The effect of socioeconomic status, home literacy and inductive reasoning on students' reading comprehension

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ABSTRACT: This research has several aims. First, is to find out the effect between socioeconomic status and reading comprehension. Second, is to find out the effect between home literacy and reading comprehension. Third, is to find out the effect between inductive reasoning and reading comprehension. The last, is to find out the effect between socioeconomic status, home literacy, inductive reasoning and reading comprehension at SMAN 7 Tangerang. The population of this research was the whole classes of 11th grade which consist of 316 students and then, 176 students were selected as the sample by using random sampling and using *Slovin Formula* as the sample of the research. The data was collected using test and questionnaire. Logistic binary and linier regression analysis were used to find out the effect of each variable. The result showed that first, there is no correlation between socioeconomic status and reading comprehension. Second, there is no correlation between home literacy and reading comprehension. Third, there is correlation between inductive reasoning and reading comprehension. This research contributes for English teacher to increase students to be more diligent in reading.

KEYWORDS: *Socioeconomic Status, Home Literacy, Inductive Reasoning, Reading Comprehension*

Introduction

Reading is an art, the art of living with books. Reading not only leads to writing, but also enriches the mind of a reader and sharpens his intellect. Reading is one more important skill in English education. From young until adult, reading skill is also very important for students to improve their ability. According to Liu et.al (2018), the student must have much vocabulary, because it has the effect for their reading comprehension. Students must have a lot of vocabulary to connect with other words in

order to increase understanding of reading. When they have a lot of vocabulary, they can be good readers.

Sometimes, reading can be difficult to learn, because not every student can learn English. According to Li & Clariana (2019), reading comprehension has traditionally focused on readers of native or first language, and relatively little attention has been directed to the study of second language reading comprehension. Houses are for many children where the basics of language skills and literacy are fertilization (VanVechten 2013). According to Islam & Khan (2017)the habit of reading in education can increase the knowladge and form self of personality. The Extensive Reading habit helps to get information, meaning and general theme of the material rapidly (Sequeira 2017). The first language came from their place of residence. Mother is someone who has an important character to teach the language for the children. Children will be able to understand and know the information. They have several factors for learning English such as: habits, Socioeconomic Status (SES), Home Literacy (HL), and Inductive Reasoning (IR)(Liu, et al 2018). Parents' beliefs and behaviors show a low effect to moderate significant association (Davis-Kean 2005). Based on Chen et.al (2018), socioeconomic status reflects and is measured by the family's social and economic status. Parents with higher levels of income and education provided children with a greater amount of resources, engaged children more frequently in stimulating activities at home, and provided access to more enriching activities outside of home (Butler and Le 2018). L2 shows that inductive reasoning tests are better than L1 for understanding control variables rather than intelligence (Nikolov and Csapó 2018).

Rodli & Prastyo (2017), reading is one of the important skills that should be mastered by the students. Pourhosein Gilakjani & Sabouri (2016), say "reading is an interactive process in which the reader constructs a meaningful representation of a text using effective reading strategies". According to Grabe & Stoller (2011),that reading can be considered as a way to get the information from the text and to interpret of that information. Reading comprehension is a complicated matter and clarity in understanding which is needed to effectively and efficiently (Kendeou et al., 2016). Joseph et al. (2016),also say "reading comprehension is a critical skill for deriving meaning from text".

Reading and literacy are strongly related with socioeconomic factor. In addition of reading achievement, student from low- income family always get lower scores than those from high-income families (D'Angiulli et.al, 2004).

1. Literature Review

2.1 Socioeconomic Status and Reading Comprehension
The result Hansen et.al (2004), found that socioeconomic status factors had a significant effect on reading achievement. On the other state from Butler & Le (2018), found that significant relationships between SES and English learning ability. According to Chen et al (2018), there is positive [relationship] between SES and academic achievement.

2.2 Home Literacy and Reading Comprehension

Liu et al. (2018), found that word reading through formal home literacy experiences through literacy resources at home and vocabulary were significant. The other state Arab families in HLE, makes a significant contribution to the children's level beyond parental education (Korat et al. 2013). State from D'Angiulli et al. (2004),literacy related skills of the risk for reading failure, were positive outcomes associated with the literacy school program, especially in the early grades with more schooling. Some researchers have significant results between home literacy and reading comprehension.

2.3 Inductive Reasoning and Reading Comprehension

Inductive reasoning no significant with compensate or moderate these internalizing and externalizing problem behaviors (Fu, Niu, and Wang 2019). Highlight statistically significant negative effect for the male undergraduate students between spatial concrete forms and visual memory (Aniţei, Dumitru, and Chraif 2014).

3. Research Methodology

3.1 Population and Sample

The research was conducted at SMAN 7 Tangerang. It was done starting from August 16, 2019 until August 29, 2019. The researcher chose the students at the eleventh grade as the population and also chose all of the population used as a sample for this research because all students have the same chances to be a sample in this research and also there is no criteria to be a sample in this research. There are 316 students of the eleventh grade as the population are considered as a sample. According Arikunto (2010) that Sample is partially or representative of the population to be examined. The technique of sampling in this research, the researcher uses random sampling. This technique will be choose, because there are many classes of tenth grade students in SMAN 7 Tangerang. Finally, for this sampling the researcher will chooses *slovin* formula as the sample of the research. After using *slovin formula* the researcher got 176 samples for this research.

3.2 Instruments

According to Sugiyono (2016), "The research method is basically a scientific way to get data with specific purposes and uses". This research used quantitative research. As Creswell (2009), states that "Quantitative Methods, focuses on surveys and experimental designs, including population and sample, instrumentation, variables, experimental procedures, data analysis, and interpretation of results". To get the data in this research, the researcher gave the test and questionnaire to all samples. First, the researcher gave the reading comprehension test to students. The students must answer the test by crossing a, b, c, d, or e. After finished the test, the researcher gave the questionnaire to students. They must give the crossing a, b, c, or d on the paper that was given from the researcher. The purpose of giving questionnaire is wanted to know students' answer of socioeconomic status, home literacy and inductive reasoning.

3.2 Data Analysis Procedures

After giving the reading comprehension test, socioeconomic status, home literacy and inductive reasoning questionnaire, the reasercher analyzed the result to get the students' score in reading comprehension test and to get the students' answer of socioeconomic status, home literacy and inductive reasoning. The data analyzed by using SPSS 25 to know the percentage of the students' reaction.

4. Findings

4.1. Logistic Regression Model

Testing the feasibility of the regression model in this study using Hosmer and Lemeshow's Goodness of Fit Test. Hosmer and Lemeshow's Goodness of Fit t test the null hypothesis that empirical data matches or matches the model (there is no difference between the model and the data so the model can be said to be fit).

Table: 1 Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig.
1	3,140	4	,535

Table 4.6 shows that the statistical value of Hosmer and Lemeshow's Goodness of Fit is 3.140 with a probability level of 0.535 with a value greater than 0.05, so ho is accepted. This suggests that the model is hypothesized fit with the data and is worth testing in logistic regression. The study found no significant differences between the clarifications observed. The model in this study is able to predict the value of the observations because they match the observational data.

4.2. Overall Testing Model (Overall Model Fit)

Overall Model Fit testing is done by comparing the value between -2 Log Likelihood at the beginning (Block Number = 0). With a value of -2 Log Likelihood at the end (Block Number = 1). The decrease between the initial Log Likelihood value and the final Log Likelihood value indicates that the hypothesized model is fit with the data. Comparison between the initial Log Likelihood value and the Log Likelihood value in the next step is shown in table 4.7

Table: 2 Iteration History[a,b,c]

Iteration	-2 Log likelihood	Coefficients Constant
1	202,461	,955
2	202,216	1,037

| 3 | 202,216 | 1,039 |
| 4 | 202,216 | 1,039 |

Source: SPSS V.25 *for Windows*

Table: 3 Iteration History[a,b,c,d]

Iteration	-2 Log likelihood	Coefficients			
		Constant	SES	HL	IR
1	195,909	,753	,170	-,391	,668
2	195,137	,879	,229	-,528	,809
3	195,134	,890	,234	-,540	,817
4	195,134	,890	,234	-,540	,817

Source: SPSS V.25 *for Windows*

The results of the SPSS V.25 statistical value output in table 4.7 and table 4.8 above show a decrease in the value of -2 Log Likelihood. The initial Log likelihood value (without variables only constants) is 202.21. After entering 3 independent variables, the value of -2 Log likelihood drops to 195,134. The decrease that occurred was 7.08 (202,216 - 195,134). Furthermore, by calculating the value of df and comparing the value of the -2 Log likelihood decrease with the numbers in table c2 (according to df), it will be concluded that there is no improvement in the fit model by adding 3 free variables into the model.

4.3. Odds Ratio

Odds Ratio is stated as a value that indicates the value that indicates the value of the effect of changes in the independent variable on the dependent variable. In this output, the chance of success is interpreted as an opportunity to achieve above average achievement, while the chance of failure as an opportunity to obtain below average achievement.

Table: 4 Variables in the Equation

Variables	B	S.E.	Wald	Df	Sig.	Exp(B)
Socioeconomicstatus	-,234	,352	,444	1	,505	,791
Homeliteracy	-,540	,367	2,167	1	,141	,582

Inductivereasoning	,817	,386	4,474	1	,034	2,264
Constant	,890	,436	4,162	1	,041	2,435

Source: SPSS V.25 *for Windows*

The socioeconomic status variable with OR 0.791, the socioeconomic status, more influential on reading comprehension above the average of 0.791 times more than students who do not have more socioeconomic status. Therefore the P-value of 0.505> 0.05, the odd ratio of socioeconomic status variables to reading comprehension can be declared insignificant and can be represented by the entire population.

Variable home literacy with OR 0.582, students with home literacy (the environment around them) have more influence on reading comprehension above an average of 0.582 times compared to students who do not have home literacy with the surrounding environment. Therefore, the P-value of 0.141> 0.05, the odd ratio of home literacy to reading comprehension can be said to be insignificant.

The inductive reasoning variable with OR 2,264, then the inductive reasoning students get more influence on reading comprehension above the average of 2,264 times compared to the value of other students' inductive reasoning. Therefore, a P-value of 0.034 <0.05, then the odds ratio of inductive reasoning to reading comprehension can be stated as significant.

4.3. Value of Nagelkerke R Square (coefficient Determination)

Nagelkerke R Square value is used to measure how far the ability of the independent variable models simultaneously in explaining the dependent variable. The Nagelkerke R Square value is a modification of the Cox & Snell Square coefficient and can be interpreted as the R Square value in multiple regressions. Nagelkerke R Square values are shown in table 4.10

Table: 4 Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
195,134[a]	,039	,058

Source: SPSS V.25 *for Windows*

Table 4.10 shows the value of Nagelkerke R Square of 0.058. This value indicates that there are contributions from socioeconomic status, home literacy, and inductive reasoning variables in predicting reading comprehension together by 5.80%. While the remaining 94.20% is influenced by other factors outside the research model.

5. Discussion

After the writer conducted the research, then analyzed the data obtained, the writer tried to describe the actual situation more systematically in accordance with the data obtained about the influence of socioeconomic status, home literacy, inductive reasoning on reading comprehension.

From the results of research that has been carried out, it is simultaneously proven that socioeconomic status, home literacy and inductive reasoning have no effect on reading comprehension. The results of this study indicate that all independent variables contained in this study together cannot affect reading comprehension. Table 4.12 shows the summary results of the hypothesis test results with an alpha level of 5%.

Table: 5 Test of hypothesis

No	Variables	P-value	Statement	H_0
1	SES	0,505	$P > 0,05$	Rejected
2	HL	0,141	$P > 0,05$	Rejected
3	IR	0,034	$P < 0,05$	Accept

Source: SPSS V.25 *for Windows*

Based on table **4.12** and table **4.13** it can be explained that for the partial research test results as follows:

5.1. Socioeconomic Status and Reading Comprehension

The socioeconomic status variable consists of indicators of socioeconomic status namely parental education, parents' occupation, and parents. This proves the socioeconomic status in SMAN 7 does not have a significant effect on reading comprehension. Then the lower the socioeconomic status of students, the higher the effect on students' reading comprehension is supported by several indicators.

The result Hansen et.al (2004), found that socioeconomic status factors had a significant effect on reading achievment. On the other state from Butler & Le (2018), found that significant relationships between SES and English learning ability. According to Chen et al (2018), there is positive relationship between SES and academic achievement. But in this research had no significant socioeconomic status with reading comprehension. The writer found several factors that made socioeconomic status have insignificant results, namely lack of time in working on the problems and students in doing not in accordance with real life in filling out the author's questionnaire. In this result the researcher not found significant effect socioeconomic status on reading comprehension. Because the student didn't give the true answer in his questionnaire, and their problems is time to answer the questionnaire. So, socioeconomic status did not give impact with reading comprehension.

5.2. Home Literacy and Reading Comprehension

Based on testing the hypothesis results home literacy variables which means that students' home literacy does not have a significant effect on reading comprehension. The more the level of home literacy of students towards closeness with parents, the lower the effect on students' reading

comprehension. So it can be concluded that home literacy has no effect on reading comprehension. In contrast to the results of the following research several researchers.

Liu et al. (2018), found that word reading through formal home literacy experiences through literacy resources at home and vocabulary were significant. The other state Arab families in HLE, makes a significant contribution to the children's level beyond parental education (Korat et al. 2013). State from D'Angiulli et al. (2004),literacy related skills of the risk for reading failure, were positive outcomes associated with the literacy school program, especially in the early grades with more schooling. Some researchers have significant results between home literacy and reading comprehension. Factors that effects the results of this study because the average student answers no to the actual answer.

5.3. Inductive Reasoning and Reading Comprehension

Based on testing the results of the hypothesis the inductive reasoning variable. The inductive reasoning variable consists of inductive reasoning indicators, namely, short-term memory and long-term memory. Which means that inductive reasoning students have a significant effect on reading comprehension. The lower the level of inductive reasoning of students towards the indicators above, the higher the effect on reading comprehension. So it can be concluded that inductive reasoning has an effect on reading comprehension. The results of this study are different from previous studies.

Inductive reasoning no significant with compensate or moderate these internalizing and externalizing problem behaviors (Fu et al. 2019). Highlight statistically significant negative effect for the male undergraduate students between spatial concrete forms and visual memory (Aniţei et al. 2014). In the above study the authors have different results from previous researchers between inductive reasoning and reading comprehension. Factor that influence the occurrence of influence between inductive reasoning and reading comprehension because too few and easy problems given by researchers.

From the conclusions above, the authors have two variables X results that are not significant (X1 and X2) and one result that has a significant result (X3) on variable Y.

6. Conclusion

After finding the result and analyzing the data or research about "The Effect of Socioeconomic Status Home Literacy Inductive Reasoning on Reading Comprehension at SMAN 7 Tangerang in Academic Year 2019/2020." By using data collection methods through test and questionnaire. Based on the result of the analysis of the data collected and processing the analysis using SPSS version 25, the following conclusion a be drawn:

a. Socioeconomic status does not have a significant effect of reading comprehension. So the level of socioeconomic status of students does not effects the development of students' reading comprehension learning.

b. Home literacy does not have a significant effect of reading comprehension. So the level of home literacy of students also does not effects the development of students' learning comprehension learning.

c. Inductive reasoning has a significant affects of reading comprehension. so the higher the level of inductive reasoning students can be effect the level of understanding of students reading comprehension.

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