The Online Tool use and the Absorption of Social Studies Contents in a Learning Package of Non-Formal Education in an Indonesian Regency

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ABSTRACT: The outbreak of COVID-19 made the learning process could not be done face to face. Under such condition, the online learning was virtually carried out as the way out. This study aimed to explore the effect of using WhatsApp as a learning tool, while taking into account student gender and age, on the absorbing of social study contents in distance learning among students in Malang Regency. These particular contents were developed virtually in learning package formats. This study used a quantitative approach. The data collection was carried out through a small survey by using online questionnaire, administering the Google Forms to 34 respondents. Using regression analysis, the results were as follows. The use of WhatsApps made difference in the attainment of learning contents. However, age did not influence significantly in understanding the materials. In addition, gender made no difference in the content understanding. Such findings opened up the possibility of exploring opportunities for further educational studies such as involving additional factors, assessing interactions, and moderating relationships between variables both at certain individual unit of analysis and across levels as well.

KEYWORDS: Online Learning Delivery, Individual Characteristics, Distance Learning Package, Understanding of Social Studies, Non-Formal Education

I. INTRODUCTION

Online learning in Indonesia has been still relatively new, children learned from their homes without needing to go to school. When the Covid outbreak spread out, there was a change in learning patterns from home (Adedoyin & Soykan, 2023; Dhawan, 2020; McQuirter, 2020). School administrators, students, parents and teachers were forced to change from traditional into digital or online learning systems (Nuray Zan, 2019; Ranti et al., 2024). Media as a sort of component in a learning system played important roles in the learning process.

With online learning in the context of internet network in the learning process, students have freedom, they may study anytime and anywhere. Students can interact with teachers using applications such as classroom, video conference, telephone or live chat, Zoom or via WhatsApp group. Online learning provides benefits in helping to provide access to learning for everyone, thereby eliminating physical barriers to learning within the scope of the class, apart from that online learning can build efficient communication and discussions between teachers and students, students can interact and discuss with each other or without going through the teacher, and also the teacher can easily provide material to students in the form of pictures and videos (Segbenya et al., 2022; Stewart & Lowenthal, 2022). Apart from that, students can download teaching materials, thereby making them more active in learning and understanding the teaching materials provided by teachers.

Understanding is one of the benchmarks achieved after someone carries out learning activities. In the learning process, each individual has different abilities in understanding what is being learned. There are those who are able to understand the material thoroughly, on the contrary there are also those who are completely unable to derive meaning from what they have learned, so only rote learning would take place (Masrun & Rusdinal, 2022; Özüdoğru, 2021). There are levels of understanding. Comprehension is a level of thinking ability that higher than memorization. In this case, students are required to comprehend or understand what is being taught, know what is being communicated, and be able to utilize the content without having to connect each other (Yessenova et al., 2023) .Because the abilities of students at Junior Secondary School (*Sekolah Menengah Pertama/SMP*) age are still limited, they are not required to be able to synthesize what they learn.

Learning as one of the efforts required to be evaluated. Assessment is carried out to determine the level of students' status in achieving the goals set in learning. Assessments and processes are generally prioritized by teachers. During the pandemic period there were no face-to-face meetings, all learning activities were carried out virtually, so that educators and students did not experience face-to-face contact. These results were without emotional closeness between tutors and learners. This situation had a big influence on learning activities (Chiu et al., 2021; Ionescu et al., 2020; Özüdoğru, 2021) . Problems faced during learning

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activities by educators and students on the equality program, especially learning packages about social sciences (*PAKET B Mapel IPS*).

Generally, the foregoing description implies the following three problems. First, students tend to have difficulty doing online learning. Second, students don't really understand how to use the WhatsApp application. Third, students also have difficulty understanding the material provided in the form of files. Therefore, three research questions were asked as triggers for the problem to be studied as follows.

1. Does WhatsApp online learning have an effect on understanding teaching material?
2. Are there differences between genders in terms of understanding the material studied?
3. Does the age factor influence understanding of learning material?

It was expected that this study would provide benefits from a theoretical and practical perspective for out-of-school education practitioners, both tutors and students, regarding the use of WhatsApp for online learning.

II. RESEARCH METHODS

The implementation of this study was quantitative and lasted for 3 months. Starting from February to April 2023. Details of the implementation would be explained further. The explanation would cover study design, population and sample, and the last be data treatment. These were the presented shortly.

A. Study Design

The design used in this study was correlational to reveal causal relationships, shown in Figure 1. The absorption of learning content was the response variable, whereas gender and age reflected the individual characteristics also WhatsApp use were the explanatory parts. All the subsequent sections in this article would be based on this simple figure.
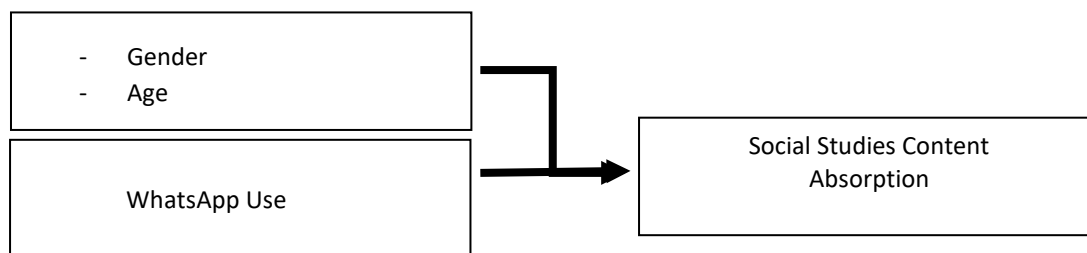

Figure 1. Conceptual Frame of the Study

B. Population and Sample

The scope of generalization commonly referred to as the population of this study was the Non-Formal Education Study Group equivalent to Junior Secondary Schools. The sample used in this research were 34 respondents. This sample size was relatively small, but met the requirements for inferential analysis because of the variable conditions. The sample in this study came from the PAKET B study group equal to grade 9 Junior Secondary School in Malang Regency.

Two individual characteristics to be used as independent variables were age and gender. Description of respondents based on age level may be found in Table 1. It was known that the majority of respondents aged 15 years to 25 years amounted to 27 people or 79.4%, aged 26-35 years were 5 people or 14.7%, aged 36-45 1 person or 2.9%, and 1 person or 2.9% aged over 46 years.

Tabel 1. Age Distribution of Respondents

No	Age	F	Percentage (%)
1	15 – 25 year	27	79,4 %
2	26 – 35 year	5	14,7 %
3	36 – 45 year	1	2,9 %
4	over 45 year	1	2,9 %

In terms of gender, there are differences between men and women. Table 2 presents an overview of the gender of respondents. The largest gender category was men, amounting to 23 people (67.6%) and the smaller number was of women, people (32.4%).

Tabel 2. The Distribution of Respondents by Gender

No	Gender	F	Percentage (%)
1	Males	23	67,6 %
2	Females	11	32,4 %

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C. Data Collection and Instrument

The data collection technique was used by first creating a list of questions in the form of a questionnaire via Google Forms and then distributing it to respondents directly so that the results of filling it in were more efficient and accurate. The list of questions concerned the general description, opinions and concerns of respondents regarding the influence of Whatsapp media on understanding social studies material at SPNF SKB.

The research instrument contained items about the respondent's background and use of WhatsApp media. Open questions were used to obtain data about the respondent's background in the form of age and gender. Meanwhile, closed questions were in the form of a five-point Likert scale for data about WhatsApp usage and understanding of the material studied. The Likert scale data were validated by testing validity and reliability. Validity testing was carried out based on analysis of each item, namely correlating the score of each item with the variable score (total score of statement items). An item was declared valid if it had coefficient greater than 0.4. It turned out that all items in Whatsapp media usage have valid value of correlation. The reliability estimate used was the value of Cronbach's alpha. If the alpha coefficient was equal to or greater than 0.7 then it would be declared to be reliable. The results of data tests regarding the use of WhatsApp as a construct contained 11 items, achieved alpha value of 0.908 which was greater than the value of 0.6. In this way, the measuring instrument that produced respondents' answers was declared reliable. The other construct related to understanding contents, consisted of 9 items gained alpha equal to 0.851 was also reliable.

D. Analysis of Data

Data analysis for solving the three research questions were carried out descriptively and inferentially. Descriptive initial analysis was important because it helped researchers to understand the characteristics of the data collected. By applying this technique, researchers understand the patterns of data. The inferential analysis that was considered appropriate to use was linear regression analysis. Regression was a type of analysis used to find out the causal correlation between independent and dependent variables. As had been stated, in order to use this analysis, several assumptions must be met first. The main assumptions included normal data distribution, linear relationship, free from multicollinear and heteroscedastic symptoms (Hahs-Vaughn, 2017; Hair, et al., 2018; Johnson, & Wichern, 2019; Tabachnick, et al., 2019).

III. RESULTS AND DISCUSSION

There were three research questions to be answered through data and analysis. The regression analysis was picked up because it was able to reveal the influence of cause towards effect . The average comprehension score was 34.15 with a standard deviation of 6.19, which meant to be classified as high and had reasonable spreads. For the age variable, the mean was 11.35, and the standard deviation was 2.85. In the material understanding variable, the mean was 27.76, the standard deviation was 5.082. It was concluded that the two constructs were appropriate to be treated as variables. In order for regression analysis to produce accurate estimates, it was necessary to test the assumptions of normality, linearity, multicollinearity and heteroscedasticity. The test results were presented as follows.

A. Testing the Basic Assumptions

Normality. The basis for deciding normal distribution if the Kolmogorov Smirnov test was not significant (p>0.05). From the results in Table 3, it could be concluded that the probability value was too large (0.869 > 0.05) so it was not significant or in other words, the data was normally distributed.

Tabel 3. Kolmogorov-Smirnov Test for Normality

		Unstandardized Residual
N		34
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	2.09163926
Most Extreme Differences	Absolute	.102
	Positive	.070
	Negative	-.102
Kolmogorov-Smirnov Z		.596
Asymp. Sig. (2-tailed)		.869

Linearity. To ensure a linear relationship between each explanatory variable and response variable, 'compare means' was picked up then using one of the options, namely 'test for linearity'. If sig > 0.05 then there was no deviation from linearity. Table 4 showed a summary of the tests for the three explanatory variables. Because the data on Gender were categorical, no need to do

such test. Meanwhile, the other two variables, namely Age and WA Use were kept on such test. Apparently the produced values were not significant (p = .224 and .572) so in other words the relationships were linear.

Table 4. Selected Summary for Testing Linear Relationship

		Sum of Squares	df	Mean Square	F	Sig.
Content understanding * gender	Deviation from Linearity	N.A	N.A	N.A	N.A	N.A
Content understanding * age	Deviation from Linearity	9.197	15	.613	1.462	.224
Content understanding * WA use	Deviation from Linearity	.033	1	.033	.331	.572

Multicollinearity. The reason of multicollinearity test was finding out if there was a high correlation between the independent variables in a multiple linear regression model. Table 5 showed that there are no symptoms of multicollinearity because the tolerance value was > 0.100 and VIF < 10.00.

Tabel 5. Multicollinearity Test

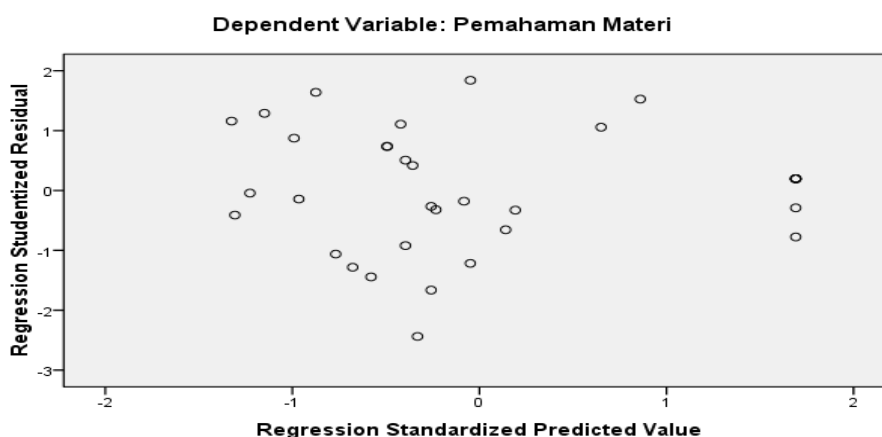|	Collinearity Statistics	
Model	Tolerance	VIF
(Constant)	-	-
WhatsApp use	.254	3.933
Age	.129	7.729
Gender	.157	6.360

Figure 2. Distribution of Heteroscedasticity Test

Heteroscedasticity. The purpose of heteroscedasticity test was to check whether there was an inequality of variance from one residual to another observation. From the results in Figure 2 appeared the distribution of residuals and there was no particular pattern on the graph, such as gathering in the middle, narrowing, widening. So the conclusion of heteroscedasticity was not supported.

All the previous assumption tests satisfied the criteria for running the analysis of regression. The results were as the following. Table 6 illustrated the value of the multiple correlation (R), was 0.553. From this output, a coefficient of determination (R^2) was obtained 0.306, which meant that the influence of the three variables towards understanding the material was 30.6%, the entire model was deemed significant (p=0.01).

B. Main Analysis

This current study focused on the use of WhatsApp for making the leaners understand. It was found that WhatsApp influenced significantly to the absorption of the learning contents, as in Table 6. The WhatsApp application was chosen because it had various features and was practical to use when the learning process was underway. WhatsApp was an instant messaging technology like SMS with the help of the internet with more attractive supporting features, so WhatsApp is seen as a practical and effective academic communication medium.

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Table 6. Regression Analysis Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	b		
Intercept	2.620	1.002		2.616	.014
Gender (male)	.293	.263	.196	1.117	.273
Age	-.047	.206	-.038	-.227	.822
WhatsApp use	.567	.267	.378	2.122	.042
$R^2 = 0.306$	F = 4.383 (df=3); Sig-F=0.011				

Note: Gender was a dummy variable (0=female, 1=male) so the intercept represented the value for women.

C. DISCUSSION

During the learning process, educators were required to master various learning methods in order to make the social studies learning process more enjoyable. Learning was everything that can bring information and knowledge in the interaction that takes place between educators and students. The tools used in learning were appropriate to the subject matter being taught, according to the characteristics of students, and were considered effective for conveying information, so that students understand it well. In the learning process, media had a contribution in improving the quality and quality of learning (Mishra et al., 2021; Sutarto et al., 2020; Yuliansyah & Ayu, 2021). The presence of media not only helped teachers in conveying teaching material, but also provided additional value to learning activities. This applied to types of media, whether sophisticated and expensive, or simple and cheap media.

The results of this study revealed that learning social studies via WhatsApp provided benefits in the online learning process. With the positive impact of WhatsApp-based learning media, students may increase their technological knowledge in the learning process. The use of WhatsApp media could also be adjusted to the material and students' needs, so that the materials were conveyed and they did not get bored easily during the learning process (Sari & Nayır, 2020; Stewart & Lowenthal, 2022; Talingdan & Alunday, 2023). This was demonstrated by results from descriptive analysis. Understanding was one of the benchmarks achieved after students carried out learning activities. In the learning process, each individual student had different abilities in understanding what had been learned. Those who were able to understand the material thoroughly and there were also those who were completely unable to derive meaning from what they had learned, so that all their achievements were just related to remembering (Triasningsih et al., 2021). It was also hoped that by carrying out WhatsApp media-based learning, educators and students could improve the quality of learning.

The findings of this research revealed that there was no differences between males and females in understanding the learning materials. Although many previous studies state that there are differences in brain structure and thought patterns between men and women, so that the learning achievements of female students have positive influence on learning outcomes than male students, however this theory was not proven in this study. On average, boys are less focused on the material being studied in the classrooms (Adnan, 2020; Hamid et al., 2020). If we relate the brain structure of both men and women in lessons, both tend to be able to understand information well, however, in managing the information provided by the tutor, there were no differences between both student gender.

This study found that there was no effect of age on understanding learning material. Although some findings from previous research reveal (Maja, 2023; Mishra et al., 2021; Ranti et al., 2024) (controversial results that the learning achievements of men and women differ significantly. The important contribution of these findings opens up opportunities for future research to determine the possible role of other variables that had not been covered. Apart from that, in terms of elaborating the relationships between variables, there will be open options for reasonable moderation and interactions as well as restrictions on one or the involvement of several hierarchical levels of analysis.

We were aware that this current study still suffers from limitations that need to be considered in order to develop and open a complete and good research spectrum. First, non-formal education tends to pay attention to unique aspects of andragogy so that in practice it is different from formal education at school. As a result, communication patterns between tutors and learners tend to be informal and rigid so that learning patterns become flexible. Second, it was found that the determination of the influence of this research model was 30.6%, which means that there is still a 69.4% chance to include other variables appearing that have not been taken into account either on the part of the students, tutors, physical environment and social environment. Third, from a methodological perspective, the educational institutional system is complex, consisting of different levels of individuals, groups, and residential areas from families, rural sub-districts, sub-districts and districts. Everything can be organized hierarchically and

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analyzed based on defined units. Fourth, the variable opportunities mentioned in the second point can be analyzed flatly at one level or across levels by taking into account interaction and moderation effects (Hayes, 2022). These four things have not been worked out properly so there are opportunities for future research.

IV. CONCLUSION

Based on the research results, we concluded as the following. First, online learning using WhatsApp did influence the learners understanding of module contents. It had a positive impact on students, namely in increasing their technological skills in the learning process as a by product effect. Second, there was no effect of gender differences on understanding the instructional materials. Men and women in this study were equally able to understand and manage the information provided by their tutors. Third, the age factor had no influence on understanding the learning contents. Of course, such finding of study rejected the ideas that the younger the learner the better and faster in adaptive abilities to understand and manage contained information including in online learning. It would be good for every educator to equip his/herself with various approaches or methods in up-to-date technology, not just using WhatsApp, so that students won't get bored, distance learning would become more challenging, and students can also learn using current technological application.

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