Calistung literacy through the application of Lectora

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Abstract. Calistung is an abbreviation in the Indonesian language that means reading, writing, and counting. Calistung literacy is basic in recognizing letter and number. Several experts state that Calistung literacy facilitates written communication using letter and number. This research is development research that produced animation using Lectora application. This study aims to improve students’ literacy in Calistung through animation in the fourth grade in primary school. The learning model can be used practically, valid and useful, so the learning outcome reaches optimally. The content expert scored the content 92.22%, which means the content is excellent. The media expert scored the media 77.33%, which means the animation in this research is representative. The software expert scored the software 80%, which means the software used is useful for designing teaching material. Eighty percent of students state that the used media is right and 87% of teachers say the same.

1. Introduction
The Indonesian language is one of the studied subjects in schools, ranging from elementary school to college level [1]. Learning Bahasa (Indonesian language) is directed to improve the students' ability to communicate in the Indonesian language properly and correctly, both spoken and written, and foster the appreciation of Indonesian literary works [2]. One of the lessons in school is Calistung which stands for reading, writing, and arithmetic [3-6]. Appropriate learning methods for the future of children can still be processed [4-6]. All children who use SD should be familiar with the size of the individuals who support the children's favorite elementary school or famous [7]. Calistung literacy is the basic stage when the students can recognize letters and numbers [3]. Many experts consider the importance of Calistung literacy to facilitate communication in the form of written language and numbers [4-7]. Calistung literacy is mostly delivered informal education such as school [4-6]. By reading and writing allow the students to understand and convey any information they receive. Meanwhile, counting enables the students to be able to develop aspects of logical thinking well, especially maximizing the function of the left hemisphere. Many activities can be conducted to pursue literacy in primary schools. The teachers often use rote techniques and exercises that rely on cognitive abstractions which are not directly related to the student life. Consequently, the students' interests are constrained by scholastic tasks that given too early. Given this fact, it is necessary to hold a unique learning method about Calistung, by training students with appropriate models and media. One used media is the moving image media.

Learning with animated image media is expected to counter balance the development of Calistung literacy. In learning, the students are divided into groups of learners that consist of 4-5 people. The teacher displays animated images, the students and their group analyze the pictures, and the analysis is
recorded on the paper to be read in front of the class. Individually, the Calistung literacy based on the animated images presented by the teacher is continued with the conclusion. The use of animated image media in learning Calistung can be used as one way to achieve one of the general goals of Indonesian language and literacy learning. It is used to improve the ability and skills of the students to communicate in the Indonesian language correctly and adequately, both spoken and written.

2. Method
The term model can be interpreted as an object or concept in the form of graphical display, work procedures that are regular and systematic, and contains critical thoughts following suggestions used to present a thing. The development model is based on two objectives, namely development to obtain product prototype and formulation of methodological suggestions for designing and evaluation of the prototype [8]. The development model to be planned in this study followed the path of Sivasailam et al. [9]. The main 4-D development model is Define, Design, Develop, and Disseminate or adapted into a 4-P model, defining, designing, developing, and deploying. Implementation of the main step in the research is not only tracing the original version but adapting the characteristics of the subject and place of origin of the examinee [10]. Besides, the model to be followed will be adjusted to the needs of development in the field. The research procedures would be implemented in 4 stages to make the research more focused, which can be stated in the chart of the steps of developing the fishbone (Figure 1).

![Figure 1. Fish Bone Images](image)

3. Result and discussion

3.1. Defining stage
KTSP curriculum renewal into the 2013 curriculum requires more innovative learning in schools for the achievement of learning objectives [11]. The 2013 curriculum presents new challenges for the teachers to create education that complies with lawsuits [12]. The curriculum component is directly related to the Calistung animation media product. The material contained in the taken media from material in semester 1 for grade 1 of elementary school.

Student analysis concerning the condition and character of the student which include age, motivation to the subject, academic ability, psychomotor, social skill, interest and talent, and the tendency of learning style the students have. Based on the material presented in the Calistung animation media for grade 4 students of Primary School, it can be found that there are learning objectives that must be achieved or expected to be mastered by the students. Firstly, the students can understand the texts presented in the
interactive *Calistung* animation media. Secondly, the students can solve problems in the form of calculations which is presented in interactive *Calistung* animation media.

### 3.2. Designing stage

The design of learning modules with Lecotora Inspire is made as a tool in the learning process. Therefore the material in making this media must be suited to the learning materials so that media that have been made can be used and can be utilized by subject teachers to make the learning process run well and the learning objectives can be achieved. Some of the pictures in learning media can be seen in Figure 2.

#### Figure 2. The first screen outlook (left) and Each menu outlook (right)

### 3.3. Developing stage

Developing stage is the testing phase of the finished program. If there is a program error, the error will be corrected, and if it is going well, the process will be directed to the next stage which called distribution. At this stage, some criteria will be seen such as Validity, Practicality, and Effectiveness of animation media.

Validation of interactive *Calistung* animation media was done by material experts, media experts, and linguists. Dr. Mardiah Harun, M.Ed., validated for material experts. Next, Nur Azmi Alwi, S.S., M.Pd., is the validator for the linguists. Lastly, Dra. Ritawati Mahyudin, M.Pd., and Antoni Hilman, S.Kom., validated by media experts. It was a result of validation by the experts (Figure 3).

#### Figure 3. Teachers validity result

Based on the validation results, it could be concluded that the Interactive *Calistung* Animation Media Validity rate was 82% with the functional criteria on the Very Practical level. For the practical level, it was found that the level of Practicality of Interactive *Calistung* Animation Media was 86% with the functional criteria on the Very Practical level. The result of the effectiveness was seen in
assessing the students learning outcomes in the cognitive domain using a written test. The test consisted of 8 essay questions given to the students at the 4th meeting. The students’ final test scores were very ranged from 60 to 100 with an average score of 81.94, and the percentage of students’ completeness was 77.27%. The result is supported by several researcher talked about the problems in production and utilization of instructional media of student teachers and the implementation of school literacy in primary school [13-18].

3.4. Distributing stage
In this process, the finished media was burned to a CD (Compact Disk) and packed so that, the product became ready to use. In this media, there were several supporting files such as:
- File.exe, which was the file that run the program.
- File.swf, like flash movie as completeness.

This media design did not have a minimum software limit that must be installed on the computer to run it. This media is also autorun, so it did not need a Lectora Inspire device to run it. This application can run on Windows XP, Vista, Seven (7) and Eight (8) operating systems.

4. Conclusion
The module of equations and linear inequalities which the authors had designated was valid and practical. Validation obtained from five validators and practicality obtained from a limited field test to the students. For a validity rate, it had 83% percent with very valid criteria. As for the practical level, it had a percentage of 86% with efficiency standards, and the rate of effectiveness was 77.27% with high criteria.

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