

**VALIDITY OF THE DIGITAL BOOK FORMED ELECTRONIC PUBLISHER THEMED CLIMATE
CHANGING TO TRAIN DIGITAL LITERATION OF VII JUNIOR HIGH SCHOOL**

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Abstract

This experiment is purposed to produce digital book eligibility by reviewing the validity to train 7th grade student's digital literation at Junior High School. Method used for developing this digital book is Research and Development (RnD). The instruments used in the study were the digital book review sheet and validation sheet. Methods of data collection were validation. The data analysis technique used the Likert scale. Eligibility of validity is consists of content aspect, presentation, literature, and the dimension of digital literation. The digital book validity is reviewed by two lecturers and one science teacher. Eligibility of content aspect is 3.82, eligibility of presentation is 3.70, egibility of literature is 4.00, eligibility of dimension of digital literation is 3.70. Based on the result, digital book is eligible in term of validity.

Key word: *Digital book, digital literature*

Preface

Technology can not be separated from human life. All activities will not be separated from technological developments, (Husain, 2014). Active users of smartphones will increase all the time. Technological developments are also followed by the development of internet use. Indonesia is one of the countries with the largest number of internet users in the world. The Indonesian Internet Service Users Association (APJII) conducted research in 2016, the number of internet users in Indonesia was 132.7 million with details of 29.2% aged > 35-44 years, 18.4% aged 10-24 years, 18% aged 45-54 years, 10% are > 55 years old, and 24.4% are 25-34 years old. Whereas in 2017, the number of internet users in Indonesia ranged from 143.26 million with details of 4.24% aged > 54 years, 29.55% aged 35-54 years, 49.52% aged 19-34 years, and 16.68% aged 13-18 years. Based on these two studies, the number of internet users is increasing every year. Indonesian people are very dependent on smartphones and the internet (APJII, 2017). Indonesia must be able to face increasingly complicated competition because it has entered the industrial era 4.0 where humans will continue to deal with the device. (Prasetyo, 2018).

The education system in Indonesia refers to the curriculum regulated by the government. The 2013 curriculum is expected to be able to develop national literacy through learning Indonesian through developing the ability to read, write and think critically supported by the School Literacy Movement. Currently the applicable

curriculum in Indonesia is the 2013 curriculum. The orientation of the 2013 curriculum development is the achievement of cognitive, affective, and psychomotor domains. The Minister of Education and Culture also enacted rule number 23 of 2015 concerning Growth of Character, which one of its implementations was the National Literacy Movement (GLN).

The development of technology urged the government to implement the Digital Literacy Movement. This is evident from the Kemendikbud issued sixteen digital books that can be used by students and the public. Digital literacy is defined as the ability to understand and use information in various forms from a very wide variety of sources that are accessed through computer devices. Humans can do anything using a smartphone, including teaching and learning activities, online tutoring, educational videos and various digital books. The digital literacy movement in education is very urgent considering the rapid development of technology. Well-implemented digital literacy will also have a good impact on information literacy (Kemendikbud, 2017).

The Indonesian Internet Service Users Association (APJII) (2017) states that technology and the internet are currently used to access various services including chat, social media, internet search, see pictures and photos, view videos, download videos images and article articles , email, purchase of goods, registration, sales of goods, and banking. Based on the review conducted, 89.35% of the activities carried out were

to chat. Activity of accessing social media was 87.13%. In addition, APJII also conducted a review of the use of the internet in the field of education by 55.30% who read articles through the internet.

Ciampa (2012) states that the use of ebook as a learning tool is useful for increasing student motivation in reading. For readers who are still beginners, they will feel stimulated, motivation will increase, to read because the ebook can load multimedia and multisensory features. Ebook has several advantages over printed books (traditional books) including ebooks that are more accessible, easier to store because they only need a memory card, ebook is also easy to carry anywhere, because it does not have the burden as in the printed book (Plangson, 2017). Electronic publisher (epub) is one of the technological developments in the field of education. Epub is a digital book standard (ebook) developed by the International Digital Publishing Forum (IDPF). This epub format can be accessed either online or offline through the device. Epub has complete features, text, images, audio, video, hyperlinks, and hypertext. This is very good to use in the learning process.

This development aims to train digital literacy skills in students. The use of epub is expected to be able to train digital abilities because students are taught how to access technology to understand the subject. Epub can load content such as hyperlinks that will guide students to learn to browse the internet to get information. Teacher guidance in training digital literacy is also needed. Students learn to browse information on the internet and teachers guide students to choose information that is appropriate and which is not appropriate.

Climate change material is one of the basic competency demands 3.9, namely analyzing climate change and its impacts on ecosystems and 4.9 which is writing about the idea of adaptation / mitigation of climate change issues. Climate change material has become an international issue today and studied by many people on various internet pages. The large number of studies on climate change can be a means for students to practice digital literacy.

METHODOLOGY OF RESEARCH

This research is a development research using RnD (Research and Development) models. The researcher developed a textbook in the form of an electronic book publisher (epub) on climate change material that can be accessed through computers or smartphones. The digital book formed electronic publisher themed climate changing was reviewed and validated by two expert lecturers and one science teacher using a sheet provided by the researcher. In this study, the type of data obtained in the form of quantitative data. The data obtained is then described

descriptively. The research instrument used was a validation sheet. The data collection method used in this study is review and validation. Data results were analyzed using a Likert scale.

RESULTS AND DISCUSSION

Based on the research that has been done, the data obtained from the validity of digital books is electronic publisher format:

Table 1. Recapitulation of Validation of Digital Format Electronic Publisher Books

No	Aspect	Average			Total Average	Criteria
		V1	V2	V3		
1	Content	3.78	3.89	3.78	3.82	Very valid
2	Presentation	3.87	3.62	3.62	3.70	Very valid
3	Literature	4.00	4.00	4.00	4.00	Very valid
4	Digital Literacy	3.83	3.67	3.83	3.78	Very valid

The Eligibility of digital publisher format digital books on the theme of climate change to train the digital literacy of Grade VII junior high school students developed in various aspects. The eligibility includes the eligibility of content, the eligibility of presentation, and the eligibility of language in accordance with the National Education Standards Agency (BSNP, 2016). In addition, digital books developed also pay attention to digital literacy elements that have search elements on the internet, hyperlinks and hypertext, Gilster's content evaluation and knowledge compilation (in Kemendikbud, 2017).

Eligibility of content includes 9 related aspects, namely breadth of material, depth of material, accuracy of facts and concepts, accuracy of illustrations, compatibility with science and technology, updated features, examples and references, suitability to practice digital literacy, encouraging curiosity and encouraging curiosity to find info further. The material used in digital books developed is climate change. The material discussed in this book covers the understanding of climate and weather, the factors that influence climate change, the greenhouse effect, global warming, the impact of changes in global warming, and efforts to reduce global warming impacts.

Development of digital books as instructional materials must suitable to target characteristics such as age, student development, and student abilities. Sitepu (in Setiawan 2018) states that the depth and breadth of material in a book must be related to the abilities that need to be achieved by students. The ability in question is the achievement of basic competencies made by the government. The next aspect is the accuracy of facts, concepts, and illustrations. In this aspect, digital books contain videos about the facts of the earth that have experienced climate change in the form of videos and also news links about some areas that experience extreme weather

changes. The concept is given through concept maps and material in the book. Digital books contain explanations in the form of descriptions and videos coupled with experimental activities regarding the accumulation of greenhouse gases as an illustration. Digital books that are developed adjust to science and technology. In addition to using digital books using technology, devices, digital books also contain links that are connected to applications such as carbon calculators and online poster-making applications. The examples and references used in digital books are also up-to-date, such as examples of events that took place in early 2019 in extreme weather in America and Jakarta news will sink.

The presentation criteria included 8 aspects of the assessment component, namely the conceptual concordance, systematic consistency, the interrelationship between the material, variations in the way of delivering information, involving students interactively, science videos, science images, and learning webs. Students can understand the learning material well, if the concepts contained in the digital book are well conveyed. The conceptual wrangling is related to the presentation of material in digital books. The material is delivered in sequence so the concept is also obtained by students. The material provided must also be related to each other so that students can understand the material as a whole. Features such as video, images, and the web support the learning process for students. Features are important things that must be in digital books. Ciampa (2012) mentions that three important components must be considered, namely, the structure of the ebook, multimedia, and hyperlinks. Based on the results of validation the presentation criteria fall into the very eligible category.

Ciampa (2012) with videos and images, it will increase students' attention in learning. Increased attention of students when the learning process can also increase the acquisition of information obtained. This digital book contains these components and is included in the very eligible category.

Language criteria include 3 components of assessment, namely using good and correct Indonesian, using effective sentences, and using sentences that are appropriate to the age of each student obtaining a validation score of 4, included in the very eligible category. Widjajanti (2018) states that good books must use clear, easy-to-understand language that is appropriate to the age of students. The use of good language can help students understand and obtain information well. The use of language adapted to the level of thinking of students, students will better understand the material provided (BSNP, 2006).

This digital book is used as a means for students not only to understand the material of climate change but also

to train students' digital literacy skills. Gilster (in the Kemendikbud, 2017) states that there are 4 elements of digital literacy, namely searching the internet, hyperlinks and hypertext, evaluating content, and compiling knowledge, therefore features in digital books also contain these 4 elements. Digital books have the "Try Searching!" Feature, where students who use can search for more information on the internet by providing keywords or example links.

CONCLUSION

The conclusions that can be given by researchers based on the research that has been done is that the electronic publisher format digital book theme of climate change is stated to be very valid.

RECOMMENDATION

Based on the research that has been carried out on the Development of Digital Format Electronic Publisher Books on Climate Change Themes to Train Digital Literacy of Grade VII Middle School Students, there is a recommendation from researchers for further research that it is necessary to develop digital books with other themes, given that technology continues to develop. the right for students to get information.

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