

# Practicing Energy Saving Habits of Elementary Students Through Development of Lectora Inspire Software Based Instruction media

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## Practicing Energy Saving Habits of Elementary Students Through Development of Lectora Inspire Software Based Instructional Media

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**Abstract.** This paper intends to develop a software-based instructional media, Lectora Inspire. The data were obtained through experts validation on the developed instructional media. It took one media expert, one material expert, and 11 students. The data were analyzed descriptively and quantitatively. The results and discussion confirm that the instructional media based on software, Lectora Inspire, is valid and feasible to be used in the learning process. The instructional media has met both media and material requirements. It offers a convenient approach for students to understand the lesson content since it provides a real-life example which encourages them to imitate the habits. However, this instructional media needs a supporting facility such as computer which all schools already have. More importantly, this software-based instructional media can be used as an effective learning resources.

### 1. Introduction

Instructional media is the important instrument in the learning process [1]. Elementary school student's development has reached a stage of concrete operational development [2]. The presence of instructional media plays a role as a media to introduce students a real form of certain object or plays a role as an object imitation to support lesson content delivery. Effective learning is a learning process which reach certain objective in a relatively short time [3]. An interesting instructional media promotes student's motivation in the learning process [4]. Lectora inspire is an interactive instructional media which is based on computer software [5] and is able to be operated in an android-based device [6][4]. Lectora inspire is an instructional media based on slide presentation which presents an image, text, and video [7]. The presentations promote student's attention in observing lesson content [5]. Furthermore, by observing to the slide presentation, students are invited to imitate what they observe.

Technological development in the context of pedagogy takes a great role [6]. A technological-based media currently is well-developed, from a computer-based to an android-based media. Android-based smartphone nowadays is the main necessity in which almost all people have it in their hand, including students and the parents [8]. The android-based instructional media allows students to access a lesson content in anywhere; allows



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the to learn in their home or in anywhere. As a results it promotes a better understanding and learning outcomes [6]. Supplementary, the parents are also able to assist their kids in learning by watching the lesson content in the media.

An positive student's behavior is one of the goals of the learning process [9]. This instructional media develop a lesson content regarding the energy resources. The energy resources lesson also discusses an understanding on how to preserve energy resources [10]. After learning and discussing the energy resources by observing, understanding, and comprehending, it is further expected that students could implement an energy-saving habits in their daily life [11][12]. Recently, the reserve of energy resource gradually decreased, thus people are expected to be wise in using any kind of available energy [12]. Energy-saving habit is the important key to maintain the availability of energy resources, particularly the availability of non-renewable energy resources [13]. Students as the next generation must be educated and knowledgeable regarding the environment preservation, partiucularly in the context of energy [14][13]. Energy resources play a vital role in the earth, therefore people must be able to preserve it well for the future.

This research aims at developing interactive instructional media based on Lecora Inspire software which intends to enhance student's understanding about energy resource and thus promotes an energy-saving habits. The development product in this research aims at facilitating teacher in explaining and delivering the lesson content as well as assisting students in the learning process. The lesson contents contained in the instructional media are based on the applied curriculum; it focuses on students' active involvement and promotes a meaningful learning process.

## 2. Methodology

The stages of this research and development are presented in the following Figure 1.

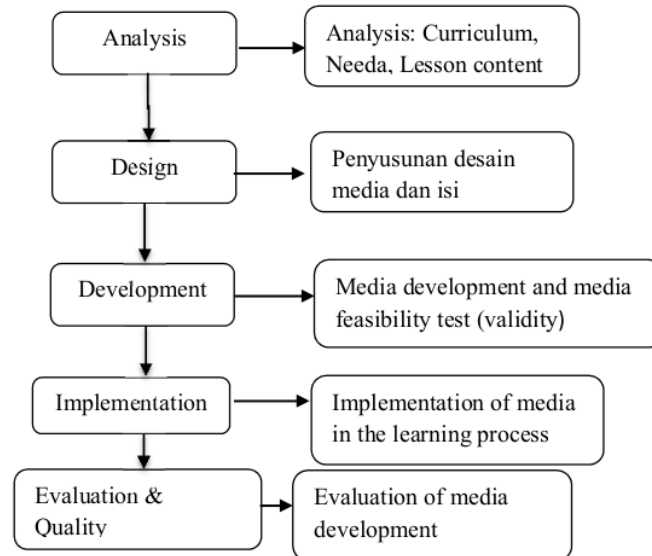


Figure 1 : Media Development Stages [15]

The stages of development [16] consisted of: 1) Analysis. This stage began by analyzing the needs in the field based on problems related to the learning process. The information obtained was based on observations and interviews with teachers and students relating to learning resources and instructional media used in school. The second analysis was an analysis of the curriculum used in learning in primary schools. The third analysis was an analysis of learning material that needs to use learning resources and interesting media. 2) The design stage (media design) dealt with media framework compilation and its contents. The process of compiling the media included: determining the material, determining the components in the media, and determining the evaluation. 3) Development stage was the process of making media through the stage of pre-writing (story board), draft writing, and editing process (edit, review, and edit). 4) In the implementation phase, the developed media was given to 11 students of elementary schools for the purpose of field trials. 5) Evaluation stage was the stage of evaluating each stage of media development as a reference for revision and feedback.

To test the validity of the developed instructional media, it was assessed by media expert, a lecturer of Information technology Kanjuruhan University, Malang; material expert to assess the content, a lecturer of Elementary School education; and field trials by teacher and 11 students of IV graders in SD YBPK Wonorejo. After being assessed in terms of its validity, revisions were made to improve the product based on the suggestions obtained.

The data obtained were in the form of qualitative and quantitative data. Qualitative data is the validators suggestions and recommendations. While, the quantitative data is the questionnaires scores and students' evaluation results. Based on the data obtained, it was then analyzed to acquire a valid research results.

The development of Lectora Inspire media is presented in the following Figure 2.

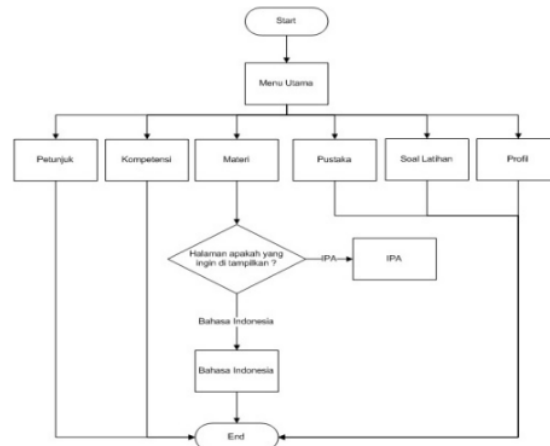


Figure 2: The Design Development of Lectora Inspire

### 3. Findings and Discussion

The results of this research development was in the form of interactive instructional media based on Lectora Inspire software. Lectora inspire software can be used as an

interactive learning media that makes it easy for teachers to convey and delivery messages of learning contents for students to understand [4]. The use of interactive learning media Lectora Inspire software requires a supporting instrument such as a computer or laptop. Thus this media relies on the availability of these facilities. The use of Lectora Inspire interactive learning media is very easy to operate since it is simialr as when we operate slides on powerpoint.

The software-based instructional media Lectora Inspire provides a learning instruction as follows: user instruction, basic competences of lesson, lesson contents in the form of text, images, and videos, it is followed by learning evaluation. At the end of the part, it presents a bibliography and references. The following Figures 3 is the user interface of Lectora Inspire.



Figure 3. Lesson Instruction



Figure 4. Content in the form of images



Figure 5. An example of student's exercise

According to the Figure 3, it presents an initial part of the media—the application instruction of media Lectora Inspire which consists of home button to return to the homepage; I button to go to instructions page; Competence button to go to competence page; Content button to load a page of lesson content; Reference button to go to the

references page; and Exercise button to load a page of evaluation exercises. Figure 2 also presents an example of lesson content with the animation which explains the benefits of preserving energy resources. Figure 5 presents the learning activities in the form of interview which discusses energy resource and how to preserve.

The validation results of Lectora Inspire instructional media can be seen in the following Table 1:

**Table 1: The validation results of Lectora Inspire**

Validators	Results	Criteria
Material expert	83%	Valid
Media expert	76 %	Valid

According to Table 1 above, it can be seen that the interactive instructional media based on software Lectora Inspire obtained scores which were categorized as valid from both material and media validators. Then, the instructional media was tested to the teacher and 11 students. The results of field trial confirmed that the instructional media is interesting and accessible. It offers students a new learning experience since it presents a real-life context of habit to preserve energy resource.

The results of the development of Lectora Inspire, an interactive software-based instructional media, are expected to help teachers deliver learning content and its messages to students effectively and pleasantly [7][6]. In addition, students can motivate their learning and imitate energy-saving habits into daily habits [11][10][14]. The rapid development of technology, especially the development of computer technology, is expected to support the learning process which is not only related to instructional media but also other components in learning such as the availability of digital teaching materials, as well as the digital instrument of assessment systems [7][4][5].

#### 4. Summary and Conclusion

This paper concludes that Lectora Inspire, an interactive software-based instructional media, is valid to be used in the learning process; it is seen from the validation results by two experts. This instructional media offers teacher an accessible approach to deliver a learning content and its messages to students. In addition, this instructional media offers students an easy way to understand the learning content and encourage them to imitate a positive habit related to energy-saving. According to the findings and discussion, thus, it is expected for teacher to use this instructional media to deliver the learning content. More importantly, this paper encourages the teachers to also develop a varied instructional media with a different lesson content.

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