Mobile Web-Based E-Learning Application for Animal Names

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Abstrak

Aplikasi *E-Learning* nama-nama binatang dibuat agar terpenuhinya kebutuhan media pembelajaran yang bersifat interaktif, menarik dan mudah dipahami, baik bagi anak usia dini, sekolah dasar, dan sekolah lanjutan. Aplikasi *E-Learning* nama-nama binatang adalah aplikasi *mobile web* yang bisa di gunkan untuk media pembelajaran mengenal nama-nama binatang dengan menggunakan tulisan (*Text*), gambar (*visual*), dan suara (*audio*) baik dalam Bahasa Indonesia maupun Bahasa Inggris. Diagram yang digunakan untuk merancang aplikasi ini menggunakan DFD (*Data Flow Diagram*), ERD (*Entity Relationship Diagram*), dan *Flowchart*. Pembuatan Aplikasi *E-Learning* nama-nama binatang menggunakan perangkat lunak PHP sebagai bahasa pemprograman dan *MySql* Sebagai penyimpanan data. Sistem tersebut kemudian di implementasikan ke dalam "Aplikasi *E-Learning* nama-nama binatang berbasis *mobile web*" dengan aplikasi PHP, yang diharapkan dapat Membantu mempermudah orang tua mengajarkan anak-anaknya tentang nama-nama binatang dengan suara.

Abstract

The E-Learning application for animal names is made to fulfill the need for interactive, interesting and easy-to-understand learning media, both for early childhood, elementary school, and high school. The E-Learning application for animal names is a mobile web application that can be used for learning media to recognize animal names by using text (text), images (visual), and sound (audio) both in Indonesian and English. The diagrams used to design this application use DFD (Data Flow Diagrams), ERD (Entity Relationship Diagrams), and Flowcharts. Making E-Learning Applications for animal names using PHP software as programming language and MySql as data storage. The system is then implemented into an "E-Learning application for mobile web-based animal names" with a PHP application, which is expected to help make it easier for parents to teach their children about animal names by sound.

Keywords: E-Learning, Applications, animals' names.

INTRODUCTION

E-learning is a learning method using electronic media (audio/visual) through internet technology. Currently e-learning is emerging as a new paradigm in the field of modern education, especially to make it easier for teachers in the field of study to monitor students in making it easier to understand and repeat school material. Many studies have shown empirical evidence to support the idea that utilizing e-learning technology effectively can provide many opportunities (Asra, 2007), (Asyhar, 2011), Hastuti (2012), Tyaningsih (2016), Arsyad (2017), Indriyani (2019). There are three functions of learning media through e-learning compared with learning in the classroom. Function as a supplement in the form of option/optional as complement and substitution. All of these functions have the same assessment content, making it easier for students to increase motivation in the teaching and learning process to be able to understand the subject matter (Kosasi, 2015). Learning with e-learning technology is starting to have many benefits, especially when combined with the use of mobile applications. At this time, there are already available learning media using mobile applications that use images and sound or better known as audio-visual.

A mobile application can be defined as a product of a mobile computing system, that is, a computing system that can be easily moved physically and whose computing capabilities can be used while they are being moved. based on the type of mobile applications into several groups, namely: Short Message Service (SMS), Mobile Web Sites, Mobile Web Applications, and Native Applications (Ramadhan, 2014). One of the mobile applications that are often used in learning activities usually tends to use mobile web applications.

Mobile web applications that can be used as learning media are interactive media and are expected to attract the interest of learners. One of the materials that can be used in this application is about learning to recognize the names of animals. This interactive learning media displays various kinds of animals, including: carnivores, herbivores, omnivores and insects which are presented in the form of pictures and writing as well as the sound of the name of the animal itself Nuryantini & Yudhiantara (2019), Wijayanto & Hernawati (2019).

Based on the phenomenon mentioned above, the author designed a learning media about recognizing the names of animals in the form of images that display images (visual) of animals, names of animals and sounds (audio) of how to say the names of these animals in two languages: Indonesian and English. This learning media was built to fulfill the needs of learning media that are interactive, interesting and easy to understand, both for early childhood, elementary school, and high school.

According to Ananda (2014), the delivery process to early childhood children is assisted by their supervising teachers or parents. This of course demands to be able to attract children's attention and try to optimize the delivery of information in this interactive media so that it can be digested properly.

As one of the learning media regarding the introduction of animal names for kindergarten, elementary, and junior high school children, many still use textbooks or videos. The need for electronic learning (e-learning) about animal names for learning media is very important because with e-learning children can learn more easily and also learning is more attractive because e-learning can attract children's desire to learn. Using e-learning applications can attract learners' desire to learn because e-learning applications can display images and sounds that can attract children's desire to learn.

METHOD

This qualitative study is representing a conceptual design about a learning media that designed particularly for junior high school students based on mobile web and accessible through smartphone called *E-Learning Application of Mobile Web-Based Animal Names*. The application is designed based on the waterfall model Pressman (2015) following several stages as follows: investigation, analysis, design, implementation and maintenance.

1. *Investigation Stage*. At the investigation stage there will be the process:
    a. Initialization. In the initialization will occur processes such as management planning, needs and potential of the user,
    b. Formal definition. In this process the definition of objectives, motivation, scope, boundaries, constraints, and strategy are defined. In addition, on the formal definition is also done to verify the problem so that it can be done assessment of the new needs.
    c. Feasibility test, consists of:
        i.   Technical feasibility test,
        ii.   Economic feasibility test,
        iii. Operational feasibility test,
        iv.   Organization feasibility test.
2. *Analysis Stage*. At this stage the system to be built is aligned with the needs of the user. At this stage there will be the process:
    a. Determine requirements, this is done by studying existing systems, as well as determining structural requirements and eliminating redundancy,
    b. Requirement analysis or needs analysis, consisting of functional requirements analysis and performance,
    c. Produce an alternative system design,
    d. Compare the generated system design alternatives and
    e. Recommend the best alternative to clients.
3. *The Design Stage* is the stage of determining how the system reaches a predetermined goal. This stage consists of:
    a. User interface design,
    b. Data design,
    c. Process design.
4. *Implementation Stage*. The stage consists of:

a.   Evaluate hardware, software and services,
b.   Modification and software development,
c.   Documentation, which is the main communication mechanism during the development process
d.   Data conversion, in this process there are improvements and filtering of unwanted data and data consolidation,
e.   Testing or trial, in this process carried out trial and debugging software,
f.   Training system of software that has been formed,
g.   Conversion, i.e. the process of switching from the old system to the new system.
   The conversion process can be done through 4 ways, such as:
   i.   Parallel strategy,
   ii.   Pilot strategy,
   iii.   Phased strategy and
   iv.   Plunge strategy.
5.   *Maintenance Stage*. At this stage there is software modification, error correction or user feedback on the software they have used.

FINDINGS AND DISCUSSION

The study found that e-learning application will be shared for the students in order to facilitate them to enrich their knowledge and memory about the animals' name both in written and pronunciation anytime and anywhere. This application consists of some categories: carnivores, herbivores, omnivores and insectivores. The e-learning applications of animals' names based on mobile web are released for the junior high school in the district of Tanah Laut, South Borneo. The display of this app is designed to be as attractive as possible, equipped with interesting animal pictures and sounds of how to pronounce it both in English and in Indonesian. The students should click the button based on what category and sub-category they want to learn, as the following sample in figure 1, figure 2 and figure 3:

Figure 1. Category: Carnivores

Figure 2. Sub-Category: Bear

Figure 3. Picture, Written and Sound of Pronounciation

This e-learning application can be accessed and downloaded into the smartphone which can be used as a learning media, particularly in learning and pronouncing the animals' name. However, in downloading this application, the smartphone must have a credit or quota itself. Once the application is downloaded into the smartphone, then the application will remain in it as long as the smartphone is still functioning properly.

CONCLUSIONS AND SUGGESTIONS

Students are responsible and understand the functions and uses of their smartphones, not only for social media, games and entertainment, but also use them wisely as a medium of learning, especially learning English. This e-learning application will help overcome students' difficulties in memorizing and pronouncing animal names, especially in English anytime and anywhere. This animal name E-

learning application presents a mobile application that is designed and built so that students can use their smartphones anytime and anywhere.

The suggestion is given to the parents and English instructor or other educators to encourage students to take advantage of smartphones as a learning media outside of study hours both in school and out of school.

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