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The influence of flipbook learning media, learning interest, and learning motivation on learning outcomes

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ABSTRACT

The aim of this research is to investigate the influence of flipbook learning media, learning interest, and learning motivation on junior high school students' learning outcomes. The method used is the regression method with a quantitative approach. This research was conducted at Junior High School 1 Yogyakarta with a sample of 64 class VIII social studies students. Data collection consists of interviews, observations, and documentation. Prerequisite test analysis consists of tests for normality, multicollinearity, and heteroscedasticity. Hypothesis testing using simple regression, and multiple regression. The research results show that there is an influence: i) flipbook learning media on learning outcomes with a tcount of 73.33, a significance value of 0.000 < 0.005, ii) interest in learning on learning outcomes with a tcount of 33.678, a significance value of 0.000 < 0.005, iii) learning motivation on learning outcomes with a tcount of 30.678, a significance value of 0.000 < 0.005, and iv) flipbook learning media, learning interest, and learning motivation together on learning outcomes with Fcount 47.879 > Ftable 2.77 with a significance of 0.000 < 0.005. The conclusion is that the use of flipbook learning media, increasing interest in learning, and strengthening learning motivation can support each other to achieve optimal learning outcomes for students.

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1. INTRODUCTION

Education is fundamentally a conscious attempt to restore human potential, especially through the promotion and promotion of learning activities [1]. One of the goals of education is to create an atmosphere and learning process that makes students active in developing potential religious spiritual strength, character, self-control, abilities, and noble morals [2]–[4]. Education means that the act of education is not a spontaneous act, but a rational, conscious, prepared, and planned act to achieve a certain purpose. Education requires leveraging a variety of information sources and learning media in the environment for successful learning [5]–[7]. Social studies education is knowledge applied to classroom activities at school to achieve

educational goals and develop students' sensitivity to surrounding social life [8]. Learning in social studies aims to produce social subjects with personal and sociocultural, spiritual and intellectual dimensions [9]–[14].

Social studies basically aim to develop students according to their talents, interests, abilities, and environment as well as different conditions for students to continue to higher levels. Associated with learning goals social studies, it seems that there is a need for a learning model, have the ability to achieve academic success. Teachers' abilities and skills in selecting and using different learning models, methods and strategies always need to be improved [15]–[17]. In the current era of COVID-19 epidemic, it is affecting every field, including education. Teachers are required to be creative in delivering material through online learning media [18]–[20]. Teachers must have a positive mindset in order to be able to apply online learning media, so as to produce quality learning outcomes. This period of the COVID-19 pandemic represents an opportunity for the world of education, both in terms of the use of technology and Industry 4.0. Therefore, teachers need to be creative in developing instructional media that appeals to students increase, motivation, and learning outcomes [21]–[23].

The learning system is implemented via a laptop connected to an internet network connection. Teachers can learn together simultaneously by using groups on social media such as WhatsApp, Zoom applications, or other media as learning media. This allows teachers to ensure that students are learning at the same time, even if they are in different locations. Educators can also provide measurable tasks according to the purpose of the material presented to students [24], [25]. A common occurrence when using this online learning system is that there is an unequal distribution of students and parents who are proficient in using online media, and that not all students' parents can afford to purchase Internet assignments. These include: unaffordable internet signals between students at home; and learning media. It makes students bored, which leads to a decrease in students' learning motivation and learning outcomes [26]. The decline in student learning outcomes based on the average value of the mid-semester exam for social studies subjects for class VIII junior high school in Yogyakarta for the 2021/2022 academic year, it appears overall that the mid-semester examination of 38 students still has not reached the minimum determination criteria as many as 24 students or 63% of the total. Bahri stated, "if the lessons taught are less than 65% mastered by students, the percentage of student success in these subjects is relatively low" [27].

Technology-enabled learning is extremely important in the current pandemic era, this is also a way to ensure that teachers are not surprised when the applicability of the learning system changes, as they can follow current trends such as online learning at home. The development of learning media such as flipbook learning media also leaves a clear impression on students. Flipbook media allows students to better understand the material presented to them and presents learning materials in an attractive appearance, increasing student interest and motivation to learn. Increased by viewing the simulation, being interactive, it can be complemented with a combination of video, animation, and audio [28], [29]. This combination is expected to help students visualize abstract topics and help them understand the content. Flipbook media also allows you to develop skills in creating interesting, cost-effective and efficient media, without denying the possibility of using modern tools according to the needs of scientific and technological developments. It is one of the learning media that is expected to produce interesting and useful information. Content to improve the learning atmosphere, the use of flipbook media is expected to revolutionize the learning process in the classroom [30], [31].

Using flipbooks also improves achievement of learning outcomes. The choice of flipbook media is considered appropriate for the current situation where flipbook media is suitable for direct or online learning [32]. This flipbook medium complements existing e-books and allows for all kinds of interactive learning activities such as listening, reading, writing, and even games. The downside is that you need a computer or mobile phone that can access hypertext markup language (HTML). Building on the above discussion of the background of the problem, we provide further details on research using the flipbook medium. Previous related studies have been carried out by several researchers, especially focusing on chemistry learning [33], mathematics learning [34], and physics learning [35]. This study focuses on efforts to investigate the effects of flipbook learning media, learning interest, and learning motivation on learning outcomes. The authors assume that the learning media of flip books, interest in learning, and motivation to learn will influence students' learning outcomes.

2. RESEARCH METHOD

The method used is the regression method with a quantitative approach [36]. This research was conducted in class VIII social studies at Junior High School 1 Yogyakarta. The population in this study as many as 128, using the calculation of the formula Isaac and Michael, obtained a sample of 64 students. Data were analyzed quantitatively using simple and multiple regression analysis techniques, using statistical package for the social sciences (SPSS) version 21.

2.1. Measurement

This study used a flipbook learning media questionnaire, a learning interest questionnaire, and a motivation questionnaire. The instrument is in the form of a test for learning outcome variables in the form of multiple choice. The questionnaire uses a yes and no interval dichotomous scale, positive, and negative answer alternatives.

2.2. Validity and reliability

The results of the validity of the flipbook learning media questionnaire were declared valid because the correlation value was 0.69 > 0.349 [37]–[39]. The results of the validity of the learning interest questionnaire were declared valid because the correlation value was 0.58 > 0.349. The results of the validity of the motivation questionnaire were declared valid because the correlation value was 0.88 > 0.349. The results of the validity of the learning outcomes test were declared valid because the correlation value was 0.79 > 0.349. Reliability testing using Kuder and Richardson-20, the instrument is said to be reliable if > 0.6. The results of reliability testing for flipbook learning media instruments, learning interest, and learning motivation on learning outcomes have a value greater than 0.6, namely 0.8 so that all instruments are said to be reliable.

2.3. Analysis prerequisite test

The analysis prerequisite test includes normality test, multicollinearity test, and heteroscedasticity test. The normality test used the Kolmogorof-Smirnov test with a guideline of $p_{value} > 0$ [40], then the data distribution was normal. Multicollinearity testing is carried out if the tolerance value is less than 0.1 or the victory international futures (VIF) value is more than 10, then the predictor is multicollinear. Heteroscedasticity test if the value of sig > 0.05 then there is no heteroscedasticity. Hypothesis testing using simple regression and multiple regression. The testing criteria in this study are as follows: H_0 is rejected if $r_{count} > r_{table}$ and $p > 0.05$.

3. RESULTS

3.1. Analysis prerequisite test

3.1.1. Normality test

The normality test results in Table 1 show that the variance of the data is normally distributed. Based on the calculation results, the Asymp number was obtained. Sig. (two-tailed) for all Kolmogorov-Smirnov variables, namely 0.117 for the impact of flipbook learning media (X_1), 0.77 for learning interest (X_2), 0.60 for motivation learning (X_3) and 0.68 for for results study (Y). Anything greater than 0.05 then Ho is accepted in. the data distribution of all variables is normal.

Table 1. Normality test results

Variablesl	Asym. Sig (2-tailed)	Condition	Conclusion
(X_1)	0.117	0.117 > 0.05	Normal
(X_2)	0.77	0.77 > 0.05	Normal
(X_3)	0.60	0.60 > 0.05	Normal
(Y)	0.68	0.68 > 0.05	Normal

3.1.2. Multicollinearity test

Multicollinearity testing can be performed if the tolerance value is less than 0.1 or the VIF value is greater than 10, which is considered multicollinearity. The multicollinearity test results in Table 2 show that all the tolerance values of the independent variables are greater than 0.1. The VIF values of the independent variables are all less than 10, which is below this number, there is no multicollinearity phenomenon.

Table 2. Multicollinearity test results

Description	Tolerance	VIF	Conclusion
(X_1)	0.385 > 0.1	1.216 < 10	Accept H_o
(X_2)	0.529 > 0.1	1.216 < 10	Accept H_o
(X_3)	0.447 > 0.1	1.216 < 10	Accept H_o

3.1.3. Heteroscedasticity

Based on the summary of calculation results in Table 3, it shows that the probability value (sig.) of the relationship between the independent variable and its absolute residual is much greater than 0.05, so H_o represents no there is a relationship between the independent variable and its absolute residual variable and its absolute residual. Independent variable and its absolute residual are accepted. As a result of this hypothesis, it is known that the data obtained do not contain heterogeneous variance.

Table 3. Heteroscedasticity test results

Description	Sig ABRESID	Alpha	Condition	Conclusion
(X_1)	0.217	0.05	Sig > Alpha	Accept H_o
(X_2)	0.259	0.05	Sig > Alpha	Accept H_o
(X_3)	0.255	0.05	Sig > Alpha	Accept H_o

3.2. Regression test results

3.2.1. Effect of flipbook utilization (X_1) on learning outcomes (Y)

The Table 4 shows that the value of R Square is 0.256 or 25.6%. This means that the variable effect of flipbook media utilization (X_1) affects the learning outcome variable (Y) by 25.6%. Meanwhile, the remaining 74.4% cannot be explained by variable of flipbook media utilization (X_1) and may be influenced by other factors or other variables.

Table 4. The effect of flipbook media utilization (X_1) on learning outcomes (Y)

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.256[a]	0.193	0.192	1.30595

Note: a is Predictors: (constant), student learning motivation

3.2.2. Effect of interest in learning (X2) on learning outcomes (Y)

The Table 5 shows that the value of R Square is 0.195 or 19.5%. This means that the learning interest variable (X_2) affects the learning outcome variable (Y) by 19.5%. The remaining 80.5% cannot be explained by variable of Interest in Learning (X_2) and may be influenced by other factors or other variables.

Table 5. The effect of learning interest (X_2) on learning outcomes (Y)

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998[a]	0.195	0.995	1.43470

Note: a is Predictors: (constant), student learning motivation

3.2.3. Effect of learning motivation (X_3) on learning outcomes (Y)

The Table 6 shows that the value of R Square is 0.296 or 29.6%. This means that the learning motivation variable (X_3) affects the learning outcomes variable (Y) by 29.6%. Meanwhile, the remaining 70.4% cannot be explained by variable of learning motivation (X_3) and may be influenced by other factors or other variables.

Table 6. The effect of learning motivation (X_3) on learning outcomes (Y)

Model summary				
Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.998[a]	0.996	0.296	1.39815

Note: a is Predictors: (constant), student learning motivation

3.2.4. Effect of flipbook utilization (X_1), learning interest (X_2), learning motivation (X_3) on learning outcomes (Y)

Based on Table 7, it can be seen that the calculated F is 29.967 > F_{table} is 2.77 with a significance level of 0.000 < 0.005. So, the decision was made to reject H_o and accept H_a. This means that all independent variables (effect of flipbook media use, learning interest, and learning motivation) have the ability to simultaneously influence the dependent variable (learning outcomes).

Table 7. F test results

ANOVA[a]						
	Model	Sum of squares	Df	Mean square	F	Sig.
1	Regression	27902.325	2	13951.163	29.967	0.000[b]
	Residual	72.675	61	1.191		
	Total	27975.000	63			

Note: a is Dependent variable: learning outcomes, and b is Predictors: (constant), effect of flipbook utilization, learning interest, and learning motivation

4. DISCUSSION

4.1. The effect of flipbook learning media (X_1) on learning outcomes (Y)

Based on the results of data analysis, the use of flipbook media was found to have an impact on social studies learning outcomes. The data in this field shows that there is a positive and significant effect between the use of flipbook media on social science learning outcomes. This is indicated by the t-count value of 73.33 and the significance value of 0.000, (as the significance value is less than 5%). Therefore, H_0 is rejected. This means that there is an effect between the variables. The effect of flipbook media utilization on social studies learning outcomes. A similar study was conducted by Wahyuliani [41] with the title The effectiveness of flipbook learning media on improving student learning outcomes in islamic education subjects and budi pekerti at senior high school 4 Bandung. The value of sig is obtained from the post-test data of the experimental and control classes as a result of data processing with independent sample tests 0.417 < 0.05 (two-tailed), then follow the decision criterion if the value of sig is (2-tailed), if < 0.05, Ho was accepted and Ha was rejected. In other words, there is a significant difference. Therefore, the flipbook learning medium used by the experimental class was found to be more effective than the control class in improving students' learning outcomes in islamic education subjects and Budi Pekerti subjects at senior high school 4 Bandung.

Learning outcomes play an important role in the learning process. The process of assessing learning outcomes provides educators with information about students' progress toward achieving goals and achieving the goals that educators expect. This is strengthened by the fact that learning outcomes are competencies or skills that students can achieve after completing learning activities designed and implemented by teachers in a particular school or class [42]. We investigated the impact of flipbook media on student learning outcomes and found that students were able to follow lessons better. This is proven by statistical results. It is known that students' learning outcomes improved after implementing flipbook media [43]. Therefore, the theory that Nana Sudjana stated above, then compared with the conclusions of the researchers, appears to be consistent with the existing theory, which is that there is an influence between the use of flipbook media on student learning outcomes.

4.2. The influence of learning interest (X_2) on learning outcomes (Y)

Based on the results of data analysis, it was found that interest in learning affects student learning outcomes. Data from the field there is a positive and significant influence between learning interest on social studies learning outcomes, indicated by the t-count value of 33,678 with a significance value of 0.000, because the significance value less than 5%, then H_0 is rejected, which means that there is an influence between the variables of learning interest on social studies learning outcomes. A similar study was conducted by Lakapu entitled "application of flipbook media to increasing elementary children's learning interest" [44]. The results of this study indicate that there is an influence of interest in learning with student learning outcomes [45], so that if interest in learning is high, student learning outcomes will also increase.

For interest in learning is a sense of preference and a sense of interest in a thing or activity without anyone telling [46]. From this opinion, in this study, interest in learning affects the learning outcomes of class VIII students in social studies subjects, where interest in learning includes feelings of pleasure, student interest, student attention, and student involvement, which of these four aspects include interest in learning in this study. Interest in learning will provide deeper social science knowledge, subject matter can be mastered well, so that it will provide good learning outcomes. Good learning outcomes are achieved through the interaction of various factors that support each other and have a high interest in learning. Therefore, the role of interest in learning in the learning process is said to be very important.

4.3. The effect of learning motivation (X_3) on learning outcomes (Y)

Based on field data, there is a positive and significant influence between learning motivation on social studies learning outcomes, indicated by the t-count value of 30,678 with a significance value of 0.000, because the significance value is less than 5%, then H_0 is rejected, which means that there is the effect of learning motivation on social studies learning outcomes. Research conducted by Alhadi and Saputra [47] entitled "The Relationship between learning motivation and learning outcome of junior high school students

in Yogyakarta". The results of this study indicate that there is an influence of learning motivation with student learning outcomes of junior high school students in Yogyakarta, so that they have the same results from the influence of motivation on student learning outcomes.

The increase in motivation in this study was influenced by the use of flipbook media in learning in the form of a combination of text, animation, video, and audio that provides auditory and visual stimulation that improves students' memory. Using flipbook media for purposes other than aiding learning activities can also make a difference for students [48]. There are several factors that influence student success in achieving good learning outcomes such as learning motivation, attitudes towards learning, processing teaching materials and exploring stored learning outcomes [49]–[51]. Achieving good learning outcomes is supported not only by the intelligence level of students but also by the home and school environment where teachers and learning tools are used as learning resources for a smooth teaching and learning process.

The way teachers prepare learning resources is also important in promoting active and enjoyable learning and motivating students. By increasing students' learning motivation, learning outcomes can also be indirectly improved [52], [53]. This is because he stated that there are three types of factors that influence learning outcomes: internal factors, external factors, and learning approach factors, and these include a high learning motivation that comes from the student himself or from outside [54], [55]. The explanation above can be seen that the influence of learning motivation on learning outcomes is influenced by several factors such as a good level of intelligence, lessons that are in accordance with their talents, high interest and attention in learning, good motivation and learning strategies developed by teachers, such as the use of flipbook media in the learning process.

4.4. Effect of flipbook learning media (X_1), learning interest (X_2), and learning motivation (X_3), on learning outcomes (Y)

Based on field data, there is a positive and significant influence between the effect of flipbook media utilization, learning interest, and student learning motivation on learning outcomes as indicated by the calculated F_{value} of 47.879 > F_{table} of 2.77 with a significance level of 0.000 < 0. 05. Thus, the decision taken is to reject H_o and accept H_a. This means that all independent variables (influence of flipbook media utilization, learning interest, and learning motivation) are simultaneously able to influence the dependent variable (learning outcomes). By using interesting learning media and involving students in the teaching and learning process, students can be more motivated, more interested in learning, and more engaged in learning activities [56]–[60]. Appropriate media should be used in all subjects, including social science subjects. Successful learning is influenced by several factors. One of them is the use of flipbook learning media in the learning process. Learning media are tools that can be used in the teaching and learning process, as a means of information transfer from the information sender itself (teacher) to the information receiver (student), in order to achieve the planned learning objectives.

The advantage of flipbook learning media is that it is very suitable for independent learning activities and students will not get bored because the media used is more diverse. Using flipbook media can facilitate the teaching and learning process, increase students' interest, motivation and learning outcomes, and make the teaching and learning process more active and vivid. Flipbook learning media not only focuses on writing, but can also be integrated with motion animation, video, and audio, making it an interesting and interactive learning media that makes learning never monotonous. The use of flipbook learning media is not only a tool in the teaching and learning process, but can also bring about changes in the learning process of students. This is confirmed by the study of Widodo *et al* [61], the title is “interactive gamification flipbook for developing student’s outcome”. The flipbook learning media in this study leverages all of classifications of learning media while allowing teachers to provide information directly to students, allowing the learning process to continue moving smoothly.

5. CONCLUSION

Can be concluded: i) flipbook learning media has an influence with a high category on student learning outcomes with a t_{count} of 73.33 with a significance value of 0.000 < 0.005, ii) interest in learning has an influence with a high category on learning outcomes. students with t_{count} results of 33,678 with a significance value of 0.000 < 0.005, iii) learning motivation has an influence in the high category on student learning outcomes with t_{count} results of 30.678 with a significance value of 0.000 < 0.005, and iv) flipbook learning media, learning interest, and learning motivation have a joint influence on student learning outcomes as indicated by the F_{count} of 47.879 > F_{table} of 2.77 with a significance of 0.000 < 0.005.

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