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Page: 310-318

Strengthening Digital Literacy for Citizenship Education Students Through Articulate Storyline-Based Interactive Media

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Abstract. Media literacy in the era of the digital revolution has become an important issue in various fields. One of them is through learning designs by teachers to hone the abilities of teachers and students wisely in using technology-based media that already exist today. This study aims to find out how to strengthen student media literacy through testing of multimedia products based on articulate storylines in the PPKn FKIP Unsri study program. This research is a type of research and development (Research and Development) which refers to the R & D Cycle Borg and Gall which has been modified into three stages, namely preliminary studies, product development and product trials. This research is the result of which was carried out at the product development stage, namely the product trial stage (product validation, trial and potential impact). Data collection techniques through questionnaires/questionnaires and tests. The respondents were students and media expert validators. The results of the media expert validation test can be concluded that the multimedia articulate storyline is already valid with a feasibility test with an average value of 92.1%. While the results of the one to one trial, it was found that the articulate storyline-based interactive media was good with a questionnaire percentage of 88.5%, the small group found that the articulate storyline-based interactive media was good with 85% questionnaire percentage and the field test concluded that it was obtained percentage of 88.3%. This shows that at the stage of developing this interactive media product, it has met the criteria for a good product. Furthermore, a test was conducted to see the potential impact of the data obtained from the pretest and posttest values above, so that N gain was 0.54 which means that the potential impact of developing this articulate storyline-based multimedia is moderate.
Keywords: *Media Literacy; Interactive Media; Articulate Storyline*

Abstrak. Literasi media di era revolusi digital menjadi isu penting oleh berbagai bidang. Salah satunya melalui desain pembelajaran oleh pengajar untuk mengasah kemampuan pengajar dan mahasiswa secara bijak dalam menggunakan media berbasis teknologi yang telah ada saat ini. Penelitian ini bertujuan untuk mengetahui bagaimana penguatan literasi media mahasiswa melalui uji coba produk multimedia berbasis articulate storyline di prodi PPKn FKIP Unsri. Penelitian ini merupakan jenis penelitian dan pengembangan (*Reearch and Development*) yang mengacu pada R & D Cycle Borg and Gall yang telah di modifikasi menjadi tiga tahap yaitu studi pendahuluan, pengembangan produk dan uji coba produk. Penelitian ini ialah hasil yang dilaksanakan pada tahap pengembangan produk yaitu tahap uji coba produk (validasi produk, uji coba dan dampak potensial). Teknik pengumpulan data melalui angket/kuesioner dan tes. Yang menjadi responden ialah mahasiswa dan validator ahli media. Hasil uji validasi ahli media dapat disimpulkan bahwa multimedia *articulate storyline* ini sudah valid dengan adanya uji kelayakan dengan nilai rata-rata 92,1%. Sedangkan hasil uji coba *one to one* didapatkan bahwa media interaktif berbasis *articulate storyline* tersebut sudah baik dengan persentase angket 88,5%, *small group* didapatkan bahwa media interaktif berbasis *articulate storyline* tersebut sudah baik dengan persentase angket 85% dan *field test* diperoleh simpulan bahwa maka diperoleh persentase sebesar 88,3%. Hal ini menunjukkan bahwa pada tahap pengembangan produk media interaktif ini telah memenuhi kriteria produk baik. Selanjutnya dilakukan tes untuk melihat dampak potensial diperoleh data nilai *pretest* dan *posttest* di atas maka didapatkan N gain 0,54 yang bermakna dampak potensial pengembangan multimedia berbasis *articulate storyline* ini sedang.
Kata Kunci: *Literasi media; Media Interaktif; articulate storyline*

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Vol: 7 Number 2, April 2022
Page: 310-318

INTRODUCTION

Indonesia is a country with the 4th largest population in the world, this also has an impact on the digital revolution that is currently being faced. The results of a 2016 survey conducted by APJII (Association of Indonesian Internet Service Providers) showed that 51.8%, namely 132.7 million people from the total population of Indonesia as many as 256, 2 million people were internet users. As many as 65% of internet users in Indonesia are residents on the island of Java with a total of 86.3 million people (APJII, 2018). Of course, the widespread use of the internet shows that there is a harmony of information that in the era of the digital revolution can be obtained quickly, anywhere and anytime. Internet as a tool to help someone find information at a low cost when compared to conventional methods.

This is because teaching materials and interactive activities have been digitized by technological advances. According to (Afandi, Junanto, & Afriani, 2016) illustrating this change as "the world is flat" which refers to a situation where the world is not limited to national boundaries and time zones due to technological developments. The development of information technology has created a "new space" that is artificial and virtual, called cyberspace (Piliang, 2012). In line with the above opinion, modern human civilization cannot be separated from communication technology and mass media. The society in the future is also called the information society, where information becomes the main commodity and human interaction in society is based on information and communication technology. Therefore, in the digital era, the term media literacy is starting to appear.

Media literacy is the ability to think critically while at the same time fostering healthy skepticism of the message media and the window to the world built by the media. With media literacy, the public is invited to guard the areas that the media may and may not enter in order to control the media so that the media stays on track to carry out their roles and functions in society. According to (Widyastuti, 2016) fforts to digitally-based society literacy are not just introducing digital media but also synergizing daily activities that lead to increased productivity.

If we relate it to the world of education, of course, media literacy is a new thing that must be developed so that its mastery is integrated into the learning process. Especially in higher education, it has consequences in the form of learning design by utilizing digital media as a means to increase student's knowledge. Digital media can present learning materials contextually, audio and visually in an interesting and interactive way (Umam & Zaini, 2013).

(Lutviah 2018) with the title "The Influence of Implementation Digital Literacy on the Improvement of Student Learning at SMP Negeri 6 Banda Aceh" reveals the result that R is 0.669, which indicates that the

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Vol: 7 Number 2, April 2022
Page: 310-318

relationship between the application of digital literacy (variable X) and learning improvement (variable Y) is quite strong. The results of the F test prove that Fcount 69.688 > Ftable 4.39, then the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. Therefore, it can be stated that the application of digital literacy has an influence on learning improvement.

In line with the opinion above that students can obtain a variety of information in a broader and deeper scope so that improve student insight and help students complete their assignments in finding information from digital content that is precise, accurate, and timely relatively short. The application of digital literacy involves students' skills to evoke new media, and experiences from the internet. one of them is articulate storyline-based media (Lankshear, 2008).

This learning design referred to in this study is multimedia based on articulate storylines. Articulate Storyline as a software authoring tool has several similarities with Microsoft Powerpoint. it has several advantages in producing very interesting learning media it has a menu feature to be able to add quizzes. So that when students operate the media they are able to interact directly and simulate a learning material, as well as products. This Articulate Storyline can be published in various forms of output. Articulate Storyline has other advantages, namely creating attractive presentations and more thorough, varied and creative interactions using existing tools such as movies, timelines, pictures, characters so that students can interact more with the media.

The importance of learning design that involves digital literacy is also supported by the results of the needs analysis, which is also supported by the results of the needs analysis of 73 students who took the State Administration Law course in the Civics Study Program. The results show that 100% of students have smartphones, 85% of students have difficulty understanding state administrative law material with abstract concepts, 75% of students state that there is a lack of teaching materials for state administration law, 50% of students use discussion methods the most, 90% of students state that media is the most frequent. Used by lecturers is a power point. To increase students' learning motivation, 95% of students stated that it is necessary to use interactive media to increase learning motivation. 90% of students stated that the interactive media to be developed should be complete audio-visual. 85% of students stated that the articulate storyline application was able to make it easier for students to understand the material because it had audio-visual features, materials and quizzes. 95% of students stated that the articulate storyline application was one of the newest media that was appropriate for the times, and 92% of students had high

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Vol: 7 Number 2, April 2022
Page: 310-318

motivation if the media used had various features in the articulate storyline application.

RESEARCH METHODS

This research is a type of research and development (Research and Development) which refers to the R & D Cycle (Gall, 1983) which has been modified into three stages, namely preliminary studies, product development and product trials. This research is the result of which was carried out at the product development stage, namely validation tests, product trials and potential impacts. Data collection techniques through questionnaires/ questionnaires and tests. The respondents were students and media experts. At this stage, an interactive product trial based on an articulate storyline will be seen (media validation test, product trial and potential impact). The data analysis technique used in this research is descriptive quantitative data analysis.

Questionnaires and tests related to product validity were also analyzed using descriptive analysis. The results of the questionnaire and test data were then converted into percentages to determine student and validator responses to interactive media based on articulate storylines based on percentage data assessment criteria (Arikunto, 2006). Furthermore, the product trial data is interpreted in the form of qualitative sentences based on the average data obtained and the respective data criteria. Determination of the conclusions that have been reached are based on the percentage assessment criteria as shown in the following table.

Tabel 1. Percentage data assessment criteria for product validation

No	Score (%)	Conclusion and Follow Up
1	80-100	Valid Not Revised
2	65-80	Enough Valid/ Revised
3	<65	Invalid/Revised

Source: (Sukmadinata, 2007)

Quantitative analysis was also carried out to analyze the results of questionnaires and tests using gain value analysis to see the potential impact on students' understanding levels during product trials. To obtain N-gain the formula is used:

$$\text{N gain} = \frac{\text{S posttest} - \text{S pretest}}{\text{S maximum} - \text{S pretest}}$$

Table 2. Criteria for N-Gain . Value

NO	Score (%)	Conclusion
1	N gain ≥ 0,7	High
2	N gain 0,7> N gain≥ 0,3	currently
3	N gain < 0,3	Low

(Sugiyono, 2012)

DISCUSSION

Development of Articulate Storyline-Based Multimedia Products

Product Design

At this stage, what is done is to create an interactive media outline based on an articulate storyline starting from identity, teaching materials, quizzes and even some evaluation tools. This interactive media display is facilitated by accompanied by complete teaching materials and provided case examples

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Vol: 7 Number 2, April 2022
Page: 310-318

that are closely related to factual cases. This case is presented through easily accessible links. To increase learning motivation, an interactive evaluation tool is prepared that can be accessed by students. The initial design of interactive media based on articulate storylines is described below:

Figure 1. The front page of interactive media based on articulate storyline

Figure 2. Menu page on interactive media based on articulate storyline

Product Validation

Before producing interactive media based on articulate storylines, a validation process will be carried out by experts (lecturers appointed by researchers), because the existing interactive media based on articulate storylines are still prototypes. If an error is found in the process, a revision will be made until a valid result is obtained. The product validity test was carried out by experts, namely media experts, namely P.S. At this stage, improvements will also be made according to the validator's suggestions. For this articulate storyline-based media production, we will use Google Drive so that it is easy to access and store data.

Based on the validation of the first media expert results from the material expert, interactive media based on articulate storylines is categorized as valid with a validation value of 87.5%. Even though it has been declared valid, there are several comments from the validator for the improvement of interactive media based on articulate storylines before being tested. The validator asked 1) to add a video to increase student creativity in understanding the material, 2) the validator asked to make an articulate storyline display as a more interesting application, and 3) the validator asked to add the research team profile on the front page. Based on the validation of the second media expert results from the material expert, interactive media based on articulate storylines is categorized as valid with a validation value of 96.8%. For younger people, it can be seen in the diagram below:

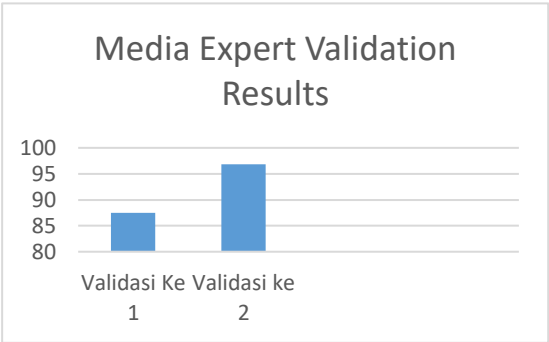

Diagram 1. Recapitulation of media expert validation results

ISSN: p-2540-8763 / e-2615-4374
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Vol: 7 Number 2, April 2022
Page: 310-318

Product Trial

This articulate storyline-based interactive media has been declared valid in the development process and will be tested in the classroom. The implementation of the trial was carried out in stages, namely, small group and field evaluation. However, in this progress report, the trials carried out are only in the small group stage. For more details about the stages of the trials that have been carried out will be explained as follows:

One to one

This trial was conducted by assigning 5 students with different ability criteria (high, medium and low categories). Researchers provide learning using interactive media based on articulate storylines. At the end of the lesson, the 5 students were given a questionnaire that they had to fill out, with the following results.

Based on the questionnaire data collected in this one to one stage, it was found that the interactive media based on the articulate storyline was good with a questionnaire percentage of 88.5% and there were also some inputs written by students. The suggestions that have been submitted by the validators and students have been carried out by researchers before conducting field trials.

Small group trial

This trial was conducted by assigning 10 students with different ability criteria (high, medium and low categories). Researchers provide learning using interactive media based on articulate storylines. At the end of the lesson, the 10 students were given a questionnaire which they had to fill out, with the following results. Based on the questionnaire data collected in this one to one stage, it was found that the articulate storyline-based interactive media was good with the percentage of the questionnaire being 85% and there were also some inputs written by students. The suggestions that have been submitted by the validators and students have been carried out by researchers before conducting field trials.

Field evaluation

Furthermore, the researchers conducted the last stage of testing, namely field evaluation. At this stage, the researcher conducted a trial by conveying material from the questions in the articulate storyline-based multimedia then asking students to fill out questionnaires, work on pre and posttest questions, and make observations on student responses and attitudes during the trial process. Based on the results of the questionnaire calculation above, the percentage of 88.3% is obtained. This shows that this articulate storyline-based multimedia are practical to use in the learning process. Furthermore, students also work on questions related to the material at the beginning and end of learning. The results of the comparison of pre and post test scores can be seen in the table below:

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Vol: 7 Number 2, April 2022
Page: 310-318

Table 3. Recapitulation of Pre and Post Test Values

Name	Pretest	Posttest
ER	40	90
M	20	80
LJ	40	90
WD	40	85
IKDB	50	80
WA	40	100
BS	20	80
SM	50	90
NR	30	100
DF	20	90
ANF	40	80
SMJ	30	90
AP	20	100
FP	55	80
HJ	10	80
BA	20	90
MI	0	80
IMA	30	80
FM	10	60
RM	20	80
ST	30	90
ED	60	100
GD	20	80
NA	30	80
BT	30	70
EL	40	80
AA	40	90

Source: Primary Data Processed in 2021

Based on the data on the pretest and posttest scores above, a comparison of the average pretest score of 31 and the average posttest score of 85 is obtained. This indicates that there is a difference in score of 54.1 and the value of student learning outcomes has increased. To obtain N-gain the formula is used:

N gain = S posttest –S pretest

S maximum – S pretest

So it is concluded that the results of N gain are 0.54 which means that the potential impact of this articulate storyline-based multimedia development is moderate.

Based on the results of the media expert validation test, it can be concluded that this multimedia articulate storyline is valid or in accordance with the feasibility test with an average of 92.1%. Good media must be media that is able to invite users to access, train critical thinking to be able to use the media in everyday life. This is in line with (Yosal Iriantara, 2009) opinion that the purpose of media literacy is to develop critical thinking, develop critical awareness of the media, develop critical autonomy, encode, evaluate, choose meaning, examine authorship and reasoning. Therefore, the goal of media literacy is to have the ability to access, analyze, and evaluate media content so as to generate critical thinking.

In line with the opinion above, the Government Regulation of the Republic of Indonesia (PP RI) Number 74 of 2008 concerning Teachers, includes learning technology as one of the pedagogical sub competencies. The media literacy movement into the world of education is important because our students are from generation Millennials are in the century technology and information. Even though the movement literacy at the elementary and junior high school levels is still focused on reading sources in the form of print media such as books, magazines, newspapers, and next (Ainiyah, Nur, 2017; Susanto, H, 2013).

In addition to the development of media in learning. Provision of internet ethics

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DOI: 10.26618/jed.v%vi%i.7452
Vol: 7 Number 2, April 2022
Page: 310-318

for students are part of responsibility to protect them from the negative impact of the media. Hobbs alludes to the importance of media literacy as an important capacity that must be owned by educators and parents. Providing media literacy to participants integrated education between at home and schools and parents through efforts education and assistance. Efforts that carried out, among others, by equip them with internet etiquette in a healthy manner (Hobbs, 1998; Hobbs, 1996). Thus, teachers are expected to be able to utilize learning technology in every learning process carried out, so that the learning process is more effective and efficient in achieving learning objectives.

CONCLUSION

Media literacy in the era of the digital revolution is currently an important issue discussed by various lines. One of them is through learning design by teachers from an early age to hone the abilities of teachers and students wisely in using the media that already exist today. This learning design is an articulate storyline-based multimedia. By utilizing digital media, students will be more active in the learning process. Based on the results of the media expert validation test, it can be concluded that this multimedia articulate storyline is valid or in accordance with the feasibility test with an average value of 92.1%. The one-to-one product trial obtained 88.5% results, the small group obtained 85% results, and field evaluation 88.3%. Meanwhile, the N gain result is 0.54 which means that the potential impact of this articulate storyline-based multimedia development is moderate.

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