

## The Use of Authentic Reading Materials and Cooperative Learning Strategy to Improve Reading Comprehension Ability of Vocational School Students

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**Abstract: The Use of Authentic Reading Materials and Cooperative Learning Strategy to Improve Reading Comprehension Ability of Vocational School Students. Objective:** the research aimed to investigate the correlation between students' perception on authentic materials and cooperative strategy on their reading achievement. **Method:** Three hypotheses were tested: a. perception on authentic materials and reading comprehension; b. perception on cooperative strategy and reading comprehension, and c. perception on authentic materials and cooperative strategy toward reading achievement. **Findings:** The reliability of reading test was  $r_{ii} = 0.96$ ; perception on authentic materials was  $r_{ii} = 0.913$ ; and that of the cooperative strategy was  $r_{ii} = 0.862$ . **Conclusion:** a. There is a positive correlation between perception on  $X_1$  and  $Y$ ,  $Y = 11.046 + 0.270X_1$ , coefficient correlation  $r_{13} = 0.431$ . b. There is a significant effect of  $X_2$  on  $Y$ ,  $Y = 11.350 + 0.625X_2$ , coefficient correlation  $r_{23} = 0.411$ . c. There is significant effect of  $X_1$  on  $X_2$ ,  $X_1 = 5.314 + 0.974X_2$ , coefficient correlation  $r_{12} = 0.436$ .

**Keywords:** authentic materials, cooperative strategy, comprehension achievement.

**Abstrak: Persepsi Bahan Bacaan Autentik dan Strategi Kooperatif terhadap Kemampuan Membaca Siswa SMK di Bandar Lampung. Tujuan:** Penelitian ini bertujuan untuk mengkaji korelasi antara persepsi tentang bahan bacaan autentik dan strategi kooperatif terhadap kemampuan membaca siswa SMKN di Bandar Lampung. Data dikumpulkan melalui tes kemampuan membaca dan kusioner. Populasinya adalah semua siswa di kelas sebelas. **Metode:** Tiga hipotesis diuji: a. Persepsi tentang  $X_1$  dan  $Y$ ; b. Persepsi tentang  $X_2$  dan  $Y$ ; dan c. Persepsi tentang  $X_1$  dan  $X_2$  terhadap  $Y$ . **Temuan:** Tryout dilakukan untuk memastikan validitas dan reliabilitas. Reliabilitas  $Y$ :  $r_{ii} = 0.96$ ; reliabilitas  $X_1$ :  $r_{ii} = 0.913$ ; dan reliabilitas  $X_2$ :  $r_{ii} = 0.862$ . regresi multiple menggunakan  $\alpha = 0.05$ . **Kesimpulan:** a. terdapat korelasi positif antara  $X_1$  dengan  $Y$ ,  $Y = 11.046 + 0.270X_1$ ,  $r_{13} = 0.431$ . b. Terdapat korelasi positif signifikan dari  $X_2$  dengan  $Y$ ,  $Y = 11.350 + 0.625X_2$ ,  $r_{23} = 0.411$ . c. Terdapat korelasi positif signifikan antara  $X_1$  dan  $X_2$  dengan  $Y$ ,  $X_1 = 5.314 + 0.974X_2$ ,  $r_{12} = 0.436$ .

**Kata kunci:** bahan bacaan autentik, strategi kooperatif, kemampuan memahami bacaan.

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## ■ INTRODUCTION

State Vocational High School (SMKN) students are required to be able to comprehend ideas conveyed in reading texts. Unfortunately, based on an informal survey before conducting the research, it has been found that 8 out of 10 students (80%) of them are not able to pin point the ideas in the text, cannot differentiate which one is the main idea and which ones are supporting details; lack of vocabulary, lack of grammatical mastery, lack of motivation to learn English, tend to use the same strategy for any kind of tasks, lack of group activities to involve students' creativities, lack of types of reading texts, tend to be monotonous, passive and uninteresting.

This research tries to uncover the problems by proposing the use of authentic materials, that is, various materials which can be used as reading sources for students to train themselves to improve their reading expertise and creativities in trying to comprehend the ideas in the texts they analyze. Secondly, the research tries to help students improve their way of thinking in small groups of discussion so that each student can take part in solving difficulties they may find in reading texts. By doing so, they are expected to be more active sharing their ideas and experience with the friend in the same group, so that their thinking abilities may be developed. Students who usually tend to keep silent in the classroom will be more forced to take part in their group discussion. Therefore, it is expected that at the end of the classroom activities, the students are more highly motivated, feel that they are really learning, not just keep silent, and passive.

The novelty of this research is that the use of authentic materials which are taken from internet, journal, magazines, social media and other possible sources. The teachers are required to be more creative in selecting suitable materials for students. It will be more beneficial if students are involved in selecting the authentic materials so that they feel that they have responsibility

about the reading materials. If the students are involved in selecting the materials, they tend to be more selective in determining and selecting the authentic texts, at least they tend to choose suitable materials with their interest and background knowledge.

Many studies have been conducted pertaining to the use of authentic materials (Berardo, 2006; Al Azri, et al. 2014; Chen, 2020; Boyacý, et al., 2017, Oguz et al 2008), reading comprehension (Hamilton et al., 2016, Zawoyski et al., 2014, Northrop, 2017, Schüller et al., 2016, Rios, 2017, Suk, 2016, Pae, 2018, Zhang, 2014, Wright et al., 2016, Baye et al., 2018, Cho et al., 2017, Menese et al., 2017, Liebfreund, 2015, Fisher, 2018, Learned, 2016, Suk, 2016) and learning strategies (Hamilton et al., 2016, Reynolds, 2014, Juste et al., 2016, Gozalo-Delgado et al., 2020, Irgatođlu et al., 2022, Parra, 2016, Sholahuddin et al., 2021, Reynolds et al., 2017, Rios, 2017, Schüller et al., 2016, Northrop, 2017, Zawoyski et al., 2014, Hamilton et al., 2016, Malmir et al., 2020, Chen, 2020). But the problems remain unresolved, that is, whether there is a positive correlation between the use of authentic materials and students' reading comprehension achievement; secondly whether there is a positive correlation between the use of cooperative learning strategy and students' reading comprehension achievement, and finally whether there is a positive composite correlation among the use of authentic reading materials, the use of cooperative learning strategies and students' reading comprehension achievement.

Berardo, (2006) states that one of the strong points of using authentic materials in the classroom under any circumstances outside the controlled language learning situation. The students will not face the artificial language of the classroom, but the real words and language as it is really used in their every day lives. Berardo (2006) has found out that the use of authentic

reading materials benefits the student from the exposure to real language being used in a real context. Besides, students are highly motivated, the authentic texts give a sense of achievement when understood and encourage further reading. Researchers consider authentic reading materials as useful means to motivate learners, arouse their interest and expose them to real language they will face in the real world (Al Azri, et al. 2014). Using authentic materials, learners are using the language in real life. Guariento & Morely (2001) have found out that the use of authentic reading materials improves learners' motivation to learn the language by making them feel that they are learning, interaction and facing the 'real' language. Besides, similar finding was found by Gilmore, (2007) stating that one of the most important advantages of using authentic materials, is that it increases students' motivation and improves positively their learning process. Kelly, et al (2002) investigated the use of internet as the source for authentic reading materials for ESL or EFL classes.

They found that When effectively applied, authentic materials help students learning English as second language (ESL) or as a foreign language (EFL) import the real world into the classroom and significantly strengthen the ESL class. By using authentic reading materials, the students are exposed to cultural features which may result in generating a more comprehensive understanding of and interest in the topic under discussion. The students develop their ability to focus their concentration on relevant information only, and more importantly they learn how to disregard what is not relevant. This happens because the students pool their individual strengths, they get self confidence in taking part in an English-speaking class. Other research on the use of authentic reading materials was carried out by Boyaci et al. (2018). They have found that authentic task-based authentic material used

in the Turkish language course, first improved the reading comprehension, second developed writing skills and what is more important is that it improved writing motivation of 4th grade primary school students. Finally, it was found that students taking part in the research had positive views on the Turkish language course instructed with authentic task-based authentic material.

Setyowati et al. (2018) have found out that the use of authentic materials for teaching writing shows the high effectiveness especially for teaching procedure texts, descriptive texts and essay writing; besides, they also found that authentic materials give challenges for the teacher to use for classroom teaching, due to their practicality, comprehensibility and appropriateness.

Pertaining to reading comprehension, some studies have been carried out (Magnusson et al. 2019; Collins et al. 2017). Magnusson et al., 2019 who studied reading comprehension strategies instruction (RCSI) found out that limited evidence of explicit RCSI. They found that the explicit instruction varied as either contextual or decontextual teaching. other teachers showed strategy knowledge, but in many opportunities, instruction seemed oriented more toward nontransferable activities than explicit strategy teaching. Primarily, the teachers concentrated their teaching on text-based discussions and text structure. Collins, et al (2017) found that the upper graders in elementary schools with the more treatment and higher faithfulness to teachers and to strategy implementation benefited more from the intervention. It means that students need more opportunities to have training from the teachers.

Although there have been many studies on the use of authentic materials for teaching English either as SL or as an EFL, none of them have been focused on investigating the correlation of students' perception on the use of authentic materials on their reading comprehension

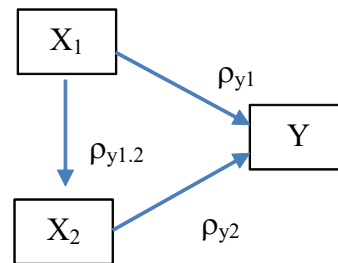
achievement, none of the also has also focused on the correlation of students' perception on the use of cooperative learning strategy with their reading comprehension achievement, and none of them has dealt with the composite correlation of students' perception on the use of authentic materials, and students' perception on the use of cooperative learning strategy towards their reading comprehension achievement.

These points aforementioned above are the novelty of the current research. Therefore, there are three major research questions whose answers are to be found out in this study: First, is there any correlation between students' perception on the use of authentic reading materials on their reading comprehension achievement? Second, is there any correlation between students' perception on the use of cooperative learning strategy on their reading comprehension achievement? And finally, is there any composite correlation between students' perception on the use of authentic reading materials and students' perception on the use cooperative learning strategy towards their reading comprehension achievement? In line with the research questions above, the objectives of the study are to investigate the following: first, the correlation between students' perception on the use of authentic reading materials on their reading comprehension achievement; second, the correlation between students' perception on the use of cooperative learning strategy on their reading comprehension achievement; and finally the composite correlation between students' perception on the use of authentic reading materials and students' perception on the use cooperative learning strategy towards their reading comprehension achievement.

■ **METHODS**

The research was conducted in one of state vocational schools in Bandar Lampung. It was

carried out for six months. Starting from writing a proposal, designing research instruments, trying out the instruments, doing field research and analyzing the data. The research was carried out using field research by means of test and non-tests. The test comprised reading comprehension test in the form of multiple-choice A, B, C, and D. The non-tests consist of questionnaire of students' perceptions on the use of authentic reading materials and their perceptions about the use of cooperative learning strategy. Correlational approach was used. There are three variables involved: First, students' perceptions on the use of authentic reading materials ( $X_1$ ) as the first independent variable and cooperative learning strategy ( $X_2$ ) as the second independent variable which were assumed to have positive contribution on students' reading comprehension achievement ( $Y$ ) as the dependent variable.



**Figure 1.** Variable constellation

Note:

- $X_1$  : Students' perception of the use of authentic reading materials
- $X_2$  : Students' perception of the sue of cooperative learning strategy
- $Y$  : Students' reading comprehension achievement
- $r_{y1}$  : Correlation between students perception of the use of authentic reading materials and their comprehension achievement
- $r_{y2}$  : Correlation between students' perception of the use of cooperative learning strategy and their comprehension achievement
- $r_{y1.2}$  : Composite correlation between perception of the use of authentic reading materials

and their perception of the use of cooperative learning strategy towards their comprehension achievement

### Research Instruments

Two types of instruments were used: First questionnaire for  $X_1$  and that for  $X_2$ , and second reading comprehension test for Y. Both instruments were designed based on operational definition drawn in the blue print of the instruments and indicators. Then each indicator was applied to design items of the research instruments.

### Test

The test was used to measure the students' reading comprehension achievement which was designed by the English teacher based on the syllable used in the focal semester in the class. It comprised 20 test items with four options A, B, C, or D. the multiple-choice test was used to make the administration of the test is much more economical and easier for determining students' reading achievement scores. The students' reading comprehension achievement is based on the following blue print which can be seen in the following table:

**Table 1.** The blue print of reading comprehension test

No.	Indicators	Number of items	Amount
1	Ability to state the main idea of a paragraph	1, 3, 5	4
2	Ability to draw conclusion from what has been read	2, 4, 6, 8	4
3	Ability to recall information explicitly stated in the text.	7, 9, 11, 13	4
4	Ability to state supporting paragraph	10, 12, 14	3
5	Ability to provide synonym of words in the text	15, 17, 19	3
6	Ability to provide antonym of words in the text.	16, 18, 20	3
Total amount			20

### Questionnaires

The questionnaires were developed based on the blueprint which were in line with the dimensions and indicators stated in the theory. To make sure the validity of the questionnaire, the blueprint of the learning styles used as the basis for design each item of the questionnaire. They were used to measure students' perceptions on the use of authentic reading materials and the use of cooperative learning strategy. To measure the reliability of the questionnaire, Cronbach Alpha was used, where it was found that the reliability index for students' perception on the use of authentic reading materials:  $r_{ii} = 0.9134$ , and that for students' perception on the use of learning styles:  $r_{ii} = 0.862$ . The questionnaires were

measured by Likert scale with 5 options both positive and negative with the following scoring system. Positive options are A = always scored 5; O = often scored 4; S = sometimes scored 3; R = rarely score 2; and N = never scored 1. By contrast, negative options are A = always score 1; O = often scored 2; S = sometimes scored 3; R = rarely score 4; and N = never scored 5. All questionnaires were designed based on dimensions and indicators. Each indicator was used to designing question items.

Try out of the Instruments.

The following Table 2 shows sub-variables and indicators of questionnaire items on students' perception on the use of authentic reading materials.

**Table 2.** The blueprint of students' perception on the use of authentic reading materials

No	Sub-variables	Indicators	Item numbers	Amount
A	Authentic reading material text factors	a. Provenance and authorship	1, 2	2
		b. Original communicative and socio-cultural purpose	3, 4	2
		c. Original context of the text	5, 6	2
		d. Learning activity engendered	7, 8	2
		e. Learners' perception and attitudes	9, 10	2
		f. Selected interest and study needs	11, 12	2
B	Considered by students for authentic reading materials	g. Enhance vocabulary and structure	13, 14	2
		h. Provide the reader with psycholinguistic guessing games	15, 16	2
		i. Pre-existing students' knowledge and schematizing ability	17, 18	2
		j. Cultural expectations of situations	19, 20	2
Amount				20

Table 2 shows that the questionnaires on the students' perceptions on the use of authentic reading materials were designed based on two sub-variables and 10 indicators. Each of the indicators were made the bases for designing two questionnaire items.

The following Table 3 shows sub-variables and indicators of questionnaire items on students' perception on the use of learning styles. Table 3 shows that the questionnaires on students' perception on learning styles comprise of 30 items, divided into four sub-variables:

**Table 3.** The blueprint of students' perception on the use of learning styles

No	Sub-variables	Indicators	Item numbers	Amount
A	Teacher's role in learning strategy	a. Determine size of the cooperative learning groups	1, 2	2
		b. Set the proper environment	3, 4	2
		c. Provide assignment goal structure	5, 6	2
		d. Monitor and intervene group	7, 8	2
		e. Evaluate the learning by giving feed back	9, 10	2
B	Group strategy structure cooperative learning strategy	f. Sink or swim together	11, 12	2
		g. Assist and encourage otherfs to achieve	13, 14	2
		h. Individually accountable for group's work.	15, 16	2

C	Basic elements of cooperative learning strategy	i.	Positive interdependence	17, 18	2
		j.	Face-to-face interaction	19, 20	2
		k.	Group processing	21, 22	2
D	Cooperative learning in teaching reading	l.	Encourage contact among students	23, 24	2
		m.	Uses active learning techniques	25, 26	2
		n.	Communicate high expectations	27, 28	2
		o.	Respect diverse talents and ways of learning.	29, 30	2
Total amount					30

A. Teacher's role comprises of six indicators; B. group structure of cooperative learning strategy consists of three indicators; C. basic elements of cooperative learning strategy three indicators; and D. cooperative learning and teaching reading four indicators. Each indicator is represented by 2 items. The total number of indicators are 15, therefore, the questionnaire comprises 30 items.

The tryouts of the instruments were carried out for two weeks in the same grade but different class to avoid practice effects. There were four major objectives of the try out: to determine the level of difficulty; the validity; the discriminating power and reliability of the test.

### The difficulty level of the test items

The difficulty of the test should be determined to get better and sound data on the appropriateness of the data, in the sense that the test was not too difficult nor too easy for each of the research participants. If a test item is too easy or too difficult, it cannot and does not reflect the real ability of the participants. Consequently, the test should be tried out and analyzed to determine whether the test is suitable for successful and non-successful students. The following is the formula to determine the facility value (level of difficulty index) of the test items (Brown).

$$FV = \frac{\text{number of students answering the items correctly}}{\text{the total of students responding to the items}}$$

The criteria of the level of difficulty of a test item can be described as follows: The level of difficulty of a test item was divided into five categories: the index level of difficulty ranging from 0 – 15%, indicates very difficult, therefore it was suggested to be dropped; the second category ranges from 16% - 30%, very difficult, therefore it was suggested to be revised; the third category ranges from 31% - 70%, medium, therefore it can be used directly, without prior revision; the fourth category ranges from 71% - 80%, easy. It was suggested to be revised; finally, the last category ranges from 81% - 100%, very easy, therefore, it was suggested to be dropped.

### Item discriminating power (ID)

The ID indicates the ability of a test item to discriminate between the clever from the non-clever students. The group of students are sometimes referred to as high and low scores. The following is a guideline to decide the test items based on their ID (Gronlund et al., 2009). Discriminating power is the ability of a test item to discriminate between the successful and less successful students. A good test item should be able to discriminate which student belongs to successful and which one is not. The test items are divided into four classifications based on criteria of the ID index as follows. First, the test



items whose ID index ranges from 0.40 – up are very good item, meaning that they could be used directly without prior revision; second, the test items whose ID index ranges from 0.30 – 0.39, good but suggested to be revised before being used; third, the test items whose ID index ranges from 0.20 – 0.29, not good and need revision before being used; and finally, the test items whose ID index less than 0.19, poor and therefore, must be rejected because they cannot discriminate between the clever and the non-clever students.

In this research instrument, the item numbers 2, 6, 11, 14, 18, 19, and 20 were very good based on the criteria above; item numbers 1, 3, 4, 5, 12, 13, 15 were good, and the item numbers 8, 9, 16 were not good, and the item number 17 was poor, so it needed revising or dropping. Validity of the test - To determine the validity of the test, the Pearson Product Moment formula. The valid items were used as the research instrument.

The data that have been collected were analyzed using descriptive statistics to present individual data of each variable and inferential statistics was used to measure among the variables. Descriptive statistics presents: mean, deviation standard, distribution frequency, mode, median, and histogram. By contrast, inferential statistics was used to analyze correlation, regression, classical test, anova, and multiple regression.

There were three hypotheses tested by the current research:

1.  $H_1: r_{y1} > 0$ : There is a positive correlation between students' perceptions on the use of authentic reading materials and their reading comprehension achievement.
2.  $H_1: r_{y1} > 0$ : There is a positive correlation between the use of cooperative learning strategy and their reading comprehension achievement.

3.  $H_1: r_{y1.2} > 0$ : There is a positive correlation between students' perceptions on the use of authentic reading materials and the use of cooperative learning strategy and their reading comprehension achievement.

Note:

$H_0$  : Zero hypothesis

$H_1$  : Research/alternative hypothesis

$r_{y1}$  : Coefficient correlation between X1 and Y

$r_{y2}$  : Coefficient correlation between X2 and Y

$r_{y1.2}$  : Coefficient correlation between X1 and X2 towards Y.

## ■ RESULT AND DISCUSSIONS

### Reading Comprehension Achievement (Y)

The scores of reading comprehension test were valued 1 for true answers and 0 for false. Theoretically, out 18 test items in this research, the scores were ranging from 0 through 18. The minimum score was 9 and the maximum one was 17. Given that the number of the participants was 76 respondents, the total interval class, according to Sturges regulation as Sujana (2005) cited, was 5 and the length of class interval was 2. The reading comprehension test in the form of True-False was designed based on the rules of true-false (Gronlund et al., 2009, 111-115). Gronlund et al., (2009) describe seven rules for designing true-false test items so that the results are highly accurate reflecting the students' ability, where one of the rules states that put the statement so precisely that it can be judged definitely. Other rules of true-false test items: each statement should only cover one major idea; each statement should use simple vocabulary and be short; each statement should be worded precisely and accurately; negative statement should be used unfrequently and should avoid double negatives; opinion should be attributed to sources except when used to differentiate facts from opinions; when cause and effect associations are judged,



use only true statement; and finally keep away from unrelated clues to the answer. All the test items in the reading comprehension test were based on those rules, so that the results were accurate as can be seen the following paragraph.

Being calculated, the minimum absolute frequency distribution was 30 (39.474%).

Reading comprehension achievement variable had  $SY = 1052$ , mean  $(Y) = 13.842$ , deviation standard  $s_y = 2.209$ , modus  $Mo_{(y)} = 15.129$  and Median  $Me_{(y)} = 12.833$ . these figures can be seen in the following table. The results of these analyses have been in line with Gronlund's (2009) theories of writing selection items, true-false.

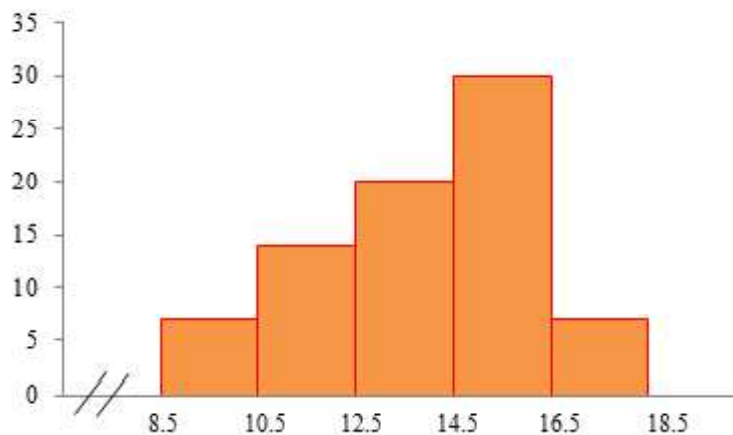
**Table 4.** Frequency distribution of reading comprehension achievement (Y)

No.	Class interval	Absolute frequency	Accurate Freq	Relative freq (%)	Relative Acc freq (%)
1	9-10	7	7	9.211	9.211
2	11-12	14	21	18.421	27.632
3	13-14	19	40	25	52.632
4	15-16	30	70	39.474	92.105
5	17-18	6	76	7.895	100
Total		76		100.00	100.00

Table 4 shows the frequency distribution of reading comprehension achievement which is relatively normal. This finding is relevant to the finding of previous research. The finding as shown in Table 2 above is relevant to what was found by previous reserach (Chen, 2020; Malmir et al., 2020; Hamilton et al., 2016, Zawoyski et al., 2014, Northrop, 2017, Schüller et al., 2016, Rios, 2017, Suk, 2016, Pae, 2018, Zhang, 2014,

Wright et al., 2016, Baye et al., 2018, Cho et al., 2017, Menese et al., 2017, Liebfreund, 2015, Fisher, 2018, Learned, 2016, Suk, 2016), where they have found that there was significant improvement in their students' reading ability after being given the treatment.

In addition, the following histogram illustrates the absolute frequency distribution of students' reading comprehension achievement.



**Figure 2.** Histogram of reading comprehension achievement (Y)

Figure 2 shows the improvement of students' reading comprehension achievement after being treated using authentic materials and cooperative learning strategies. These happen because the use of authentic materials can elevate their learning and reading motivation and curiosity. This finding supports the findings of the previous research and the theories stating that students read differently with different purposes. The use of authentic materials can increase students' motivation and reading achievement because they can find various real information presented in the form of real world, not controlled by classroom environment (Berardo, 2006; Boyaci et al. 2018; Oguz et al. 2008).

**The Correlation Between Students' Perception on the Use of Authentic Reading Materials Variable (X<sub>1</sub>) and their Reading Comprehension Achievement**

The first hypothesis states that there is correlation between students' perception on the use of authentic reading materials (X<sub>1</sub>) and the students' reading comprehension achievement (Y). Having calculated the data, it was found that the prediction equation or simple regression formula  $y = -3.747 + 0.270 X_1$ . The significant and linearity tests were carried to determine whether the formula was significant or not. The following table shows the results of the calculation.

**Tabel 5.** Anova Significant Linearity Test

Variance	df	TS	ATS	F0	Ft on a	
					0.05	0.01
Total	76	14928				
Regression (a)	1	14561,9	14561,9			
Regression (b)	1	322,175	322,175	542.695 <sup>**</sup>	4.03	7.48
Regression (r)	74	43,9306	0,59366			
Non Properly Galat (G)	18	25,5639	0,4565	0.447 <sup>NS)</sup>	2.66	1.92

Note

<sup>\*\*</sup>) very significant regression  $F_o = 542.695 > F_{table} = 4.03$  and  $F_{table} = 7.48$  on significant level =  $\alpha = 0.05$  or  $\alpha = 0.01$

<sup>NS)</sup> linearity regression  $F_o = 0.447 < F_{table} = 1.92$  on  $\alpha = 0.01$

Based on Table 5 above, it can be identified that  $F_{-x1} > F_{(a=0.01)(1;74)}$  or  $F_{x1-0} = 542.695 > F_{(a=0.01)(1;74)} = 7.48$ , meaning that  $H_0 : \beta_{31} = 0$  was not accepted, and  $H_1 : \beta_{31} = 0$  was accepted. Therefore, regression equation Y on X<sub>1</sub> was very significant.

Table 5 shows that the students' perception of the use of authentic reading materials can elevate students' reading achievement because the students feel that they are learning to use the real language in the real world, not made-up for

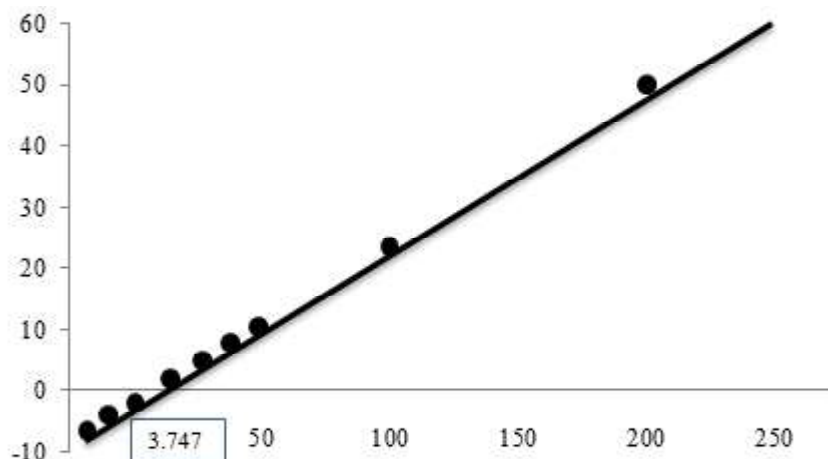
the sake of learning about language. They try to understand the real information, using the real language, in the real life. This finding is relevant to and support the findings of the previous research (Oguz et al. 2008; Boyaci et al. 2018; Juste et al. 2017; Parra, 2016; Wright et al. 2016; Baye et al. 2017).

Concerning with the linearity regression  $F_{(a=0.05)(18;56)} = 2.66$  and  $F_{(a=0.01 X12.56)} = 1.92$ , after being compared with  $F_{table}$ , it was found that  $F_{x10} < F_{(a=0.01X18;56)}$  or  $F_{Fx1-2} = 0.447 < F_{(a=0.01$

1.92. Therefore,  $H_0: \beta_{31} = 0$  was accepted and  $H_1: \beta_{31} \neq 0$  was refused because it was not true. Consequently, the  $H_0$  was accepted, that is, there is a correlation between students' perception of the use of authentic reading materials and their

reading comprehension achievement. It can be inferred that the linearity of regression equation  $Y$  on  $X_1$  was linear.

The following graph illustrates the linearity of regression equation  $y = -3.747 + 0.270 X_1$



**Figure 3.** The graph of model  $y = -3.747 + 0.270 X_1$

Based on significant and linearity regression test  $y = -3.747 + 0.270 X_1$  was very significant and linear. It suggests that every increase of students' perception of authentic reading materials ( $X_1$ ) score will result in the raise of 0.270 point of reading comprehension achievement ( $Y$ ) in -3.747 of constant. The finding as shown in Figure 3 happens because what lies in the students' minds are reflected in their daily lives. The students tend to learn more seriously when they are facing materials suitable for their interests, beliefs, and desire. Consequently, their motivation is developed, their vocabulary significantly raises, and in turn, their comprehension improves as well. This finding is in line with the findings of the previous research (Northrop, 2017; Zawoyski et al. 2014; Malmir et al. 2020; Pae, 2018; Rios, 2017; Learned, 2016).

The students' perception-based data on the use of authentic reading materials were measured by rating scale. A positive statement had scale

ranging from 1 through 5, that is, based on 5 options: 5 for A (always), 4 for O (often), 3 for S (sometimes), 2 for R rarely, and 1 for N (never). Out of 20 items of statement each respondent had ranges of scores from 20 through 100. The results of the calculation in the current research show that the minimum score was 51 and the maximum score was 81. After the minimum and maximum scores were found, then the total and the length of class interval were determined using Sturges regulation (Sujana, 2005). Out of 76 respondents, the total interval classes were 7 and its length was 5. Being calculated, it was found that the minimum absolute frequency distribution was 1 (1.316%) and the maximum absolute frequency distribution was 19 (25%). Based on the calculation, it was found that out of 76 respondents, it had  $X_1 = 4945$ , Mean ( $X_1$ ) = 65.066, standard deviation  $s_{x_1} = 7.667$ , Modus  $Mo(X_1) = 61.750$  and Median  $Me(X_1) = 56.684$ . These figures can be seen in the following table.

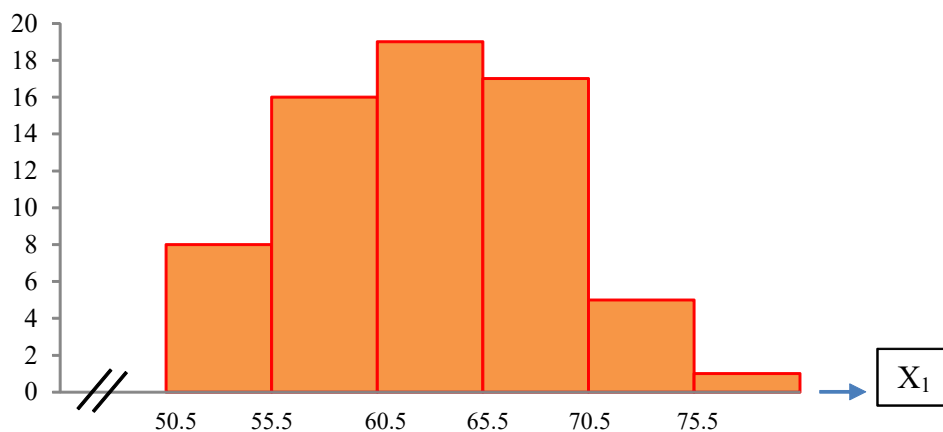
**Table 6:** Frequency distribution of students' perception of authentic reading materials ( $X_1$ )

No.	Class Interval	Absolute Frequency	Accu Frequency	Relative Frequency (%)	Relative Accumulative Frequency (%)
1	51-55	8	8	10,526	10,526
2	56-60	16	24	21,053	31,579
3	61-65	19	43	25	56,579
4	66-70	10	53	13,158	69,737
5	71-75	17	70	22,368	92,105
6	76-80	5	75	6,579	98,684
7	81-85	1	76	1,3158	100
Total		76	76	100.00	100.00

Table 6 shows that the students' perception of the use of authentic reading materials is very positive, they show high interest in the use of authentic reading materials because they feel that they get more advantages or benefits from the authentic materials, especially something pertaining to the information provided by the materials, vocabulary used, types of texts they find which are diverse. Since their interest and motivation raise by using the authentic materials, the frequency of reading also elevates,

consequently their vocabulary mastery develops, and finally their comprehension achievements also increase. This finding is in line with the findings of the previous research (Schüller et al 2016; Rios, 2017; Fisher, 2018; Liebrund, 2015; Manese et al 2017; Cho et al 2017).

Besides, the following histogram illustrates the absolute frequency distribution of students' perception on the use of authentic reading materials.



**Figure 4.** Histogram of authentic reading materials

Figure 4 show thorough frequency distribution of students' perception on the use of authentic reading materials. The finding is in accordance with the one shown the Table 6, in

the sense that majority of the students tend to have highly positive, and constructive perception about the use of authentic reading materials because they can a lot of benefits of the materials

especially on the improvement of their comprehension ability. This finding supports and in line with the findings of previous research carried out in the other parts of the globe (Rios, 2017; Fisher, 2018; Liebrund, 2015; Manese et al 2017; Cho et al 2017).

Another hypothesis which was tested in this research: "There is correlation between the use of cooperative learning strategy ( $X_2$ ) and students' reading comprehension achievement (Y)". Being calculated, it was found that the simple

regression formula  $v = 11.350 + 0.265 X_2$ . In line with the significant and linearity regression test,  $X_2$  was very significant and linear. It suggests that every increase of cooperative learning strategy ( $X_2$ ) score will result in the increase of 0.265 point of students' reading comprehension achievement (Y) in -11.350 of constant. The significant and linearity tests were carried out to determine whether the formula was significant or not. The following table shows the results of the significant and linearity tests.

**Table 7.** Anova significant and linearity Tests  $v = 11.350 + 0.265 X_2$

Variance	df	TS	ATS	F0	F: on a	
					0.05	0.01
Total	76	14928				
Regression (a)	1	14561,9	14561,9			
Regression (b)	1	308,371	308,371	395.248**)	4.03	7.48
Regression (r)	74	57,7345	0,7802			
Non Properly	20	24,8702	0,46056	0.280NS	2.66	1.92
Galat (G)	54	32,8643	1,64321			

Note:

\*\*) Regression was very significant  $F_o = 395.248 > F_{table} = 4.03$  and  $F_{table} = 7.48$  at significant level  $\alpha = 0.05$  and  $\alpha = 0.01$ .

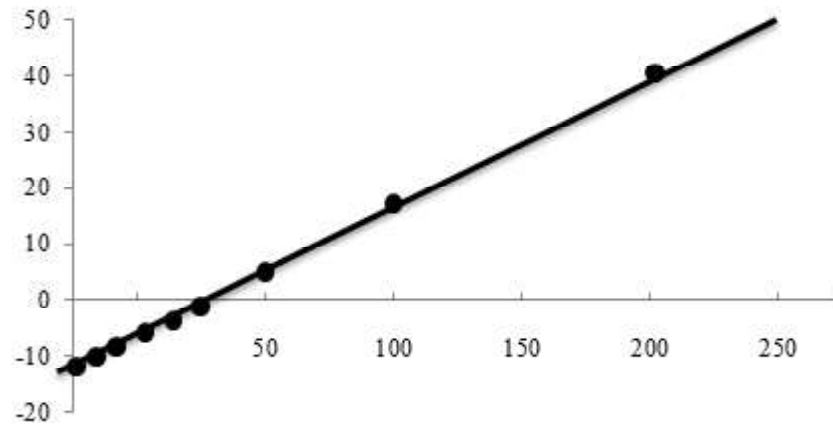
NS) linearity regression  $F_o = 0.280 < F_t = 1.92$   $\alpha = 0.01$ .

Table 7 above shows  $F_{-10} > F_{(\alpha=0.01; X1; 740)}$  or  $F_{X1} = 395.248 > F_{(\alpha=0.01; X1; 74)} = 7.48$  meaning that  $H_0: \beta_{32} = 0$  was refused and  $H_1: \beta_{32} \neq 0$  was accepted. It can be concluded that the linearity regression Y on  $X_2$  was very significant.

The linearity regression equation  $F_{(\alpha=0.05)(11; 62)} = 2.66$  and  $F_{(\alpha=0.01)(20; 54)} = 1.92$ . Being compared with  $F_{table}$ ,  $F_{20} < F_{(\alpha=0.01)(20; 54)}$  or  $F_{X1} - 20 = 0.280 < F_{(\alpha=0.01)(20; 54)} = 1.92$ . Therefore,  $H_1: \beta_{32} \neq 0$  was refused. It can be inferred that the linearity of regression equation  $Y = -11.350 + 0.265 X_2$  can be illustrated in the following graphic.

Table 7, as expected shows significant linearity of the students' perception on the use of cooperative learning strategy and their reading comprehension achievement. They believe that when they work cooperatively with their peers to try to overcome or to find out the solution of the problem, they will tend to get it easier because their burden and problem will be shared by many thinkers. Solving a problem or problems by many thinkers will tend to be easier than only by one individual. This finding is accordance with the findings of the previous research (Hamilton et al., 2016, Reynolds, 2014, Juste et al., 2016,

Gozalo-Delgado et al., 2020, Irgatođlu et al., 2022, Parra, 2016, Sholahuddin et al., 2021, Reynolds et al., 2017, Rios, 2017, Schüller et al., 2016, Northrop, 2017, Zawoyski et al., 2014, Hamilton et al., 2016, Malmir et al., 2020, Chen, 2020).



**Figure 5.** The graph of mode  $y = - 11.350 + 0.265 X_2$

After being identified that there is a correlation between the two variables, it is imperative to determine the strength of the correlation. Pertaining to the second hypothesis, the strength of the correlation between the use of cooperative learning strategy ( $X_2$ ) and the students' reading comprehension achievement (Y) is indicated by the coefficient correlation  $r_{y^2,1} = 0.370$ . this figure indicates that there is a positive correlation between the use of cooperative learning strategy ( $X_2$ ) and the students' reading comprehension achievement (Y). Based on this finding, it can be inferred that the use of cooperative learning strategy helps students improve their text comprehension. This finding is acceptable for the following arguments: first, students' motivation in reading is not the same due to, among others, their lack of vocabulary mastery to understand the texts. Such problem makes students feel bored and reluctant to continue reading. As a solution to overcome such a problem is that the students should be guaranteed opportunities to sufficient time to discuss in the group. There are some benefits for

students to have opportunities to discuss their problems in their groups, among others are that they can share their knowledge and experience, they may understand the ideas conveyed in the text and may comprehend the text easier. Second, cooperative learning cause students to be more active in learning because they are forced to put forward their ideas and arguments. Such kind of atmosphere will stimulate students to compete with one another in trying to explain the focal problem. Consequently, it will develop their comprehension achievement. This finding is in accordance with those of Griffiths (2004) and Johnson, et al (1997). As shown by Figure 5, the use of cooperative learning strategy is very important to minimize students' burden. When students work cooperatively, their burdens and problems, however big they are, will be easier to solve because their can share their experiences and background knowledge. Every individual has a lot of background knowledge which may not be shared by other people. If they work in groups their can share their previous experiences and schemata (background knowledge with others.

This finding are relevant to the findings of the previous research (Hamilton et al., 2016, Reynolds, 2014, Juste et al., 2016, Gozalo-Delgado et al., 2020, Irgatođlu et al., 2022, Parra, 2016, Sholahuddin et al., 2021, Reynolds et al., 2017, Rios, 2017, Schüller et al., 2016, Northrop, 2017, Zawoyski et al., 2014, Hamilton et al., 2016, Malmir et al., 2020, Chen, 2020).

**The composite correlation between students' perception on the use of authentic reading materials (X<sub>1</sub>) and the use of cooperative learning strategy (X<sub>2</sub>) towards reading comprehension achievement (Y)**

Concerning the third hypothesis stating that there is a composite correlation between students'

perception on the use of authentic reading materials (X<sub>1</sub>) and the use of cooperative learning strategy (X<sub>2</sub>) towards reading comprehension achievement (Y), after the data analysis was done, it was obtained that the prediction equation or multiple regression formula  $y = 4.064 + 0.261 X_1 + 0.010 X_2$ . The significant test was done to determine whether the correlation was significant or not. The results of the significant test can be seen in the following table.

As Table 5 above shows that  $F_{-10} > F_{t(a=0.01)(1; 74)}$  or  $F_{X_1-10} = 1267.822 > F_{(a=0.01, X_2, 73)} = 4.98$  meaning that  $H_0: \beta_{21} = 0$  was refused and  $H_1: \beta_{21} \neq 0$  was accepted. Based on the results of the analysis, it can be concluded that the multiple regression X<sub>1</sub> and X<sub>2</sub> on Y was very significant.

**Table 8.** Anova of significant test  
 $Y = 4.064 + 0.261 X_1 + 0.010 X_2$

Variance	df	TS	ATS	F0	Ft on a	
					0.05	0.01
Total	76	14928				
Regression (bo)	1	191,604	191,604			
Total Correction (TC)	1	366,105	366,105			
Regression (b)	2	322,195	161,098			
Regression (r)	73	43,9102	0,60151	267.822	3.15	4.98

Note:

\*\*) Multiple regression was very significant  $F_o = 267.822 > F_{table} = 3.15$  and  $F_{table} = 4.98$  at the significant level  $a = 0.05$ , and  $a = 0.01$

In accordance with the significance of multiple regression test of students' perception on the use of authentic reading materials (X<sub>1</sub>) and the use of cooperative learning strategy (X<sub>2</sub>) towards students' reading comprehension achievement (Y),  $y = 4.064 + 0.261 X_1 + 0.010 X_2$  was very significant. It can be inferred that every increase of students' perception on the use of authentic reading materials (X<sub>1</sub>) score will

result in the raise of 0.361 and the use of cooperative learning strategy (X<sub>2</sub>) score will result in the raise of 0.010 point of reading comprehension achievement (Y) in -4.064 of constants.

The strength of correlation between students' perception on the use of authentic reading materials (X<sub>1</sub>) and the use of cooperative learning strategy (X<sub>2</sub>) towards students' reading



comprehension achievement (Y) was indicated by the coefficient correlation  $r_{y,12} = 0.938$ . In other words, students' perception on the use of authentic reading materials ( $X_1$ ) and the use of cooperative learning strategy ( $X_2$ ) help students improve their reading comprehension achievement. It can be stated that if students are provided with various kinds of authentic reading materials, they tend to have more opportunities to make use of the same strategies and skills across the texts. They tend to have more exposure to the authentic texts, which in turn will improve their reading ability and achievement. This finding is in line with the previous research finding by Wittrock (1999). This finding supports the previous research findings by, for example, Sholahuddin et al (2021) stating that the use of learning strategy has the potential to enhance students' environmental knowledge and scientific literacy over learning process. Besides, the finding is also in accordance with the findings of the previous research, (e.g. Berardo, 2006; AlAzri, et al. 2014; Chen, 2020; Boyacı, et al., 2017, Oguz et al 2008), reading comprehension (Hamilton et al., 2016, Zawoyski et al., 2014, Northrop, 2017, Schüller et al., 2016, Rios, 2017, Suk, 2016, Pae, 2018, Zhang, 2014, Wright et al., 2016, Baye et al., 2018, Cho et al., 2017; Hamilton et al., 2016, Reynolds, 2014, Juste et al., 2016, Gozalo-Delgado et al., 2020, Irgatođlu et al., 2022, and Parra, 2016)

## ■ CONCLUSIONS

Based on the results of the data analysis and discussion, the following conclusions are drawn: First, there is a positive correlation between students' perception of the use of authentic reading materials ( $X_1$ ) and students' reading comprehension achievement (Y). It is shown by the coefficient correlation  $X_1$  on Y, 0.585. Although the figure is not high, it indicates that it has significant correlation. Second, there is a positive correlation between the use of

cooperative learning strategy ( $X_2$ ) on reading comprehension (Y), where the coefficient correlation  $X_2$  on Y is 0.370, meaning that the more effective learning strategy, the better students' reading comprehension achievement will be. Finally, there is a positive correlation between students' perception of the use of authentic reading materials ( $X_1$ ) and cooperative learning strategy ( $X_2$ ) with students' reading comprehension achievement (Y). The results of the two questionnaire-based data analysis has been found that coefficient correlation  $X_1$  and  $X_2$  on Y is 0.938. It can be interpreted that students' perceptions on the use of authentic reading materials and cooperative learning strategy have important role in improving their reading comprehension achievement.

In line with the findings of the research aforementioned, some pedagogical implications can be taken: First, for the effort to improve students' reading comprehension achievement, English teachers should choose suitable and interesting authentic reading materials. They can be taken from the internet, newspapers and magazines. By providing sufficient authentic reading materials students are expected to improve their comprehension better because they may be more exposed to authentic texts. Second, cooperative learning strategy can be used effectively to help students especially who cannot learn individually. Using cooperative learning strategy, students may help and cooperate with one another to improve their competences in comprehending the ideas conveyed in the texts. And finally, authentic reading materials can be made a source in a cooperative learning. By using authentic materials, each student may contribute something based on the texts they analyze for their group. In order that the cooperative learning strategy works better and more effective, all students should be guided to have sufficient literal and interpretive knowledge in comprehending the text. The teacher should also encourage the

students to be more active while they are discussing authentic reading materials in the class (offline) or at home (online).

The findings show positive correlations among the use of authentic reading materials, cooperative learning strategy, with students' reading comprehension achievement. However, there are some weaknesses that can be developed by future researchers, as follows: First, based on the interview with the English teacher and some students in the location of the research, it has been found that the reading texts which are used to teach reading comprehension skill are not relevant for the students, because majority of the texts are about general topics which may have irrelevant topic with students' major. Secondly, while selecting the authentic reading materials, the teachers do not involve the students. So, the students are only provided with pre-determined texts to be read and analyzed. Third, the sample of the research was only taken from the second year of second graders at the vocational school. So, the findings are only applicable for second graders whose capabilities are different from first and third graders. Finally, using authentic reading materials is not the only variable that may affect students' reading comprehension achievement, other aspects which may relate to reading comprehension achievement including students' motivation and vocabulary are not dealt with in this research.

### **Recommendations**

Considering the limitations of the current research, the following recommendations are put forward to make the findings of the research are more confirmed: First, the English teachers should choose suitable texts for students which are relevant with their interest and specialty. By providing relevant authentic reading texts, it may increase students' motivation to try to comprehend the ideas conveyed in the texts.

Secondly, English teachers should involve students in selecting and determining authentic reading materials so that they have higher responsibility and motivation to learn them. If the students are given opportunity to select what they will read and analyze, it is quite possible that the texts are much easier for them to comprehend. Third, future research should involve more students by involving first and third graders, so that the findings of the research are generalizable for all students from all grades. Finally, future researchers should consider others factors that may have affected students' reading comprehension achievement such as vocabulary and motivation.

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