

## **E-BOOK DEVELOPMENT IN PLANETARY MOTION MATERIAL BY INTEGRATING AL-QUR'AN VERSES AS LEARNING MEDIA FOR XI GRADE STUDENTS IN MAN 1 GRESIK**

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### **Abstract**

This Research is done based on the desire to inspire the spirit of Indonesia society to read early from students and produced the main product in the form of e-book in the planetary motion material by integrating the verses of Al-Qur'an. This study aimed to (1) produce e-book as learning media for XI grade students of MAN 1 Gresik in planetary motion material by integrating verses of Al-Qur'an that is proper to be used based on it's validity, effectiveness and practicality, and (2) obtain the description about the properness of the e-book. This research used Research & Development (R & D) method. The data was derived from the validation assessment from three expert lecturers and one expert teacher covering material, media, language, and the Al-Qur'an content; learning outcomes and positive responses from 31 students of MAN 1 Gresik in class XI MIPA 1; As well as observers' observations of the learning implementation and learning obstacles. The results showed that the e-book developed fulfill a very valid category. The acquisition of validity score was 95.45 in the material section, 92.85 in the media section, 66.67 in the language section, and 82.14 in the content of Al-Qur'an section. Furthermore, based on the effectiveness of the e-book in terms of students' learning outcomes, the result was 74.19% with good category and in terms of students' positive responses was 95.34% with very good category. Then based on the practicality of the e-book in terms of the learning process implementation, the learning process was done with very good category in the opening, main activity, and the closing section. The obstacles experienced in the learning process was the lack of laptops that can be used so that students had to use the laptop in pairs. Thus it can be concluded that the e-book in the planetary motion material by integrating the verses of Al-Qur'an declared eligible or proper to be used as a learning media for students in class XI MAN 1 Gresik.

**Keywords:** e-book, planetary motion, verses of Al-Qur'an, Research and Development.

### **INTRODUCTION**

The existence and influence of technology in society has been very significant and it can be said that today we live in technology-based society (Acevado, 2016). Indonesia society has been following the development of existing technology. One of the most obvious indicator is that almost all people in Indonesia use gadget. A gadget is a device or a small machine that can be used for a specific purpose (Cambridge University, 2008). The examples of gadget are laptops, netbooks, e-readers, smartphones, tablets, and others (mandalamaya.com) Using a gadget with modern specification is fun, because it can be used to find many things with an interesting look. This interesting view is one of the factors why people like gadget. The usage of sophisticated gadgets can also be helpful in the creation of interesting and meaningful cooperative learning (Acevado, 2016), but the utilization of gadgets in Indonesia is considered less than optimal,

especially in the field of education, where students are actually must use it mostly for studying or reading.

Reading is one of the best habits to broaden the horizon because reading allows someone to obtain information globally, but unfortunately the reading habits of Indonesian are still low (Wibowo, 2015). The government through the Ministry of National Education has provided a solution to this problem by publishing an Electronic School Book (BSE), a schoolbook that can be read online or downloaded and then read offline. This electronic book is great solution to handle the problem of high priced books in the market to increase the interest of reading for students (binasyifa.com, 2016). In addition, electronic books can help students not to carry too many books at school. But these kind of electronic books is still considered to have

shortcomings. One drawback lies in the monotonous look and can only be shifted up and down.

The official definition of an electronic book or e-book is a book converted to digital format, including text, graphic, video, animation, and or sound, to be displayed on a computer screen or handheld device (Merriam-Webster.com, 2014). The development of e-book technology has changed the reading habits of society (Pew Research Center, 2014a). E-book devices such as Amazon Kindle, Noble Nook, iPad, and tablet PCs have also shifted the position of traditional print books (Pew Research Center, 2014b). The e-book also has the potential of providing many benefits to its readers (Elias etc., 2012). The benefits of using e-books include the easy access where the user can bring many books at once with comfort, and the search feature so readers can easily find the desired reading (Gueval, 2015).

Integrating technology in the field of education have many benefits for both teachers and learners. According to Churchill and Wang (2014) some benefits gained by integrating technology in the learning process are: (1) portability, where the learning media can be easily used anywhere; (2) interactivity, where students are taught to be able to interact with technology and adapt to its development; (3) sensitivity of students with material context, means that students are taught earlier to know about data and simulation, not just reading; (4) connectivity, means that students are introduced with data processing devices such as computers, laptops, and others; and (5) individuality, where students are given the right media to be learnt independently.

In an educational perspective, it can be accurately state that integrating technology in the learning process really provides many benefits, but it should be noted also the design and application used (Falloon, 2013). Using e-books in the learning process is one way teachers can integrate technology in the learning process (Gueval, 2015).

From the results of pre-research, all students in class XI MIPA 1 MAN 1 Gresik stated that physics teachers never use e-books in physics learning. Based on the interview results with Mrs. Amri, the physics teacher in that class, the development of e-books are

still very low because during the learning process teachers only use Power Point Presentation (PPT) as the learning media. From the Interview, it is also known that there are more than 50% students have laptops in class XI MIPA 1 which can be brought to school and can be used freely in the learning process, unlike mobile phones that are prohibited to be carried and used in schools. School also provides LCD projector and mini sound in every class with excellent quality. Those kind of conditions are actually enough for applying e-book as learning media in the class. Based on the results of pre-research conducted, it is known that 48% students think that the most difficult physics material to be understood is the planetary motion. 58% students expressed that this is because teachers explain the material with less interesting so that 90% students feel their learning outcome is not good enough.

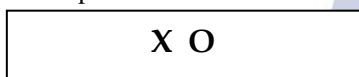
Another information that is gotten from the interview is that MAN 1 Gresik conducts Al-Qur'an and Hadith subjects for students as much as two hours lessons a week. This is done because of not only the demands of the curriculum, but also with the aim of generating a generation that is not only qualified in the field of science, but also competent in the field of religion, and make the Al-Qur'an and Hadith as the basis of science development. So that in the future the development of technology and the flow of globalization can be responded positively by wise and clever generations. This hope is actually similar with Purwanto's (2012: 159) notion that when a true Moslems become scientists, they do not stop remembering or mentioning Allah's Name either standing, sitting or lying down. Their observations and contemplations of the natural phenomena will not make them apart from the All-Creator of the universe. They will not become arrogant and ignorant toward the Creator, instead they will increasingly amazed at His power to be more submissive, near, and afraid of Him.

Based on the above descriptions, the researcher conducted a research entitled "E-book Development in Planetary Motion Material by Integrating Al-Qur'an Verses as Learning Media for XI Grade Students in MAN 1 Gresik" to produce e-book with interesting appearance and can be turned back and forth like an ordinary book in the form of a flipbook. And with a view that gives the impression of three dimensions and animation video content that can impress the students to be motivated to read and learn it.

**METHOD**

This research uses research and development type that is research method to produce a certain product, and test the effectiveness of the product to be used in schools (Emzir, 2009). This research was conducted in a limited way only on aspects of development not to the stage of application, so that only feasibility testing or limited trials are conducted. The trial was conducted in class MIPA 1 MAN 1 Gresik on 21<sup>st</sup> and 22<sup>nd</sup> April 2017 with 31 students.

This research used one-shoot case study design where there is no treatment group and then the results were observed. Treatment is as independent variable and result as dependent variable (Sugiyono, 2014). In this research design, students were given e-book as learning media. Furthermore, they are given evaluation test at the end of learning to determine whether it is really effective or not. The paradigm in this experimental research can be as follows:



(Sugiyono, 2014: 74)

Information:

X = Treatment given by using e-book as learning media

O = learning outcomes and students' responses

Data analysis techniques in this study was qualitative descriptive analysis which includes: (1) validity analysis of the learning media based on the validation result, (2) effectiveness analysis of the learning media based on the students' learning outcomes and students' responses, and (3) practicality analysis of the learning media based on the observation toward the learning process and the learning obstacles.

**RESULT AND DISCUSSION**

1. Validity of The E-book

The data of the e-book validation was gotten from four expert validators including the material, media, language and the Al-Qur'an content can be summarized into a validity category. In this study, it was obtained three validation result with the very valid category in terms of material, media, and Al-Qur'an content while in terms of language it was obtained results with valid category. So the mode of the e-book validity score developed is very valid. The result of the e-book validation by four expert validators can be seen in table 1

Table 1. Validation result

No.	Name	Task	Validation Score	Category
1	Prof. Dr. Madlazim, M.Si.	Material Validator	95,45	Very Valid
2	Abd. Kholiq, S.Pd., M.T.	Media Validator	92,85	Very Valid
3	Dr. Ririe Rengganis, SS., Hum.	Language Validator	66,67	Valid
4	Dra. Mas'ulah	Al-Qur'an Content Validator	82,14	Very Valid
<b>Mode</b>				<b>Very Valid</b>

2. Effectiveness of The E-book

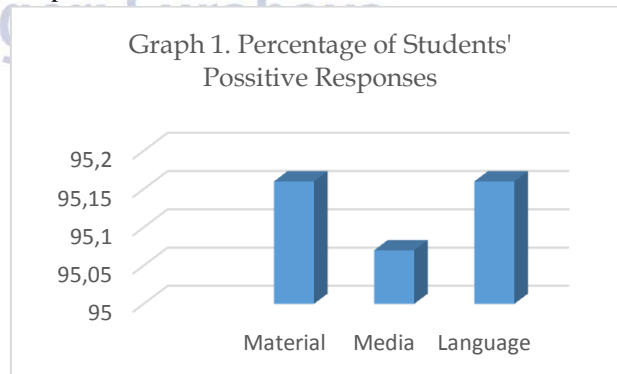
The e-book effectiveness indicator is the completeness of student learning outcomes and student responses toward the e-book used.

A) Student Learning Outcomes

After following the learning process by using the developed e-book, students did the evaluation contained in the e-book. In MAN 1 Gresik, students' learning outcomes are said to be complete if they meet the Minimum Exhaustiveness Criteria (KKM) 75, so students' learning outcomes under 75 are said to be incomplete. In this study, which was conducted in class XI MIPA 1 MAN 1 Gresik on April 22<sup>nd</sup>, eight students expressed incomplete learning outcomes because they got value below 75 and 23 other students expressed complete learning outcomes. Thus the results of students who expressed complete is equal to 74.19% with good criteria.

B) Students' Responses

Results of student response analysis can be seen in Graph1 below





The positive responses from material point of view got 95,16% and the positive responses from media point of view got 95,07% while the positive responses from language point of view also got 95,16%. Thus the average value of the students' positive response was 95.34% with very good category. This means that students are more likely to respond positively to the e-books used as learning media. Based on the students' responses, it is known that the e-book used is a media with an attractive appearance. According to Herminarto and Hamzah in Sharif (2012) one of the motivation to learn is interesting learning activities. Learning media, or in this case is the e-book can attract the attention of learners (Fitriani, et al., 2013). From the results of students' responses obtained can be concluded that the e-book can be accepted by students as their learning media in the planetary motion material.

### 3. Practicality of The E-book

The e-book practicality indicator is the implementation of learning process and the obstacles experienced during the learning process by using the e-book as the learning media.

#### A) Implementation of Learning Process

After the e-book was reviewed, validated, and revised, further trial was conducted by using e-books in the learning process. The learning process was conducted on April 21<sup>st</sup>, 2017 in class XI MIPA 1 MAN 1 Gresik. The learning process is done in one meeting by using e-book that has been developed as a students' learning media. During the learning process, there are three students of Physics Education Study Program named Yuli Indah Lestari, Rillo Pambudi, and Ibrahim Hasan and one physics teacher from MAN 1 Gresik, Mrs. Siti Amriyah, S.Pd. who acted as observer to assess whether the learning process is in accordance with the RPP (Lesson Plan) that has been prepared or not. The observation result is shown in the table 2 below

Table 2. The Observation Result

Activity	Total Score	Average Score	Category
Opening	26	3,71	Very Good
Core Activity	39,5	3,59	Very Good
Closing	7,5	3,75	Very Good

Based on these results, it is known that the learning activities on the opening aspects performed very good. Then the learning activities on the core activities aspects are done with very good category also, and the learning activities on the closing aspects are done with very good category too. In general it can be concluded that the e-book can be used by teachers to carry out the learning process very well.

#### B) Obstacles

The most visible obstacle during the learning process was the lack of laptops. At the time of the learning implementation, not all students brought a laptop, only 17 of 31 students who bring a laptop because some students do not have a laptop and some others say that the laptop is broken. In addition, it turns out not all laptops can open the e-book that has been given, only 15 laptops that can open the e-book provided. So that learning is done by two to three students open an e-book from one same laptop (studying in pairs).

## CLOSING

### Conclusion

Based on the results of data analysis and discussion that has been described, it can be concluded that the e-book in the planetary orbit motion material by integrating the verses of Al-Qur'an as a learning media for XI grade students in MAN 1 Gresik declared eligible or proper to be used based on the following criteria

1. The validity assessment conducted by four validators obtained the validity of the material, media, and language with very valid category and obtained the validity of the Al-Qur'an content with valid category. Based on the mode of the obtained results, it can be concluded that the e-book developed is very valid.
2. The effectiveness analysis of the media in terms of students' learning outcomes was obtained results of 74.19% with good category and in terms of students' positive responses obtained 95.34% results with very good category.
3. The practicality analysis of the media in terms of the learning process implementation by using the e-book obtained results with very good category in the introduction, core activities, and the closing. The obstacles experienced in the learning process was the lack of laptops that can be used so that students must use the laptop in pairs.

### Suggestions

The advice that can be given to the next researcher are

1. If possible, the hyperlink mode can be added in the e-book table of contents so that users can go directly to the desired page through the table of contents.
2. In the evaluation section in the e-book should be given a better script so that each question can give a different score according to its difficulty level.

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