developing independent learning abilities. This makes it important to use learning media relevant to the current situation. Examples of media that can be used include interactive multimedia to help visualize letter recognition material more effectively. Students are often bored because they do not use less interesting, monotonous, non-interactive, and ineffective learning facilities.

Based on observations, students prefer materials with interesting illustrations to help them better understand learning concepts, increase learning motivation, and make learning more enjoyable. Given the challenges of learning to recognize letters in Bunga Bangsa Kindergarten, it is necessary to develop interactive multimedia to help teachers introduce letters to students. In using interactive multimedia, it is important to consider the advantages and disadvantages of each type of media to suit the learning objectives and needs. If a media company can achieve the expected goals, it is considered successful. In the context of using interactive multimedia, if the multimedia can achieve its objectives, it can be concluded that it is effective.

Methods

The developer used the Lee & Owens development model in this research. The Lee & Owens development model has five stages carried out by the developer. The five stages proposed by Lee & Owens are (1) Analysis stage, (2) Design stage, (3) Development stage, (4) Implementation stage, (5) Evaluation stage. The developer used the Lee & Owens development model in this research. The Lee & Owens development model creates a multimedia learning prototype (Kurni et al., 2022). The Lee & Owens development model has five stages carried out by the developer. Lee & Owens's development model to carry out various stages in developing appropriate interactive multimedia (Dimas Pradana et al., 2022). The five stages proposed by Lee Owens are described as follows:

1. Analysis Stage

   As part of their development process, Lee and Owens separate the analysis into two distinct parts: the first is the requirement assessment, and the second is the front-end analysis. Need analysis, also known as need assessment, is a process that determines the order of priority for activities to be taken. It is defined as the difference between the actual conditions and the conditions that are desired. This research on development is conducting a requirement analysis to identify and analyze the gap between the actual situation and the ideal condition. Using a data collecting method known as Front-End

Analysis, one can bridge the gap between actual and ideal conditions to find solutions to existing problems.

2. Design Stage
   It is also possible to refer to the planning stage of the product production project as the design stage simultaneously. Both names are used to refer to the same concept. It is the stage of planning that is being referred to in this particular instance. The planning step is a vital phase that must be finished when it comes to the process of manufacturing a product. This stage must be finished. Even though the planning process is still in its formative stages and is not yet ready to move forward, it is expected to continue even though it is still being formed. One of the primary reasons for this is that most objects are not manufactured for the same purpose.
3. Development Stage
   The developer is currently involved in activities relevant to the Lee & Owens model. These activities are taking place right now. The completion of these duties is currently taking place at this precise moment. These activities are now being carried out at this phase of the development process. All of these activities are being carried out and put into effect immediately. In addition, it is feasible to implement the developer's design in the real world while the development stage is still in progress. Because it occurs during the procedure, this revelation occurs during the development stage of the procedure.
4. Implementation Stage
   The developer is putting the instructional materials developed into practice or application. The developer is now responsible for organizing all the components required to put the instructional materials that have been prepared into action. This responsibility falls under the domain of the developer. The developer is responsible for keeping an eye on this responsibility. According to the investigation findings, the developer's product has been modified to the satisfaction of the professionals at this level. Because it has reached this level, a product is now ready to be tested because it has reached this point.
5. Evaluation Stage
   The developer is putting the instructional materials developed into practice or application. The developer is now responsible for organizing all the components required to put the instructional materials that have been prepared into action. This responsibility falls under the domain of the developer. The developer is responsible for keeping an eye on this responsibility. According to the investigation findings, the developer's product has been modified to the satisfaction of the professionals at this level. Because it has reached this level, a product is now ready to be tested because it has reached this point.

As can be observed in the statement that Lee and Owens made, which can be found above, the design of this system comprises four different formative evaluations. Throughout the next paragraphs, these assessments will be examined in greater depth. The first thing to note is that experts in learning design, material design, and media design carry out these evaluations. After that, pupils are allowed to conduct an independent assessment of themselves. Furthermore, the information gained via the study is a foundation for developing additions and enhancements to the built system. This is done in order to maximize the effectiveness of the system. It is necessary to carry out these actions in order to achieve the goal of manufacturing the system.

Research Results and Discussion

As a result of this product's production, the outcomes will be distributed to the receivers as multimedia, which will be utilized for instructional purposes at the kindergarten level. At the level of the kindergarten curriculum, a new development has occurred in the field of education: the growth of interactive multimedia. When it comes to the production of products, the

requirements of learning media are considered while developing interactive multimedia. This is done to ensure that the products are of the highest quality. The multimedia products that have been developed are the solution to the problems that have been developing in the sector. The answer can be found in these goods. In order to fulfill the requirements of the educational process, the creation of goods in the form of multimedia is required to be exploited. When it is applied, it has the potential to dramatically increase the quality of education for children who are in kindergarten. The idea that is being communicated here is not difficult to understand either.

An interactive multimedia product was developed during this investigation. It is hoped that kindergarten students will be able to acquire knowledge regarding the topic of letter recognition through the exploitation of a variety of channels of communication. The students can use this interactive multimedia information associated with letter recognition in their educational experience as a learning experience component. In the past, interactive multimedia has been subjected to several tests to determine whether it is practical and beneficial. The results of these tests indicate that multimedia possesses qualities that make it suitable for usage in educational settings. This conclusion is based on the evaluation the validator carried out.

The developer will initially validate the product through the utilization of the product as a learning multimedia environment. The developer will be responsible for finishing this validation. A score of 90% was achieved, as established by the evaluation that the media specialist carried out. This was the conclusion that was made. The fact that this score can earn a score comparable to this is why it is considered legitimate. Because this is the case, it is reasonable to declare that the multimedia that has been produced is appropriate for use in applications. Additionally, the use guide was validated by experts working in the media sector. These professionals received a score of 88% and were also considered valid. This was included in addition to the multimedia component. However, in addition to this, it was agreed that the score was authentic.

Additionally, developers are given qualitative data through advice from media specialists about interactive multimedia. This advice is delivered to developers. In addition to the quantitative data shown, this includes the following. The creators of these graphics intend to incorporate comedic figures capable of capturing the attention of youngsters just entering kindergarten. Because children who are enrolled in kindergarten are the intended audience, this is the case. To move on to the next stage, it is generally accepted that multimedia in conjunction with the instruction manual is suitable. Several modifications or enhancements have been made to the multimedia content by the developer as a direct result of the feedback received from media specialists. This is to ensure that the multimedia that was developed is suitable for use in the field and that students can comprehend and utilize it in an acceptable manner.

After that, the developer will receive an evaluation and input from the material expert, the subsequent phase in the validation process. After the completion of the preceding step, this will take place. This will occur immediately after the conclusion of the phase that came before it in the sequence of events. The second step of the implementation process has officially started when we have reached this point. This is because the process of implementation has officially commenced. After the material expert's examination of the multimedia that was developed and the product that was made, it earned a score of 87.5%. It was placed within the category of things that are thought to be legitimate following the evaluation that was carried out. Following the completion of the evaluation, this was the result that was obtained. In addition to that, the establishment manufactured the merchandise. Immediately after the conclusion of the examination, this material was made accessible to the entire public so that they may read it.

Developers also gathered qualitative data in the form of input from professionals in the field of material knowledge to improve multimedia quality. This was done in order to boost the overall quality of the multimedia. This was also done in addition to the gathering of quantitative data. This activity was carried out to improve the overall quality of the components that made up the multimedia. At the same time that the decision to conduct this particular action was reached to

enhance the system's capacity to manage multimedia information, it was also decided that this action would be implemented. Based on the data that the material expert presented, it appears that the multimedia in question is in line with the content intended for children judged to be age-appropriate for kindergarten. When the offered evidence is considered, it is possible to arrive at this conclusion. This conclusion is the one that must be drawn from the information that has been provided, taking into consideration the evidence that has been presented that has been provided.

The next step in the procedure is for the developer to move on to the third component of the strategy: performing individual trials with each kindergarten student. The next step the developer will take will be this one specifically. During this process stage, the developer will finish the procedure that was started earlier. The procedure that will be carried out from this point forward will begin with this phase, which will serve as the initial stage of the process. This phase will be the beginning of the whole process. Three students were supposed to be the users of interactive multimedia software, and each of them was given their tests. The fact that three pupils were meant to be using the software was the reason for this unfortunate occurrence. After everything was said and done, the students who were supposed to take part in these examinations were the ones who took part in that examination. When the individual trial was finished, the data showed that the present number score was 89,3%, and it included the category regarded as actual. The data confirmed this. In the aftermath of the conclusion of the trial, this was found out.

Because the category was merged into the present number score, this was the predicament that resulted from the situation. The experiment was carried out by observing the actions of the students for the entirety of the period that they were required to be exposed to the multimedia. To accomplish the goal of amassing educational knowledge about the students was done in order to meet the goal. After careful consideration, it was decided that this would be done to guarantee that the experiment would be carried out appropriately. Furthermore, inquiries concerning the employment of multimedia in recognizing letters were specifically aimed at children who were enrolled in kindergarten or preschool.

During the fourth phase of the process, the developer permitted a limited group of individuals to take part in the test run that the developer carried out. As a result of the fact that the experiment was carried out in small groups, the developer chose six students to serve as the sample for the experiment. The experiment was conducted with a limited number of participants. The experiment was carried out with the participation of a tiny number of individuals. A percentage of 85.7% was computed as a consequence of the data gained from the findings of the study, which was carried out with a limited sample of participants. The investigation was carried out with a small number of participants. The study was conducted with a small number of volunteers in order to ensure its accuracy. The law recognizes a certain category, and it is possible to collect this number together within the limitations of that category. Certainly, this is attainable. Software engineers obtain feedback from smaller groups of individuals at the same time that they receive input in the form of numerical data. This feedback is being received simultaneously.

Some examples of what is known as quantitative feedback include the comments that have been provided. The fact that the learning multimedia produced is considered extremely engaging is not something that should come as a surprise. Consequently, this contributes to an increase in the pupils' excitement for learning, which is a result that is considered to be favorable. Due to the statements that have been made, it is now very clear that this is the situation that is now occurring. One piece of evidence that suggested this was the case was the enthusiasm the students showed when participating in the multimedia event. This was the evidence that suggested that this was the case. In addition, the data was gathered by asking the students questions and then getting their responses to those questions. This was done in order to acquire the information. This action was taken in order to get the necessary information. This line of action was carried out to collect the information that was required to be obtained.

After it has been finished, the developer will go to the fifth stage of the development process, which is the stage in which they will carry out field testing; they will continue to do so until they are satisfied with the results. The next stage will continue till they are content with the outcomes of the previous stage. After this process component has been finished, the developer will proceed to the subsequent phase of the technique. Students are encouraged to provide input that is both constructive and critical about the product throughout the part of the development process, which is referred to as field testing. This helps ensure that the product is being developed effectively. The provision of this input can be accomplished through a variety of different methodological approaches. Providing this input throughout the procedure should be regarded as of utmost significance. By the established criteria, the application was awarded a score of 85%, which enabled it to be included in the group of applications that were seen as trustworthy and legitimate. To be more specific, this type of score was assigned to the interactive multimedia that was generated.

Following the completion of the exhaustive evaluation that the developer carried out, it is feasible to conclude that the developed multimedia may be classified as suitable for use in educational settings. This conclusion can be reached after the developer has completed the evaluation. It is reasonable to draw this conclusion. After the review has been completed, there is a chance that the developer will come to this conclusion for themselves. If one were to arrive at this judgment, it would be feasible. It is conceivable to arrive at this conclusion once the evaluation has been completed in its whole and its totality from beginning to end. Because it is feasible to come to this conclusion, the conclusion that has been arrived at throughout this study is granted a larger degree of credibility. Considering all the factors, the developer may come to this judgment independently once the evaluation has been completed.

Based on the analysis and evaluation that has been carried out, it is feasible to conclude that the interactive multimedia developed for narrative text material has successfully met the goals set. This conclusion can be reached because it is possible to conclude. The conclusion that can be derived from this is that multimedia is a learning tool that is effective and suitable for usage in the process of learning a subject. In addition, it has been established that it can improve pupils' learning outcomes.

Conclusion and Recommendations

Specifically designed for kindergarten kids, the product that was developed is a multimedia resource. At the Bunga Bangsa Kindergarten level, located in the Pakal District of Surabaya City, the product is available in the form of multimedia tools that can be utilized. Because students can access this multimedia at any time and in any location, the use of this multimedia is completely flexible. The developer carried out a feasibility test and evaluated the efficiency of the built product to ascertain the degree to which multimedia successfully assisted students with their educational endeavors. As a result of the feasibility test that was carried out by the developer, which included input from material experts, media professionals, and students, it is clear that this multimedia may be classified as viable and genuine. It is possible to conclude that this interactive multimedia for elementary school level may be considered suitable for use in learning, both in terms of validity and effectiveness, once all of the development procedures have been carried out, beginning with the design and ending with the evaluation. In order to facilitate the process of learning to recognize letters in Bunga Bangsa Kindergarten, this interactive multimedia has been developed specifically for that purpose. To determine the requirements of students, teachers, and the school's atmosphere, it is recommended that this method be utilized in other educational institutions. This multimedia can be included in learning materials that are relevant to the requirements of the local community if it is possible to do so. The recommendation for continued growth is that those working in the multimedia field should broaden the scope of the resources they use by consulting the most recent sources and references. By the principles of media

development, this is an essential step to guarantee that the products manufactured are above the quality criteria.

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