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Learning Media Introduction of Plant Species Based on Multimedia

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ABSTRACT

Learning about the introduction of plant species remains elusive and the learning process that is still conventional lead learning atmosphere seemed stiff and children are busy playing that needs to be made of instructional media can help the teacher's role in the process of delivery of material. The methodology used to collect data that is relevant topics through library research, interview and observation. Analysis was performed to determine the specifications for the learning needs of instructional media introduction of the types of plants to fit the needs. Results of the research is the formation learning media introduction of plant species based on multimedia to increase interest in learning and understanding of children against this type of plant. Test results showed a hundred percent media of learning about plant species able to increase interest in learning and understanding the kindergarten children Tunas Melati Yogyakarta.

Keywords — **Learning, Multimedia, Plant, Tunas Melati.**

1 INTRODUCTION

The rapid advances in computer technology have an impact on the growing number of computer hardware market with a price of dollars are getting cheaper. The number of computer ownership either by the institution or by educators themselves increased. Along with the increasing number of proprietary computing devices by various parties, the need for the availability of computer-assisted teaching programs is increasing and needs serious attention [4].

Multimedia development is often applied in the cross of life. One area that developed it is education that is with teaching and interactive learning. Interactive multimedia is not a medium for conveying knowledge of anything is a communication tool which provides convenience in the teaching process that is useful to guide and expand the thinking of the child.

In the field of education, namely learning for children are sometimes the delivery is done by teachers in classical without reference to visual media or simulation results in learning to be less attractive and boring, so it needs to be done another way so that learning becomes interesting and the children become more receptive to the material being taught. Currently, the implementation of teaching in kindergarten Tunas Melati often confiscated quite a long time due to the limited number of teachers, so often there is a reduction portion to teach every child, and of course this will hinder the development of children's ability to understand what has been presented by the teacher. In other words, the learning process cannot be done optimally.

During this lesson taught by the teacher for the introduction of plant species using books and bring some plants as an example. Therefore required a medium of learning as a bridge between teachers and students to learn about the introduction of plant species are active and do not make kids saturated. Besides Suwartini, S.Pd. PAUD as one of the teachers who teach kindergarten class Tunas Melati also said that considerable difficulty in delivering the materials to children because children are more

focused on graphics in the book rather than the explanation descibed by teachers. Children play at the time the teacher explains the subject matter.

From interviews to several parents expressed by the learning media interest in children for higher learning and children are more enthusiastic in learning. In terms of numeracy learning media that has been owned by kindergarten Tunas Melati, parents are very supportive when learning about the introduction of plant species was made in to a medium of learning. Instructional media enough to help parents to children during the learning process at home and take advantage of existing computer at home as a tool for learning and parents can also evaluate the extent to wich the learning that has been obtained in kindergarten Tunas Melati.

2 LITERATURE REVIEW

Previous studies of Fenia Arian Widjoyo in his research shows the design of instructional media using Macromedia Director MX is used for children aged 8-9 years [6].
Previous studies both of Margaretta Jawai, M. Thamarin and Hilda with Research that is a Class Action (RCA), which consists of three cycles. Each cycle includes the design, implementation, and evaluation of observation and reflection [2].
The proposed method is more robust than the one based on contour features since those significant curvature points are hard to find. Finally, the efficiency and effectiveness of the proposed method in recognizing different plants is demonstrated by experiments [7].

2.1 Plant

Plants in general is part of one of the classification of living things. Plants have chlorophyll or green substance that serves as a medium for the creation of food. Chlorophyll serves as the process of photosynthesis. A process of converting the energy of sunlight is used as chemical energy which is the stored in the form of glucose [1].

Very easily recognizable traits in plants is the dominant green colour due to the content of chlorophyll pigments which played a vital role in the process of catching energy through photosynthesis that plants in general are autotrophs. Autotrophs nature, making the plants always occupies the first position in the chain of energy flow through living organisms [1].

2.2 Plant Species

There are several types of plant species around our environment, among others:

a. Medicinal plant is a plant that is recognized as herbs for medicines. Example: ginger, hazelnut,lemon and others.

b. Fruit plants are part of the plant that seems to function as an ovary of a plant. In general, fruits contain vitamin C, vitamin A, salt, iron, fat, and calories that are needed by the human body. Example: avocado, jackfruit, oranges, guava, rambutan and others.

c. Vegetable plants are plants that can be eaten with either taken from the roots, stems, leaves, fruit, and other parts are used for side dishes. Example: spinach, carrots, kale, cabbage, beans, and others.

d. Ornamental Plants (Flowers) is a plant species deliberately maintained and bred for beauty purpose. Example: roses, jasmine, orchids, and others.

e. Food plants are plants that exploited and processed to meet the need for food for humans. Example: sago, rice, soybeans, potatoes, cassava, and others.

2.3 The Concept of Learning And Teaching

Learning is a whole series of activities or activities performed by a person conciously result in a change in him in the form of additions or proficiency based on the sense of his experience [5].

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Teaching is an activity that regulary of ann environment consisting of educators and learners to interact with each other in doing an activity so that the process of learning and teaching objectives achieved.

2.4 The Learning Process and Its Components

Learning objectives describe the child's ability or mastery level expected to be reached by children after they followed a process of learning. In organizing learning materials, learning development should pay attention to the ability of the child so as to lead children on learning experiences that encourage curiosity and desire for understanding.

2.5 Media Delivery of Content

Media presentation function is to help facilitate children's learning and help ease the teaching in presenting an abstract concept or theme that is embodied in concrete form. Research conducted on the use of media and methods consistent results, namely the use of media and methods will primarily provide effective results.

2.6 Computer Base Learning

The entry of computer technology was introduced as the third revolution in the world of education. Computer technology is one of the educational technology that helps the proccess of teaching and learning both the learning object or act as a tool [3].

2.7 Multimedia

Multimedia is a combination of text, art sound, images, animation and video delivered to a computer or manipulated digitally and can be delivered to interactively controlled [8].

2.8 Multimedia Elements

In multimedia there are several multimedia elements, namely:

a. Text: It is a symbol in the form of visual media that is used to describe oral language.

b. Graph: It is a visual-based media. All images are two-dimensional graph.

c. Audio/ voice: Form of conversation, music or sound effects.

d. Video: This is a technology to capture, record, process, trasmit and rearranging moving images.

e. Animation: This is a simulation of the movement generated by displaying a series of frames into layers.

2.9 Human Computer Interaction

Using a computer to control humans should give special commands in this case using machine language understood by the computer. As a means to enter commands into a computer humans using tools like keyboard, mouse and others.

Friendly terms with users (user friendly) WYSIWYG (What You See Is What You Get) is used to refer to the capabilities of the software or application program that is easy to operate, and has a number of other capabilities so that users feel at ease in operating the program. Graphical User Interface (GUI) is an interface that utilizes a variety of image to be able to communicate or dialogue with the computer.

3 METHODOLOGY

This study has a specific research design. Function research is to find explanations and answers to the problems as well as provide an alternative to the possibilities that can be used for troubleshooting.

3.1 Subject of Study

The subject of this study is the medium of learning about the introduction of plant species introduction material plant species for kindergarten Tunas Melati which aims to increase interest in learning and understanding of children in the form of learning applications based on multimedia.

3.2 Research Tools

This study used the hardware and software with certain specifications to complete an application to be built. Hardware are all part of the physical computer and are distinguished by the data there in as well as differentiated by software that provides instructions for the hardware to accomplish tasks.

3.3 Method of Collecting Data

In supporting facts and data collection in order to solve the problems associated with the case, the necessary understanding of how the system will be run. The method used in the preparation of this research is as follows:

a. Library Studies, is a method of data collection is done by searching, reading and collecting documents as a reference.
b. Observation, is a method of direct observation of how to teach a class about the kinds of plants on kindergarten Tunas Melati.
c. Interviews, a method performed by asking a question or question and answer directly to the kindergarten teacher Tunas Melati associated with the introduction of material plant species.

3.4 Data Analysis

The analized data is a tutorial, as well as the visualization of images. Data contained material about medicinal plants, ornamental plants, vegetable plants, herbs plants and benefits of each plant. The auxiliary materials using image visualization according to case examples of such materials.

3.5 System Design Phase

Before creating instructional media introduction of plant species is done, need to create a system design, system design as follows:

a. The Design Concept
b. Designing Menu
c. Navigation Diagram Design
d. Manufacture Storyboard

3.6 Design Implementation

This stage is the stage of making an application based on the existing draft is using Adobe Flash CS6 Professional as software to make application design, layout and graphics processing. Adobe Flash CS6 Professional as support for vector drawing. Adobe Photoshop CS6 as image processing software. Adobe Soundbooth CS6 as software that serves to make the recording process to be used in applications that generate interactive applications and programming language Action Script.

3.7 System Implementation

An operating system will be applied or used in kindergarten Tunas Melati as a medium of learning to improve their learning and understanding of the children in identifying the types of plants. This system will be used by educators or parents in delivering lessons to children.

4 RESULTS AND DISCUSSION

Analysis of the needs of users ranging from preparing the data relating to the types of plants for the kindergartners were obtained from teachers of kindergarten. The data is processed into data suitable for a learning system implemented in the corresponding application programs and needs in the introduction of new species of plants, so easy to learn by kindergarten children and make it easier for teachers to give lessons.

4.1 Design System

The system design includes several stages as follows:

a. The design Concept
b. Desingning Menu
c. Navigation Diagram Design
d. Storyboard Design
e. From Design
f. Design of Multimedia Elements

4.2 System Implementation

The final implementation of learning applications for plant species based on

multimedia case studies on kindergarten Tunas Melati Yogyakarta, Indonesia.

Fig. 4.1 Main Menu Display

Figure 4.1 shown Display main menu page. The above is an inner courtyard, where all the links that connect ine page to another. In the main menu theri is a 7 button menu are: (1) the main menu (2) the material menu (3) video menu (4) menu of the game (5) menu profiles (6) navigation (7) menu exit.
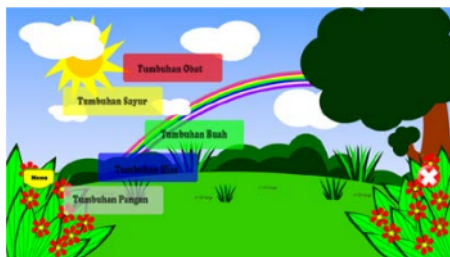

Fig. 4.2 Page View Material

Page views material depicted in figure 4.2. The above is an introduction page that contains material plant species and has 5 key to go any material which is key medicinal plants which would explain some of the types of medicinal plants and their benefits, vegetables plants that will explain some plant species vegetable, fruit plants which would explain some of the types of plants and their fruit specification form of the fruit, ornamental plants explains the different kinds of ornamental plants that exist around us and plant food that will explain the types of food plants in Indonesia.

Fig. 4.3 Page View Evaluation

Evaluation page views depicted in figure 4.3. Above, where in the evaluation page is a page that contains about evaluation of each material. At any material evaluations are used as a benchmark for understanding educates students in kindergarten Tunas Melati.

Fig. 4.4 Page Video Display

Display video illustrated in figure 4.4. The above is a page that contains the video that the introduction of medicinal plants, fruit plants video, video of food and flower plants video.

Fig. 4.5 Page View Game

Game page views depicted in figure 4.5. The above is a page that contains a puzzle game as an evaluation of the material introduction plant species. Students must construct words randomly

arranged into the correct wording is inserted into an existing long box above.

4.3 Discussion

Teachers feel that the introduction of instructional media on the types of this plant attractive to use because they have such material, video and game as required. With the introduction of instructional media on the types of plants teacher was not difficult to explain the material on plants species. The children were very enthusiastic to learn by using instructional media introduction of plant species they are interested and want to learn longer.

Parents feel that the medium of learning about the types of plants, because it can help children in learning activities while at home, and can measure the extent to which children's understanding of the kinds of plants.

5 CONCLUSIONS

Based on the results of research and discussion that has been described previously, it can be concluded as follows:

a. The establishment of a media application learning the types of plants that can increase the interest in learning and understanding kindergarten children Tunas Melati about the types of plants.

b. Based on testing using the black box test conducted by distributing questionaires to the respondents. From these 100% of the media can increase children's interest in learning against the introduction of plant species that are around and simultaneously increase understanding of plant species.

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FINAL GRADE

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GENERAL COMMENTS

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