ISSN No:-2456-2165

Development of Learning Content in Computer Based Media with Articulate Storyline to Improve Civiccs Learning Outcomes in Third Grade Elementary School Students

Ana Mumtahana [1] Maria Veronika Roesminingsih[2] Totok Suyanto [3]
Postgraduate Program of Elementary Program, State University of Surabaya

Abstrat:- The purpose of this study is to produce computer-based media with a valid, practical, and effective Articulate Storyline to improve the learning outcomes of Civics in third grade elementary school students on understanding the meaning of unity in diversity in the environment. Theme 5 Sub Theme 1. This research is a research development of computer-based media that refers to the development model of 4D (Four-D Models) and tested on third grade students of SDN Alun Alun Contong I / 87 Surabaya with pretest-posttest control group design. The stages carried out in product development include the stages of defining, designing, developing, and distributing. The subjects of this media development research were students of third A grade as the control class and third B grade as the experimental class. Based on the results of the assessment of the material experts and media experts on learning content in computer-based media, the score is in the category of "very valid", "practical" learning tools based on the implementation of the lesson plan. Based on the analysis of student learning test results data shows that there are significant differences between the results of learning tests in the experimental class using computer-based media with control classes that do not use computer-based media, and the average results of the posttest score, as well as the percentage increase in the pretest-posttest value in the experimental class is bigger than the control class. From the analysis of the data above it can be concluded that the learning content in computer-based media with an Articulate Storyline is valid, practical and effective can improve the learning outcomes of Civics in third grade elementary school students.

Keywords:- *Computer Based Media, Articulate Storyline, Learning Outcomes, Civics*

I. INTRODUCTION

Technology develop more rapidly nowadays, it can have an impact on various fields, one of which is the field of education. Education plays a very important role in national development. education is a conscious effort that must be done by humans through a series of learning processes so that they can develop Munib's self potential (2009, p.139). in an effort to improve the quality of education and in facing global challenges, technology-based learning through innovation using computer-based learning media by utilizing existing hardware and software is an effort that can be done by teachers. Therefore, for indicators and objectives in the learning process to be carried out effectively and directed, they must be clearly stated.

According to Sudjana, et al (2015, p.6), the availability of learning media in schools can help the implementation of learning activities. In general, learning media are useful as a tool to clarify teaching materials and can cause problems to be further studied and resolved by students in the learning process. The advancement of information technology can function in activating ways of teaching that are far better suited to student learning styles when implemented. The use of computers as learning media is an effort to improve the quality of learning in schools. According to Isjoni (2007, p.67), the use of computers as a medium in channeling information about subject matter, practice exercises, feedback, and answer scores to students is the use of computer-based media. Currently, technological advances produce several applications that can be utilized for educational purposes. One of them is Articulate Storyline.

Articulate Storyline is a multimedia creation tool that can be used to create learning media using a combination of text, image, sound, animation, and video content and a set of evaluations to support the learning process (Amiroh, 2019, p.5). Articulate Storyline is an alternative application that can be used to make learning media interactive and interesting for students. In its operation, Articulate Storyline is quite easy to use because before the application is run, the developer must first arrange the sequence of competencies to be achieved, material, practice questions, evaluation, and media usage instructions in the form of story view so that developers will more easily operate or edit the application.

The end of a learning process for students will be able to obtain information about learning outcomes through evaluation activities. Learning outcomes are the results of the interaction of learning and teaching activities (Dimyati, 2002, p.3). Innovative learning media can be planned or programmed by the teacher so that it can provide facilities for students to obtain improvements in the process and learning outcomes. According to Solihatin (2013, p.183),

ISSN No:-2456-2165

based on facts in the field of learning media social knowledge is still often ignored by teachers for various reasons for example, the difficulty of finding the right media, time constraints in making a design, as well as funding in making media. In learning activities, in general teachers only use lecture and discussion methods without the support of supporting media. This can cause students to be less active and have low motivation in learning activities so that the impact on student learning outcomes is not good.

Based on the results of pre-research activities showed that civics learning outcomes about the material understood the meaning of unity in diversity in the environment of 27 students, as many as 12 students or 44% were declared incomplete and reached an average value of 60. The average indicates that the minimum completeness criteria (KKM) which has been set is 75 from a scale of 1-100 can not be achieved optimally by students. The use of computer-based media was chosen by researchers because the school had received assistance from the City Government in the form of several computer devices so that it could be used by teachers and students in the implementation of the learning process. In addition, the distribution of media does not require wifi because it can be accessed offline on each device by installing applications and storing files in the form of web-based media (html 5) so it is quite easy to use in learning activities.

II. METHOD

This type of research used in this research is research and development or known as Researh and Development (R & D). The development model in this study refers to the 4D (four-D) research and development model of Thiagarajan, et al. According to Thiagarajan, et al (in Trianto 2010: 189) the 4D research and development model consists of 4 main stages, namely define, design, develop, and disseminate.

The research design used in this study is a quasi experimental group design. The design of this study was chosen because of the conditions in the study that made it impossible for researchers to change students or randomize students in certain classes in determining subjects to be formed in the experimental group. Thus, randomization cannot be done by researchers. This is in line with the opinion of Sugiyono (2016, p. 79) which explains that the selection of experimental group samples the nonequivalent control group is not randomly selected. This study consisted of two groups: the experimental group and the control group which had homogeneous characteristics. The control group will be the comparison for the experimental group. While the experimental group will be given learning treatment through the use of computer-based media with Articulate Storyline. In the control group will be treated with conventional methods. Both groups will get the material and in the same time allocation.

The description of the nonequivalent control group design that will be carried out can be seen in the table below.

Group	***Pretest***	***Treatment***	***Posttest***
Experiment	O_1	X	O_2
Control	O_3	-	O_4

Table 1:- pretest-pos test control group design
(Sugiyono, 2016, p. 116)

Data collection techniques were carried out by observation, questionnaire distribution and testing, and documentation. Analysis of the data used is quantitative descriptive analysis, things done such as:

a. The validity or reliability and reliability of learning content in computer-based media with the Articulate Storyline and research instruments.

The validity or feasibility of learning content in computer-based media with Articulate Storyline. The validity of the media can be calculated using the following formula:

$$\bar{X} = \frac{1}{\text{The number of validator}} \; x \; \frac{\sum x}{n}$$

Information:
$\bar{X}$ = average score
$\sum x$ = the number score obtained
n = the number of statement items

The validity criteria for this learning media are explained in the following table:

Interval Score	Research category	Information
$3{,}6 \leq SV < 4$	Very Valid	Can be used without revision
$2{,}6 \leq SV < 3{,}5$	Valid	Can be used with minor revisions
$1{,}6 \leq SV < 2{,}5$	Less Valid	Can be used with many revisions
$1{,}0 \leq SV < 1{,}5$	Not Valid	Can not be used because it still requires consultation or guidance from experts
Information : SV = Validation Score		

Table 2:- Criteria for categorizing the validity of learning media
(Ratumanan dan Laurens, 2011)

b. Reliability of learning content in computer-based media with Articulate Storyline

Instrument reliability is stated in the percentage of agreement calculated using the following formula:

$$R = 100\% \left(1 - \frac{A-B}{A+B}\right)$$

Information
R = Instrument Reliability
A = higher score than validator
B = lower score than validator

c. Validity Test of research instruments

According to Sugiyono, (2018, p. 185), if the criteria r count> r table then the component is said to be valid with a significance level of 5%. The validity correlation criteria can be seen in the table below.

Interval Score	Category
$0,80 < r_{xy} \leq 1,00$	Very high
$0,60 < r_{xy} \leq 0,80$	High
$0,40 < r_{xy} \leq 0,60$	Enough
$0,20 < r_{xy} \leq 0,40$	Low
$0,00 < r_{xy} \leq 0,20$	Very low

Table 3:- Instrument Validity Correlation Criteria
(Arikunto, 2015, p. 89)

d. The reliability of research instruments test

The Spearman-Brown formula is used with the principle of calculating the relationship coefficient between the two hemispheres as the reliability coefficient of the part (half) with the following formula:

$$r_{11} = \frac{2r\frac{11}{22}}{(1+2\frac{11}{22})}$$

(Arikunto, 2015, p. 107)

Information:
r_{11} : the reliability coefficient of all items
$r_{\frac{11}{22}}$: correlation between scores of each test score

In testing the reliability of the questions, the questions can be declared reliable if r11> r table. The reliability coefficient will be converted based on the table below.

Interval Skor	Kategori
0,80 – 1,00	Very high
0,60 – 0,80	High
0,40 – 0,60	Enough
0,20 – 0,40	Low
0,00 – 0,20	Very low

Table 4:- Criteria for Reliability Coefficient
(Arikunto, 2015, p. 89)

e. Difficulty level test

Difficulty test is calculated using the following formula.

$$P = \frac{B}{JS}$$

Information
P : Difficulty level
B : Many students answer the questions correctly
JS : Number of students

The criteria for the difficulty level of the questions used in this study can be seen in the following table.

Interval Score	Category
0 – 0,30	Difficult
0,31 – 0,70	Midle
0,71 – 1,00	Easy

Table 5:- Difficulty Level Criteria
(Arikunto, 2015, p. 225)

f. Distinguishing power test

The power of distinguishing questions is the ability of questions to distinguish the level of student ability (Arikunto, 2015, p. 226). In this study, students are grouped into two groups that are equally large based on the acquisition score by the formula:

$$D = \frac{BA}{JA} - \frac{BB}{JB} = P_A - P_B$$

Information:
D : The distinguishing power of the questions
J_A : Number of top group students
J_B : Number of students in the lower group
B_A : Number of top group students who answered the questions correctly
B_B : Number of top group students who answered the questions correctly
P_A : Proportion of upper class students who answered right
P_B : Proportion of lower class students who answered right

(P is the level of difficulty). The criteria for distinguishing problems can be seen in the following table:

Interval Score	Category
0,00 – 0,20	*Poor*
0,21 – 0,40	*Satisfactory*
0,41 – 0,70	*Good*
0,71 – 1,00	*Excellent*

Table 6:- Criteria for Differentiating Power of Problems
(Arikunto, 2015, p. 232)

ISSN No:-2456-2165

1. Practicality of learning content in computer-based media with Articulate Storyline

a. The implementation of the learning process

Implementation of learning in class in general is categorized very well with a percentage of agreement in the implementation of the lesson plan of 93.8%.

No	Observation Aspects	First meeting		Second meeting		average	K	R%
		P1	P2	P1	P2			
Learning implementation								
A. Introduction								
1	Say greetings	4.0	4.0	4.0	4.0	4.0	SB	100.0
2	Students are given the opportunity to pray	4.0	4.0	4.0	4.0	4.0	SB	100.0
3	Student attendance is checked by the teacher	4.0	4.0	4.0	4.0	4.0	SB	100.0
4	tudents are given apperception related to the material to be studied	4.0	3.0	4.0	3.0	3.5	SB	85.7
5	The teacher conveys the learning objectives	4.0	4.0	4.0	4.0	4.0	SB	100.0
Introduction category						Very Good		
Percentage of Agreement Introduction						**97.1%**		
B. Main activity								
1	Creating a learning environment that is ready to be oriented towards learning material	3.0	4.0	4.0	4.0	3.75	SB	93.4
2	Utilizing computers as media in learning activities	3.0	4.0	3.0	4.0	3.5	SB	85.7
3	Explain instructions for using learning content in media that will be applied to students	3.0	3.0	3.0	4.0	3.25	SB	92.3
4	Provide opportunities to ask students who still do not understand the instructions for using learning content in computer-based learning media with Articulate Storyline	4.0	4.0	4.0	4.0	4.0	SB	100.0
5	Guiding and directing students in applying learning media step by step	3.0	4.0	3.0	4.0	3.5	SB	85.7
6	Receive a report on the test results of learning from each student to measure the effectiveness of the use of instructional media	4.0	4.0	4.0	4.0	4.0	SB	100.0
Main Activity Category						**Very good**		
Percentage of Agreement Core Activities						**92.8%**		
C. Closing								
1	Guiding students to conclude material	4.0	3.0	3.0	3.0	3.25	SB	92.3
2	Gives reflection	4.0	3.0	4.0	3.0	3.5	SB	85.7
3	Close the lesson and give further assignments	4.0	4.0	4.0	4.0	4.0	SB	100.0
Closing Activity Category							**Very good**	
Percentage of Agreement Closing Activities							**92.6%**	
Class situation								
1	Learning activity in accordance with learning objectives	4.0	4.0	4.0	4.0	4.0	SB	100.0
2	Time allocation	3.0	4.0	3.0	4.0	3.5	SB	85.7
3	Mastery of the concept	3.0	4.0	3.0	3.0	3.25	SB	92.3
4	Class Management	4.0	3.0	4.0	4.0	3.75	SB	93.4
Class Situation Category							**Sangat Baik**	
Percentage of Agreement Class situation							**92.8%**	
Lesson Plan Implementation Category							**Sangat Baik**	
Percentage of Agreement Implementation of lesson plan							**93.8%**	

Table 7:- Results of observing the implementation of learning using computer-based media with Articulate Storyline

ISSN No:-2456-2165

2. The effectiveness of learning content in computer-based media with Articulate Storyline.
a. Analysis of student response data

No	Aspect Measured	Percentage of Response (%)	
		Strong	Weak
1	Learning content in the media, the atmosphere of learning, how to teach teachers and the stages directed in interesting learning	agree	Disagree
		96	4
2	Learning content in the media, the atmosphere of learning, how to teach teachers and the stages directed in learning are easy to understand	agree	Disagree
		88	12
3	Students' opinions about the use of computer-based media with the Articulate Storyline on the next subject	agree	Disagree
		96	4
4	The way teachers explain and guide students when applying media is easy to understand	agree	Disagree
		92	8
5	Practice and evaluation questions are quite easy to do	agree	Disagree
		96	4
Percentage of students responses		**93.6%**	**6.4%**

Table 8:- Results of Student Response Questionnaire
Source: Researcher's processed data (2020)

b. The effectiveness of the use of learning content
1) Normality Test

One-Sample Kolmogorov-Smirnov Test

		Pretest Eksperimen	Posttest Eksperimen	Pretest Kontrol	Posttest Kontrol
N		24	24	24	24
Normal Parameters[a]	Mean	68.33	86.25	67.08	79.17
	Std. Deviation	13.077	7.697	14.885	11.001
Most Extreme Differences	Absolute	.238	.250	.244	.220
	Positive	.238	.250	.151	.220
	Negative	-.179	-.229	-.244	-.161
Kolmogorov-Smirnov Z		1.166	1.224	1.197	1.077
Asymp. Sig. (2-tailed)		.132	.100	.114	.197

a. Test distribution is Normal.
Source: Researcher's processed data (2020)

Table 9:- Normality Test Results

Based on data obtained from the Kolmogorof-Smirnov test calculations with the Statistical Package for Social Science for Windows Release 16.0 (SPSS 16.0) normality test results in the experimental class in pretest and posttest activities have a significance level of 132 and, 100, greater than the significance level 0.05. Whereas the control class had a significance level of pretest and posttest of. 114 and 197, greater than the significance level of 0.05. So it can be concluded that the data in the experimental class and the control class are normally distributed.

2) Homogeneity Test

Test of Homogeneity of Variances			
Nilai Posttest			
Levene Statistic	df1	df2	Sig.
.060	1	46	.807

Table 10:- Homogeneity Test Results
Source: Researcher's processed data (2020)

Based on data obtained from the homogeneity test results using the *Levene Statistics* test it is known that the results of significance of, 807> 0.05. This shows that the data distribution in the experimental class and the control class has homogeneous variants.

3) T-test

Group Statistics					
	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Experiment	24	86.25	7.697	1.571
	Control	24	79.17	11.001	2.246

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Posttest	Equal variances assumed	1.449	.235	2.585	46	.013	7.083	2.741	1.567	12.600
	Equal variances not assumed			2.585	41.165	.013	7.083	2.741	1.549	12.617

Table 11:- Posttest t test
Source: Researcher's processed data (2020)

Based on the data in Table 11, the calculated t value of 2.585 with a significance level of 013, while t tables are sought through the distribution table t at 95% confidence level (ᾱ = 5%) and with a degree of freedom (df) of 46, so t table known (0.05; 46) = 2.012. Referring to the calculation of the t test in table 4.13 note that t-test <0.05, i.e. 013 <0.05 and t arithmetic (2.585)> t table (2.012) so that Ha is accepted.

c. Civics Learning Outcomes

No	Pretest		Posttest	
	Score	Criteria	Nilai	Criteria
S1	60	Failed	100	Success
S2	80	Success	80	Success
S3	80	Success	90	Success
S4	70	Failed	80	Success
S5	60	Failed	80	Success
S6	70	Failed	90	Success
S7	60	Failed	80	Success
S8	60	Failed	80	Success
S9	80	Success	90	Success

ISSN No:-2456-2165

S10	80	Success	90	Success
S11	90	Success	80	Success
S12	80	Success	90	Success
S13	90	Success	100	Success
S14	60	Failed	90	Success
S15	80	Success	80	Success
S16	60	Failed	80	Success
S17	50	Failed	80	Success
S18	70	Failed	90	Success
S19	70	Failed	80	Success
S20	40	Failed	70	Failed
S21	60	Failed	90	Success
S22	60	Failed	90	Success
S23	60	Failed	90	Success
S24	90	Success	100	Success
The number of students are failed		15	The number of student is failed	1
The number of students are success		9	The number of students are success	23
Percentage of completeness		37,5%	Percentage of completeness	95,8%

Table 12:- *Pretest* dan *Posttest* evaluation result

The minimum completeness criteria (KKM) set at SDN Alun Alun Contong I / 87 is 75. In table 12 shows that the percentage of mastery learning at pretest is 37.5%, meaning that there are still many students who have not reached the specified KKM and completeness classical learning has not reached 85%. After students are given learning through the use of learning content in computer-based media with Articulate Storyline and posttest, the percentage of completeness increases by 95.8%. Thus it can be concluded that the majority of students have achieved grades according to KKM and classical learning completeness has reached 85%.

The results of calculating the gain score or the difference between the pretest and posttest of the experimental class and the control class can be seen in the following

Group Statistics

	Kelas	N	Mean	Std. Deviation	Std. Error Mean
Selisih	Experiment	24	83.46	7.235	1.477
	Control	24	76.67	9.567	1.953

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Selisih	Equal variances assumed	.986	.326	2.774	46	.008	6.792	2.448	1.863	11.720
	Equal variances not assumed			2.774	42.823	.008	6.792	2.448	1.853	11.730

Table 13:- Test Difference in Pretest and Posttest
Source: Researcher's processed data (2020)

Based on the data in table 13 it is known that the results of the analysis of the t gain score test or the difference between the pretest and posttest obtained t value of 2.774 with a significance level, 008. While the value of t table is known at 2.012 with a significance level of 0.05.

Referring to the t test results above, it can be concluded that Ho is rejected and Ha is accepted because t-test <0.05, that is, 008 <0.05 and t count 2.774> t table 2.012, so Ha which states the development of learning content in Computer-based media with Articulate Storyline has a significant influence in improving student learning outcomes in civis lessons in third grade elementary school.

III. CONCLUSION AND SUGGESTION

Learning content in computer-based media with the Articulate Storyline developed is feasible to improve the learning outcomes of Civics. Learning content in computer-based media is developed if viewed in terms of completeness of learning outcomes and student responses during the learning process that is developed, it can be categorized as the whole of learning media developed is very effective for improving the learning outcomes of Civics in third grade elementary school students.

REFERNCES

[1]. Abdul Munib, dkk. (2009). *Pengantar Ilmu Pendidikan.* Semarang :UNNES Pres.
[2]. Akcay Husamettiin, Cengiz Tuysuz dan Burak Feyzioglu. 2006. Effect Of Computer Based Learning On Students Attitudes and Achievements Towards Analytical Chemistry. *Turkish online journal of educational technology-TOJET January 2006 ISSN: 1303-6521 Volume 5 Issue 1 Article 6.*
[3]. Amiroh. 2019. *Mahir Membuat Media Interaktif Articulate Storyline*. Yogyakarta: Pustaka Ananda Srva.
[4]. Arikunto. 2015. Prosedur Penelitian Suatu Pendekatan Praktik, Jakarta: Rineka Cipta.
[5]. BSNP. 2011. "*Standar Kompetensi*". http//bsnp-inddonesia.org. Diakses tanggal 10 September 2019. Pukul 19.00.
[6]. Dimyati, 2002. *Belajar Pembelajaran*. Jakarta : Rineka Cipta
[7]. Hake, R, R. 1999.*Analyzing Change/Gain Scores.AREA-D American Education Research Association's Devision.D*, Measurement and Reasearch Methodology.
[8]. Isjoni, dkk. 2007. *ICT Untuk Sekolah Unggul (Pengintegrasian Teknologi Informasi dalam Pembelajaran*), Yogyakarta, Pustaka Pelajar
[9]. Kusumawati Yun dan Panca Ariguntar.2018. *Buku Guru Tematik Terpadu Kurikulum 2013 Kelas III Tema 5 "Cuaca"*. Jakarta: Kementerian Pendidikan dan Kebudayaan.
[10]. Kusumawati Yun dan Panca Ariguntar.2018. *Buku Siswa Tematik Terpadu Kurikulum 2013 Kelas III Tema 5 "Cuaca"*. Jakarta: Kementerian Pendidikan dan Kebudayaan.
[11]. Negara, I Komang Rinartha Yasa dan Dr. Muhammad Rusli. 2017. The Effect of Animation In Multimedia Computer Based Learning and Learning Styleto The Learning Result. *Turkish Online Journal of Distance Education- TOJDE October 2017 ISSN 1302-6488 Volume 18 Number : 4 Article 13.*
[12]. Ratumanan, G.T. & Laurens, T. 2011. *Evaluasi Hasil Belajar pada Tingkat Satuan Pendidikan*. Surabaya: UNESA University Press.Ruhimat, Toto dkk. 2011. Kurikulum dan Pembelajaran. Jakarta: Rajawali Press.
[13]. Solihatin, Etin. 2013. *Strategi Pembelajaran PPKN*. Jakarta: Bumi Aksara
[14]. Sugiyono. 2018.*Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R &D*. Bandung.: Alfabeta.
[15]. Sudjana, Nana. 2015. *Dasar-Dasar Proses Belajar Mengajar*. Bandung: PT Sinar Baru Algesindo.
[16]. Trianto. 2010. *Mendesain Model Pembelajaran Inovatif-Progresif Konsep, Landasan, dan Implementasinya pada Kurikulum Tingkat Satuan Pendidikan (KTSP).* Jakarta: KencanaPrenada Media Group.
[17]. Yumini, Siti. 2015. Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline pada Mata Diklat Teknik Elektronika Dasar di SMK Negeri I Jetis Mojokerto. *Jurnal Pendidikan Teknik Elektro 4 (3) | vol: | issue: | 2015.*