



The Correlation Between Structure and Reading Comprehension Achievement of the Students (*Case Study SMP Swasta Budi Insani Medan*)

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ARTICLE INFO

Article history:

Received Jan 11, 2021
Revised Feb 20, 2021
Accepted Mar 30, 2021

Keywords:

Student achievement;
Structure;
Reading.

ABSTRACT

This study was intended to find out the correlation between structure and reading comprehension achievement of the third year students of SMP Swasta Budi Insani Medan. There were 30 students out of 115 randomly selected as the sample. The data was collected by giving multiple choice test that consisting 50 items for structure test and 30 items for reading comprehension test. The data were analyzed by applying Pearson's Product Moment Formula. The finding shows that r was 0,738. It means that, there is the positive effect between structure and reading comprehension. This implies the more students know about the knowledge of structure, the better understanding the students will be added the reading comprehension. These proved to be greater than the critical value of r at the level of 0,05 which is 0,361. Based on the data which have been found in this study, it can be concluded that there is a significant correlation between the students structure and reading comprehension achievement.

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INTRODUCTION

In English department curriculum for reading skill is purposed to enable the learners in reading various kinds of English texts. In order to have a good ability in reading comprehension, readers should be able to comprehend text quickly and comprehensively (Tampubolon, 1990). This implies that reading ability requires the readers to be able to read their text fluently, effectively and effeciently. Not only reading rapidly, but also comprehensively (Good III et al., 2001). Therefore, the readers should be master the way to read and they can understand their text completely (Hamilton et al., 2013).

More over, reading achievement is the student's achievement to comprehend their reading text (Guthrie et al., 1999). In this case, they will be said as able to read comprehensively when they are able to find out the detailed information and main ideas, they are able to make inferences and interpretation on what they have already read in their texts, and they are able to related certain word

or preposition in a sentence with other preposition in other sentences. Also, they are able to find out the meaning of each words in the text.

Whereas, the mastery of sentences structure refers to the student's ability to understand English tenses in their text. In this case, they are stated as able when they can identify the kinds of tenses and the use of tenses in their reading English text.

However, a research finding conducted by International Association for the Education (IAFA) in 1992 concludes that Indonesian elementary students reading English text ability is very low. Thus, Indonesian elementary students ability in reading are ramked in 29 from 30 nations that used as the research sample (Bali Pos, September 22, 2002). The finding indicates that Indonesian elementary students generally have low ability in reading skill. The writer is finding not only in elementary students have low ability in reading but also in junior high school, senior high school, and may be same with the students in university. It also implies that instructional syatem of reading in Indonesia has failed to literate Indonesian students. The system more emphasizes on letter recognition rather than decoding meaning from text.

Based on the researcher's observation finding concludes that the first year students of English Department get many problems in reading their text book (van Hover & Yeager, 2004). They could not read their text book comprehensively. Some of them could not identify main idea of each paragraph. Unable to understand topic sentences and supporting sentences so that they could not draw a conclusion from their reading (Watson et al., 2012).

Moreover, the causes of their failures in reading their text books are due to the following reasons : The students have limited knowledge of English Grammar (Ahmed, 2010), (Crismore et al., 1993). The fact shows that English grammar is quite different from Indonesian and the school students mostly face difficulties in this case (Sawir, 2005), (Yulia, 2013), (Yuwono & Harbon, 2010). The studentss have limited knowledge of English vocabulary., The students do not use strategies reading technique. The way they read their text made them ineffecient and ineffective. So that when they read a short text, they need longer time (Shang, 2010), (Dreyer & Nel, 2003), (Tercanlioglu, 2004), (Karbalaie, 2010).

There are several causes of their problems. (Honenberg, 1969) states that one of the causes of their problems in that in terms of unable to understand English sentence structure. Therefore, the present study is aimed at finding out the contribution of understanding sentence structure in English to comprehensibility of reading text books.

METHODOLOGY RESEARCH

Research Method

This research is conducted correlation in which to find out correlation between free variable and bunch variable. Free variable is structure (X) and bunch variables is reading comprehension (Y). The design of this study can be seen in the following figure :

X -----Y

In which : (X) as structure and
(Y) as reading comprehension

Population and Sample

The population of the present study was of the third year students of SMP Swasta Budi Insani Medan in two classroom that the writer takes from. The sample is taken 15 participants in each classroom. Therefore, in terms of the data collection 30 students have been taken as the sample and it is called as the stratified random sampling.

Instrumen for Collecting Data

There are two instruments for collecting the data that the writer used in the present study such as structure test and reading test.

Structure Test

The data of structure were collected by giving the multiple choice tests which is consisted of 50 items. The items were taken from the structure (grammatical) subject of first year curriculum.

Reading Comprehension Test

In this research the writer prepares test as the instrument for collecting data. For the data of reading comprehension, the multiple choice tests were used. The multiple-choice tests consisted of 30 items. This test was taken from the reading subject of the first year curriculum.

Validity and Reliability of the Test

Validity of the Test

There were several different types of validity, content, construct, concurrent, and predictive which concerns with how well the test can measure the subject matter and to be an outcome during the instruction period.

The content validity of the test must show that the test can represent all the materials and objectives to be obtained by the students.

Reliability of the Test

Reliability is one of the characteristic of good test. It referred to the consistency of the measurement. Coefficient of reliability can be obtained by using the Split-Half Formula.

In Split-Half Formula the result obtained by correlating the two scores was still a partial result of the test reliability (Arikunto, 1993).

$$r_{12} = \frac{2r_{1/2 \cdot 1/2}}{1 + r_{1/2 \cdot 1/2}}$$

In which :

R_{12} = coefficient reliability

$r^{1/2 \cdot 1/2}$ = coefficient correlation between two tests.

The formula above was used to measure the reliability of the two tests. The reliability of the two tests in this study was analyzed in the data analysis.

Technique of Data Analysis

The data was analyzed by using the following steps : Scoring the sample's answer paper in reading comprehension test, in which each correct answer will be scored one and the incorrect answered will be scored zero., Calculating the sample's average scores by using percentage, formula, as follow :

$$\text{Mean} = \frac{\text{correctanswer}}{\text{totalitems}} \times 100\%$$

Scoring the sample's answer sheets in grammar test, in which each correct answer will be scored one and the incorrect answered will be scored zero., Calculating the sample's average scores by using percentage, formula, as follow :

$$\text{Mean} = \frac{\text{correctanswer}}{\text{totalitems}} \times 100\%$$

Correlating the sample's scores in reading comprehension test with their scores in grammar test by using product moment formula as suggested by (Gronlund, 1985) below :

$$R_{xy} = \frac{N(\sum XY) - (\sum X)(\sum Y)}{\sqrt{\{N(\sum X^2) - (\sum X)^2\}\{N(\sum Y^2) - (\sum Y)^2\}}}$$

In which :

- R_{xy} = the correlational between variable x and variable y
 X = the total scores of variable x
 Y = the total scores of variable y
 N = the total sample
 X^2 = the square of total scores of variable x
 Y^2 = the square of total scores of variable y

RESULTS AND DISCUSSION

The Students Scores in Structure

The student's score in structure are listed in Appendix 1. Statistically, the scores are processed to define interval, mean and standard deviation. It is found that interval scores is 3, mean is 57,93 and standard deviation is 13,6 (see Appendix 2).

The Students Scores in Reading Comprehension

The student's scores in reading comprehension are listed in Appendix 1. Statistically, the scores are also processed to define interval, mean and standard deviation. It is found that interval scores in 3, mean is 64 and standard deviation is 3,25 (see Appendix 3).

The Correlation Between the Student's Structure and Reading Comprehension Achievement :

$$R_{xy} = \frac{N(\sum XY) - (\sum X)(\sum Y)}{\sqrt{\{N(\sum X^2) - (\sum X)^2\} \{N(\sum Y^2) - (\sum Y)^2\}}}$$

$$R_{xy} = \frac{3406590 - 3332267}{\sqrt{(102356)(98979)}}$$

$$R_{xy} = \frac{74323}{\sqrt{10131116019}}$$

$$R_{xy} = 0,738$$

Testing Reliability of the Two Tests

The testing reliability of the two tests can be done in the data analysis by using the formula :

$$r_{12} = \frac{2r_{1/2 \ 1/2}}{1 + r_{1/2 \ 1/2}}$$

$$= \frac{2(0,738)}{1 + 0,738}$$

$$= \frac{1,476}{1,738} = 0,8492$$

Arikunto (1993 : 71), asserts that categories of the reliability of a test are as the following :

0,80 - 1,00 = reliability is very high

0,60 - 0,79 = reliability is high

0,40 - 0,59 = reliability is adequate

0,20 - 0,39 = reliability is low

0,00 - 0,19 = reliability is very low

It has been mention that the value of calculated $r = 0,85$. If we see the quotation above, we found that the reliability of the two test was very high.

The Testing Hypothesis

Having calculated the correlation coefficient between the two variables, the value of calculated r_{xy} is 0,85. the r_{table} with $df = 30$ at the level of significance $\alpha = 0,05$ is 0,361. it showed that r_{value} is greater/higher than r_{table} ($r_v = 0,85 > r_t = 0,361$). It implied alternative hypothesis (H_a) was accepted, and nil hypothesis (H_o) was unacceptable.

Research Finding and Discussion

Having analyzed the data, the obtained coefficient correlation is 0,45. From this finding, we can see that there is a significant correlation between structure test and reading comprehension achievement.

Aruan (1995 : 34), asserts that the categories of confident correlation are as the following :

$0,8 \leq r \leq 1,0$ = correlation is high

$0,6 \leq r \leq 0,8$ = correlation is sufficient

$0,4 \leq r \leq 0,6$ = correlation is rather low

$0,2 \leq r \leq 0,4$ = correlation is low

$0,0 \leq r \leq 0,2$ = correlation is very low

As we know that the value of calculated $r = 0,85$, so from the quotation above, we found that correlation between structure and reading comprehension is high.

CONCLUSION

English as a medium of communication, plays an important role especially in education because many books and articles have been published in English. This study was indebted to find out the correlation between structure and reading comprehension achievement. The data were collected by giving the multiple choice tests of the two subjects. After analyzing the data, it can be concluded that the correlation between structure and reading comprehension achievement of the third year students of SMP Swasta Budi Insani Medan is significant.

References

- Ahmed, A. H. (2010). Students' problems with cohesion and coherence in EFL essay writing in Egypt: Different perspectives. *Literacy Information and Computer Education Journal (LICEJ)*, 1(4), 211-221.
- Azar, B. S. 1989. *Fundamental of English Grammar*. New Jersey : Prentice Hall.
- Arikunto, S. 1993. *Prosedur Penelitian Praktis*. Jakarta : Bina Aksara.
- Aruan, D. M. 1995. *Penafsiran Skor Tes*. Medan : FBS Medan (Unpublished).
- Bali Pos Editorial. September 22, 2002. *Pengajaran Sastra Seperti Era Kolonial Perlu Dibangkitkan*. Bali Pos.
- Barnett and Stubbs. 1983. *Practical Guide to Writing*. New York : Cambridge University Press.
- Bolinger, D. 1975. *Aspects of Language (second edition)*. New York : Harcourt Brace Jovanovich.
- Crismore, A., Markkanen, R., & Steffensen, M. S. (1993). Metadiscourse in persuasive writing: A study of texts written by American and Finnish university students. *Written Communication*, 10(1), 39-71.
- Cornor, U and Farmer, M. 1990. *Second Language Writing*. New York : Cambridge University Press.
- Curme, G. 1981. *Syntax*. Boston : D. C. Heath.
- Dreyer, C., & Nel, C. (2003). Teaching reading strategies and reading comprehension within a technology-enhanced learning environment. *System*, 31(3), 349-365.
- Frank, M. 1990. *Modern English : A Practical English Grammar*. New York : New York University Press.
- Good III, R. H., Simmons, D. C., & Kame'enui, E. J. (2001). The importance and decision-making utility of a continuum of fluency-based indicators of foundational reading skills for third-grade high-stakes outcomes. *Scientific Studies of Reading*, 5(3), 257-288.
- Guthrie, J. T., Wigfield, A., Metsala, J. L., & Cox, K. E. (1999). Motivational and cognitive predictors of text comprehension and reading amount. *Scientific Studies of Reading*, 3(3), 231-256.
- Goodman, K. 1967. *Reading : A Psycholinguistic Guessing Game*. *Journal of the Reading Specialist*, 6, 1, pp. 126-35.
- Gough, P. B. 1972. *One Second of Reading*. Cambridge : MA : MIT Press.
- Hamilton, E. W., Nolen, S. B., & Abbott, R. D. (2013). Developing measures of motivational orientation to read

- and write: A longitudinal study. *Learning and Individual Differences*, 28, 151-166.
- Halliday, M. A. K. And Ruqaiya Hasan. 1976. *Cohesion in English*. Harlow, Essex : Longman.
- Jagger, J. H. 1990. *A Handbook of English Grammar*. London : University of London.
- Karbalaei, A. (2010). A comparison of the metacognitive reading strategies used by EFL and ESL readers. *The Reading Matrix*, 10(2).
- Munir, M. 1997. *English Grammar*. Surabaya : Tiga Dua.
- Oxford Learner's Dictionary of Current English*. 1974. Oxford.
- Richard, J. C, Platt, J. And Platt, H. 1992. *Dictionary of Language and Applied Linguistics*. London : Longman.
- Rumelhart, D. 1980. *Schemata : The Building Blocks of Cognition*. Hillslade. N. J. : Lawrence Erlbaum Associates.
- Sawir, E. (2005). Language difficulties of international students in Australia: The effects of prior learning experience. *International Education Journal*, 6(5), 567-580.
- Shang, H.-F. (2010). Reading strategy use, self-efficacy and EFL reading comprehension. *Asian EFL Journal*, 12(2), 18-42.
- Smith, F. 1971. *Understanding Reading*. New York : Holt, Rinehart and Winston.
- Tercanlioglu, L. (2004). Postgraduate Students' Use of Reading Strategies in L1 and ESL Contexts: Links to Success. *International Education Journal*, 5(4), 562-570.
- Tampubolon, D. P. 1990. *Kemampuan Membaca : Teknik Membaca Efektif dan Efisien*. Bandung : Angkasa.
- Underhill, N. 1987. *Testing Spoken Language*. New York : Cambridge University Press.
- van Hover, S. D., & Yeager, E. A. (2004). Challenges facing beginning history teachers: An exploratory study. *International Journal of Social Education*, 19(1), 8-21.
- Watson, S. M. R., Gable, R. A., Gear, S. B., & Hughes, K. C. (2012). Evidence-based strategies for improving the reading comprehension of secondary students: Implications for students with learning disabilities. *Learning Disabilities Research & Practice*, 27(2), 79-89.
- Webster's Dictionary of Language English*. 1913. New York.
- Wren and Martin. 1990. *High School English Grammar and Composition*. New Delhi : S. Chand.
- Yulia, Y. (2013). Teaching challenges in Indonesia: Motivating students and teachers' classroom language. *Indonesian Journal of Applied Linguistics*, 3(1), 1-16.
- Yuwono, G. I., & Harbon, L. (2010). English teacher professionalism and professional development: Some common issues in Indonesia. *Asian EFL Journal*, 12(3), 145-163.