International Journal of Social Science (IJSS)
Vol.1 Issue.4 December 2021, pp: 483-496
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v1i4.750

THE INFLUENCE OF HIGHER ORDER THINKING SKILLS, VOCABULARY MASTERY AND READING MOTIVATION ON READING COMPREHENSION ACHIEVEMENT

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Article Info

Article History:
Received:16-10-21
Revised : 17-11-21
Accepted: 25-11-2021

Keywords:
Higher Order Thinking Skills (HOTS), Vocabulary Mastery, Reading Motivation, Reading Comprehension Achievement

ABSTRACT

This research aims at finding out the influence of Higher Order Thinking Skills (HOTS), vocabulary mastery and reading motivation on reading comprehension achievement among State SMP Students in Magelang Regency. This research was an ex post facto involving three independent variables; students' HOTS (X1), vocabulary mastery (X2), and reading motivation (X3) and one dependent variable, students' reading comprehension achievement (Y). The sampling technique was the proportional cluster random sampling. The research instruments were three tests and a questionnaire. The kind of validity of the tests was the content validity by experts' judgment. The construct validity of the questionnaire was measured by factor analysis. The reliability of the tests was measured by Cronbach's Alpha with the Alpha of HOTS test is 0.768, vocabulary mastery test's is 0.757 and the reading comprehension achievement test's is 0.716. The reliability of the questionnaire was measured by Cronbach's Alpha with the Alpha is 0.862. The data were analyzed using the multiple regression analysis continued by the partial correlation. The result of the multiple regressions indicates that HOTS, vocabulary mastery and reading motivation influence reading comprehension achievement with the F=236.709 with the significant level below 0.05 which means that the three independent variables influence significantly on reading comprehension achievement. The Adjusted R Square is 0.653 which means that the reading comprehension achievement is 65.3% predicted by the three independent variables. The contribution of HOTS on reading comprehension achievement is 38.7%, vocabulary mastery is 50.3%, and reading motivation is 8.2%.

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1. INTRODUCTION

Reading is an activity that cannot be separated from the daily activities to get the abundant information from both printed and electronic media. In this global era, information spreads rapidly through internet that requires the activity of reading. This provides evidence that reading is a must. For school students, this turns out to be very crucial. Therefore, there are many reading researches conducted which are focused mainly on the nature of reading comprehension as a process and effective reading comprehension instruction (p.107) [9].

Reading, thus, should be developed well from the early time. In the Indonesian education context, reading is one of the essential competencies that has a close relation to every subject at school. Outside school context, the information provided in the cyberspace is frequently written in English, too. Hence, reading requires good English mastery as well. *Mastering English can sincerely afford Indonesian some positive impacts in social, education and career world (p.1) [17].*

In the history of English Language Teaching in Indonesia, reading receives plenty of attention. Even, in English for Specific Purposes training, the development of reading skills among the participants receives lots of attention (p.9) [16]. On the other hand, the failure to obtain sufficient reading proficiency obstructs students to access the important

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tool for further learning (p.9) [16]. Reading skills definitely do not guarantee one person's success, however success will difficult to achieve without being a skilled reader (p.5) [5].

Recently, to enhance the English skills, Indonesian schools give more attention to provide more opportunities to use English. Indonesian Ministry of Education also applies some policies in relation to this. Teaching English has been carried out from elementary level until university, although this does not guarantee that the students would not find any difficulty in their study (p.326) [6].

In addition, the items in the National Examination 88% are on reading tests and only 12% are in the form of writing tests. Moreover, the trend of the recent two years of the National Examination items types moves to higher order thinking items. These items refer to Bloom's Taxonomy level C4, C5, and C6 referring the achievements of analyzing, evaluating and creating. Bloom's taxonomy contains six categories of cognitive skills ranging from lower-order skills that require less cognitive processing to higher-order skills that require de`eper learning and a greater degree of cognitive processing (p.1) [1].

The importance of developing higher order thinking skills is also related with the latest curriculum 2013 which uses Scientific Approach. The scientific approach in the process of Indonesian education has the goal to improve the attitude, knowledge as the skill of the graduates (p.87) [3]. This approach aims at developing students' critical thinking which is in line with the higher order thinking skills. Thus, to keep up with the trend of the new curriculum, it is necessary for teachers to develop students' higher order thinking skills.

In reading new texts, students may find some new vocabulary items. Some of them may be reluctant to find the meaning of the new words that could disturb their comprehension. Therefore, the excellent vocabulary mastery is extremely needed in comprehending an English text. To understand a reading text, it requires an adequate mastery of vocabulary and an excellent comprehension of the English grammar as well. Large vocabulary size usually represented well-structured semantic schema and better performance in word/character meaning identification (p.1) [19]. This can be achieved only by those who have high motivation to read English texts. Therefore teachers need to raise students' motivation to read lots of English materials, both inside and outside classes. Students need to be motivated to develop their extensive reading skills or to read materials that are not intended to discuss inside classes.

Based on the writer's observation on the result of the National Examination of Junior High School (SMP), particularly in Magelang Regency Central Java, Indonesia, the English National Exam scores in the last four years were only around 6 as provided in the following table.

Table 1. *The Result of the English National Examination Scores of Junior High School in Magelang Regency.*

No	Year	Average Scores
1.	2011	6.62
2.	2012	6.21
3.	2013	5.31
4.	2014	6.24
5.	2015	5.62

Source: Kemdikbud: Hasil Ujian Nasional [10].

This condition is in accordance with the research conducted by Romafi & Musfiroh which revealed the fact that the state SMP students in Brebes Regency, Central Java, Indonesia in 2013 own considerably low reading comprehension achievement with the average scores 4.35 (p.9) [13].

2.RESEARCH METHODS

2.1. Research Design and Setting

This research is intended to find out the influence of Higher Order Thinking Skills, vocabulary mastery and motivation on reading comprehension achievement among SMP students in Magelang Regency, Central Java, Indonesia. In accordance with the purpose of the research, the research design is ex post facto. Therefore, in this research, there is no treatment carried out on the sample.

There are three independent variables in this research; students' HOTS as X1, vocabulary mastery as X2, and reading motivation as X3. The dependent variable is students' reading comprehension achievement as Y.

The research design could be illustrated in the picture below:

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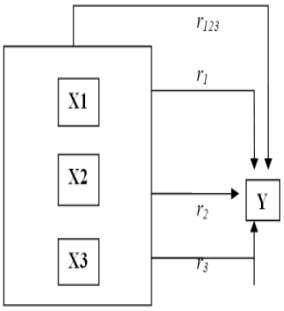

Figure 1. Research Design.

in which:

X1=HOTS

X2= vocabulary mastery

X3= motivation

Y=reading comprehension achievement

The research was carried out in State SMP (Junior High Schools) in Magelang Regency, Central Java, Indonesia from October to November 2014.

2.2. Population and Sample

With the total population of 25,261, by referring to the formula of determining the number of samples developed by Krejcie and Morgan in (p.1) [2] yields the number of sample 378. The population in this research is grade IX the students in State Junior High Schools in Magelang Regency. The sampling technique employed in this research is the proportional cluster random sampling. By using random sampling, there are 3 (three) schools chosen as samples of A-Accredited schools; SMP N 1 Salaman, SMP N 1 Mungkid, and SMP N 2 Muntilan. And for the B-Accredited schools SMP N 3 Sawangan is chosen as the school sample.

2.3. Data Collection Techniques and Instruments

The technique to collect the data on students HOTS, vocabulary mastery and reading comprehension achievement is the test. To find out students' motivation, the data collection technique used is the questionnaire in the form of some questions related to their motivation to read. Those tests are in the form of multiple choice tests. To test HOTS, the students have to answer some questions that refer to their skills to analyze, evaluate and create based on the reading texts provided. In the vocabulary mastery test, the students have to answer some cloze test to fill in with appropriate words. The other type of the test items are the synonym and the antonym based on the reading texts used as the material to test reading comprehension achievement. To test students' reading comprehension achievement, the students will get some reading texts followed by some questions related to the texts.

To collect the data on students' HOTS (X1), vocabulary mastery (X2), and reading motivation (X3) and reading comprehension achievement (Y), the first step to do is constructing the table of specifications. To find out whether the data collection instruments match or relevant with the variables and the research problems, it is important to test its validity and reliability before they are used (p.2) [15]. The kinds of validity of the tests are the content validity. The content of the tests instruments is based on the KTSP (School Self Constructed Curriculum) and Achievement Standard of Outcomes (SKL) and also is consulted with the expert or expert judgment. To test the validity of the questionnaire, the construct validity is employed in the form of factor analysis..

The try out data collection of the questionnaire was conducted on 47 students of class IXE and IXF of SMP N 1 Muntilan, out of the sample schools and classes. The result of the factor analysis shows the value of KMO 0.632 with the significance level 0.000. This means that the value of KMO is bigger than 0.5 and the significance level is also less than 0.5. Therefore, the factor analysis was filled and the questionnaire could be stated as valid.

The try-out tests on HOTS, vocabulary mastery and reading comprehension achievement were carried out on 47 students of class IXE and IXF in SMP N 1 Muntilan, out of the sample schools and classes. The Alpha of HOTS test is 0.768, that of vocabulary mastery is 0.757 and that of reading comprehension achievement is 0.716. These figures indicate that those three tests could be utilized in the research.

The try out test on HOTS was carried out on 47 students of class IXE and IXF of SMP N 1 Muntilan. The test comprises 40 items 36 (90%) were reliable and the rest 4 (10%) were rejected. The try out test on vocabulary mastery was carried out on 47 students of class IXE and IXF of SMP N 1 Muntilan. The test comprises 50 items 41 (82%) were reliable and the rest 9 (18%) were rejected. The try out test on reading comprehension achievement was carried out on 47 students of class IXE and IXF of SMP N 1 Muntilan. The test comprises 50 items, 43 items (86%) were reliable and the rest 7 items (14%) were rejected.

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To test the reliability of the questionnaire, the research employs the Cronbach's Alpha with the minimum difficulty index 0.5. The try out test was conducted by 47 students of class IXE and IXF of SMP N 1 Muntilan. The reliability was done by factor analysis by SPSS version 16 for Windows program which results the Alpha 0.862. This value indicates that the instrument could be used in collecting data of the research.

2.4. Data Analysis Techniques

There are two main steps needed to analyze the data in this research; (1) the test of analysis prerequisites and (2) the data analysis. To analyze the data employing multiple regression analysis, it is important to conduct a test of analysis prerequisites in the form of the test of normality, the test of linearity, the test of multicolinearity and the test of heteroscedasticity

To find out the normality, this research employs One-Sample Kolmogorov-Smirnov. The linearity is tested by using Compared Means with test of Linearity. The test of multicolinearity aims to test whether in the regression analysis there are some correlations among the independent variables. To find out the heteroscedasticity this research, the scatter plotting of SRESID and ZPRED is employed to test the heteroscedasticicty.

2.5. Data Analysis

This research would employ descriptive analysis, multiple regression and partial correlation. The descriptive analysis aims to describe each variable of the research. in terms of maximum and minimum scores, mean, standard deviation, mode and median.

The multiple regression analysis is employed to find out the influences of more than one independent variable to one dependent variable. To predict the value of the dependent variable (Y) based on the independent variables (X1), (X2), and (X3) from the multiple regression can be drawn the multiple regression equation. The partial correlation is the correlation between one independent variable with the dependent variable which has a constant value.

3. RESEARCH FINDINGS AND DISCUSSION

3.1. Data Description

Data description in this research covers data description on Higher Order Thinking Skills (HOTS), vocabulary mastery, reading motivation and reading comprehension achievement on English texts. The number of samples employed in this research is 378 students doing on HOTS test of 36 items, vocabulary test of 41 items, reading motivation questionnaire of 15 items and reading comprehension test of 50 items.

The research findings on Higher order Thinking Skills of the 378 students are that out of 36 questions the maximum score is 29 and the minimum one is 11, the average score is 21.3439 and the standard deviation is 3.52155. The data of Higher Order Thinking Skills of the students fall into "fair" in the majority as seen in Figure 2.

The research finding on vocabulary mastery the maximum score is 37 and the minimum one is 8, the average score is 23.7540 and the standard deviation is 6.02649. The data of Vocabulary Mastery of the students fall into "fair" in the majority as seen in Figure 3.

The 15-items of 60 maximum scores from a reading motivation test result the maximum score is 55 and the minimum score is 24, and the average score is 41.2249 with the standard deviation of 4.85435. The data of Reading Motivation of the students fall into "medium" in the majority as seen in Figure 4.

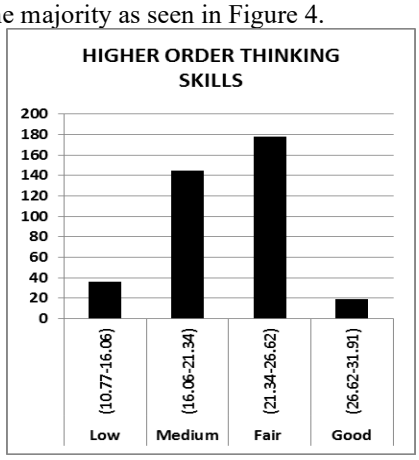

Figure 2. *HOTS Scores Column Chart.*

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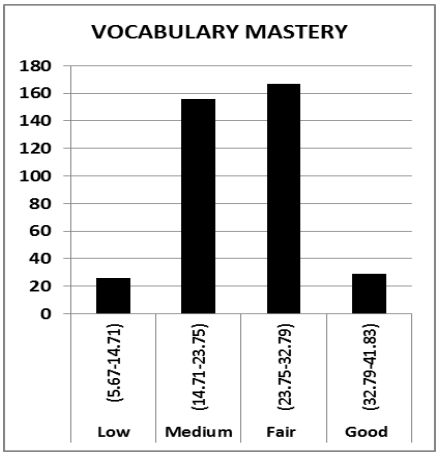

Figure 3. *Vocabulary mastery Scores Column Chart.*

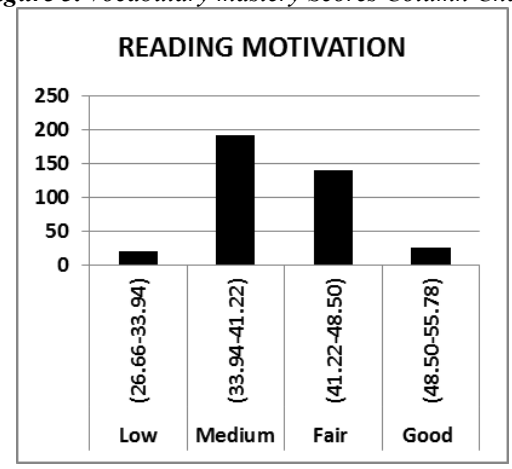

Figure 4. *Reading motivation Scores Column Chart.*

The research findings on reading comprehension achievement are that out of 50 items the maximum score is 43 and the minimum score is 9, the average score is 28.7963 and the standard deviation is 6.62791. The data of Reading Comprehension Achievement of the students fall into "fair" in the majority as seen in Figure 5.

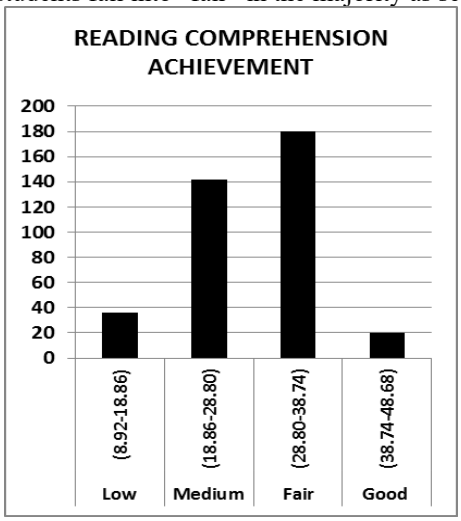

Figure 5. *Reading Comprehension Achievement Scores Column Chart.*

3.2. Data Analysis

3.2.1. Tests of Analysis Prerequisites

Test of normality is intended to find out whether the distribution of the data is normal or not. The normality test is

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carried out for each variable which results there are two variables which are not normally distributed; these are Higher Order Thinking Skills and Reading Motivation with the significance levels are less than 0.05. From the initial data analysis, there is one outlier detected. An outlier is a datum that lies in an extreme position from the other data that has to be excluded from the research model. The outlier is the 34th datum so that the datum has to be expelled from this research. Therefore, the number of sample reduces to 377.

After the removal of the outlier, the result of the test of normality by using Kolmogorov-Smirnov yields from 377 data, the level of significance is 0.529 which is greater than 0.05. This means that the data possess normal distribution. The test of normality of each variable by employing the same test reveals that the reading comprehension achievement scores have the level of significance 0.198 which is greater than 0.05.

The test of linearity is carried out to find out the linearity of the relationship among the independent variables and the dependent one. The principle of the test of linearity is that if the ANOVA analysis yields the *p* value from the deviation of linearity which is greater than 0.05. If this happens, it means that the relationship between the two variables is linear. If the *p* value is smaller than 0.05, the relationship between the two variables is not linear.

The test of linearity on HOTS and Reading Comprehension Achievement yields the level of significance 0.105 which is greater than 0.05 which shows that there is a significant linear relationship between the two variables. The test of linearity on vocabulary mastery and reading comprehension achievement yields the level of significance 0.98 which is greater than 0.05 which shows that there is a significant linear relationship between the two variables. The test of linearity on reading motivation and reading comprehension achievement produces the level of significance is 0.260 which is greater than 0.05 which shows that there is a significant linear relationship between the two variables.

Test of multicolinearity is carried out by employing the value of variance inflation factor (VIF). The data is considered free from the multicolinearity if the VIF value is below 10 or the tolerance level if greater than 0.1. Below is the result of the multicolinearity in this research. The result of the multicolinearity analysis in this research shows that all the VIF values 1.495, 1.526, 1.033 which below 10 or the tolerance values are above 0.1. This means that there is no multicolinearity in this research data.

Test of heteroscedasticity is carried out by plotting SRESID and ZPRED graphics which show heteroscedasticity indication by finding out certain pattern in the graphics. The result of the test of heteroscedasticity in this research in this research can be seen in the following Figure 6.

In Figure 6, it can be seen that in this research there is no heteroscedasticity since there is no certain pattern in the figure. The dots in the graphics are relatively scattered above and below the null axis. This means that there is no heteroscedasticity indication between Vocabulary Mastery and Reading Comprehension Achievement. The same indications also happen on HOTS and Reading Comprehension Achievement and Reading Motivation and Reading Comprehension Achievement. There are no heteroscedasticity indication on those variables.

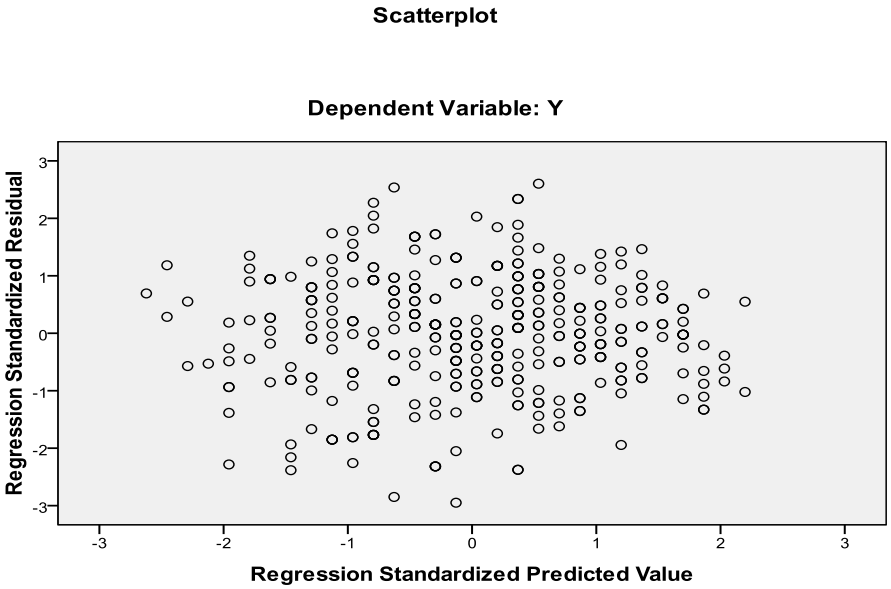

Figure 6. Test of Heteroscedasticity on Vocabulary Mastery and Reading Comprehension Achievement.

3.3.2. The Hypotheses Testing

The F test (simultaneous) and the T test (partial) are conducted before testing the hypotheses. The F test is carried out to find out the influence of the independent variables on the dependent variable simultaneously. The F Test

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(simultaneous) yields the F value in the analysis is 236.709 with the level of significance below 0.05. This means that all independent variables simultaneously influence significantly on the reading comprehension achievement with the level of significant 0.05. Based on the model summary, the determination coefficient (R square) is 0.656. This means all the independent variables simultaneously influence reading comprehension achievement at 65.6% and the rest 34.4% is influenced by other variables which are not included in this research.

The T test is carried out to find out the influence of each independent variable on reading comprehension achievement. The result of the analysis of the t-value produces the multiple regression linear equations as follows:

$$Y = 0.765X_1 + 0.554X_2 + 0.112X_3 - 5.128$$

in which

Y = Reading Comprehension Achievement
X_1= HOTS
X_2 = Vocabulary Mastery
X_3 = Reading Motivation.

Hypothesis 1:

There is the influence of Higher Order Thinking Skills (HOTS) on reading comprehension achievement among grade IX students of State Junior High School in Magelang Regency.

Decision

If the observed level of significance is below 0.05 the Ho is rejected. This means that the independent variable possesses positive influence on the dependent variable. To find out the influence of HOTS on reading comprehension achievement the research employs a simple linear regression model as follows:

Table 2. *The Result of the Simple Linear Regression.*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.686[a]	.470	.469	4.82829

a. Predictors: (Constant), X1

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7751.675	1	7751.675	332.513	.000[a]
	Residual	8742.160	375	23.312		
	Total	16493.836	376			

a. Predictors: (Constant), X1
b. Dependent Variable: Y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.221	1.585		.140	.889
	X1	1.356	.074	.686	18.235	.000

a. Dependent Variable: Y

From Table 2, the value of F is 332.513 with the significance level of 0.000 which is less than 0.05. This shows that the Higher Order Thinking Skills influences significantly students' reading comprehension achievement. The observed determination coefficient (Adjusted R Square) is 0.469 or 46.9% which means that the HOTS are able to predict the reading comprehension achievement at 46.9%. In other words the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by their HOTS at 46.9%. From the standardized coefficients beta, the contribution of HOTS on reading comprehension is 68.6%. The partial correlation between HOTS and reading comprehension achievement results the level of significance (sig) which is less than 0.05.

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The result of the partial correlation shows the value of r is 0.686 with the p < 0.05 which means that HOTS influences significantly on reading comprehension achievement. Therefore it can be concluded that HOTS as a variable has a positive and significant influence on the reading comprehension achievement.

This finding is in accordance with the statement that HOTS by students involves the transformation of information and ideas. This transformation occurs when students combine facts and ideas and synthesize, generalize, explain and hypothesis or arrive at some conclusion or interpretation (p.49) [11]. Such skills are essential in reading comprehension.

Hypothesis 2:

There is the influence of vocabulary mastery on reading comprehension achievement among grade IX students of State Junior High School in Magelang Regency.

Decision

If the observed level of significance is below 0.05 the Ho is rejected. This means that the independent variable possesses positive influence on the dependent variable. To find out the influence of vocabulary mastery on reading comprehension achievement the research employs simple linear regression model as seen in Table 3 as follows:

Table 3. The Result of the Simple Linear Regression.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.549	.547	4.45600

a. Predictors: (Constant), X2

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9047.858	1	9047.858	455.675	.000[a]
	Residual	7445.977	375	19.856		
	Total	16493.836	376			

a. Predictors: (Constant), X2
b. Dependent Variable: Y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.392	.937		10.028	.000
	X2	.815	.038	.741	21.347	.000

a. Dependent Variable: Y

From Table 3, the value of F is 455.675 with the significance level of 0.000 which is less than 0.05. This shows that vocabulary mastery influences students' reading comprehension achievement. The observed determination coefficient (Adjusted R Square) is 0.547. This means that vocabulary is able to predict the reading comprehension achievement at 54.7%. In other words the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by vocabulary mastery and reading motivation at 54.7%. From the standardized coefficients beta, the contribution of vocabulary mastery on reading comprehension achievement is 74.1%.

The result of the partial correlation shows the value of r 0.741 with the p less than 0.05 which means that the vocabulary mastery influences reading comprehension achievement significantly. Therefore the summary is that the vocabulary mastery has a positive and significant influence on reading comprehension achievement.

The finding is also supported by the correlation coefficient of vocabulary mastery and reading comprehension is 0.7205 (p.77) [4]. Besides students' vocabulary mastery, their reading strategy and background knowledge of the text also contribute to their reading comprehension.

Hypothesis 3:

There is the influence of reading motivation on reading comprehension achievement among grade IX students of State Junior High School In Magelang Regency.

Decision

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If the observed level of significance is below 0.05 the Ho is rejected. This means than the independent variable has a positive influence on the dependent variable. To find out the influence of reading motivation on reading comprehension achievement the research employs simple linear regression model as seen in the following table.

Table 4. *The Result of Simple Linear Regression.*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.215[a]	.046	.044	6.47658

a. Predictors: (Constant), X3

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	764.059	1	764.059	18.215	.000[a]
	Residual	15729.776	375	41.946		
	Total	16493.836	376			

a. Predictors: (Constant), X3
b. Dependent Variable: Y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.659	2.858		5.828	.000
	X3	.294	.069	.215	4.268	.000

a. Dependent Variable: Y

From Table 4, the value of F is 18.215 with the significance level of 0.000 which is less than 0.05. This means that the reading motivation possesses significant influence on reading comprehension achievement. The observed determination coefficient (Adjusted R Square) is 0.44. This means that reading motivation is able to predict the reading comprehension achievement at 44%. In other words the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by their reading motivation at 44%. From the standardized coefficients beta, the contribution of reading motivation on reading comprehension is 21.5%.

The result of partial correlation shows the r 0.215 with the p is less than 0.05 which means that reading motivation influences reading comprehension achievement significantly. Therefore the conclusion is that the reading motivation has a positive and significant influence on reading comprehension achievement. Motivation for reading is viewed as one relationship between planning to increase students' reading competence and their reading achievement (p.18) [8].

Hypothesis 4:

There are the influences of higher order thinking skills (HOTS), vocabulary mastery and reading motivation on reading comprehension achievement among grade IX students of State Junior High School in Magelang Regency.

Decision

The observed level of significance (sig) is less than 0.05. Therefore the Ho is rejected, the conclusion is that Higher Order Thinking Skills, vocabulary mastery and reading motivation as the independent variables have positive influences on the reading comprehension achievement. The result of the multiple regressions can be seen in the following table.

Table 5. *The Result of the Multiple Regression.*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810[a]	.656	.653	3.90231

a. Predictors: (Constant), X3, X1, X2

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10813.797	3	3604.599	236.709	.000[a]
	Residual	5680.038	373	15.228		

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ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

	Total	16493.836	376

a. Predictors: (Constant), X3, X1, X2
b. Dependent Variable: Y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.128	2.039		-2.515	.012
	X1	.765	.073	.387	10.409	.000
	X2	.554	.041	.503	13.411	.000
	X3	.112	.042	.082	2.658	.008

Dependent Variable: Y

From Table 5, the value of F is 236.709 with the significance level of 0.000 which is less than 0.05. This shows that the Higher Order Thinking Skills, vocabulary mastery and reading motivation influence students' reading comprehension achievement. The observed determination coefficient (Adjusted R Square) is 0.653 or 65.3%. This means that the HOTS, vocabulary mastery and reading motivation simultaneously are able to predict the reading comprehension achievement at 65.3%. In other words the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by their HOTS, vocabulary mastery and reading motivation at 65.3%. The rest 34.7% are explained by other variables which are not observed in this research. The standardized coefficients beta shows that the contribution of HOTS 38.7%, vocabulary mastery 50.3% and reading motivation 8.2%. To find the exact correlation among the independent variables and the dependent variable, the research employs the partial correlation. The partial correlations tests are shown in the following table.

The correlation coefficient index between HOTS and reading comprehension achievement is 0.686 with the p less than 0.05. The correlation index between vocabulary mastery and reading comprehension achievement is 0.741 with the p smaller than 0.05. The correlation index between reading motivation and reading comprehension achievement is 0.215 with the p less than 0.05. The correlation coefficient index between vocabulary mastery and reading comprehension achievement is the highest compared to correlation coefficient between HOTS and reading comprehension achievement and correlation coefficient between reading motivation and reading comprehension achievement (0.741 > 0.686 > 0.215).

3.3. The Discussion on Research Findings

3.3.1. The Influence of Higher Order Thinking Skills (HOTS) on Reading Comprehension Achievement Among Students of State Junior High School in Magelang Regency.

The partial correlation analysis shows that the correlation coefficient (r) between the Higher Order Thinking Skills and reading comprehension achievement is 0.686 with the $p < 0.05$. The strong relation between the Higher Order Thinking Skills and reading comprehension achievement is supported by the strong influence of the Higher Order Thinking Skills on reading comprehension achievement that is 18.235 gained from the value of t in simple regression analysis. The observed determination coefficient (Adjusted R Square) is 0.469 which means the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by their HOTS at 46.9%. The Higher Order Thinking Skills give 68.6% contribution on reading comprehension achievement.

This data show that to obtain an excellent reading comprehension achievement, the students have to develop their Higher Order Thinking Skills. At more global levels, the reader needs to identify the genre, rhetorical structure, plot, and perspective of different characters, narrator, theme, story point, and sometimes the attitude of the author". The deep comprehension requires inferences, linking ideas coherently, scrutinizing the validity of claims with a critical stance, and sometimes understanding the motives of authors (p.4) [7]. They need to acquire and implement strategies to facilitate deeper levels of comprehension.

3.3.2. The Influence of Vocabulary Mastery on Reading Comprehension Achievement among Students of State Junior High School in Magelang Regency.

The partial correlation analysis shows that the correlation coefficient (r) between the vocabulary mastery and reading comprehension achievement is 0.741 with the $p < 0.05$. The strong relation between the vocabulary mastery and reading comprehension achievement is supported by the strong influence of the vocabulary mastery on reading comprehension achievement that is 21.347 gained from the value of t in simple linear regression analysis. The observed determination coefficient (Adjusted R Square) is 0.547 which means the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by vocabulary mastery and reading motivation at 54.7%.

International Journal of Social Science (IJSS)
Vol.1 Issue.4 December 2021, pp: 483-496
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v1i4.750

The vocabulary mastery gives great contribution on reading comprehension achievement. The multiple regression analysis produces standardized coefficients beta 0.741. This figure indicates that vocabulary mastery give contribution at 74.1% on reading comprehension achievement. This data show that to obtain an excellent reading comprehension achievement the students have to develop their vocabulary mastery. This finding is supported by the statement of an expert as well. The minimum important requirement that a reader should have to comprehend a text is their comprehension on the words used by the author (p.29) [20].

3.3.3. The Influence of Reading Motivation on Reading Comprehension Achievement among Students of State Junior High School in Magelang Regency.

The partial correlation analysis shows that the correlation coefficient (r) between the reading motivation and reading comprehension achievement is 0.215 with the $p < 0.05$. This shows the relation is positive although not significant. The relation between the reading motivation and reading comprehension achievement is supported by the influence of the reading motivation on reading comprehension achievement that is 4.268 gained from the value of t in simple linear regression analysis. The observed determination coefficient (Adjusted R Square) is 0.44 which means that the reading comprehension achievement of grade IX students of State Junior High School in Magelang Regency could be explained by their reading motivation at 44%. The reading motivation gives a relatively small contribution on reading comprehension achievement. The multiple regression analysis produces standardized coefficients beta 0.215. This figure indicates that reading motivation give contribution at 21.5% on reading comprehension achievement.

This data shows that to obtain an excellent reading comprehension achievement the students have to raise their reading motivation. This finding is supported by the statement of an expert as well. If the students are not motivated to learn to read and write, instruction will have limited impact (p.50) [14]. A final model shows that intrinsic motivation predicted text comprehension for both student groups after controlling for all other variables. Extrinsic motivation negatively predicted text comprehension except when associated with intrinsic motivation (p.1) [18].

3.3.4. The Influences of Higher Order Thinking Skills (HOTS), Vocabulary Mastery and Reading Motivation on Reading Comprehension Achievement among Students Of State Junior High School in Magelang Regency.

The PISA English test types are in the form of reading which adopts the High Oder Thinking Skills; the most three upper part in Bloom's Taxonomy. Higher Order Thinking Skills are basically related to the critical thinking. The implementation of critical thinking in tests is on measuring the higher order thinking skills which refer to Bloom's Taxonomy C4, C5 and C6. To communicate adequately, someone needs adequate vocabulary mastery, too. If communication takes place via written language, vocabulary, therefore, becomes one of the important things to comprehend certain text. Reading motivation is another consideration in reading activity. If the students do not motivate themselves to read to teaching instruction inside the classroom does not work well. The Higher Order Thinking Skills, vocabulary mastery and reading motivation are some factors that influence reading comprehension achievement. The bounds among those three factors are proven in this research, which had been carried out on the Grade IX students in State SMP in Magelang Regency. This research does not only reveal the relationship but also uncover the significant and positive influence among The Higher Order Thinking Skills, vocabulary mastery and reading motivation on reading comprehension achievement through multiple regression analysis.

The result of the partial correlation indicates the correlation coefficient (r) between Higher Order Thinking Skills and reading comprehension achievement 0.686 with the $p < 0.05$. The partial correlation between vocabulary mastery and reading comprehension achievement is 0.741 with the value of $p < 0.05$ and the r value gained from the partial correlation between reading motivation and reading comprehension achievement is 0.215 with the value < 0.05. These data show that there are strong relationships among Higher Order Thinking Skills, vocabulary mastery on reading comprehension achievement. On the other hand, the relationship between reading motivation and reading comprehension achievement is not significant.

Those positive and significant relationships indicate that both independent variables and the dependent variable influence each other. It means that if students have excellent Higher Order Thinking Skills, vocabulary mastery and reading motivation, they will gain fine reading comprehension achievement as well. On the contrary, if they have poor Higher Order Thinking Skills, vocabulary mastery and reading motivation, they will gain low reading comprehension achievement, too.

The multiple regression analysis yields the F reg 236.709with the $p < 0.05$. This figures point out that the Higher Order Thinking Skills, vocabulary mastery and reading motivation have significant influence on Grade IX State SMP students in Magelang Regency's reading comprehension achievement. The strong influence of the Higher Order Thinking Skills, vocabulary mastery and reading motivation on reading comprehension achievement is supported by the value of Adjusted R Square at 65.3%. Moreover, the standardized coefficients beta of the Higher Order Thinking Skills shows that the influences of the three independent variables are vocabulary mastery (50.3%) has bigger influence

International Journal of Social Science (IJSS)
Vol.1 Issue.4 December 2021, pp: 483-496
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

than the Higher Order Thinking Skills (38.7%) which has bigger influence than reading motivation (8.2%). The rest 2.8% is from other variables which are not observed in this research.

The reader needs to identify the genre, rhetorical structure, plot, and perspective of different characters, narrator, theme, story point, and sometimes the attitude of the author (p.4) [7]. They need to acquire and implement strategies to facilitate deeper levels of comprehension. Vocabulary mastery is also highly needed in reading activity. Reading has long been seen as a major source of vocabulary growth (p.267) [12]. Reading motivation is another thing to consider in reading. If the students do not motivate themselves to read and to write the teaching instruction will have low impact (p.50) [14].

4. CONCLUSION AND SUGGESTIONS

4.1. Conclusion

Based on the data and the discussion, the conclusion of this research could be stated that, first, Higher Order Thinking Skills (HOTS) is related to reading comprehension achievement among students of State Junior High School in Magelang Regency with the $r = 0.686$ with the $p < 0.05$. HOTS could predict reading comprehension achievement at 46.9%. The contribution of HOTS is 68.6% on reading comprehension achievement.

Secondly, vocabulary mastery is related to reading comprehension achievement among students of State Junior High School in Magelang Regency with the $r = 0.741$ with the $p < 0.05$. The vocabulary mastery could predict reading comprehension achievement at 54.7%. The contribution of vocabulary mastery on reading comprehension achievement is 74.1%.

Thirdly, reading motivation is related to reading comprehension achievement among students of State Junior High School in Magelang Regency with $r = 0.215$ with the $p < 0.05$. Reading motivation is able to predict reading comprehension achievement at 4.4%. The contribution of reading motivation on reading comprehension achievement is 21.5%.

Fourthly, Higher Order Thinking skills (HOTS), vocabulary mastery and reading motivation are related to reading comprehension achievement among students of State Junior High School in Magelang Regency with the $F = 236.709$ with the $p < 0.05$. The Higher Order Thinking Skills, vocabulary mastery and reading motivation on reading are able to predict reading comprehension achievement at 65.3%. The contribution of Higher Order Thinking Skills on reading comprehension achievement is 38.7%, vocabulary mastery is 50.3%, reading motivation 8.2%. The rest 2.8% is from other variables which are not observed in this research.

4.2. Suggestions

Despite its limitation, this research is ideally to give some contribution to the follow up study with certainly some revisions. The suggestion of this research could be,

1. first, teachers are to enhance students' Higher Order Thinking Skills (s) since it could improve their students' reading comprehension achievement.
2. Secondly, teachers and students, collaboratively, are to increase students' vocabulary mastery since this factor could raise their reading comprehension achievement.
3. Thirdly, both teachers and students are to improve students' reading motivation since it could raise students' reading comprehension achievement.
4. Fourthly, teachers and students are to enhance students' Higher Order Thinking skills (HOTS), vocabulary mastery and reading motivation since those three factors could improve their reading comprehension achievement.

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International Journal of Social Science (IJSS)
Vol.1 Issue.4 December 2021, pp: 483-496
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

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