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## Playstore-based Animal Encyclopedia

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Keywords: Playstore, Animal, Science Encyclopedia, Elementary School.

Abstract: The purpose of this research is to develop a playstore-based the encyclopedia. The Development is done through the stages of needs analysis using questionnaires and observation sheets. Furthermore, the results of the development obtained from the questionnaire that has been disseminated to material experts, media and languages are analysed using descriptive quantitative analysis techniques. Playstore-based the encyclopedia gets valid value from material expert, media and language, in the other hands according to teacher and student of encyclopaedia that developed able to increase student learning motivation. This motivation arises because the presentation of encyclopaedias that lead to online games and easily accessible at home and school, so that students do not feel learning to be a burden. Learning while playing will make students feel comforted, relaxed and able to improve students' understanding in learning science. **It is expected that the results of this study can be useful for the development of student learning motivation at the primary school level.**

### 1 INTRODUCTION

Playstore is currently used by many people, both for learning and playing. Juraman (2014): 1) Playstore has many interesting applications and supports all types of mobile phone based on android. 2) There are many interesting games, 3) Easily accessible, to open the Play Store shortly and do not take up much internet quota, 4) Has many categories include, games, news, music 5) Always update, apps from Google play will continue to update.

An application in playstore that provides electronic encyclopedia form. Several electronic encyclopedias have been developed such as the encyclopedia of power engineering (Ochkov, 2007); media pedia (Hong et.al, 2013); Chinese encyclopedia (Upadhyaya, 2013); So far the encyclopedia has also been developed in some web but considered less credible (Kubiszewski, Noordewier and Costanza, 2011) because there is no person in charge of the writer such as human encyclopedia, religion, world, plant and animal etc, moreover the existing encyclopedia is not comprehensive and sometimes there are some technical problems such as broken links etc. One example is the animal encyclopedia, so far in the playstore there are various animal encyclopedias that

have been developed, but the animal encyclopedia is still fragmented into sections such as the special encyclopedia of mammals, birds, reptiles. So, to read as a whole we must install some applications the encyclopedia on android system.

In addition, the existing encyclopedia is still in general, not developed specifically in accordance with the curriculum, the encyclopedia developed according to the curriculum will facilitate the child in learning and facing the tasks and problems in the classroom. When the encyclopedia is developed in accordance with the curriculum will make children learn while playing, develop literacy reading and can help students' academic development. **Based on this, the aim of this study is to try to develop a special animal encyclopedia that is associated with a playstore-based elementary school curriculum.**

### 2 METHOD

**This research is a Research and Development research using 4D Thiagarajan stages depicted in Figure 1. The subjects in this study were 5th grade elementary school students in three sample schools in Malang City, amounting to 80 students.**

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Kumala, F., Setiawan, D., Hudha, M., Amin, M. and Gipayana, M.  
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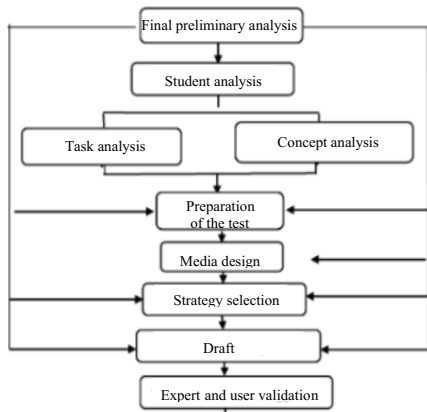


Figure 1: Stage of Development.

In Figure 1. the define stage begins with needs analysis of the field such as book analysis, encyclopedia, learning difficulties and learning styles of current elementary students using observation sheet. The results of further observations are analyzed and reviewed by the literature. Furthermore, the results of the analysis serve as the basis for developing encyclopedia by analyzing the standart-competance, basic-competance concept of animals at the primary school level into a map of material concepts, learning objectives and indicators of students' material understanding.

The results of the analysis at the define stage were developed at the design stage. This stage develops concept maps into conceptual materials as well as quizzes on every concept established in the encyclopedia and quiz drafts. This encyclopedia draft is further designed in a playstore app. The design completed with a quiz on each animal material shown in Figure 2.

The design results are then validated to content, language and media experts, teachers and students as application users. Expert validation consists of lecturers who are competent in the IPA keSDan and lecturers language to SDan, while media experts is a professional in the field of graphic design and application. For teacher subjects selected by teachers as much as 3 people to assess and provide advice on the application, the teacher selected is a teacher who has experience of teaching over 10 years, while the number of students involved in this study as many as 15 students are randomly taken from grade 3, 4 and 5 in SDN in Sukun district.

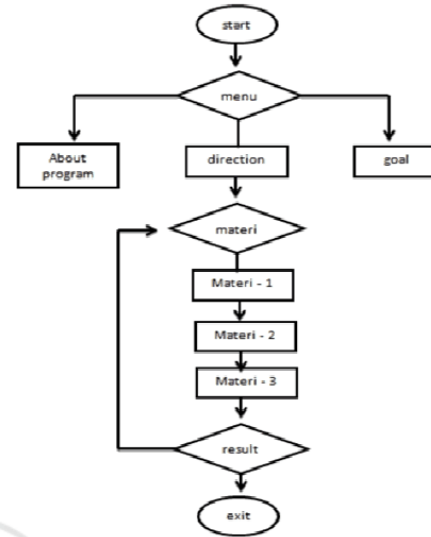


Figure 2: Stage of design in Playstore

The validation data for the research subjects used a questionnaire containing the assessment statements using a scale rating accompanied by columns to provide suggestions for the applications that have been developed. The following is an assessment of the rating scale given to experts, teachers and students. As follows, 1: not worthy, 2: decent enough, 3: decent and 4: very decent. The results of the assessment then analyzed descriptively using the formula and criteria as follows:

$$\bar{X} = \frac{\sum x}{N}$$

- Information:
- X = average score
- $\sum x$  = total score
- N = number of appraisers

Guidelines for classification of playstore-based encyclopedia applications are shown in table 1.

Table 1: The guidelines for classification of playstore-based encyclopedia application.

Interval Score	Criteia
$X > 3,4$	Best
$2,8 < X \leq 3,4$	Good
$2,2 < X \leq 2,8$	Enough
$1,6 < X \leq 2,2$	Less
$X \leq 1,6$	Very less

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The results of the analysis determine the validity of the product and the product revision to be the final product.

### 3 RESULTS AND DISCUSSION

The results can be described as follows:  
a. the results of the define stage indicate that there are some deficiencies in the reading book and the IPA package used by the students, the book used is still a lot of books containing information of text. This causes the enthusiasm of reading low students about 25% of all student subjects. Whereas from the results of student observations in general learning styles are shown in table 2.

Table 2: Tabel gaya belajar siswa.

Learning Style	Male	Female
Visual	64%	52%
Audio	10%	28%
Kinestetik	26%	20%

Based on table 2, it is known that students more visual learning styles, consider it, the development of appropriate learning is to use visual media to facilitate students in learning. Followed by the results of the analysis of the book, it is known that the existing animal encyclopedia is not yet complete, not yet adapted to the concept, characteristic of elementary school students and the elementary school curriculum, it is also found so many electronic encyclopedia that there are many applications cannot be downloaded intact or has an error. A good book is when the book fits the reader's characteristic.

The results of the next, needs analysis developed the concept map of animal matter on the SD curriculum shown in Figure 3.

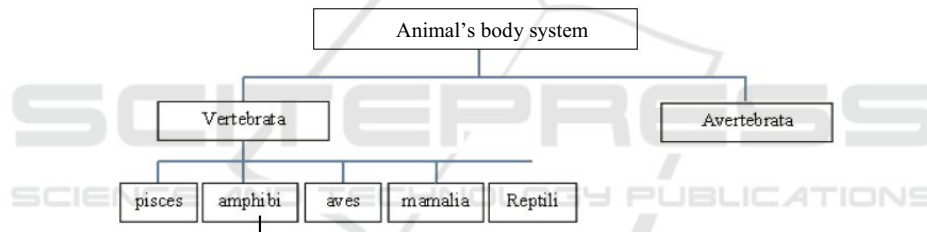


Figure 3: Mind Map of Encyclopedia.

The results of the design stage of the Playstore-based animal encyclopedia are equipped with an opening, the stage of each material according to the type of animal to be discussed. At the end the types of animals are equipped with quizzes to make the

students happy and feel the learning as playing. At the end of each item, a quiz is given to improve students' understanding of learning. The results of the design display shown in Figure 4.



Figure 4: Flow level image on encyclopedia and Example of animal encyclopedia.



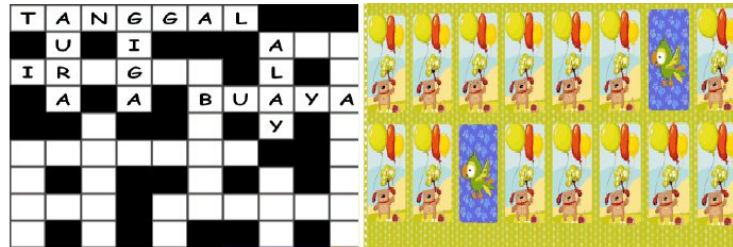


Figure 5: Examples of games in playstore-based animal encyclopedias.

Validation Result are shown in Table 3:

Table 3: Expert validation and teacher class of IV result.

Expert	Assessment result	Criteria
Application	3,6	Very good
Content	3,8	Very good
Language	3,8	Very good
Teacher	3,5	Very good

Based on the results of expert's validation described in table 3. It is known that the playstore-based encyclopedia scores very well and is valid with little advice and revision from the expert.

#### 4 CONCLUSIONS

Playstore based encyclopedia get valid value from material expert, media and language, besides according to teacher and student of encyclopedia that developed able to increase student learning motivation. This motivation arises because the presentation of the encyclopedias that lead to online games and easily accessible at home and school, so that students do not feel learning to be a burden

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