

THE EFFECT OF USING PICTURE WORD INDUCTIVE MODEL (PWIM) IN TEACHING WRITING DESCRIPTIVE TEXT AT ELEVENTH GRADE STUDENTS OF SMA NEGERI 4 PEMATANGSIANTAR

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Abstract

This research aims to determine the effect of using the Picture Word Inductive Model (PWIM) on students' ability to write descriptive texts at SMA Negeri 4 Pematangsiantar. The research employed a quantitative method using a pre-test and post-test design with control and experimental groups. Two classes were selected through simple random sampling: XI-1 as the control group and XI-2 as the experimental group. The experimental group was taught using PWIM, while the control group was taught conventionally. The results showed that the experimental group's mean score improved from 62.2 to 85.57, while the control group's score increased from 63.08 to 71.63. The t-test result (3.43) was higher than the t-table value (2.382) at the 0.05 significance level, indicating a significant difference between the two groups. Therefore, it can be concluded that PWIM effectively improves students' writing ability in descriptive texts.

Keywords: *Picture Word Inductive Model (PWIM), writing skill, descriptive text, quantitative research.*

INTRODUCTION

Writing is one of the essential skills that students must master in learning English as a foreign language (EFL). It plays a crucial role in enabling students to express ideas, organize thoughts, and communicate effectively in written form. According to Beniario and Saputra (2021), writing is an important skill that students are required to achieve since it is demanded in various learning activities, such as completing assignments and examinations. However, writing is also considered the most challenging skill for EFL learners because it involves complex cognitive processes, including generating, organizing, and expressing ideas coherently. In English language learning, four primary skills are emphasized listening, speaking, reading, and writing which are interconnected and essential for language proficiency (Sabrina et al., 2020). Based on their functions, listening and speaking belong to oral language skills, whereas reading and writing are categorized as written language skills. Among these, writing serves as a vital tool for communication, allowing learners to convey their thoughts, opinions, and experiences in a structured manner (Rajesh, 2017). At the senior high school level, writing constitutes a major focus of English instruction, as students are expected to demonstrate competence in producing various text genres in accordance with the curriculum objectives.

In the Indonesian context, students are required to master several text types, including Spoof, Recount, Report, Analytical Exposition, Explanation, Discussion, and Review texts. Each genre possesses its own purpose, structure, and linguistic features. This research, however, focuses specifically on *descriptive text*, which aims to describe the characteristics of a person, place, or object. A descriptive text generally consists of two main parts: identification, which introduces the subject, and description, which elaborates on its features. In writing descriptive texts, students are expected to use appropriate linguistic elements such as the simple present tense and adjectives (Oktafiani & Husnussalam, 2021). Despite being taught from the early stages of English learning, many students still encounter difficulties in writing descriptive texts. Common challenges include limited vocabulary, lack of ideas, poor grammar, and difficulty in maintaining coherence and cohesion. These obstacles often result in low motivation and unsatisfactory writing performance. Therefore, an effective instructional strategy is needed to help students develop their writing ability and engage more actively in the learning process. One promising approach to

address these challenges is the Picture Word Inductive Model (PWIM). PWIM is a visual-based teaching strategy that employs pictures containing familiar objects, actions, or scenes to stimulate vocabulary development and improve writing skills. According to Beniario and Saputra (2021), PWIM can be applied across various educational levels and supports the integrated development of language skills. Through PWIM, students are encouraged to observe pictures, identify and label objects, generate related words, and use them to construct sentences and coherent paragraphs. This process not only enriches students' vocabulary but also promotes creative and logical thinking in writing. Based on these considerations, the researcher decided to apply the Picture Word Inductive Model in teaching writing, particularly descriptive texts, to the eleventh-grade students of SMA Negeri 4 Pematangsiantar. It is expected that the use of PWIM will enhance students' motivation, facilitate idea generation, and improve their overall writing proficiency. Consequently, this research is entitled: **"The Effect of Using Picture Word Inductive Model (PWIM) in Teaching Writing Descriptive Text at Eleventh Grade Students of SMA Negeri 4 Pematangsiantar."**

Problem Identification

Based on the research background and classroom observations, the researcher identified several common problems faced by students in writing descriptive texts, namely:

1. Students have limited vocabulary, which hinders their ability to describe objects or people effectively.
2. Students lack ideas and demonstrate low motivation in writing activities.
3. Teachers still rely on conventional teaching methods that do not engage students actively in the learning process.

Research Problem

Based on the issues mentioned above, the research problem can be formulated as follows: Is the effect of using the Picture Word Inductive Model (PWIM) more significant than the effect of not using it on students' ability in writing descriptive texts at the eleventh grade of SMA Negeri 4 Pematangsiantar?

Objective of the Research

The objective of this research is:

To determine the effect of implementing the Picture Word Inductive Model (PWIM) on the eleventh-grade students' ability in writing descriptive texts at SMA Negeri 4 Pematangsiantar.

LITERATURE REVIEW

A. Writing

Writing is the act of forming visual symbols that represent letters, which are then structured into meaningful sentences. It also involves the process of expressing ideas by translating thoughts into written language (Ferry, 2017). As one of the four fundamental language skills, writing plays a crucial role in second or foreign language learning because it reinforces vocabulary, spelling, and grammar. Moreover, writing serves as a means to evaluate learners' understanding and identify areas that need improvement. Herizal (2015) explains that writing is a demanding skill because it requires multiple abilities: recognizing letter shapes, associating them with sounds, and combining them into coherent words and sentences. Writing, like speaking, is a natural way to produce language in which individuals generate, organize, and revise ideas before presenting them in written form. Based on these definitions, writing can be described as a vital skill that supports language development and helps students communicate their ideas clearly and effectively.

1. The Process of Writing

According to Harmer (2004, as cited in Asyura, 2019), the writing process refers to the stages that writers go through to produce a final written product. These stages include **planning, drafting, editing, and producing the final version**.

- **Planning:** In this stage, writers decide what they are going to write, considering purpose, audience, and content structure.
- **Drafting:** Writers begin to put their ideas into sentences and paragraphs, developing initial versions of their work.
- **Editing (Reflecting and Revising):** After drafting, writers review their work, identify unclear or incorrect parts, and revise for clarity and accuracy.

- **Final Version:** Once necessary revisions are made, writers produce the final version, which may differ substantially from the original draft.

Thus, writing is a complex skill that involves several stages. Each step helps the writer organize thoughts, apply grammatical rules, choose appropriate words, and produce coherent and logical sentences.

2. Types of Writing

Kane (2003, as cited in Kristina & Hutahaeen, 2025) identifies several types of writing as follows:

- a. **Exposition:** Aims to explain a topic concisely and clearly, often to inform or attract readers' attention.
- b. **Description:** Focuses on sensory experiences such as sight, sound, and touch, describing people, places, or events vividly.
- c. **Narration:** Presents a sequence of events in chronological order, typically with a beginning, middle, and end.
- d. **Persuasion:** Seeks to influence readers' attitudes or actions by inviting or convincing them to agree with the writer's viewpoint.
- e. **Argumentation:** Provides reasoning and evidence to persuade readers to accept or believe a particular stance.

3. Teaching Writing

Writing, like other language skills, is taught in schools and is often considered the most difficult to master. Effective writing instruction should focus not only on the final product but also on the writing process. Brown and Abeywickrama (2018) classify writing performance into five categories:

- a. **Imitative or Writing Down:** Students learn to form letters, words, and sentences to understand the conventions of written English.
- b. **Intensive or Controlled Writing:** Writing exercises that reinforce grammar and structure, often through controlled practice.
- c. **Self-Writing:** Writing for personal use, such as journals or notes.
- d. **Display Writing:** Writing intended to show knowledge, such as essays, reports, or test answers.
- e. **Real Writing:** Writing for authentic communication with a real audience.

Harmer (2004, as cited in Asyura, 2019) emphasizes that writing instruction should include activities that allow students to plan, draft, revise, and edit their work. Teachers should create opportunities for students to engage in these stages repeatedly to improve their final writing outcomes.

4. Techniques for Assessing Writing Skills

According to Heaton (1990, as cited in Asyura, 2019), several components should be assessed in writing: **content, organization, vocabulary, language use, and mechanics.**

- **Content:** The relevance and development of ideas in relation to the topic.
- **Organization:** The logical arrangement and coherence of ideas.
- **Vocabulary:** The range and appropriateness of word choice and idiomatic usage.
- **Language Use:** The correct application of grammar, syntax, and structure.
- **Mechanics:** The accuracy of spelling, punctuation, capitalization, and handwriting (Septiani, 2018).

These components ensure that writing is not only meaningful but also technically accurate and easy to comprehend.

B. Descriptive Writing

1. Definition of Descriptive Text

Descriptive text is a type of writing used to describe particular people, animals, objects, or events in detail (Knapp & Watkins, 2005). According to Eko and Noprianto (2017), description involves naming and classifying characteristics such as attributes, behaviors, and functions to help readers visualize the subject being described. Similarly, Gomez and Tran (2022) state that descriptive writing uses sensory language sight, sound, smell, taste, and touch to create vivid imagery in the reader's mind. In summary, descriptive text aims to provide a clear, detailed picture of something or someone so that readers can imagine it as if they see or experience it directly.

2. Generic Structure and Language Features

The structure of descriptive text generally consists of:

- a) **Identification:** Introducing the subject or object to be described.
- b) **Description:** Explaining the parts, qualities, or characteristics of the subject.

The main **language features** include:

- Focus on specific participants.
- Use of the **simple present tense**.
- Frequent use of adjectives and adverbs.

For example:

Figure 2.1. Kuta Beach (Source: Indonesia Kaya, 2025)



Identification:

Bali is one of the most famous tourist destinations in Indonesia. It has many beautiful beaches, and one of the most popular is Kuta Beach.

Description:

Kuta Beach has white sand and clear blue water. The waves are perfect for surfing, and the sunset view attracts many local and foreign visitors. Around the beach, there are hotels, cafes, and souvenir shops that create a lively atmosphere for tourists.

C. Teaching Strategies

Teaching strategies refer to the methods and techniques teachers use to facilitate learning. According to Isaac (2010, as cited in Saputra, 2014), teaching strategies involve designing appropriate activities, providing stimuli, and engaging students actively. Several effective strategies for teaching writing include:

1. **Think–Talk–Write (TTW):** Involves reading, discussing, and then writing, allowing students to process ideas before expressing them in written form (Suyatno, 2009, as cited in Asyini et al., 2020).
2. **Scaffolding:** Based on Vygotsky's (1978) sociocultural theory, scaffolding provides learners with temporary support from teachers or peers to accomplish tasks beyond their current ability (Widiana et al., 2021).
3. **Role Playing:** Encourages students to act out real-life situations, enhancing communication and emotional expression (Ganiyevna & Abdullayevna, 2021).
4. **Mind Mapping:** A visual strategy to organize ideas around a central concept, helping students brainstorm and plan their writing (Murley, 2007, as cited in Mirza, 2016).
5. **Picture Word Inductive Model (PWIM):** An integrated approach that combines visual images with language learning activities to build vocabulary, spelling, and writing skills (Sutra, 2020).

D. Picture Word Inductive Model (PWIM)

A picture serves as a visual representation that helps students connect language with meaning. Selecting relevant and familiar pictures can stimulate students' interest and motivation, making learning more natural and effective. Picture Word Inductive Model is a strategy that used an integrated language arts approach to teaching reading and writing, and includes the components skill of phonetics analysis, structured analysis, spelling and mechanics. (Sutra, 2020)

1. Implementation of PWIM

The PWIM strategy can be implemented in whole-class, small-group, or individual settings. The process involves several steps:

1. The teacher presents a clear, engaging picture to attract students’ attention and activate prior knowledge.
 2. Students identify and label objects found in the picture; the teacher records these words around the image.
 3. Students classify words into categories such as appearance, actions, or characteristics.
 4. Students use these categorized words to construct simple sentences and then develop them into descriptive paragraphs.
 5. The teacher guides students in revising and editing their writing for grammar, spelling, and coherence.
- Through this process, PWIM helps learners expand vocabulary, strengthen sentence construction, and develop descriptive writing skills systematically.

E. Review of Previous Studies

Several studies have confirmed the effectiveness of the Picture Word Inductive Model (PWIM) in improving students’ descriptive writing skills. Sutra (2020) found that students’ average scores increased from 42.24% (pre-test) to 66.77% (post-test). Similarly, Oktafiani and Husnussalam (2021) reported a significant improvement from a mean score of 64 to 85 after implementing PWIM. Beniario and Saputra (2021) also showed that the experimental class using PWIM achieved a higher post-test mean (77.59) compared to the control group (65.74). Furthermore, Ermita et al. (2019) demonstrated progressive improvement through three cycles of classroom action research, with the final mean score reaching 80 (100% of students passing the standard). Sari and Santika (2020) likewise observed an increase in mean scores from 47.5 before treatment to 85.5 afterward. Taken together, these findings consistently support the conclusion that the Picture Word Inductive Model is an effective strategy for enhancing students’ ability to write descriptive texts.

F. Conceptual Framework

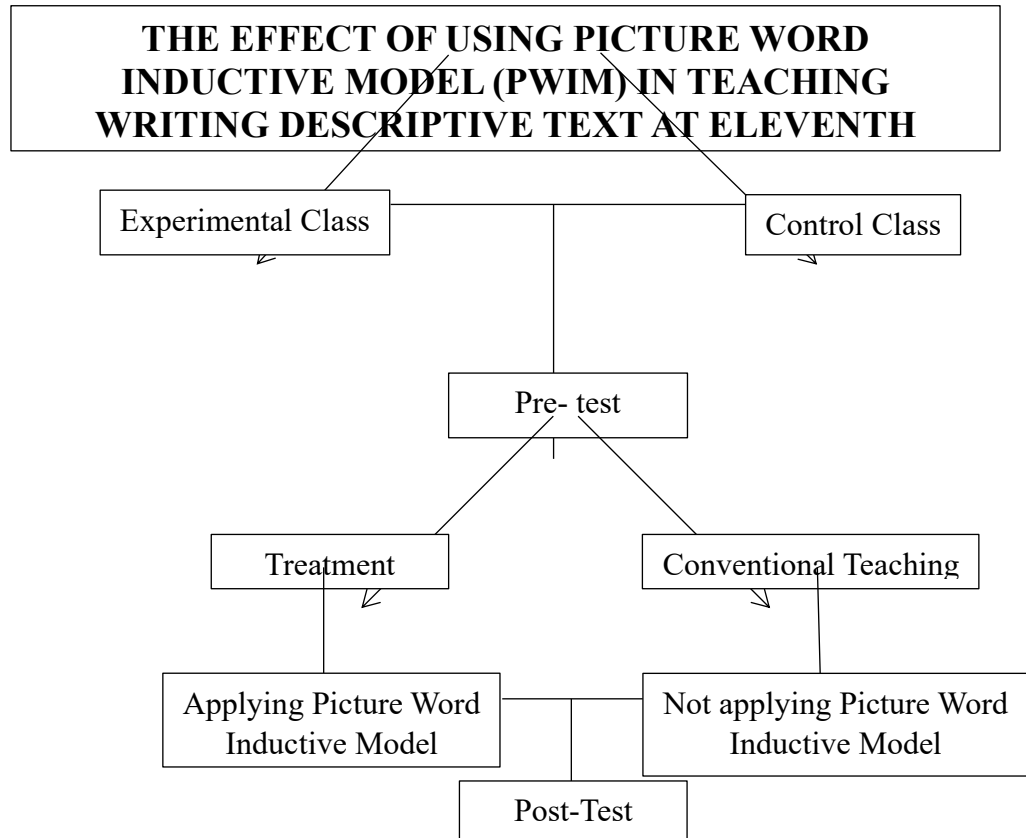


Figure 2.2. Conceptual Framework

Writing is an essential component of language acquisition. Various aspects contribute to writing proficiency, such as vocabulary, grammar, organization, spelling, and punctuation. Herizal (2015) explains that

writing is a demanding task for students because it involves multiple abilities: recognizing the shapes of letters, associating them with specific sounds, and combining them into coherent words and sentences. One effective strategy for enhancing students' ability to write descriptive texts is the use of the Picture Word Inductive Model (PWIM). The Picture Word Inductive Model (PWIM) is a teaching strategy that uses images of familiar objects, actions, or events to help students develop vocabularies and improve their writing skills. PWIM assists students in composing descriptive texts by guiding them to observe and identify elements in a picture, recognize related words, and then use those words to form sentences and paragraphs.

This strategy has several processes to apply. The first, students need to find out the word in the picture. They must labeling, reading and reviewing the word generate. Next, they need to classify the words. After that, students can composing the sentences, title and arrange the sentences into a good descriptive paragraph from the picture and words. The choice of descriptive text as the central focus of this research aims to enhance students' writing proficiency. By engaging with this text type, students are trained to convey their ideas while giving particular consideration to essential aspects, including content, organization, vocabulary, language use, and writing mechanics.

METHOD

Research design is generally categorized into qualitatives, quantitatives, and mixed methodology (Creswell, 2014: 3). Researcher uses the design of research based on quantitatives research. So, this research focuses on data collections and analysi of numerical data as a forms of answer in the research. By collecting the data then analyzing the data the researcher wants to know the influence of Pictures Words Inductives Models (PWIM) strategy on student skill in writings descriptives a text. This research design is to describe and prove the effect of Picture words inductives models to the student writings ability in writings a descriptives a text.

Groups	Pre-test	Treatment	Post-test
EG	✓	X	✓
CG	✓	Y	✓

EG: Experiment Groups

CG: Controls Groups

X : Treatment use Picture Word Inductives Model

Y : Treatment without use Picture words inductives models

A. Populations and Sample

1. Populations

Populations is defined as all members of any well-defined clas of people, events, or objects. Populations is also the groups of people that you want to find out about by doing the research. Subjects of this research is the grade eleventh student of SMA Negeri 4 Pematangsiantar in academic years 2025/2026.

Table 3.1. Populations of the Research.

Class	Student
XI-1	35
XI-2	36
XI-3	36
XI-4	36
XI-5	36
XI-6	36
XI-7	36
XI-8	33
XI-9	35
XI-10	34
XI-11	36
XI-12	36
Total	425

2. Sample

To take the sample, the researcher used simple random sampling. The basic characteristic of simple random sampling is that all members of the populations have an equal and independent chance of being included in the random sample (Setiawan & Gunawan, 2021). The researcher is chose grade XI-1 and XI-2 as sample, which grade XI-1 as controls class and XI-2 as experiment class.

B. Research Instrument

Research instrument is a tool for measuring, observing, or documenting quantitatives data. The researcher use instrument while collecting the data to make the researcher work easier and to get the better results, complete and systematic in order to make the data is easy to proces. The researcher also took photos and videos as evidence to support this research. The use of appropriate instruments is very important in quantitatives research because the quality obtained will affect the validity and reliability of the research results. In this research the researcher uses a writings test as instrument of the research, and the student are asked to writings a descriptives a text based one picture provided by the researcher. Data are needed to answer the research problem to examine the hypotheses which have been showed before. To collect the data, the researcher uses picture as the media and then the student will writings descriptives a text by their own sentence.

C. Technique for Collecting Data

When the researcher enter to the clas, there are three steps needs in collecting data, there are: Writings test for student in the controls groups and the experiment groups. The student in the controls groups are asked to writings a descriptives a text based one picture provided by the researcher. The writings test in the controls groups is conducted without use Picture words inductives models, while the test for the student in the experiment groups, the picture words inductives models is implemented to facilitate the student in writings descriptives a text. Both writings tests conducted in the controls groups and experiment groups are analyzed. The score of student in both groups are tested by use T-test to find out the effect of use Picture words inductives models on student ability in writings descriptives.

D. Technique of Analyzing Data

The data being analyzed is used to find out the results of the research. The research is focused to find out the effect of use picture words inductives models one student ability in writings descriptives a text. The analysi of data is made as the following steps:

1. Scoring the student ability in writings descriptives a text in the controls groups and experiment groups.
2. Find out the score of the writings test.
3. Tabulate the data into the table.
4. Find the student mean scores.

The data analysi in this research was analyzed quantitativesly. Some formulas applied in this research to proces data as follows:

a) Clasifying the student writings test score.

According to Heaton (1990, cited in Sutra: 27, 2020) there are some points that should ases in writings:

1) Content

Table 3.2. Score for content.

Score	Level	Criteria
30-27	Excellent to very good	Knowledge-substantives-etc.
26-22	Good to average	Some knowledge of subjects-etc.
21-17	Fair to poor	Limited knowledge of subjects-non substans-etc.
16-13	Very poor	Does not show knowledge of subjects-non substantives-etc.

2) Organizations

Table 3.3. Score for organizations

Score	Level	Criteria
20-18	Excellent to very good	Fluent expresion-ideas clearly stated-etc.
17-14	Good to average	Somewhat choppy- loosely organized but main ideas stand out- etc.
13-10	Fair to poor	Non-fluent- ideas confused or disconnected- etc.
16-13	Very poor	Does not communicate- no organizations- etc.

3) Vocabulary

Table 3.4. Score for Vocabulary

Score	Level	Criteria
20-18	Excellent to very good	Sophisticated range- effectives word forms choice
17-14	Good to average	Adequate range- occasional error of words forms, choice, usage, but meaning not obscured.
13-10	Fair to poor	Limited range- frequent errors of words forms, choice,
16-13	Very poor	Esentially translations- little knowledge of English vocabulary.

4) Language Use

Table 3.5. Score for Language Use

Score	Level	Criteria
25-22	Excellent to very good	Effectives complex constructions
21-19	Good to average	Effectives but simple constructions.
17-11	Fair to poor	Major problem in simple/complex constructions
10-5	Very poor	Virtually no mastery of sentence constructions

5) Mechanics

Table 3.6. Score for Mechanics

Score	Level	Criteria
5	Excellent to very good	Demonstrate master of conventions
4	Good to average	Occasional error of spellings, punctuations
3	Fair to poor	Frequent error of spelling punctuations capitalizations
2	Very poor	No master of conventions- dominated by error of spelling, capitalizations, paragraphs

b) Test Specifications of Writings descriptives a text

Table 3.7. Test Specifications in Writings

No.	Aspect	Criteria	Total point
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1	Content	- Identifications Identifies phenomenon to be describe. - Descriptions Describes parts, qualities, characteristics.	15 15
2	Organizations	- Paragraph - Coherence and Unity	10 10
3	Vocabulary	Effectives words, idiom	20
4	Language Use	Tenses (simple present tense), pronoun, prepositions.	25
5	Mechanics	Spellings, punctuations, capitalizations.	5
Total Score			100

c) The Clasifications of Student Score

Table 3.8. Clasifications of Student Score

No.	Clasifications	Score
1	Very Good	80-100
2	Good	66-79
3	Fair	56-65
4	Poor	40-55
5	Very Poor	≤39

d) Calculating the percentage of the student score

$$P = \frac{F}{N} \times 100\%$$

Where:

P: Percentage

F: Frequency of the correct answer

N: Total numbers of sample

e) Calculating the mean scores

The forms: Arikunto (2010, as cited in Kamarudin, 2021)

$$X = \frac{\sum x}{n}$$

Where:

X: Mean scores

Σx: The sum score of student

n: The total of student

f) Standard deviations of each clas or variable

The forms: Sudjana (2009, as cited in Kamarudin, 2021)

$$SDx = \sqrt{\frac{N\sum x^1 - (\sum x)^2}{N(N-1)}}$$

$$SDy = \sqrt{\frac{N\sum y^1 - (\sum y)^2}{N(N-1)}}$$

g) Testing hypothesi by use T-test

$$t = \frac{mx - my}{\sqrt{\left(\frac{\sum x^2 + \sum y^2}{Nx + Ny - 2}\right)\left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

h) Draw a conclusion.

RESULTS AND DISCUSSION

A. Data Analysis

This chapter discusses the analysis and interpretations of data use quantitative methods. The data acquired in this research were obtained from the results of the test given to the student, the first groups treated as the experiment groups by use single picture and the second as the controls groups without use Pictures Word Inductive Models. The whole data were analyzed and interpreted based one theories that mentioned in chapter II and methodology in chapter III.

1. Analysis one Effect of Use Picture words inductive models

The results of data analysis in teaching writings descriptive text by use Picture words inductives models was presented in the following table below.

Table 4.1
Score Pre-test and Post-test of experiment groups

No	Student Name	X	Y	x	x^2
1	Ahlal Firdaus	58	81	23	529
2	Alief Syahputra	61	80	19	361
3	Angel C. Tambunan	58	82	24	576
4	Ayub J. Sinaga	68	85	17	289
5	Bima H. Haloho	67	91	24	576
6	Chriscantsabile V. Sitepu	78	95	17	289
7	Christine Situmorang	66	87	21	441
8	Christy Ginting	68	93	25	625
9	Desniat Gulo	69	88	19	361
10	Eva Lusiana	68	84	16	256
11	Evyfania S.	78	94	16	256
12	Felix C. Sinaga	65	85	20	400
13	Filia Sri Rejeki Saragih	66	86	20	400
14	Gilbert J.M Nainggolan	61	82	21	441
15	Grace Theophany Sitorus	65	94	29	841
16	Haniz Salsabila	59	81	22	484
17	Hasqie J. Siallagan	61	84	23	529
18	Inggrid Yolanda Ompusunggu	63	84	21	441
19	Ives L. F Siahaan	66	82	16	256
20	Jeslina	62	86	24	576
21	Lovelly Aura Rajaguk-guk	60	83	23	529
22	Magdalena R. S. S	60	91	31	961
23	Michelle Purba	62	89	27	729
24	Nadia	52	81	29	841
25	Nathania Panggabean	62	91	29	841
26	Nur Sadira Husna Nasutions	60	81	21	441
27	Raka Lian Ferdinand	49	78	29	841
28	Ramolia Tondang	64	89	25	625
29	Rebecca Inggrid Simbolon	60	82	22	484
30	Tabitha Manalu	58	81	23	529
31	Theresia Silaban	56	83	27	729

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32	Vani Rael	61	86	25	625
33	Eunike Purba	54	85	31	961
34	Steven Sihombing	60	88	28	784
35	Dennis	52	83	31	961
	Total	2177	2995	818	19808

Note:

X : Student score of pre-test in experiment groups

Y: Student score of post-test in experiment groups

x : Range in experiment groups

The table showed that in experiment groups, the score for pre-test was 49 and the highest score was 78, while the low score for post-test was 78 and the highest score was 95. In the post-test, the student were able to make descriptives a text because they have taught by use Picture words inductives models. It meant the ability of student in post-test by use Picture words inductives models was more significants than without use the strategy in pre-test.

a) Mean scores of Experiment Groups

Mean scores of Pre-test

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

$$M_X = \frac{2177}{35}$$

$$M_X = 62.2$$

Mean scores of Post-test

$$M_Y = \frac{\sum Y}{N}$$

$$M_Y = \frac{2995}{35}$$

$$M_Y = 85.57$$

Mean Deviations

$$M_x = \frac{\sum x}{N}$$

$$M_x = \frac{818}{35}$$

$$M_x = 23.37$$

Note:

M_X : Mean scores of pre-test in experiment groups

M_Y : Mean scores of post-test in experiment groups

M_x : Mean deviations in experiment groups

$\sum X$: Sum of multiplications X in experiment groups

$\sum Y$: Sum of multiplications Y in experiment groups

$\sum x$: Sum of multiplications x in experiment groups

N : Total of the data

In this sections researcher counted mean scores and mean deviations of experiment groups. Mean scores of pre-test was 62.2, mean scores of post-test was 85.57, mean deviations of experiment groups is 23.37. Mean scores of pre-test was lower than mean scores of post-test. It meant that the results of mean scores in experiment groups got the increasing of values after the holding of treatment use Picture words inductives models.

b) Standard Deviations of Experiment Groups

$$SD = \frac{1}{N} \sqrt{N(x^2) - (\sum x)^2}$$

$$SD = \frac{1}{35} \sqrt{35(19808) - (818)^2}$$

$$SD = \frac{1}{35} \sqrt{693280 - 669124}$$

$$SD = \frac{1}{35} \sqrt{24156}$$

$$SD = \frac{1}{35} (155,42)$$

$$SD = 4.44$$

Note:

SD : Standard deviations

N : Total of the data

$\sum x$: Sum of range

Based on calculations above the researcher got the score of standard deviations of experiment clas was 4.44.

The level of student scores in post-test of experiment groups can be seen in the following table:

Mean ($\bar{x}$) = 85.57

Standard of deviations (SD) = 4.44

Table 4.2

Level of student scores in post-test of experiment groups

Level of Score	The Criteria
High	$\bar{x} + SD$ 85,57 + 4,44 90,01
Median	$\bar{x} - SD \leftrightarrow \bar{x} + SD$ 85,57– 4,44 $\leftrightarrow$ 85,57 + 4,44 81,13 $\leftrightarrow$ 90,01
Low	$\bar{x} - SD$ 85,57– 4,44 81,13

Table 4.3

Clasifications of student scores in post-test

Level of Score	The Criteria	Numbers of Student	Percentage
High	More than 90,01	7	20%
Median	Between 81,13 $\leftrightarrow$ 90,01	26	74%
Low	Under 81,13	2	6%
TOTAL		35	100%

Based the table above we could see that the total student in high level who got score more than 90,01 were 7 student, total student in medium level who got score between 81,13-90,01 were 26 and there were 2 student low level who got score under 81,13.

2. Analysis the Effect without Use Picture words inductive models

The results of data analysis in teaching writings descriptive a text without use Picture words inductives models was presented in the following table below.

Table 4.4

Score Pre-test and Post-test of controls groups

No	Student Name	X	Y	Y	y^2
1	Aditya Pratama N. Sitepu	71	75	4	16
2	Amelia Putri Lestari	68	73	5	25
3	Anastasya Sinaga	68	73	5	25
4	Angel K.	68	72	4	16
5	Billy Aprialdo Hot Sipayung	62	74	12	144
6	Bona Priana Sumbayak	52	63	11	121
7	Christian Sihombing	57	64	7	49
8	Clause P.	64	73	9	81
9	Daniel	45	62	17	289
10	David Halomoan Panjaitan	66	82	16	256
11	Dennis M. Siallagan	62	64	2	4
12	Dhastin Dion Simanjuntak	63	64	1	1
13	Dwi A.P.	63	75	12	144

THE EFFECT OF USING PICTURE WORD INDUCTIVE MODEL (PWIM) IN TEACHING WRITING DESCRIPTIVE TEXT AT ELEVENTH GRADE STUDENTS OF SMA NEGERI 4 PEMATANGSIANTAR

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14	Farel Arya Randika	64	67	3	9
15	Fatimah Az Zahra	57	67	10	100
16	Ibrena Gracia Purba	65	73	8	64
17	Irene Kezia Silitonga	68	76	8	64
18	Jakobus M.H Simanjuntak	63	74	11	121
19	Jenita Uly Marpaung	65	78	13	169
20	Jesica Hutabarat	62	73	11	121
21	Jesicha M.L Samosir	71	81	10	100
22	Karen Septiana Purba	66	76	10	100
23	Khanaya Melviany	61	68	7	49
24	Lailani Fitri Kamal	60	63	3	3
25	Liony A. Sidauruk	66	81	15	225
26	Martha Jane Michelle Siahaan	79	84	5	25
27	Maureen Panjaitan	70	82	12	144
28	Muhammad Rayhan Dwi Najmi	62	72	10	100
29	Odylo Theodorus Mario Ginting	67	72	5	25
30	Queen Sefania Ompusunggu	62	65	3	9
31	Rachel M.P Simatupang	60	76	16	256
32	Resyanti Sitorus	59	62	3	9
33	Teresia Purba	55	66	11	121
34	Victoria A.T.	58	67	9	81
35	Yesaya I. Marbun	62	72	10	100
36	Zhafirah Felicia	60	70	10	100
	TOTAL	2271	2579	308	3266

Note:

X : Student score of pre-test in controls groups

Y: Student score of post-test in controls groups

y : Range in controls groups

Based one table above showed, the scores in controls groups for pre-test was 52 and the highest was 79, while the low score for post-test was 62 and the highest score was 84.

a) Mean scores of Controls Groups

Mean scores of Pre-test

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

$$M_X = \frac{2271}{36}$$

$$M_X = 63.08$$

Mean scores of Post-test

$$M_Y = \frac{\sum Y}{N}$$

$$M_Y = \frac{2579}{36}$$

$$M_Y = 71.63$$

Mean Deviations

$$M_y = \frac{\sum y}{N}$$

$$M_y = \frac{308}{36}$$

$$M_y = 8.5$$

Note:

M_X : Mean scores of pre-test in controls groups

M_Y : Mean scores of post-test in controls groups

M_y : Mean deviations in controls groups

$\sum X$: Sum of multiplications X in controls groups
 $\sum Y$: Sum of multiplications Y in controls groups
 $\sum y$: Sum of multiplications x in controls groups
 N : Total of the data

In this sections researcher counted mean scores and mean deviations of controls groups. Mean scores of pre-test was 63.08, mean scores of post-test was 71.63, for mean deviations of controls groups was 8.5. Mean scores of pre-test was lower than mean scores of post-test. It meant that the results of mean scores in controls groups got the increasing of values after the holding of treatment use conventional strategy.

b) Standard Deviations of Controls Groups

$$SD = \frac{1}{N} \sqrt{N(y^2) - (\sum y)^2}$$

$$SD = \frac{1}{36} \sqrt{36(3266) - (308)^2}$$

$$SD = \frac{1}{36} \sqrt{117576 - 94864}$$

$$SD = \frac{1}{36} \sqrt{22712}$$

$$SD = \frac{1}{36} (150,70)$$

$$SD = 4,19$$

Note:

SD : Standard deviations
 N : Total of the data
 $\sum y$: Sum of range

Based on calculations above the researcher got the score of standard deviations of experiment class was 4,19.

The level of student scores in post-test of controls groups could be seen in the following table:

Mean ($\bar{x}$) = 71.63

Standard of deviations (SD) = 4.1

Table 4.5

Level of student scores in post-test of controls groups

Level of Score	The Criteria
High	$\bar{x} + SD$ $71,63 + 4,19$ $75,82$
Median	$\bar{x} - SD \leftrightarrow \bar{x} + SD$ $71,63 - 4,19 \leftrightarrow 71,63 + 4,19$ $67,44 \leftrightarrow 75,82$
Low	$\bar{x} - SD$ $83,19 - 5,82$ $67,44$

Table 4.6

Clasifications of student scores in post-test

Level of Score	The Criteria	Numbers of Student	Percentage
High	More than 75,82	11	31%
Median	Between 75,82 $\leftrightarrow$ 67,44	16	44%
Low	Under 67,44	9	25%
TOTAL		36	100%

From the table above we could see that the total student in high level who got core more than 75,82 were 11 student, total student in medium level who got score between 67,44 – 75,82 were 16 student and the total student in low level who got score under 67,44 were 9 student.

3. The Effect of Use Picture words inductives models on Student Ability in Writings descriptives a text

In order to know whether the effect of use Picture words inductives models was more significant or not one student ability in writings descriptives a text, the researcher calculated by use *t-test formula*. The forms of *t-test formula* as follow:

$$t = \frac{Mx - My}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{Nx + Ny - 2}\right) \left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

Note:

Mx	: Mean deviations of Experiment groups
My	: Mean deviations of Controls groups
Σx^2	: Standard deviations in Experiment groups
Σy^2	: Standard deviations in Controls groups
Nx	: Total numbers samples of Experiment groups
Ny	: Total numbers samples of Controls groups

$$t = \frac{Mx - My}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{Nx + Ny - 2}\right) \left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

$$t = \frac{23,37 - 8,5}{\sqrt{\left(\frac{19808 + 3266}{35 + 36 - 2}\right) \left(\frac{1}{35} + \frac{1}{36}\right)}}$$

$$t = \frac{14,87}{\sqrt{\left(\frac{23074}{69}\right) \left(\frac{71}{1260}\right)}}$$

$$t = \frac{14,87}{\sqrt{(334,40)(0,056)}}$$

$$t = \frac{14,87}{\sqrt{18,842}}$$

$$t = \frac{14,87}{4,341}$$

$$t = 3,43$$

After adapting the data into t-test formula, it's obtain that **t** values is 3,43.

$df = (Nx + Ny - 2) = 35 + 36 - 2 = 69$.

Based one t-table distributions gained the significant critical values $3.43 > 2.382$ and level of significant 5% (0.05), so the values table of t-table was 2.382. The calculations showed that t-obtained values high than t-table. It meant that the student achievement in writings descriptives a text was taught by use Picture words inductives models was better than the student achievement who was taught without use Picture words inductives models. So, the effect of use Picture words inductives models was more significant than the effect of not use Picture words inductives models one student ability in writings descriptives a text at grade eleven student of SMA Negeri 4 Pematangsiantar. It meant H_a was accepted.

$$T_{test} > T_{table}$$

$$1.43 > 2.382$$

($p = 0.05$) with $df = 69$

4. Testing Hypothesis

Based one results above, the researcher used a significance The effect of use Picture words inductives models was level of $p = 0.05$. Then, the researcher found the t- table values use the t-distributions, with the degree of freedom (df) = $35 + 36 - 2 = 69$. The t- table values was $t(0.05, 69) = 2.382$. After that, the researcher compared the t-test values with the t-table. The t-test values was 3.43, which is more great than the t-table values of 2.382. This shows that $t\text{-test} > t\text{-table}$, or $3.43 > 2.382$. This more significant than the effect of not use Picture words inductives models one student ability in writings descriptives a text at grade eleven student of SMA Negeri 4 Pematangsiantar. So, the researchers can accept the alternative hypothesis (H_a) and the rejection of the null hypothesis (H_0).

B. Research Finding

Based one analyzed the data, some finding can be formulated as follow: The effect of use Picture words inductives models was more significant than the effect without use Picture words inductives models one student

ability in writings descriptives a text. Picture words inductives models can make the student interest and enjoy in learning English, so that it can improve English skill. The student in experiment groups got the high score than the student in controls groups and the values of t-test (3.43) was high than t-table (2.382) at level of significance = 0.05 and df = 69.

C. Interpretations and Discussion

Based on research finding above, the researcher makes the interpretations as follows:

1. By applying Picture words inductives models, student are interested and more enjoyed in learning English. The student are easier to organize their ideas and to construct a text in forms of descriptives a text.
2. Teaching and learning process without use Picture words inductives models does not have significant effect. By use conventional strategy, the student felt bored and confused to construct the text because they cannot arrange the words into a good paragraph.
3. From the table of ability and classification of ability in writings descriptives a text in experiment groups and controls groups, we can see that the interpretations of the student ability can be said that the grade eleven student of SMA Negeri 4 Pematangsiantar were able to writings descriptives a text and the used of Picture words inductive models can increase their ability.

The researcher used two classes from twelve classes at grade eleven as the sample that consist of 35 students from XI-1 and 36 student from XI-2. One class was chosen to be experiment groups that the groups received treatment by use Picture words inductive models and the other one as the controls groups that the groups was received treatment without use Picture words inductive models. From the research finding we can see that Picture words inductive models influence the student ability in writings descriptive a text at grade eleven student of SMA Negeri 4 Pematangsiantar. It was proved that use Picture words inductive models has an effects on student ability in writings descriptive a text, it was supported by Sari and Santika (2020), which also found that the Picture words inductive models had a significant effects on student achievement in writings descriptive a text. Picture words inductive models can really help the learners to ease the in comprehending the meaning of a word, sentence, or a paragraph and also helpful to the teacher especially to the student in teaching learning process.

CONCLUSION

Based on data analysis, the researcher concluded that Picture words inductive models had a significant effect to teach descriptive a text at eleventh grade student of SMA Negeri 4 Pematangsiantar. It was proven by statistics, which indicate that the experiment class mean pre-test score was 62.2, originally having low score as compared to the controls class. After the treatment was applied in experiment class, scores increase to 85.57, achieving highest score when compared to the controls class. The student found the easier way to create a descriptive a text when the Picture words inductive models strategy was applied. At the significance level of 0.05, the researcher also discovered that the t-test value was 4.44, high than the t-table (2.382). It supported the research hypothesis, with the H_a being accepted and the H_0 rejected. As the results, the Picture words inductive models can be applied as teaching strategy in English lesson, so that the student feel enjoy in learning and it can improve student ability.

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