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THE USE OF COLOR CODING TECHNIQUE TO IMPROVE STUDENTS' READING COMPREHENSION

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Abstract

The problem statement of this research was can the color coding technique improve the students' reading comprehension in the narrative text in grade XI at SMKN 1 Baubau? The objective of this research was to find out the improvement of students' reading comprehension in reading narrative text by using the color coding technique in eleventh grade at SMKN 1 Baubau. This research used a pre-experimental method. The population was all eleventh grade students totaling 498 students. The samples were taken using simple random sampling totaling 35 students. The data collection in this research was carried out by using pretest and posttest as the instrument. The data obtained were analyzed by descriptive statistics and inferential statistics by SPSS. Based on the results of data analysis, it can be concluded that there is a significant effect of the application of color coding technique to improve students' reading comprehension of eleventh grade students at SMK Negeri 1 Baubau. The data result show that the sig value is obtained (2-tailed) 0.000 is less than 0.05 ($0.000 < 0.05$) so that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. It means that there is a significant effect before and after the application of color coding technique, as well as the mean of pre-test and post-test experimental class was 24.43 and 60.29.

Abstrak

Rumusan masalah dari penelitian ini adalah apakah teknik color coding dapat meningkatkan pemahaman membaca siswa dalam teks naratif di kelas XI SMKN 1 Baubau? Tujuan Penelitian ini adalah untuk mengetahui peningkatan pemahaman membaca siswa dalam membaca teks naratif dengan menggunakan teknik color coding di kelas XI SMKN 1 Baubau. Penelitian ini menggunakan metode pra

eksperimen. Populasi dalam penelitian ini adalah semua siswa kelas XI yang berjumlah 498 siswa. Sampel diambil menggunakan teknik simple random sampling yang berjumlah 35 siswa. Pengumpulan data dalam penelitian ini dilakukan dengan menggunakan pretest dan posttest sebagai instrumentnya. Data yang diperoleh dianalisis dengan statistik deskriptif dan statistik inferensial dengan SPSS. Berdasarkan hasil analisis data, dapat disimpulkan bahwa terdapat pengaruh yang signifikan penerapan teknik kode warna terhadap peningkatan pemahaman membaca siswa kelas XI SMK Negeri 1 Baubau. Hasil data menunjukkan bahwa diperoleh nilai sig (2-tailed) 0,000 lebih kecil dari 0,05 ($0,000 < 0,05$) sehingga hipotesis alternatif (H_a) diterima dan hipotesis nol (H_0) ditolak. Artinya ada pengaruh yang signifikan sebelum dan sesudah penerapan teknik kode warna, serta rata-rata pre-test dan post-test kelas eksperimen adalah 24,43 dan 60,29.

INTRODUCTION

Language use is crucial in today's age of globalization as a means of successful communication that allows the speaker's message to be understood by others. English is the most widely utilized language on the international stage. English serves as a bridge for communication between all nations and serves as their common language. English is highly known in a variety of other fields, including tourism, education, culture, technology, social interaction, and economics. Therefore, it requires having a solid grasp of what is meant to be spoken both verbally and in writing. Additionally, a variety of English abilities, which can be learned via a variety of ways and strategies, must be mastered in order for English language skills to be supported.

Each person has a unique level of mastery, especially in reading. Reading is a task that people perform to get information from various forms of media. Reading can also be seen as a collaborative process between authors and readers who are able to draw connections. Many different demographics, including young people, adults, the elderly, and even children, value

reading highly. Some people find reading to be a fascinating hobby. This is done not just to pass the time but also to learn new things, broaden one's vocabulary, find inspiration, and improve reading comprehension.

According to Alfassi (2004), reading is a complex cognitive activity that is important for adequate functioning and for obtaining information in modern society. Someone who does reading activities will automatically increase their knowledge of what they read and be able to improve their cognitive mindset for the better. Reading will be a challenge for curious readers if they encounter new words or unfamiliar or even complicated reading material. Therefore, a good understanding is needed to help develop thinking processes and create thinking patterns.

High levels of focus and comprehension are necessary for reading. The ability to interpret a certain reading is known as reading comprehension. Reading comprehension therefore focuses on the meaning of the reading as well as the words in order to integrate it into the previously understood reading. Reading involves understanding the meaning of the letters in each word and sentence listed, rather than just knowing the meaning of each letter in the text. Reading requires a great deal of comprehension since it is the foundation of reading, and reading cannot occur without comprehension.

Students must read in order to learn in the classroom. The most crucial factor for the success of learning objectives is not simply reading, but also the capacity to comprehend what is read. According to Doyle (2004), comprehension is a progressive skill in associating meaning that begins at the same level and continues to attach meaning to the entire selection of readings. If these progressive skills have been achieved, then whatever reading material they can draw conclusions about the meaning of the whole reading. Therefore, it takes a good reading comprehension to achieve the meaning of the given reading.

According to the researcher's observations of PPL 2, which was held at SMKN 1 Baubau from August to September

2021, there were a number of circumstances that made it difficult for students to comprehend the assigned reading. They aren't very interested in reading, to start. Because they were less interested in and focused on the reading, students frequently merely skim the reading until they finally realize what it means and even then, they may answer the question incorrectly. Second, people are unsure of the word's meaning when they get it. Students' reading interest will typically be decreased if they encounter terminology that is considered novel or do not understand the meaning of the word. The third is that they lack attention on the reading assignment, which makes it challenging for them to identify the primary topic of each paragraph or passage. Second, people are unsure of the word's meaning when they get it. Students' reading interest will typically be decreased if they encounter terminology that is considered novel or do not understand the meaning of the word. The third is that they lack attention on the reading assignment, which makes it challenging for them to identify the primary topic of each paragraph or passage.

In order to address these issues and increase reading comprehension among pupils, teachers must come up with effective teaching strategies. Therefore, the researcher expects that this research will lead to the development of a novel and intriguing way to enhance students' reading comprehension skills. To increase pupils' reading comprehension, researchers created study employing color coding (CC) techniques.

There are many different ways that humans use color. Color is used in various ways by some people. The idea of identifying something by a specific color is to alleviate the effect, "Color coding would seem to be ideal for this. People use color-coding from infancy for identifying ownership of states in a process, the color of traffic lights, for example, is a code system. We all have concepts linked to colors, and the use of color indicates the increase or decrease familiar to our students" (Engelbrecht, 2003). Certain colors indicate or decrease one's effect given how the color is being interpreted at that moment.

As known DePorter and Hernacki (2013) in their book states "Individuals tend to remember things that are absurd, sexual, vulgar, colorful, highlighted and imaginative". In the book it is stated explicitly, that color can affect individuals. Color is believed to be the most important visual experience for humans (Radvansky & Copeland, 2006). Color serves as a powerful channel of information for the human cognitive system and it has been found that color has a significant role in improving memory performance (Wichmann, 2002) According to the aforementioned assertion, color can have a significant impact on learning, particularly on pupils' ability and understanding.

According to the preceding explanation, the researcher attempted to study how color coding might be used to increase students' reading comprehension by getting them to pay attention to and concentrate on particular readings in order to trigger their memory and comprehend what they were reading.

1.1 Definition of Reading

(Grellet, 2004) stated reading is a constant process of guessing. It means that reading can encourage humans to keep thinking about the meaning of reading content. It makes the brain work actively and the process of language acquisition be possible. Therefore, the more often someone reads, the more they understand the content of the reading. Reading is a cognitive activity that directly interacts with reading media such as audio-visual print media and others. Reading plays a role in understanding and interpreting a text reading for everyone, especially for every student who learns English.

(Grabe W. , 2009) said that defined reading as a comprehending process. Readers read to comprehend what the writer intended to convey in writing. They also want to try to figure out about the text and what information they can get from the text. Meanwhile according to (Solchan T. W., 2010) reading is a process to understand the meaning of an article. Reading is a process that is carried out and used by the readers to obtain the message to be conveyed by researchers through the media

of words or written language (Tarigan, 2008) It can be understood by the researcher that reading is an activity to understand and explore information conveyed by the writer through written media.

1.2 Purpose of Reading

The purpose of reading is to connect the ideas on the page to what readers already know. If the readers do not know anything about a subject, then pouring words of text into your mind is like pouring water into the hand. It is mean that the readers do not retain much.

According to Grabe William and L. Fredrika (2002), the category of the purpose of reading includes is: reading to search for simple information, reading to skim quickly, reading to learn from text, reading to integrate information, reading to write, reading to critique texts, and reading for general comprehension.

- a. Reading to search for simple information is common reading ability, though some researchers see it as a relatively independent cognitive process. It is used so often in reading tasks that is probably best seen as a type of reading ability.
- b. Reading to skim quickly is a common part of many reading tasks and a useful skill in its own right. It involves, in essence, a combination of strategies for guessing where important might be in the text, and then using basic reading comprehension skills on those segments of the text until a general idea is formed.
- c. Reading to learn typically occurs in academic and professional contexts in which a person needs to learn a considerable amount of information from a text, it requires abilities to remember the main ideas, recognize and build rhetorical frames and link the text to the reader base.
- d. Reading to integrate information requires an additional decision about the relative importance of complementary, mutually supporting or conflicting information and likely restructuring of a rhetorical frame to accommodate information from multiple sources.

- e. Reading to write and reading to critique texts may be task variants of reading to integrate information. Both require abilities to compose, select, and critique information from a text.
- f. Reading for general comprehension when accomplished by a skilled fluent reader, require very rapid and automatic processing of words, strong skills in forming a general meaning representation of the main the idea, and efficient coordination of many processes under very limited time constraint.

Based on the description above, it can be concluded that reading for each person has a different purpose in terms of their reading interest. But in general, it can be concluded that the main purpose of reading is to obtain certain information from various available sources, both from print and electronic media that are able to make readers understand what they are looking for in Reading Comprehension.

1.3 Reading Comprehension

Reading comprehension is a complex interaction among automatic and strategic cognitive processes that enables the reader to create a mental representation of the text (Espin. P. v., 2012). Mental representation is a theoretical mental structure to model information processing, perception, memory, thinking, speech, and other functions. If this mental representation occurs well then the cognitive level and strategies used in reading reach a good level to create good reading comprehension as well.

Reading comprehension is defined as a process of building an understanding that is supported by the texts read. A good text is very influential for the reader in interpreting a particular reading. Reading comprehension is very dependent on how the arrangement of the text on the meaning contained in the reading. (Caldwell, 2008) states that reading comprehension is the process of extracting and constructing meaning through interaction and involvement with written language.

From (Lerms, 2010) explanation, we know that reading comprehension can be

achieved when a reader can get some information from the written text. Reading comprehension is a dynamic competency according to the purpose of reading and the text that is involved. Reading comprehension also needs the reader's background of knowledge and both cognitive and metacognitive strategies. (Guthrie, 2008) also gives an explanation of reading comprehension. He explains that to comprehend the text, we have to connect the knowledge we have to the topic presented in the passage. Guthrie states reading comprehension is a process of connecting the text and the student's prior knowledge about the topic of the text.

From the explanation of several theories above, it can be concluded that reading comprehension is a person's ability to interpret a reading. Reading comprehension cannot be owned by everyone because it depends on everyone's level of understanding. Therefore, the ability to read is improved only by always doing reading activities to get used to the words obtained.

1.4 The Types of Reading Comprehension

(Pourkalhor, 2013) Different types of reading comprehension are often distinguished, according to the reader's purpose in reading and the type of reading used. The following are commonly referred to:

- a. Literal comprehension: reading in order to understand, remember, or recall the information explicitly contained in a passage.
- b. Informational comprehension: reading in order to find information that is not explicitly stated in a passage, using the reader's experience and intuition and inferring.
- c. Critical or evaluative comprehension: reading in order to compare information in a passage with the reader's own knowledge and values.
- d. Appreciative comprehension: reading in order to gain an emotional or another kind of valued response from a passage.

1.5 Color Coding

According to the background material, students frequently have trouble recalling

what they have just read or noted, necessitating a reopening of their notes in order to refresh their memories. They also acknowledge that words made out of letters are a little simpler to recall than ones with more letters. Students acknowledged that despite their repeated efforts to memorize material, they frequently forget it. He acknowledges that the writing in the book is not engaging, which causes him to forget what he has just read rapidly. One of the challenges to learning may be the issues listed above.

The problem is how to store the important information that is obtained longer in memory. (DePorter, 2013) in their book states "individuals tend to remember things that are absurd, sexual, vulgar, colorful, highlighted and imaginative". In the book it is stated explicitly, that color can affect an individual's memory. Color is believed to be the most important visual experience for humans (Radvansky, 2006). Color serves as a powerful channel of information for the human cognitive system and it has been found that color has a significant role in improving memory performance (Wichmann, 2002). In educational settings, students are expected to have excellent academic achievement. The extent to which students use their cognitive abilities is also important and can contribute to better academic achievement (Mariam, 2012). Students' cognitive abilities refer to the way students see, pay attention, remember, think, and understand lessons. According to the background material, students frequently have trouble recalling what they have just read or noted, necessitating a reopening of their notes in order to refresh their memories. They also acknowledge that words made out of letters are a little simpler to recall than ones with more letters. Students acknowledged that despite their repeated efforts to memorize material, they frequently forget it. He acknowledges that the writing in the book is not engaging, which causes him to forget what he has just read rapidly. One of the challenges to learning may be the issues listed above.

The ability to encode, store, and retrieve the information you're attempting to learn is improved when the content is presented

in color as opposed to black and white. Language learners can acquire new vocabulary words in their target foreign language more easily by using color-coding. When students are instructed to highlight/color-code only the words and concepts that are crucial to comprehending the text, this is known as selective highlighting. This tactic should be carefully taught to students by thorough modeling, encouragement, and unambiguous instructions.

Colorful highlighters and markers are a lot of fun, but that's not all there is to it. It has been proven that employing color in the classroom has tangible advantages. Color-coding enhances memory, makes you a more effective thinker, and makes it easier to visually distinguish between topics and ideas.

RESEARCH METODOLOGY

Type of the Research

This research used a quantitative approach by applied the pre-experimental method with one group pre-test and post-test design. Pre-experimental research is research that observes the main group and intervenes throughout the study. In this design, there is no control group to compare with the experimental group (Cresswell, 2009). This study used a new learning method, so the focus of this research was the test score after being given treatment. Besides that, researcher can also focus on teaching method with one group so that the expected variable can be achieved. The design was presented as follows:

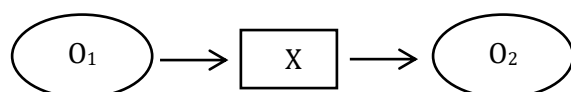


Figure 1. Pre-experimental Design

Where:

O₁: Pre-test

X: Treatment

O₂: Post-test

(Sugiyono., 2013)

This research has two different variables, there were independent variable (X) and dependent variable (Y):

Independent Variable (X)

Independent variable is also often referred to as stimulus, predictor, and antecedent variables. As we know that in Indonesian we say 'Free Variable'. The independent variable is the variable that affects or is the cause of the change or the emergence of the dependent variable. This variable can stand alone without being influenced by any factors. The independent variable in this study was Color Coding Technique.

Dependent Variable (Y)

The dependent variable is often referred to as the output variable, criteria, and consequent. In Indonesia, the dependent variable is often known as the 'Bound Variable'. The dependent variable is the variable that is affected or which is the result of the dependent variable. Therefore, in this study, the dependent variable was reading comprehension.

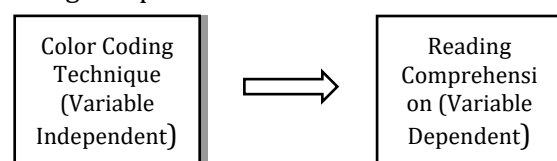


Figure 2. The connection between variable independent and variable dependent

Population and Sample of the Research

Population

Population is a generalization area consisting of Objects/subjects that have certain quantities and characteristics determined by the researcher to be studied and then conclusions can be drawn." (Sugiyono., 2013). The population is all certain objects that are used as data collection material. In this study, the research population was class of XI at SMK N 1 Baubau in the school year 2021/2022. Based on the data obtained from the school, the total population was 498 students which consist of 15 classes.

Table 1. The Population of XI Grade of SMK N 1 Baubau

Competence in The Field of Expertise	1	2	3	4	5	Total
Otomatisasi Tata Kelola Perkantoran (OTKP)	35	35	34	36	35	175
Akutansi Keuangan dan Lembaga (AKL)	35	34	33	34	33	169
Bisnis Daring dan Pemasaran (BDP)	33	31	31	30	29	154
Total of All Students						498

Sample

The sample is part of the number and characteristics possessed by the population. In this study, researchers used simple random sampling. The samples used in this study were students of class XI Otomatisasi Tata Kelola Perkantoran 2 at SMKN 1 Baubau. The total sample in this study were 35 students.

Instrument and Technique of Data Collection

Instrument of Data Collection

The pre-test and post-test reading tests were utilized by the researcher to evaluate the students' reading comprehension. There were 20 questions in the multiple-choice test, which was administered. The pre-test was administered prior to the treatment in order to ascertain the students' prior knowledge and to determine their scores, which would later be used to determine whether or not there had been an improvement. After applying color coding, the post-test was administered, and the findings were compared based on the variance between the pre-test and post-test.

The reading test consisted of questions related to the text gave covering the generic structure of the text. Here were the specific items of reading comprehension:

Table 2. Bluepirnt of Reading Comprehension and Spesific Items (Pre-Test and Post-Test)

No.	Material	Indicator	Items	
			Pre-Test	Post-Test
1.	Main Idea	Identify the main discussion of each paragraph.	1, 9, 14, 17	11, 16, 7
2.	Supporting Details	Determine the specific information related the main idea in the paragraph.	1, 6, 10, 16	1, 2, 12, 14
3.	Vocabulary	Determine word meaning, synonym and antonym.	5, 8, 13, 15	10, 15, 18
4.	Reference	Determine a pronouns in the text.	4, 7, 12, 19	5, 9, 13, 20
5.	Inference	Gues or make an opinion from a part of the text based on the information.	3, 11, 18, 21	3, 6, 8, 14, 17, 19
Total			20	20

Technique of Data Collection

- The pre-test is the initial data collection before doing the treatment, the students are given the pre-test to find out where their prior knowledge and to know the score of the students who eventually find out the results of whether there is an increase or not in the post-test. In this case, the researcher gave a pretest before presenting the reading text. The researchers used a test with multiple-choice questions.
- The treatment used in the teaching and learning process. The treatment was carried out in two meets and in each meeting, the researcher was given one or two texts as teaching material. The steps of treatment which were given: 1) Opening class with greetings; 2) Checking students attendance; 3) Explaining the narrative text and its elements; 4) Providing the opportunities for students to ask question about narrative text; 5) Providing narrative teks with color coding technique; 6) Explaining more deeply the use of color coding technique in narrative text; 7) Making groupwork and gave exercise with questions based on the text; 8) After giving the treatment, the students did the homework; 9) Drawing the conclusion from the aterial that has been taught; 10) Closing the class.

Post-test is a test is given after the treatment has done to know the achievement and students' development after the learning process in students reading comprehension

by using the color-coding technique through the text which the results compared from the difference between the pre-test and post-test.

Technique of Data Analysis

To explore all percentages of score, mean score, standard deviation, and t-test, the researcher used Statistical Product and Service Solution (SPSS). Descriptive and inferential statistics was used to analyze the data of the research. They were as follows:

Descriptive Statistic

A descriptive statistic is required to indicate general tendency (mean, mode, and median) and the spread of scores (variable standard, deviation, and range), (Creswell, 2012). In descriptive statistics, the researcher only describes the state of the data as it is through parameters such as mean, median, mode frequency distribution, and other statistical measures.

- a. The Score Clasification of Reading

Table 3. The Score Clasification of Reading

Score	Classification	Score on Letter
86-100	Very Good	A
71-85	Good	B
56-70	Moderate	C
<55	Poor	D

(Wachida, 2017)

$$\text{Precentage} = \frac{\text{Total Score}}{\text{Toal Ideal Score}} \times 100\%$$

- b. Calculating the mean score of the students' answers by using the formula:

$$\bar{X} = \frac{\sum X}{N}$$

Where:

\bar{X} = Mean Score

$\sum X$ = Total Score

N = The Number of Objects.

- c. Finding out the significant difference between the pre-test and post-test by calculating the value of the test. The following formula was an employee:

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}$$

Where:

T = t significant

D = the difference between the scores of pre-tests and post-test

\bar{D} = the mean score of the difference between the scores of pre-tests and post-test

N = the number of pairs of the subject in the study, (Gay, 1981.)

Inferential Statistic

(Sugiyono., 2013) explains that inferential statistic is a technique of statistic that use to analyze the sample data and the result that are applied to the population. This type of statistic is appropriate to use if the sample is taken to form the population and the technique to determine the sample from the population is randomly selected. The researcher used paired sample test in counting inferential of the sample on students' pretest and post-test for experimental class. In this research, the hypothesis was examined by applying t_0 with the value of significance (α) = 0.05 or 5%. The criteria for receiving or rejecting the hypothesis are as follows:

- a. If $t_{\text{count}} > t_{\text{table}}$ or probability value (sig. (2-tailed)) $< \alpha$, the alternative hypothesis is accepted and the null hypothesis is rejected. It means that there was any significant difference in students' reading comprehension by using the color-coding technique in the narrative text of class XI students at SMK N 1 Baubau.
- b. If $t_{\text{count}} < t_{\text{table}}$ or probability value (sig. (2-tailed)) $< \alpha$, the alternative hypothesis is rejected and the null hypothesis is accepted. It means that there was no significant difference in students' reading comprehension by

using the color-coding technique in narrative text class XI students at SMK N 1 Baubau.

RESEARCH FINDING AND DISCUSSION

Finding

The research was conducted in the odd semester learning of the 2022/2023 academic year in class XI OTKP 2 at SMKN 1 Baubau with a total of 35 students. This research was conducted from August 10 to August 31, 2022. By implementing a student-centered learning system, it produces a diversity of reading comprehension for their students. This research was conducted in several stages, namely giving pre-test, treatment and post-test.

Descriptive Analysis

a. Pre-Test

Pre-test is an initial test given to measure the initial reading comprehension of students which consists of 20 multiple choice questions. The data results from the minimum, maximum, average and standard deviation values can be seen in the table below:

Table 4. Descriptive Analysis of Pre-Test

Minimum	5
Maximum	55
Mean	24.43
Std. Deviation	10.345

From the values in the table above, the minimum score for students on the test is 5, the maximum score for students is 55; the average score of students is 24.43; and the standard deviation is 10,345.

Table 5. Distribution of Students' Reading Comprehension Score on Pre-Test in Pre-Experimental Class

Score	Classification	Score on Letter	Frequency	Percentage
86-100	Very Good	A	-	-
71-85	Good	B	-	-
56-70	Moderate	C	-	-
< 55	Poor	D	35	100%
Total			35	100%

From the data above, there are no students who meet the Very Good classification with a score of 86-100; There are no students who meet the Good classification with a score of 71-85; There are no students who meet the Moderate classification with a score of 56-70; and there are 35 students in the Poor category with scores below 55. It can be conclude that the students do not fully have good ability in reaing because all students have low scores is in the poor classification ia 55 and or below.

b. Post-Test

Post-Test is a final test given to measure students' reading comprehension after being given treatment consisting of 20 multiple choice questions. The data results from the minimum, maximum, average and standard deviation values can be seen in the table below:

Table 6. Descriptive Analysis of Post-Test

Minimum	25
Maximum	90
Mean	60.29
Std. Deviation	13.824

From the values in the table above, the minimum score for students on the test is 25, the maximum score for students is 90;

the average score of students is 60.29; and the standard deviation is 13,842.

Table 7. Distribution of Students' Reading Comprehension Score on Pre-Test in Pre-Experimental Class

Score	Classification	Score on Letter	Frequency	Percentage
86-100	Very Good	A	1	2.9%
71-85	Good	B	4	11.4%
56-70	Moderate	C	15	42.8%
< 55	Poor	D	15	42.9%
Total			35	100%

From the data above, there is 1 student who gets an A in the Very Good classification, with a score of 86-100, with a presentation of 2.9%; There are 4 students who get a B grade in the good classification, with a score of 71-85, with a presentation of 11.4%; There were 15 students who scored C in the Moderate classification, with a range of 56-70 with a percentage of 42.8%; and there are 15 students included in the Poor category with scores below 55, with a presentation of 42.9%. It can conclude that students have an increase in reading comprehension scores. Of the total number of students can occupy all value classification which means that color coding technique is able to influence students reading focus and motivation in learning.

- a. Minimum, Maximum, Mean Score and Std. Deviation of Pre-Test and Post-Test

Table 8. Descriptive Statistics of Pre-Test and Post-Test

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	35	5	55	24.43	10.345
Posttest	35	25	90	60.29	13.824
Valid N (listwise)	35				

After all the data obtained from the Pre-Test and Post-Test scores, it can be seen that the two tests have significantly different values. In the Pre-Test, the minimum score is 5, the maximum value is 55; the average score is 24.43; and the standard deviation is 10,345. While the data on the Post-Test obtained the minimum value is 25, the maximum value is 90; the average score is 24.43; and the standard deviation is 10,345.

From the data generated, the researcher concludes that the average Post-Test score obtained by students is better than the students' Pre-Test scores, with a percentage of 42.9%.

Prerequisite Analysis

1) Normality Test

Table 9. Tests of Normality

Test	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Nilai	Pre-Test	.133	35	.119	.952	35
	Post-Test	.098	35	.200 [*]	.978	35

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the analysis of the data above, the value of Sig. greater than 0.05 (sig > 0.05). In Kolmogorov-Smirnova Pre-test data was 0.133, with sig. of 0.199. while the post-test data was 0.098, with a value of sig. 0.200. Meanwhile, in Shapiro-W the pre-test data was 0.952 with a sig. 0.132. while the post-test data was 0.978 with a sig. 0.700. So it can be concluded that the data is normal because it does not have a significant difference.

2) Homogeneity Test

Table 10. Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	1.919	1	68	.170
	Based on Median	1.968	1	68	.165
	Based on Median and with adjusted df	1.968	1	62.565	.166
	Based on trimmed mean	1.879	1	68	.175

Based on the homogeneity of variance test table, the based on mean was 1.919, the df1 was 1, df2 was 68 and the significant value was 0.170. Based on median was 1.968, df1 was 1, df2 was 68 and the significant value was 0.165. Based on Median and with adjusted df was 1.968, df1 was 1, df2 was 62.565 and the significant value was 0.166. and based on trimmed mean was 1.879, df1 was 1, df2 was 68, and the significant value was 0.175. Based on the data analysis, it can be concluded that the independent variable and the dependent variable are homogeneous, because the data are the same without any differences.

Inferential Analysis

1) Hypothesis Test

Table 11. Hypothesis Testing - Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Pair 1	PRE-TEST - POST-TEST	35.857	16.156	2.731	30.307	41.407	13.131	.000

Judging from the hypothesis test table above, the sig value is obtained (2-tailed) 0.000 is less than 0.05 ($0.000 < 0.05$). Therefore, the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. In other words, there are significant variables in this research, namely the color-coding technique can improve the students' reading comprehension in the

narrative text in grade XI OTKP 2 at SMKN 1 Baubau.

Discussion

This study took one class consisting of 35 students. The treatment is carried out sequentially in accordance with the completed learning plan. The number of students in the pre-test was 35 students and the questions in the pre-test were different from the questions in the post-test. The total number of students in the post-test is the same, there are 35 students with different questions in the pre-test. The difference between the pre-test and post-test questions was carried out in order to further measure the value of students' reading comprehension. The both of the questions are distinguished because the question will be easy to remember when the pre-test questions are given so that they can trigger the students answer to the post-test question. In addition, the pre-test and post-test distinguished because students focus on re-reading the readings that are given properly as directions for the treatment that has been given.

Based on the data obtained in the tests that have been carried out by the students of class XI OTKP 2 at SMKN 1 Baubau, color coding has a significant effect on students' reading comprehension skills. This is in accordance with what was obtained in previous research using the color coding technique, namely "A lesson using color coding for teaching vocabulary could improve students' ability in vocabulary. Color coding can help the writer in teaching learning process more interesting. Color coding can motivate students more and help them create ideas and feeling, because they knew more vocabulary", (Nurdiansyah, 2019).

The results of the data calculation show that there is a good change in the pre-test and post-test scores. The mean value of the pretest was 24.43, far below the average score of the post-test which was 60.29. In addition, the classification score for students increased better than before, initially none of them got the moderate to very good category, finally after receiving treatment the students were able to fill in

the category. This shows that the change is directly proportional to what the researcher hopes that the color coding technique can improve students' reading comprehension skills.

Hypothesis testing in this study used the paired samples test, which showed that there was a significant change in this study in four meetings. It can be seen in the value of sig. (2-tailed) 0.000 is less than 0.05 ($0.000 < 0.05$). Therefore, the alternative hypothesis is accepted and the null hypothesis is rejected.

Color is inseparable from everything that exists, color also has a great influence on students' learning abilities. Similarly, as quoted by Gegenfurtner and Rieger (Sekuler, 2006) which explains that color makes it easier and faster for individuals to recognize objects and help individuals remember what they see. That means that a person's memory can affect the color that the individual focuses on. Colors help make students feel different when studying accordingly. As it is known that students' cognitive abilities refer to how students see, pay attention, remember, think, and understand lessons. So those strategies are needed to facilitate the learning process and color can play a role in motivating students to learn them.

Apart from that, in a study conducted by (Sujarwo, 2017) it was found that color has an effect on students' short term memory, it means that the presentation of material with using color, can be a strategy to improve cognitive abilities and student learning outcomes. This is directly proportional to this study which has a significant increase in changes in student learning abilities. Thus, the use of color coding techniques can improve students' reading comprehension ability.

CONCLUSION

Based on the research conducted by the researcher by applying the pre-experimental method with one group pre-test and post-test design, it changed the reading comprehension of XI OTKP 2 students at SMKN 1 Baubau in the 2021/2022 academic year. Before receiving

treatment, these students had low reading comprehension scores, starting from their low vocabulary, understanding of words or sentences, and low understanding of good and correct English grammar. From the data listed, the average value of the pre-test of students is 24.43 with a standard deviation of 10.345. After getting treatment with the color coding technique, finally, the students' reading comprehension was slightly better than before. In the post-test, the average score of students was 60.29 with a standard deviation of 13,824. Changes in the average value increased by a difference of 35.86. Likewise, the standard deviation value increased by a difference of 3,479. Apart from that, the data for calculating the hypothesis test used the paired simple test resulted that the sig. value (2-tailed) was 0.000 is lower than 0.05, which indicates that the alternative hypothesis is accepted in this study.

Based on the results obtained in this study, the researcher concluded that learning using color coding techniques can significantly improve students' reading comprehension in class XI OTKP 2 at SMKN 1 Baubau.

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