

**THE EFFECT OF USING PICTURE WORD INDUCTIVE MODEL (PWIM)
ON STUDENTS' VOCABULARY MASTERY TO THE SEVENTH GRADE
STUDENTS AT SMPN 1 BALONG IN ACADEMIC YEAR 2016/2017**

THESIS



By

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2017

ABSTRACT

Rohmah, Happy Lailatul. 2017. The Effect of Using Picture Word Inductive Model (PWIM) on *Students' Vocabulary Mastery* to the Seventh Grade Students at SMPN 1 Balong in Academic Year 2016/2017. Thesis, Tarbiyah and Teachers Training Faculty, English Education Department, The State Institute of Islamic Studies of Ponorogo, Advisor Dra. Aries Fitriani, M.Pd.

Key words: Picture Word Inductive Model (PWIM), *Students' Vocabulary Mastery*

Vocabulary is a core component of language proficiency. It provides much of the basis for how well learners speak, listen, read, and write. An appropriate strategy for teaching vocabulary is very important. Picture Word Inductive Model (PWIM) is one of strategies that can be used to help students in building their vocabulary by using familiar object and action.

The statement of the problems: Do students who are taught by using Picture Word Inductive Model (PWIM) have better vocabulary mastery than those who are not?. The objective of the research is to find out whether there is significant difference of students' vocabulary mastery who are taught by using Picture Word Inductive Model (PWIM) than those who are not.

The design of this research was quasi-experimental research which dependent variable was students' vocabulary mastery and independent variable was teaching using Picture Word Inductive Model (PWIM). The population was 208 students that were taken from the seventh grade students of SMPN 1 Balong in academic year 2016/2017, while the sample was 26 students of VIIID were experiment class and 26 students of VIIE were control class. The researcher used cluster random sampling as sampling technique. Then the technique of data collection was test and documentation. The researcher used the "t" test formula as procedure of data analysis.

The results of the research were as follows: the data was analyzing using t-test for the significance 5%. The result of the research shows that Picture Word Inductive Model (PWIM) was effective in teaching vocabulary. The result of t-test calculation shows that t-value > t table (t-value = 4.05; t table = 2.01). The research rejected Null Hypothesis (Ho) and accepted Alternative Hypothesis (Ha). From the result data analysis above, the researcher concluded that there is significant difference between vocabulary mastery of students who are taught using Picture Word Inductive Model (PWIM) than who are not taught using Picture Word Inductive Model (PWIM).

CHAPTER I

INTRODUCTION

A. Background of The Study

Language is used for communication. Language is a system of arbitrary conventionalized vocal, written, or gesture symbols that enable members of a given community to communicate intelligibly with one another.¹ It means that language is a tool to communicate with others in which it can be a form of vocal, writing, or even symbolic movement. Because of its role that is used to communicate in daily activity, language becomes so important in human life. According to Roseann Runte that language is more than grammar. It is more than a way of structuring thought. It is a way of signifying our deepest feeling, our most sincere beliefs.² So, by using a language, everybody can explore their ideas, thought, and feeling or can explore information to another.

English is a global language.³ English is one of the international languages that most used in many countries in the world, including Indonesia. As an international language, English is very important because using English

¹H. Douglas Brown, *Principles of Language Learning and Teaching* (New York: Longman, 2000), 5.

²Anthony Mollica, *Teaching and Learning Language* (Soleil Publishing), 7.

³David Crystal, *English as a Global Language* (United Kingdom: University Press, Cambridge, 2003), 1.

is the easiest way to communicate with people from other countries about many aspects in human life.

In Indonesia, English considered the first foreign language to be learned. The Indonesian government has chosen English as a first foreign language to be taught in schools. In formal education, English is taught from Elementary school until Universities.

In teaching and learning process of English subject, students are required to master four English skills. They are listening, speaking, reading, and writing. Listening and reading belong to receptive skills in which the language users required the ability to receive spoken and written language⁴, while speaking and writing belong to productive skills in which the language users require the ability to produce language both spoken and written.⁵

In order to be able to master four of skills, learners must have sufficient vocabulary. Vocabulary is the words we teach in the foreign language. However the new item of vocabulary may be more than a single word. Language consists of words. Vocabulary is the collection of words that an individual knows.⁶ Vocabulary is the most important, vocabulary is essential of english learning, someone need vocabulary in communication in order to express his idea.

⁴ Jeremy Harmer, *The Practice of English Language Teaching* (3rd Ed.) (London: Longman, 2001), 199

⁵ *Ibid*, 246.

⁶ Caroline T. Linse, *Practical English Language Teaching: Young Learners* (North America: McGraw-Hill Companies), 121.

Hocket argues that “Vocabulary is the easiest aspect of a second language to learn and that it hardly required formal attention in the classroom”.⁷It is an important element to develop language skill, as the first aspect that must be mastered by students to have acquisition on English skill. It does not only involve explaining new words meaning, but also giving guidance on how to help students to practice, store, recall and use the words correctly.

Vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write.⁸The vocabulary mastery is necessary for anyone who wants to understand a reading, conversation, or in writing English. Without an extensive vocabulary and strategies for acquiring new vocabulary, learners often achieve less than their potential and may be discouraged from making use of language learning opportunities around them such as listening to the radio, listening to the native speaker, using language in different context, reading or watching television.⁹It is an important element to develop language skill, as the first aspect that must be mastered by students to have acquisition on English skill. Building up a useful vocabulary is central to the learning of a foreign language at primary

⁷David Nunan, *Language Teaching Methodology* (Sydney: Prentice Hall, 1991), 117.

⁸Jack C. Richards and Willy A. Nandya, *Methodology in Language Teaching an Anthology of Current Practice* (Cambridge: Cambridge University Press), 255.

⁹Ibid.

level.¹⁰ It means that if the students want to master the four skills of English, they have to master vocabulary first.

Based on observation at the seventh grade students of SMPN 1 Balong in academic year 2016/2017, the students have problems to master four English skills. It is caused they just have limited English vocabulary. Therefore, they difficult to understand the meaning of the sentence. The students were confused and they did not understand what the teacher said. Besides that, when the English material was delivered in the class, the students did not understand and they did know what the meaning of the vocabulary, most of the students difficult to answer the questions when the examination. Another problem is when the teacher provides explanations, the students talk with their other friend. It make the class noisy and they are passive in the classroom. This situation make the teaching learning process monotonous and boring.

The students of senior high school generally feel bored when they are taught vocabulary, because sometimes the teacher doesn't help the students to remember easily. The teacher will write down the vocabularies on the whiteboard and ask the students to write it in their own book. After that, the teacher will read the vocabularies one by one and the students will follow him/her. Consequently, the students will forget the material easily because the

¹⁰Lynne Cameron, *Teaching Languages to Young Learners* (Cambridge: Cambridge University Press, 2001), 72.

students are passive in the classroom. It seems that vocabulary ability is the most complex problem. The students get difficulties in mastering vocabulary easily and quickly. To improve students' vocabulary mastery the teacher needs appropriate strategies to teach them. The teacher should choose interesting appropriate strategy. By using a suitable strategy, the students will be more interested in learning English.

An appropriate strategies for teaching vocabulary is very important because it determines the result of teaching vocabulary. An appropriate technique can improve student's vocabulary mastery. There are many strategy that are appropriate in teaching vocabulary such as: word mapping, word wall, vocabulary journals, and also Picture Word Inductive Model (PWIM).

Picture Word Inductive Model (PWIM) is an inquiry-oriented language arts strategy that uses pictures containing familiar objects and actions to elicit words from children's listening and speaking vocabularies.¹¹The students study a picture selected by the teacher; identify what they see in the picture for the teacher to label; read and review the words generated; use the picture word chart to read their own sets of words; classify words according to properties they can identify; and develop titles, sentences, and paragraphs about their picture. The picture given makes the students built many words. It is related with Phillips's statement that "Vocabulary is best

¹¹Emily F. Calhoun, Teaching Beginning Reading and Writing with the Picture Word Inductive Model (PWIM) (United States of America: Association for Supervision and Curriculum Development, 1999), 21.

learned when the meaning of the word(s) is illustrated, for example by a picture, an action, or a real object. The children should then meet and use the word(s) in relevant contexts, in order to “fix” them in their minds. This helps establish their relationship to other words, so that a vocabulary network is built up”.¹²

Picture Word Inductive Model (PWIM) is also a satisfying and pleasurable activity. The PWIM motivates students because most become successful learners. Learners succeed when using the model because the PWIM is based on inquiry into how children learn and how to enhance their learning, including their development of language, the process of learning to read and write, and the reading and writing connection.¹³The Picture Word Inductive Model contains familiar object, actions, and scenes, the students can hear and see the word spelled correctly and directly, then they analyze word by word, for example phonetic, synonym, antonym or how to spell it. The students also can read the vocabulary, so it can make the students understand and make it easier to memorize the vocabulary.

Picture Word Inductive Model (PWIM) can be used to help students attain many of the language arts goals in our curriculum guidelines such as building sight vocabulary as a base for reading and for learning phonics and

¹²Septian Maharani, Gunarso Susilohadi, A. Handoko Pudjobroto, *Improving Students' Vocabulary Mastery Through the Use Of Wall Charts in Elementary Students* (English Education Department of Teacher Training and Education Faculty Sebelas Maret University: Surakarta), 6.

¹³Emily F. Calhoun, *Teaching Beginning Reading and Writing with the Picture Word Inductive Model (PWIM)*, 24.

spelling generalizations, building confidence in one's ability to learn, and learning how to inquire into language and using knowledge and skills to read and write and participate fully in education.¹⁴

Based on the explanation above, the writer is interest to organize the research about “The Effect of Using Picture Word Inductive Model (PWIM) on Students' Vocabulary Mastery to the Seventh Grade Students at SMPN 1 Balong in Academic Year 2016/2017”.

B. Limitations of the Study

To avoid a deviation of the discussion, this study focused on some concerns identified as follows:

1. This study focuses onthe using Picture Word Inductive Model (PWIM)and the students' vocabulary mastery.
2. This study takes the seventh grade students of SMPN 1 Balong as the population of study.

C. Statement of the Problem

Based on the background of the problem, the problem statement can be stated as follow:

“Do students who are taught by using Picture Word Inductive Model (PWIM) have better vocabulary mastery than those who are not?”

¹⁴Ibid, 56.

D. Objective of the Study

This study aims to find out whether there is significant difference of students' vocabulary mastery who are taught by using Picture Word Inductive Model (PWIM) than those who are not.

E. Significances of the Study

1. Theoretically

This research is hoped give contribution of knowledge to develop teaching learning process. It can help to involve the students in teaching learning process.

2. Practically

The significances of the study are hopefully used for:

a. The Students

It is hoped that the students can improve their vocabulary through Picture Word Inductive Model (PWIM) and develop their study in order to be successful.

b. The Teacher

The teacher can use the result of the study as a feedback on teaching activities and he will increase his performance in teaching program well. This study also gives contribution to the English teacher in the use of Picture Word Inductive Model (PWIM) as a vocabulary teaching technique to improve students' vocabulary mastery, and also to improve the result of teaching vocabulary.

c. The Readers

This research is expected to give contribution to readers, particularly the students of English Education Department of IAIN Ponorogo in enriching references concerned with the use of Picture Word Inductive Model (PWIM) to develop vocabulary mastery of the students.

d. The Researcher

By doing this research, the researcher can enlarge the research thought and get a direct experience from it to get the truth. This research will give the researchers' knowledge and could apply it in the future.

F. Organization of the Thesis

In order to easy the reader understanding this study, the research report is arranged systematically in which each interconnection to others. It is highlighted in detail as follows:

Chapter I: Introduction. That explains the whole content of thesis. They are background of study, limitation of the problem, statement of the problem, objective of the study, significances of the study, and thesis organization

Chapter II: Review of related literature. This chapter gives the explanation about the theoretical of the research consists of theoretical background, theoretical framework, previous research finding, and hypothesis.

Chapter III: Research methodology. That consists of research design, population and sample, instrument of data collection, technique of data collection, and technique of data analysis.

Chapter IV: Research result. That consists of research location, data description, data analysis, and discussion.

Chapter V: Closing. That consists of conclusion and recommendation.



CHAPTER II

REVIEW OF RELATED LITERATURE

A. Theoretical Background

1. Teaching Vocabulary

a. Definition of Teaching

Teaching is important activity in education process. In teaching activity many aspects must be involved. Teaching must include all teaching components, including teacher, students and subject matter. The complexity of teaching makes people define teaching from different point of view.

Teaching is guiding and facilitating learning, enabling the learner to learn, setting the condition for learning.¹⁵ From this statement, we know that teaching is facilitating of learning and transferring the knowledge to the students directly. In teaching, teacher must make good interaction with students in order to material of learning so it can be accepted by students easily.

Douglas H. Brown said that teaching can defined as showing or helping someone to learn how to do something, giving instructions,

¹⁵Douglas Brown, *Principles of Language Learning and Teaching* (New York: Longman, 2007), 8.

guiding in the study something, providing with knowledge, causing to know or understand.¹⁶ It could be said that teaching is transfer the knowledge or knowledge possessed by a person. By teaching we also help people to know something and guiding someone.

b. Definition of Vocabulary

The basic unit in learning language is word or vocabulary. Knowing vocabulary has big influence in learning English. There are some definitions of vocabularies. Penny Ur states that “Vocabulary can be defined, roughly, as the words we teach in the foreign language. However, a new item of vocabulary may be more than just a single word: for example, post office, and mother-in-law, which are made up of two or three words but express a single idea. A useful convention is to cover all such cases by talking about vocabulary “items” rather than “words.”¹⁷

Vocabulary is the knowledge of meanings of words.¹⁸ The other definition of vocabulary states from Hatch and Brown, they said that

¹⁶Ibid.

¹⁷ Penny Ur, *A Course in Language Teaching* (Cambridge: Cambridge University press, 1996), 60.

¹⁸Elfrieda H. Hiebert and Michael L. Kamil, *Teaching and Learning Vocabulary: Bringing Research to Practice* (London: Lawrence Erlbaum Associates Publishers, 2005), 3.

“vocabulary refers to a list or set of words for a particular language or a list or set of words that individual speakers of a language might use”.¹⁹

In Oxford learners pocket dictionary, vocabulary is all the words that person knows and uses, all the words in language, and lists of words with their meaning.²⁰ Kasihani K.E. Suyanto states that “vocabulary is a group of words of a language that convey meaning when the language is used.”²¹

Based on the statements, it can be stated that vocabulary is a list of words that is used by, understood by, or at the command of a particular person or group. The list of words can be used to express ideas and feeling in communication. In conclusion, vocabulary is a group of words in language. People use vocabulary which are arranged into sentence to express their opinion, their thought, and also ideas in their communication.

¹⁹Evelyn Hatch and Cheryl L. Brown, *Vocabulary, Semantics and Language Education* (Melbourne: Cambridge University Press, 1995), 1.

²⁰Oxford Learners Pocket Dictionary (Oxford: Oxford University Press, 2008), 495.

²¹Kasihani K.E. Suyanto, *English for Young Learner* (Jakarta: Bumi Aksara, 2008), 43.

c. Kinds of Vocabulary

This is the some kinds of vocabulary:

1) Nouns

The noun is one of the most important parts of speech. Its arrangement with the verb helps to form the sentence core which is essential to every complete sentence.²²

2) Pronouns

“A word that takes the place of a noun” is applicable to some types of pronouns but not to others. Those pronouns that are actual substitutes may refer not only to a preceding noun-its antecedent-but to a larger part of a discourse that precedes. Those pronouns that are not substitutes may simply have indefinite reference or express indefinite quantity.²³

3) Verbs

The verb is the most complex part of speech. Its varying arrangements with nouns determine the different kinds of sentences-statements, questions, commands, exclamations. Like the noun, the verb has the grammatical properties of person and number, properties which require agreement with the subject. But

²²Marcella Frank, *Modern English a Practical Reference Guide* (New Jersey: Prentice-Hall, 1972), 6.

²³*Ibid*, 20.

the verb also has several other grammatical properties that are shared with no other part of speech.²⁴

4) Adjectives

The adjective is a modifier that has the grammatical property of comparison. It is often identified by special derivational endings or by special adverbial modifiers that precede it. Its most usual position is before the noun it modifies, but it fills other positions as well.²⁵

5) Adverbs

Adverbs ranges in meaning from words having a strong lexical content (those that describe the action of the verb, or those that indicate such meanings at time and place) to those are used merely for emphasis. They range in function from close to loose modifiers of the verb; from close modifiers of single words, prepositional phrases or clauses, to loose modifiers of the entire sentence.²⁶

6) Prepositions

The preposition is classified as a part of speech in traditional grammar. However, prepositions as well as conjunctions differ from other parts of speech in that (1) each is composed of a small class of words that have no formal characteristic endings; (2) each

²⁴Ibid, 47.

²⁵Ibid, 109.

²⁶Ibid, 141.

signals syntactic structures that function as one of the other parts of speech.²⁷

d. Component of Vocabulary

Many factors appear to play a role in vocabulary development. Mastering vocabulary items should mean mastering the following components:

1) Frequency

Frequency has been accorded a high level of significance in ELT for many years as a result of the use of word-frequency counting as a procedure informing syllabus and materials design.²⁸

2) Pronunciation

In the initial stages of languages learning it is common for teachers to insist on a fair amount of pronunciation practice of new words to help learners acquire the correct stress pattern of syllables.²⁹

3) Contextualized

Schouten-van Parreren goes on to argue that texts, in contrast, present a linguistic and psychological reality, and that presenting words in the context of a text will provide support and reduce interference.³⁰

²⁷Ibid, 163.

²⁸Tricia Hedge, *Teaching and Learning in the Language Classroom* (New York: Oxford University Press, 2000), 118.

²⁹Ibid, 119.

³⁰Ibid, 120.

4) Depth of processing

We lack language learning research studies to confirm this, though it would certainly accord with teacher' intuitions and with self-reports from learners.³¹

5) Building word network

The general issue for teachers seems to be whether learners should simply be encouraged in non-specific ways to actively build their own associations for new words and thereby extend the networks of the mental lexicon, or whether vocabulary learning activities should include direct instruction which aims to shape the associations learners make.³²

e. Types of Vocabulary Knowledge

Vocabulary knowledge is knowledge; the knowledge of a word not only implies how that word fits into the world.³³ Vocabulary knowledge is not something that can ever be fully mastered; it is something that expands and deepens over the course of a lifetime. Hiebert and Kamil propose word has two forms, first oral vocabulary is the set of words for which we know the meanings when we speak or read orally. Second, print vocabulary consists of those words for which

³¹Ibid, 121.

³²Ibid, 122.

³³ Penny Ur, A Course in Language Teaching (Cambridge: Cambridge University press, 1996), 256.

the meaning is known when we write or read silently.³⁴ They also define knowledge of words also comes in at least two forms as follows:³⁵

1) Productive vocabulary

Productive vocabulary is the set of words that an individual can use when writing or speaking. They are words that are well-known, familiar, and used frequently.

2) Receptive or recognition vocabulary

Receptive or recognition vocabulary is that set of words for which an individual can assign meanings when listening or reading.

In addition, Hycraft explains that vocabulary is divided into receptive vocabulary and productive vocabulary.³⁶ Receptive vocabulary is words that the students recognizes and understands when they occur in a context, but which he cannot produce correctly, and productive vocabulary is words which the student understands, can pronounce correctly and use constructively in speaking and writing.

Based on research by Laufer, investigated three types of vocabulary knowledge they are: passive, controlled active, and free active. Passive knowledge involves understanding the most frequent meaning of a word. Controlled active knowledge involves cued recall

³⁴ Elfrieda H. Hiebert and Michael L. Kamil, *Teaching and Learning Vocabulary: Bringing Research to Practice* (London: Lawrence Erlbaum Associates Publishers, 2005), 3.

³⁵ Ibid.

³⁶ Evelyne Hatch and Chery L. Brown, *Vocabulary, Semantics and Language Education* (Melbourne: Chambridge University Press, 1995), 370.

(where the first few letters of a word are included to eliminate other possibilities), and free active knowledge involves spontaneous use of the word.³⁷

From the discussion above it can be concluded, there are two types of vocabulary knowledge: they are receptive knowledge and productive knowledge. Vocabulary passive, controlled active, and free active include productive knowledge.

f. The Importance of Vocabulary

In recent years, vocabulary has been considered to play a more central role in second language learning than was traditionally assumed. Vocabulary is here used to include the consideration of lexical phrases, sentence stems, prefabricated routines, and collocations, and not only words as significant units of linguistic lexical analysis and language pedagogy.³⁸

There are two main reasons why we should learn vocabulary: we want other people to understand what we are speaking to them and we, also, want to know what other people want to communicate to us. Furthermore, we do not want that there will be misinterpretation and

³⁷Susan M Gass and Larry Selinker, *Second Language Acquisition: An Introductory Course* (USA: Routledge, 2008), 452.

³⁸Jack C. Richards and Theodore S. Rodgers, *Approaches and Methods in Language Teaching* (Cambridge: Cambridge University PRESS, 2001), 227.

misunderstanding in our communication. We want to articulate what we are thinking to other people as well.³⁹

Further, Wilkins in Scott Thornbury emphasized that vocabulary learning is very important. He states that “without grammar very little can be conveyed, without vocabulary nothing can be conveyed”.⁴⁰ The statement could be meant if the learners spend most of their time studying grammar, their English will not improve very much. They would see most improvement if they learn more words and expressions or it is so called vocabulary. They could see very little with grammar, but they can say almost anything with words.

According to Rivers in David Nunan argued that the acquisition of an adequate vocabulary is essential for successful second language use because, without an extensive vocabulary, we will be unable to use the structures and functions we may have learned for comprehensible communication.⁴¹

To show how important vocabulary, Bromley states that vocabulary holds some important roles in teaching learning process. They are as follows:⁴²

³⁹ Jonathan Sarwono and Yudhy Purwanto, *English for Academic Purposes a Successful Way to Learn Scientific English* (Yogyakarta: ANDI OFFSET, 2013), 191.

⁴⁰ Scott Thornbury, *How to Teach Vocabulary* (UK: Bluestone Press, 2002), 13.

⁴¹ David Nunan, *Language Teaching Methodology* (Sydney: Prentice Hall, 1991), 117.

⁴² Bromley, K. 2004. *Rethinking Vocabulary Instruction*. *The Learning and Literacy Spectrum*, Vol 14 Spring, 3-4.

- 1) Promoting fluency. Students who recognize and understand many words read more quickly and easily than those with smaller vocabularies.
- 2) Boosting comprehension. Vocabulary knowledge strongly influences comprehension. On a component analysis of comprehension, word meanings were found to make up 74% of comprehension.
- 3) Improving achievement. A large vocabulary means a large of conceptual knowledge which makes academic learning easier. Students with large vocabulary score higher on achievement test than those with small vocabularies.
- 4) Enhancing thinking and communication. Words are tools for analyzing, inferring, evaluating and reasoning. A large vocabulary allows for communicating in ways that are precise, powerful, persuasive and interesting.

According to Virginia French Allen said that when we think about vocabulary lesson in this way, we be come aware of five facts:⁴³

- 1) Foreign words for familiar object and persons are important to teach, but we cannot expect most members of the class to learn them easily.

⁴³Virginia French Allen, Techniques in Teaching Vocabulary (Testing Techniques in English as a Second or Foreign Language) (Oxford: Oxford University Press, 1983), 9.

- 2) Teaching such words will require special skill because students often feel their native language words for familiar object and persons are all they really need.
- 3) Students are very likely to feel that foreign words for familiar objects are not really needed when the foreign language is not used for communication outside the language calls.
- 4) When a student feels no real need to learn something, a feeling of need must be created by the teacher.
- 5) To create in students' minds a sense of personal need for a foreign word. It is not enough to say, "Here is a word to learn." Here is what the word means." The word will be useful to you someday.

From the statement above it is stated clearly that vocabulary plays the most important role in learning foreign language. Learners can speak, write, read, and even listen in English, of course by having many vocabularies.

g. Vocabulary Mastery

The purpose of learning process is mastery of the subject learned. The first, students are expected to master basic knowledge of the subject to provide the basis for mastering the other higher skills of the subject. Vocabulary is the basic knowledge of English. Vocabulary is central of language. Therefore, before the students learn the other skills of English, they are better mastering vocabulary.

According to Oxford Learner Dictionary, mastery is defined as great skill or knowledge.⁴⁴ Cameron says that learning word is not something that is done and finished yet.⁴⁵ The learning includes the pronunciation, the meaning, the spelling, the usage, and the part of speech of the words. She also adds that learning words is a cyclical process of meeting new words and initial learning, followed by meeting those words again and again, each time extending knowledge of what the words mean and how they are used in the foreign language.⁴⁶ This means that every time learners meet those familiar words again, they directly improve their knowledge about the words. The specificity of any individual's vocabulary knowledge depends on the person and his motivation, desires, and need for the words.⁴⁷

From the definition above, we can conclude that vocabulary mastery is an individual's great skill in using words of a language which is acquired based on their own interest, need and motivation. Vocabulary mastery plays an important role in the four language skill and it has to be considered that vocabulary mastery is one of the needed components of language.

⁴⁴Oxford Learners Pocket Dictionary (Oxford: Oxford University Press, 2008), 271.

⁴⁵Lynne Cameron, *Teaching Languages to Young Learners* (Cambridge: Cambridge University Press, 2001), 74.

⁴⁶*Ibid.*

⁴⁷Evelyn Hatch and Chery L. Brown, *Vocabulary, Semantics and Language Education* (Melbourne: Chambridge University Press, 1995), 370.

h. Some Strategies in Teaching Vocabulary

The teaching of vocabulary is not easy to do. Some people think that vocabulary teaching only wastes the time because vocabulary number is unlimited. The English teachers had better teach English vocabulary first than other aspect of this language, such as grammar, speaking, reading and writing. If students know more vocabulary, it will be easy for them to learn another aspect of English language.

Harmer gives the wide explanation about some technique for teaching vocabulary that is summarized as follows:⁴⁸

- 1) Demonstration. The teacher demonstrates the language where he/she wants the students to study by offering them there in action.
- 2) Explanation. The teacher explains the construction of language in diagram, using textbook, using board or OHP.
- 3) Discovery. The students can be encouraged to understand new language form by discovering them in a text or by looking for at grammatical evidence in order to work out grammar rule.
- 4) Check Question. The teacher can check question to see if students have understood the meaning and use in the text or paragraph.

⁴⁸Jeremy Harmer, *The Practice of English Language Teaching* (3rd Ed.) (London: Longman, 2001), 155-156.

- 5) Presentation. The teacher shows the things and does not present words to students, for example, picture, video and also use the mime, action, and gesture to present the words.

Ruth Gairns and Stuard Redman mention two techniques of teaching vocabulary as follows:⁴⁹

1) Visual technique

a) Visual Aids

In this technique, the teacher can use pictures, photographs, flash cards and whiteboards. One of the visual aid that possibly used is whiteboards. Picture for vocabulary teaching come from many sources. It can be from the magazine, newspaper or the student's handmade. Picture can be used to explain the meaning of vocabulary items. The meaning of vocabulary is in the students mind before he is given the English word because he can understand it from picture.

b) Mime and gestures

In this technique, the teacher can use real object and command. In real object, the teacher can use something available in the classroom such as door, whiteboard, board maker and clock. In using command, a teacher can give command such as “open the

⁴⁹Ruth Gairns and Stuart Redman, Working with Words: A Guide to Teaching and Learning Vocabulary, (New York: Cambridge University Press, 2003), 73-75.

window”, “open your book”. Another example in teaching part of body, a teacher give command such as “raise your hand”, “put your right hand on your head”.

2) Verbal technique

a) Use illustrative situations (oral or written)

This technique can be useful when the words are abstract. In this technique teachers just explain the word so that teacher use more than one situation or context to ensure that students understand what they explained.

b) Use of synonym and definition

Synonym can be called the words that have similar meaning with other words. Teachers often use this technique to low level students; it would be justifiable at low levels to tell students that miserable mean very sad. Secondly it is commonly used with higher level students and subsequently qualified, such as male means man.

c) Contrast and opposites

In this technique, the teacher asks to students the opposite of something, for example, What is the opposite of sweet? What is the opposite of clever? Etc.

d) Scales

It can be useful way to get new vocabulary if students have learned contrasting or related gradable items. If students know 'hot' and 'cold' teachers can ask students a framework for feeding in 'warm' and 'cool' and later 'freezing' and 'boiling'.

e) Example of the type

The teachers can use illustration to get the meaning of subordinates, such as furniture, vegetables and fruits. It is a common produce to exemplify them. E.g. table, chair, and bed are all furniture.

f) Translation

Translation is changing some words or sentences from second language or other language to native language with similar meaning. It is one of traditional method. This technique is usually used by the teachers when they taught vocabulary or text in teaching learning process. Translation can be a very effective way of conveying meaning. It can save valuable time that might otherwise be spent on a largely unsuccessful explanation in English, and it can be a very quick way to dispose of low frequency items that may worry the students but do not warrant significant attention.

i. Evaluate of Teaching Vocabulary

To know the competence students' in vocabulary, teacher needs evaluation. In evaluating of teaching vocabulary, usually teacher was conducted test. This test is means to know the effective of teaching sequence.⁵⁰ Evaluation in that way is a means to judge the achievement of the students in the field of education. The achievement is generally measured through the test and examination. Its means the test and examination are very important in the whole process of the learning.⁵¹ Testing provides a form of feedback both students' and the teacher. Besides that, testing also has a useful backwash effect: 1) if learner knows that are going to be tested on their vocabulary, 2) testing also motivates learner to review vocabulary in preparation for a test, 3) it also provides an excuse for further, post-test and review when the teacher goes over the answer in the class.⁵² Then Scot Thornbury states, there are two kinds of testing in vocabulary that are:

a) Informal testing

It is the best done regular basic competence of vocabulary. The best way to do this testing is using vocabulary notebook and class

⁵⁰ Scott Thornbury, *How to Teach Voacabulary*(UK: Bluestone Press, 2002), 129.

⁵¹M.F Patel and Praveen M. Jain, *English Language Teaching* (Jaipur: Sunrise Publishers & Distributors, 2008), 150.

⁵² Scott Thornbury, *How to Teach Voacabulary*, 129.

word box.⁵³ Vocabulary notebook is about some note of evaluating after applying teaching vocabulary in formed as reflection of the teaching. Then new words are written on to a small card add to a word box. At the beginning of the next lesson, these words can be used of the next lesson as a basic for review activity.⁵⁴

b) Formal testing

Formal testing may be required at certain strategies stage in a course. Test of vocabulary knowledge sometimes form a part of placement test, or as a component of a diagnostic test in advance of planning a course program. Test of achievement at the end of the lesson and as measure of external examinations.⁵⁵ In evaluating vocabulary includes some aspect that must remember in learning vocabulary that are: form, meaning and use.⁵⁶

The alternative approach to evaluate vocabulary as follows: 1). by lexical density, lexical density means a measure of the proportion of content word in a text. Context words as opposed to function words are words that carry high information such noun, adjectives, and verbs, 2). By lexical variety, it is a measure of the different word in the text. A high proportion of different words are

⁵³Scott Thornbury, *How to Teach Voacabulary*, 130.

⁵⁴Scott Thornbury, *How to Teach Voacabulary*, 51.

⁵⁵*Ibid*, 130.

⁵⁶I.S.P. Nation, *Learning Vocabulary in Another Language*(United Kingdom: Cambridge University Press, 2001), 40-41.

an indicator of extensive vocabulary knowledge, 3) by lexical sophistication, it is assessed by counting the number of relatively infrequent word.⁵⁷

In the evaluating process, teacher conducted test. There are two kinds of test based on the form that are oral and written test.⁵⁸ In oral test, the teacher evaluates students' cooperative by speaking the list of word that they have. Then, for written test, there are formed as multiple choice, true/false, fill in the blank, essay, and etc. Students' aim to be reached in learning vocabulary process is primarily their ability to recall the word at will and to recognize it in its spoken and written form.

2) Picture Word Inductive Model

a. Definition of Picture Word Inductive Model

The Picture Word Inductive Model (PWIM) developed by Calhoun, which uses pictures containing familiar objects, actions and scenes to draw out words from children's listening and speaking vocabularies. This model helps students add words to their sight reading

⁵⁷ Scott Thornbury, *How to Teach Vocabulary*, 136.

⁵⁸ *Ibid*, 135.

vocabulary, as well as their writing vocabulary, and also discover phonetic and structural principles present in those words.⁵⁹

b. The Purpose of Picture Word Inductive Model

PWIM has several purposes. It is used to lead students into “inquiring about words, adding words to their sight-reading and writing vocabularies, discovering phonetic and structural principles, and using observation and analysis in their study of reading and writing”. A goal of implementing PWIM is to enable young readers to think inductively and generalize awareness of phonetic and structural rules by building sight vocabularies, learning structural analysis of words and sentences, and writing sentences and paragraphs. Another purpose of the strategy is to develop learners’ vocabulary concepts and paragraphs and sentence structures in general content subject matters, including mathematics, reading, science, and social science. The ultimate goal of this strategy is to enable language beginners to become powerful language learners.⁶⁰

Jiang and Perkins explain that the intent of the picture word inductive model is to capitalize on students’ ability to think inductively

⁵⁹ Emily F. Calhoun, *Teaching Beginning Reading and Writing with the Picture Word Inductive Model (PWIM)* (United States of America: Association for Supervision and Curriculum Development, 1999), 21.

⁶⁰ Jiang, Xuan, *Vocabulary Learning through Use of the Picture-Word Inductive Model for Young English Learners in China: A Mixed Methods Examination Using Cognitive Load Theory*, (FIU Electronic Theses and Dissertations, 2014), 26.

and generalize the basis structural and phonetic analysis. They also add that the purpose of this strategy is to develop vocabulary word concepts and paragraph and sentence structures.⁶¹ Because of that, this strategy can help the students in writing process. Through this strategy, students can compose their writing from the basic aspect such as vocabulary.

For most beginning readers and writers, the picture word inductive model is a satisfying and pleasurable activity. The students enjoy finding objects and actions in the picture, seeing the words and sentences they generate expressed in print and become part of the curriculum, classifying words and sentences, and discovering useful language concepts and generalizations. The Picture Word Inductive Model motivates students because most become successful learners. Learners succeed using the model because the Picture Word Inductive Model is based on inquiry into how children learn and how to enhance their learning, including their development of language, the process of learning to read and write, and the reading and writing connection.⁶²

So, the major principle of this model that the students have the capability to make generalization that can help them to master of language.

⁶¹Jiang, Xuan and K. Perkins. 2013. A Conceptual Paper on the Application of the Picture Word Inductive Model Using *Bruner's* Constructivist View of Learning and the Cognitive Load Theory. *Interdisciplinary Journal of Teaching and Learning*, Vol. 3. No.1,9.

⁶²Emily F. Calhoun, *Teaching Beginning Reading and Writing with the Picture Word Inductive Model (PWIM)*, 24.

c. **Picture Word Inductive Model to Teach Vocabulary**

Actually Picture Word Inductive Model used to teach reading and writing. But Picture Word Inductive Model is also used to teach vocabulary. Because in Picture Word Inductive Model there are pictures containing familiar objects, actions and scenes, the students can hear and see the words spelled correctly directly and they will analyze word by word, in example phonetic, synonym, antonym, how to spell it etc. The students also read the vocabulary, so it can make them more understandable and make easier to memorize the vocabulary. The steps in teaching vocabulary through Picture Word Inductive Model:⁶³

- 1) Select a picture.
- 2) Ask students to identify what they see in the picture. Label the picture parts identified. (Draw a line from the identified object or area, say the word, write the word; ask students to spell the word aloud and then to pronounce it.)
- 3) Read and review the picture word chart aloud.
- 4) Ask students to read the words (using the lines on the chart if necessary) and to classify the words into a variety of groups.

⁶³Bruce Joyce et al., *Models of Teaching* (terjemahan), (Jogjakarta: Pustaka Pelajar, 2009), 8th Ed, 165-166.

Identify common concepts(e.g., beginning consonants, rhyming words) to emphasize with the whole class.

- 5) Read and review the picture word chart (say the word, spell it, say it again).
- 6) Add words, if desired, to the picture word chart and to the word banks.
- 7) Lead students into creating a title for the picture word chart. Ask students to think about the information on the chart and what they want to say about it.
- 8) Ask students to generate a sentence, sentences, or a paragraph about the picture word chart. Ask students to classify sentences; model putting these sentences into a good paragraph.
- 9) Read and review the sentences and paragraphs.

d. Strengths of the Picture Word Inductive Model

According to Calhoun that Picture Word Inductive Model have many strengths, they are:⁶⁴

- 1) Students hear the words pronounced correctly many times and the picture word chart is an immediate reference as they add these words to their sight vocabulary. The teacher can choose to emphasize almost any sound and symbol relationship (introduced or taken to mastery).

⁶⁴ Emily F. Calhoun, Teaching Beginning Reading and Writing with the Picture Word Inductive Model (PWIM), 23.

- 2) Students hear and see letters identified and written correctly many times.
- 3) Students hear the words spelled correctly many times and participate in spelling them correctly.
- 4) In writing the sentences, the teacher uses standard English (transforming student sentences if necessary) and uses correct punctuation and mechanics (e.g, commas, capital letters). As different mechanical and grammatical devices are used, the teacher describes why the device is used. After many lessons and experiences with the teacher modeling the devices, the students learn how to use them too.

B. Previous Research Finding

There were some research findings related with the effect of using Picture Word Inductive Model (PWIM) on students' vocabulary mastery. The first research was conducted by Siti Marfuah with the research entitle "The Use of Picture Word Inductive Model to Enhance Vocabulary Mastery (A Classroom Action Research of the Second Grade Students of Vocational School of AlFalah Salatiga 2013/2014." The aims of her research were to describe the procedure of teaching vocabulary by picture word inductive model of the second grade students of vocational school of Al Falah Salatiga in the academic year 2013/2014, to find out whether the picture word inductive model can

improve students vocabulary mastery or not and to find out the extent of the use of picture word inductive model improving students vocabulary mastery. This research method was classroom action research. The subjects of the research were 24 students in grade XI TO B at vocational school of Al Falah Salatiga. The researcher used two cycles; each cycle consists of planning, action, observation and reflection. The result of her research showed that there was an improvement of the students' vocabulary mastery using picture word inductive model. From t-test calculating in cycle I was 6,95 and cycle II was 9,4; t-table with $n = 24$ was 2,07. This indicated that by applying picture word inductive model, the students' vocabulary mastery can be improved.

The second research was conducted by Nita Alfi Nur Rohmah with the research entitle "The Effectiveness of Picture Media toward Vocabulary Mastery to the Eight Grade Students of MTS Al-Azhar Sampung in Academic year 2013/1014. The purpose of the research was to know the whether the students who use picture media achieve better their score those who do not. This research used the experiment method. The design was quasi-experiment. The population was taken from eight grade students of MTS Al-Azhar Sampung Ponorogo in academic year 2013/2014. The sample was 32 students of VIII B as experimental class and 32 students of VIII C as the control class. The researcher used random sampling that was lottery method to know the characteristic of

students. The procedures of data collection were test and documentation. To analysis data the researcher used t-test as procedure of data analysis.

The result of the research showed that $t_0 = 3,744$, for the 5% significant level with $db = 62$, and $t_t = 2,00$. So, we saw that $t_0 > t_t$. for the 1% significant level with $db = 62$, and $t_t = 2,65$. Because the value of t_0 was higher than t_t , it could be concluded that Null Hypothosis (H_0) was refused and Alternative Hypothesis (H_a) was accepted. It means that there was any significant difference on vocabulary mastery between the students who taught using picture media and who taught without picture mediato the eight grade students of MTs Al-Azhar Sampung in Academic year 2013/2014.

From the previous researches above the researcher tries to conduct the research with different research design. The researcher uses quantitative experimental design. There are seventh grade students of SMPN 1 Balong that being subject of this research. With the different research design, the researcher also provides different statement of the problem. The statement of the problem: Do students who are taught by using Picture Word Inductive Model (PWIM) have better vocabulary than those who are not?

C. Theoretical Framework

In this study the researcher tries to help students by applying strategy. It is Picture Word Inductive Model (PWIM). The researcher expects by applying it, the students will be able to increase students' vocabulary mastery.

By using Picture Word Inductive Model (PWIM) can improve students' vocabulary mastery. The researcher expects that the students feel more interested in learning, easy to understand and of course they will be motivated to learn and understand the subject matter.

This research is experimental research, with the effect of using Picture Word Inductive Model (PWIM) on seventh grade students' vocabulary mastery at SMPN 1 Balong in academic year 2016/2017. The research used Picture Word Inductive Model (PWIM) to get better vocabulary mastery. After that the researcher observed this process to know, is there any significant difference vocabulary mastery between students who are taught using Picture Word Inductive Model (PWIM) and those who are not taught using Picture Word Inductive Model (PWIM).

This research consists of two variables:

X : Picture Word Inductive Model (PWIM)

Y : Students' Vocabulary Mastery

The step to know the effect of using Picture Word Inductive Model (PWIM) on students' vocabulary mastery at SMPN 1 Balong in

academic year 2016/2017 are: First there is one group of class that is taught using Picture Word Inductive Model (PWIM) and another group is without Picture Word Inductive Model (PWIM). After one group has Picture Word Inductive Model (PWIM) we try to test them to get the score. Then, after collected the data, we can try to find significant difference of vocabulary mastery between them.

D. Hypothesis

Hypothesis means a mere assumption or some supposition to be proved or disproved.⁶⁵ According Ali, hypothesis is the formulation of temporary answer which should be investigated by the researcher activities.⁶⁶ There are two hypothesizes:

H₀: there is no significant effect of using Picture Word Inductive Model (PWIM) on students' vocabulary mastery to the seventh grade students at SMPN 1 Balong in academic year 2016/2017.

H_a: there is significant effect of using Picture Word Inductive Model (PWIM) on students' vocabulary mastery to the seventh grade students at SMPN 1 Balong in academic year 2016/2017.

CHAPTER III

RESEARCH METHODOLOGY

⁶⁵C.R. Kothari, *Research Methodology Methods and Techniques* (Second Revised Edition) (New Delhi, New Age International (P) Limited, Publishers, 2004), 184.

⁶⁶Tukiran Taniredja, Hidayati Mustafidah, *Penelitian Kuantitatif* (Sebuah Pengantar) (Bandung: Alfabeta, 2012), 24.

The existence of the research methodology has a goal of guiding the research in order to work systematically. The research methodology are covers a set of research activities conducted by researcher. It involves research design, population and sample, instrument of data collection, technique of data collection, and technique of data analysis.

A. Research Design

In this study, the researcher applies a quantitative approach. Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity.⁶⁷Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)⁶⁸. It means to analyze the data the researcher used statistical calculation.

This research applied an experimental research. According Borg, W.R, Gall, M.D that experimental research is a powerful research method to establish cause and effect relationship involving two or more variables, the

⁶⁷C.R. Kothari, Research Methodology Methods and Techniques (Second Revised Edition) (New Delhi, New Age International (P) Limited, Publishers, 2004), 3.

⁶⁸Daniel Muis, Doing Quantitative Research in Education with SPSS Second Edition (London: Sage Publication Inc, 2011), 1.

variable that becomes the cause (independent) and the variable that becomes the effect.⁶⁹

There are several types of experimental research; some of them are true experimental, quasi experimental, and pre-experimental.⁷⁰ In this research, the research employed quasi-experimental and used Non-equivalent (pre-test and post-test) control group design. Quasi-experimental research is a research that directly attempts to influence a particular variable, and when properly applied, it is the best type for testing hypothesis about cause-effect relationship.⁷¹ This design is assumed to meet with the aim of this research that is to know whether or not there is a significant difference of the students' achievement that is given by using certain treatment.

Quasi-experimental designs are similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups.⁷² Therefore, the researcher can only assign randomly different treatment to two different classes. They were control class and experimental class.

In Non-equivalent (pre-test and post-test) control-group design, a popular approach to quasi experiment, the experimental group A and the

⁶⁹Muhammad Adnan Latief, *Research Methods on Language Learning an Introduction* (Malang: UM Press, 2014), 93.

⁷⁰Ibid, 92.

⁷¹Jack Frankel and Norman Wallen, *How to Design & Evaluate Research in Education* 7th ed. (San Fransisco: Mc Graw Hill Companies, 2008), 261.

⁷²Donald Ary, et al., *Introduction to Research in Education* 8th Edition (Canada: Wadsworth Publishing, 2010), 316.

control group B selected without random assignment. The two groups take a pre-test and post-test. Only the experiment group receives the treatment.⁷³

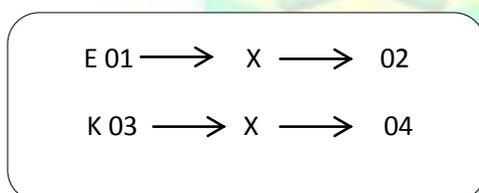
In this research the experiment group VII D and control group VII E, uses experiment to know the effect of using Picture Word Inductive Model (PWIM) on students' vocabulary mastery. It uses two groups of the subject; they are VII D as an experiment group and VII E as control group. This research has two variable, independent and dependent:

Independent variable : PWIM

Dependent variable : Students' vocabulary mastery

The research design is as follows:⁷⁴

Table 3.1 The Research Design



Notes:

E : Experimental class (the students who are taught use PWIM)

K : Control class (the students who are taught not use PWIM)

01 : Pre test for the experiment class

⁷³John W. Creswell, *Research Design Qualitative, Quantitative, and Mixed Method Approaches* Third Edition (United Kingdom: Sage Publication, 2009), 160.

⁷⁴Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2013), 125.

- 03 : Pre test for the control class
- X : Treatment
- 02 : Post test for the experiment class
- 04 : Post test for the control class

Based on the research design above, the research has two classes. Those are experimental classes and control classes. There is pre test before treatment to measure the effect of the treatment. This research design is divided into three steps:

1. Pre research step

This step consists of preparing the data which needed before begin the research. for example: determine the experimental and control class, the lesson plan, instrument to get the data, etc.

2. Research step

In this step, the researcher applies picture word inductive model strategy in experiment class and convention strategy in control class. Data will be conducted from pre-test and post-test.

3. Data analysis step

In this section, data which are gotten will be analyzed by the researcher.

- a. Collect the post-test score from experiment and control class.
- b. Test the data with t-test

t-test is one of statistic test which used to test the correctness or error of null hypothesis which declare that between two mean of samples which be taken randomly from the same population, there is no different significant.⁷⁵ Before do t-test the researcher must find the other result they are: means, standard deviation, and standard error from each variable.

$$T_o = \frac{M_1 - M_2}{SE_{M_1 - M_2}}$$

B. Population and Sample

1. Population

According to Suharsimi Arikunto that “Population is all the subject of the research”.⁷⁶ In Encyclopedia of Educational Evaluation written that “A population is a set (or collection) of elements processing one or more attributes of interest”.⁷⁷ In add, according to Furchan that “population is all member of a group of people of occurrence or object which have been formulated clearly”.⁷⁸ Based on that statement above, we can conclude that population is all members in the field of the research.

⁷⁵ Retno widyanigrum, Statistika (Yogyakarta: Pustaka Felicha, 2011), 151.

⁷⁶ Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2013), 137.

⁷⁷ Ibid.

⁷⁸ Tukiran Taniredja, Hidayati Mustafidah, *Penelitian Kuantitatif (Sebuah Pengantar)* (Bandung: Alfabeta, 2012), 33.

The population in this research was the seventh grade students of SMPN 1 Balongin the academic year of 2016/2017. The total number of population was 208 students and it divided into eight classes. For those classes, the researcher chooses two classes of the seventh grade as experiment class and controlled class. To know whether or not the classes had similar characteristics of capability, the researcher took the vocabulary achievement data that has been done by the teacher. Then the value of the results, the researcher measured means and standard deviation of the classes.

The result of homogeneity found that from three classes considered homogen or had similar ability. They were B, D, E classes. Then among the three classes, it was chosen two classes that would be taken as experiment class and control class by lottery technique. The result revealed that class D became an experimental class and class E as a control class. Meanwhile, class B was used as a validity class. Validity class was used to measure the validity of test. It means that a measuring instrument was deemed valid if it was in accordance with the curriculum to be achieved. So, before the data was tested to experiment class and control class, it should be tested for its validity.

2. Sample

According to Suharsimi Arikunto that “sample is a half or a part of the population which is being researched”.⁷⁹ Charles, C.M. defines a sample as a small group of people selected to present the much larger entire population

⁷⁹ Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik*, 174.

from which it is drawn”.⁸⁰ From the statement, it can be stated that sample is a part of population and it must representative for research.

The sampling technique applied in this research was cluster random sampling. Cluster random sampling or sample area (group) is determined based on the sampling areas or groups that exist in the population such as school, class, region, and not individual.⁸¹ The researcher chooses this sampling because random sampling was easier in the implementation and manageable than the others technique. Moreover, the researcher could limit the time, energy, and fee.

Based on the explanation, the researcher choosed the sample from two classes that had same level of background knowledge. The sample from seventh grades that researcher chooses D class and E class. Each class consists of 26 students, D class became an experimental class and E class became a control class.

C. The Instrument of Data Collection

This research’s instrument to collect data primary is test. Test is a series of questions or exercises and other tools used to measure the skills, knowledge, intelegence, ability or talent possessed by individuals or groups.⁸²

⁸⁰ Muhammad Adnan Latief, *Research Methods on Language Learning an Introduction* (Malang: UM Press, 2014), 181.

⁸¹ S. Margono, *Metodologi Penelitian Pendidikan* (Jakarta: Rineka Cipta, 1997), 127.

⁸² Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2013), 193.

In this study, the test was constructed by the researcher based on the standardized procedures of making test. The test is divided into two parts. They are pre-test and post-test. The pre-test is directed in the beginning study before the treatment. Pre-test was to gain information about the students achievement before the treatment as the teaching process. Post-test was to gain information about the students achievement after the treatment process finish.

In this research, the researcher used vocabulary achievement test which has already been prepared by the researcher to find out the effect of Picture, Word, Inductive, Model (PWIM). The form test is objective. There are 30 multiple choice item spend 60 minutes to completed.⁸³ The test is measured the students' ability in vocabulary mastery that has been previously taught by the teacher. The experiment was held in four meeting. They are pre-test, treatment 1, treatment 2, and post-test.

According to Suharsimi Arikunto that a good instrument must fulfill two important of requirements, they are valid and reliable. Therefore, the researcher used instrument test with two, the first test is test of validity and the second test is test of reliability.

1. Test of Validity

Validity is a measure that indicates the level of validity or the validity of an instrument. The instrument must be able to measure what

⁸³See Appendix 1

should be measured.⁸⁴The method used in measuring the validation of instrument is called content of validity. A test or a measurement can be called a content test when it measures the special purpose which is equal with the material or content given.

In the validity test, the researcher uses Product Moment Correlation by Pearson. The formula is as follows:⁸⁵

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

Notes:

r_{xy} = digit of index Product Moment Correlation

$\sum x$ = the total score X

$\sum y$ = the total score Y

$\sum xy$ = the total of result multiplication between score X and Y

N = the total of respondent

When the coefficient correlation was under 0.30, it can be concluded that the item was not valid instrument. Thus, the item said to be valid instrument if the coefficient correlation of magnitude more than 0.30.

⁸⁴ Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik*, 168.

⁸⁵ Retno Widyaningrum, *Statistika* (Yogyakarta: Pustaka Felicha, 2014), 107.

In the case of this item analysis Masrun (1979) as cited by Sugiyono stated “Correlation technique to determine the validity of this item until now the most widely used technique”. Furthermore, in giving the interpretation of the correlation coefficient, Masrun stated “Item that have a positive correlation with criterion (total score) and a high correlation, indicating that the item also have a high validity. Typically, requirements to be eligible if $r = 0.3$ ”. So, if the correlation between the items with a total score of less than 0.3, then the item in the instrument should be declared invalid.⁸⁶

Example of item No.1 (in the multiple-choice test):

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

$$r_{xy} = \frac{26 \times 522 - 24 \times 557}{\sqrt{(26 \times 24 - (24)^2)(26 \times 12159 - (557)^2)}}$$

$$r_{xy} = \frac{13572 - 13368}{\sqrt{(624 - 576)(316134 - 310249)}}$$

$$r_{xy} = \frac{204}{\sqrt{(48)(5885)}}$$

$$r_{xy} = \frac{204}{\sqrt{282480}}$$

⁸⁶Sugiyono, Metode Penelitian Kuantitatif, Kualitatif, dan R& D (Bandung: Alfabeta, 2016), 133-134.

$$r_{xy} = \frac{204}{531.488}$$

$$r_{xy} = 0.384 \text{ (Valid)}$$

To test the validity and reliability of the instrument, the researcher took a sample of 26 respondent used 30 item of vocabulary test.⁸⁷ Validity of the calculated item instrument to 30 items about vocabulary, there were 26 items about which declared valid are the item number 1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.⁸⁸ The calculation result of data validity, as follow:

Table 3.2

Recapitulation Test Item Validity

No item	'r' arithmetic	'r' table	Explanation
1	0.384	0.30	Valid
2	0.357	0.30	Valid
3	0.449	0.30	Valid
4	-0.062	0.30	Invalid
5	0.322	0.30	Valid
6	0.326	0.30	Valid

⁸⁷See Appendix 2

⁸⁸See Appendix 3

7	0.234	0.30	Invalid
8	0.519	0.30	Valid
9	0.469	0.30	Valid
10	0.410	0.30	Valid
11	0.618	0.30	Valid
12	0.386	0.30	Valid
13	0.569	0.30	Valid
14	0.388	0.30	Valid
15	0.337	0.30	Valid
16	0.169	0.30	Invalid
17	0.225	0.30	Invalid
18	0.386	0.30	Valid
19	0.401	0.30	Valid
20	0.406	0.30	Valid
21	0.433	0.30	Valid
22	0.314	0.30	Valid
23	0.350	0.30	Valid
24	0.381	0.30	Valid
25	0.378	0.30	Valid
26	0.419	0.30	Valid
27	0.351	0.30	Valid
28	0.335	0.30	Valid

29	0.528	0.30	Valid
30	0.352	0.30	Valid

Based on the table, among 30 questions, there are 26 questions was valid and 4 questions were invalid. But the researcher still uses 30 questions for collecting data with the revision test, because the questions can measure the special purpose which is equal with the material or content given.

2. Test of Reliability

A reliable test is consistent and dependable.⁸⁹ According James Dean, reliability is the extent to which the result can be considered consistent or stable.⁹⁰ In this research, the researcher uses a method of Kuder- Richardson. Application of this method using scores 1 for correct answers and score 0 for incorrect answer. K-R 20 formula is:

$$r_{11} = \frac{n}{n-1} \left(\frac{S^2 - \sum pq}{S^2} \right)$$

⁸⁹ H. Douglas Brown, *Language Assessment Principles and Classroom Practice* (New York: Longman, 2002), 20.

⁹⁰ James Dean Brown, *Testing in Language Program* (United States of America: Prentice Hall, 1996), 192.

Note:

r_{11} = the reliability test

p = the subject proportion with right answer

q = the subject proportion with wrong answer

$\sum pq$ = the total number of the multiply between p and q .

n = all items

N = number of students

S^2 = the deviation standard of test

$$\begin{aligned}
 S^2 &= \frac{\sum x^2 - \frac{(\sum x)^2}{N}}{N} \\
 &= \frac{12159 - \frac{(557)^2}{26}}{26} \\
 &= \frac{12159 - 11932.65}{26} \\
 &= \frac{226.35}{26} \\
 &= 8.71
 \end{aligned}$$

$$r_{11} = \frac{n}{n-1} \left(\frac{S^2 - \sum pq}{S^2} \right)$$

$$= \frac{26}{26-1} \left(\frac{8.71 - 4.89}{8.71} \right)$$

$$= \frac{26}{25} \left(\frac{3.82}{8.71} \right)$$

$$= (1.04)(0.44)$$

$$= 0.456 \text{ (reliable)}$$

The calculation of reliability above can know the value of the variable instrument reliability of student's vocabulary mastery of class VII.⁹¹ Value 0.456 then consulted with "r" table on the significance level of 5% is 0.388. Because "r" count (0.456) > "r" table (0.388), so the instrument can be said reliable. For more details it can be seen in the following table:

Table 3.3
Test Item Reliability

"r" arithmetic	"r" table	Explanation
0.456	0.388	Reliable

D. Technique of Data Collection

In data collection, there are two techniques to collect the data in this study. They are test and documentation. The test is used to gain primary data. Meanwhile, documentation is conducted to fulfill the supporting data.

1. Test

Test is used to measures students' vocabulary mastery. A test, in simple terms, is a method of measuring a person's ability, knowledge, or

⁹¹See Appendix 4

performance in a given domain.⁹² Therefore, the researcher can measure the students' ability easily.

In testing vocabulary mastery, the students were asked to answer some questions relating to the texts that were given by the teacher. Vocabulary test was used for the pre-test and post-test not only to measure the students' mastery in vocabulary but also to collect the data.

There are many kinds of test such as multiple choice, fill in the blank, true/false, essay, and etc. This research chooses traditional multiple-choice questions to evaluate students' vocabulary mastery. The numbers of each test was thirty items.

2. Documentation

The other technique of collecting data in this research is documentation. Documentation comes from the word "document", which means goods writing.⁹³ So that, in carrying out the method of documentation, the researcher investigated objects written such as books, magazines, documents, regulations, meeting minutes, diaries, etc.

The documents used in this research were taken from the students' result of the given test, teacher lesson's plan, and photograph of teaching learning process. Besides that, the researcher also gets the data about

⁹² H. Douglas Brown, *Language Assessment Principles and Classroom Practice* (New York: Longman, 2002), 3.

⁹³ Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2013), 201.

students' name, history of school, vision, mission, motto, facilities, infrastructure, and profile of SMPN 1 Balong.

E. Technique of Data Analysis

After collecting the data, the researcher uses t-test to analyze the data. This research is used to compare the result of post-test in experimental class and control class. Before the researcher use t-test, the researcher applied assumption test, namely normality test and homogeneity test.

a. Normality test

Normality test was conducted to know whether the data distribution was normal distribution or not.⁹⁴ There are some formula that can be used, they are: Kolmogorov-Smirnov, Lilifors, and Chi-square. The researcher chooses Kolmogorov-Smirnov to calculate this research.

The step of analyzing normality test as follows:

1. Formulated hypothesis

H_0 : the data was normally distributed

H_a : the data was not normally distributed

2. Calculate the average (mean) to create a table

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

$$SD_x = \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n} \right]^2}$$

⁹⁴ Retno Widyaningrum, Statistika (Ponorogo: STAIN Ponorogo Press, 2009), 204.

3. Calculating the value of fkb
4. Calculated each frequency divided by the number of data (f/n)
5. Fkb calculating each divided by the number of data (fkb/n)
6. Calculated the value of Z by the formula where X is the original value of data and μ is the population mean can be estimated using the average of the sample or the mean while σ was the standard deviation of a population could be estimated by the standard deviation of the sample values. Z values would be calculated each value after sorted from smallest to largest.

$$Z = \frac{X - \mu}{\sigma}$$

7. Calculate $P \leq Z$
8. For a_2 values obtained from the difference between columns 5 and 7 (fkb/n and $P \leq Z$)
9. For a_1 values obtained from the difference between columns 4 and 8 (f/n and a_2)
10. Comparing the highest number a_1 with Kolmogorov-smirnov table
11. Test the hypothesis

12. If a_1 maksimum $<$ kolmogorov-smirnov table, receive H_a and data is normal distribution.⁹⁵

b. Homogeneity test

Homogeneity test is the variance ratio test between two groups or more.⁹⁶ There are some formula that can be use, they are: Harley test, Cohran test and Bartlett test. The researcher chooses Harley test to calculation this research. the formula of Harley test:⁹⁷

$$F (\max) = \frac{var \max}{var \min} = \frac{SD^2 \max}{SD^2 \min}$$

The steps of analyzing homogeneity test as follows:

1. Make a frequency distribution table
2. Calculated Sd formula

$$SDx = \sqrt{\frac{\sum fx^2}{nx} - \left[\frac{\sum fx}{nx} \right]^2}$$

$$SDy = \sqrt{\frac{\sum fy^2}{ny} - \left[\frac{\sum fy}{ny} \right]^2}$$

⁹⁵ Retno Widyaningrum, Statistika (Yogyakarta: Pustaka Felicha, 2014), 204-208.

⁹⁶ Andhita Dessy Wulansari, Statistika Parametrik Terapan untuk Peneliti Kuantitatif , (Ponorogo, STAIN Po PRESS), 22.

⁹⁷ Retno Widyaningrum, Statistika, 212.

3. Using the formula Harley:

$$F(\max) = \frac{\text{var max}}{\text{var min}} = \frac{SD^2_{\max}}{SD^2_{\min}}$$

4. Comparing F (max) result calculated with F (max) table, with db = (n-1; k)

5. Test the hypothesis

c. T-test is used to determine whether the means of two groups are statistically different from one another.

The data analysis that used was T-test non-independent experiment with 5% significance level with this formula as follow:

1. Determining of mean from variable I and variable II

$$M_1 = \frac{\sum fx}{N}$$

$$M_2 = \frac{\sum fx}{N}$$

2. Determining of standart deviation of variable I and variable II

$$SD_1 = \sqrt{\frac{\sum fx^2}{n_1} - \left[\frac{\sum fx}{n_1}\right]^2}$$

$$SD_2 = \sqrt{\frac{\sum fy^2}{n_2} - \left[\frac{\sum fy}{n_2}\right]^2}$$

3. Determining standart error mean variable I and variable II

$$SE_{M1} = \frac{SD1}{\sqrt{N1-1}}$$

$$SE_{M2} = \frac{SD2}{\sqrt{N2-1}}$$

4. Determining the differences of mean variable I and mean variable II

$$SE_{M1-M2} = \sqrt{SEM1^2 + SEM2^2}$$

5. Determining value of t_o

$$t_o = \frac{M1-M2}{SE_{M1-M2}}$$

After all of the data are calculated, the last procedure is determining df (degree of freedom)

$$Df \text{ or } db = (N_x + N_y) - 2$$

Notes :

M_1 = Mean of variable X (post-test)

M_2 = Mean of variable Y (post-test)

SD_1 = Standart deviation x variable

SD_2 = Standart deviation y variable

SE_{M1} = Standart of error of x variable

SE_{M2} = Standart of error of y variable

SE_{M1-M2} = Standart error between mean of x variable and y variable

$\sum fx$ = The total number of scores of x variable

$\sum fy$ = The total number of scores of y variable

$\sum fx^2$ = The total number of square scores of x variable

$\sum fy^2$ = The total number of square scores of y variable

t_o = T-observation

N = The number of subject

$(N-1)$: db: Degree of Freedom⁹⁸

⁹⁸Ibid, 159.

CHAPTER IV

FINDING AND DISCUSSION

In this chapter the researcher report research location, data description, data analysis, and discussion.

A. Research Location and Time of the Research

1. General Location

The researcher conducted the research at SMPN 1 Balong in academic year 2016/2017. It is located at Diponegoro street No.93 Karanganyar Balong Ponorogo, which was built in 1983. For more information about SMPN 1 Balong.⁹⁹

SMPN 1 Balong uses Kurikulum Tingkat Satuan Pendidikan (KTSP) in eighth and ninth class. While in seventh class uses K13. So, the researcher also uses lesson plan with K13 model.¹⁰⁰

2. Time of the Research

This research was conduct in April, 17th– 29th2017. The schedule for experiment and control class can be seen in the table follow:

⁹⁹See Appendix 5, 6, 7

¹⁰⁰See Appendix 8

Table 4.1 Experiment Class Schedule

Date	Activities
April, 19 th 2017	Pre-test
April, 21 st 2017	First treatment
April, 26 th 2017	Second treatment
April, 28 th 2017	Post-test

Table 4.2 Control Class Schedule

Date	Activities
April, 20 th 2017	Pre-test
April, 22 nd 2017	First treatment
April, 27 th 2017	Second treatment
April, 29 th 2017	Post-test

B. Data Description

The population of this research was the seventh grade students of SMPN 1 Balong Ponorogo in academic year 2016/2017. The researcher took 52 students as a sample. From the 52 students as sample, the researcher divided them into two groups. Each group consisted of 26 students. The first group as experimental group who are taught using Picture Word Inductive Model (PWIM) and the

second group as control group who are not taught using Picture Word Inductive Model (PWIM).

1. Procedure of Experiment Group

This research used experimental research which made two classes as the sample, those were VIID as experiment class and VIIE as a control class. The number of experiment class was 26 students. They had followed pre-test and post-test that conducted by the researcher.

Firstly, the students were given pre-test to make them in some condition or homogeneity before beginning the research. The form test was objective. There were 30 multiple choice items spent 60 minutes to completed. It was hold on April, 19th 2017.

Secondly, the first treatment of Picture Word Inductive Model (PWIM) held on April, 21st 2017 the material was descriptive text. The students ask to identify the vocabularies related to the picture. Then, they come forward and make a line the available vocabularies of picture.

Thirdly, the second treatment held on April, 26th 2017 the material was descriptive text too, but had different text with the first treatment. They used Picture Word Inductive Model (PWIM) with the different picture.

Fourthly that was post-test. It was hold on April, 28th 2017. It used to measure whether the Picture Word Inductive Model (PWIM) is success or not in teaching vocabulary.

The pre-test and post-test took factual information was limited only in descriptive text. Word identification, word meaning, reading the word, writing the word, word consciousness was assessing in the vocabulary test. It used to know the true result whether the technique was effective or not. The pre-test and post-test were objective test which consists of 30 items multiple-choice. The total score is 100 and the value of each correct item is 1. One reason for choosing this type of testing was that it was easy to mark. The marker does not run the risk of being subjective.

The treatment was applied in the present study called Picture Word Inductive Model (PWIM). The students asked to give label the picture. This was done with the teacher's help who stands as a facilitator of this technique. First, teacher shows the big picture on the whiteboard. Second, teacher asks students to identify the vocabularies related to the picture. Third, teacher asks students to come forward and to make a line the available vocabularies of picture. Forth, teacher reads the vocabularies of picture and the students repeat it. The last, the teacher asks students to make a simple paragraph related with the picture.

2. Procedure of Control Group

This research takes VIIIE as a control class which apply conventional method such as: the teacher show text; the students find difficult word; requesting the students to memorize the words that they have found;

distributing the tasks to the students; requiring the students to do the tasks; and discussing the answer.

The researcher took 26 students of VIIE class for pre-test and post-test. There are four meeting for the class. The procedure of control class is same with the procedure of experiment class. There are pre-test, first and second meeting with conventional/normal mode of instruction and post-test.

The material which was taught to the students were same with experimental class. That is one of the principles in the experimental research, different treatment with the same material. Not only same in material but also the pre-test and post-test of the control class same with experimental class.

The conventional method is not a new method which is taught by the teachers in teaching and learning process. So, the students are familiar with the method. It is good method to make the students paying attention to the teacher and also it will suitable method used by the teacher to transfer their knowledge to the students. But the weakness from this method are that the students will be bored, do not interesting and the class is very crowded, because the teachers cannot control the situation in the class.

The teaching and learning process using conventional method has some steps, they are:

- a. The teacher showstext
- b. The students find difficult word
- c. The teacher asks to the students to memorize the words

- d. The teacher distributes the task
- e. The students do the task
- f. The teacher discusses the task together with the students.

From the result above, it can be conclude that the conventional method is a good method to transfer the knowledge from the teacher to the students, because it is easy and familiar method, but the students will be passive place, bored and also they seldom to thin critically.

3. The Result of Students' Pre Test in Experimental Group (7D)

The table below showed the score of the pre-test of the students who are taught using Picture Word Inductive Model (PWIM).

Table 4.3 The Score of Students' Pre Test in Experimental Group

No.	Name	Scores
1	Agung Wibowo	60
2	Abdul Aziz Mahendra	77
3	Al Azryel Alfian Rizky E. H	53
4	Andi Bayu Setiawan	77
5	Andina Putri Ayuntari	70
6	Arga Rizki Putra	77
7	Bintang Akbar Pratama E	67
8	Dea Minda Listianawati	80

9	Dimas Rizal Abqoriyyin	77
10	Hamidatul Hasanah	73
11	Koirul Ubaidilah F	80
12	Lutfi Rahayu Amanah	63
13	Miftahul Huda	73
14	Nanang Trianugrah	70
15	Narwansyah Agung P	67
16	Novi Tri Lestari	83
17	Putri Rose Viana Yuanmar	67
18	Rahmat Fuad Zulkarnain	70
19	Rancitiya Amanda A.	83
20	Riasih Candra Widiawati	80
21	Rosmayanti	83
22	Septia Adi Bayu Pratama	67
23	Surya Dwi Purnama	67
24	Wahyu Aji Agung Prasetio	83
25	Wahyu Saputri	70
26	Zein Vega Karuniansyah	53
	N = 26	1870

From the table above, could be seen that the highest scores for experiment class is 83; there are 4 students who got the highest score. The

lowest score for experiment class is 53; there are 2 students who have the lowest score. The total of experiment class score is 1870.

4. The Result of Students' PreTest in Control Group (7E)

The table below showed the score of the pre-test of the students who are not taught using Picture Word Inductive Model (PWIM).

Table 4.4 The Score of Students' Pre Test in Control Group

No.	Name	Score
1	Alvis Satria Prima	80
2	Ani Novitasari	83
3	Aprilia Indah Maha Rani	70
4	Bangga Bima Bangun A.	47
5	Bangkit Adi Prasetyo	73
6	Dimas Bagus Anggarita	53
7	Divaldi Iqbal Hadi S.	60
8	Evaline Salisila Sari	73
9	Ferdinan Dian Efendi	70
10	Jeni Tri Surya Sari	70
11	Juli Andika Saputra	63
12	Khoiriyah	60

13	Khoirul Anam	73
14	Muda Maulana Evendi	67
15	Nova Ayu Maulinawati	83
16	Prisca Ananda Saputra	73
17	Puji Lestari	80
18	Restiana Mala Sari	63
19	Riska Dewi Aryana	80
20	Rizki Ramadhani W.	73
21	Sadid Abrori	63
22	Sahira Rizky Septiani	83
23	Sridevi Sulistyorini	67
24	Syamsiatul Fauziah	67
25	Wahyu Santoso	60
26	Wahyudha Primada Shakti	70
	N = 26	1804

The highest score for controlled class is 83; there are 3 students who got the highest score. The total lowest score for the controlled class is 47; there is 1 student who have the lowest score. The total of the controlled class score is 1804 the differentiates result of the experiment class and controlled class is 66.

5. The Result of Students' Post Test in Experimental Group (Variable X)

The table below showed the score of the post test of the students who are taught using Picture Word Inductive Model (PWIM)

Table 4.5 The Score of Students' Post Test in Experimental Group

No.	Name	Scores
1	Agung Wibowo	73
2	Abdul Aziz Mahendra	80
3	Al Azryel Alfian Rizky E. H	73
4	Andi Bayu Setiawan	87
5	Andina Putri Ayuntari	83
6	Arga Rizki Putra	90
7	Bintang Akbar Pratama E	80
8	Dea Minda Listianawati	93
9	Dimas Rizal Abqoriyyin	83
10	Hamidatul Hasanah	93
11	Koirul Ubaidilah F	87
12	Lutfi Rahayu Amanah	83
13	Miftahul Huda	70
14	Nanang Trianugrah	80
15	Narwansyah Agung P	83

16	Novi Tri Lestari	80
17	Putri Rose Viana Yuanmar	73
18	Rahmat Fuad Zulkarnain	80
19	Rancitiya Amanda A.	87
20	Riasih Candra Widiawati	90
21	Rosmayanti	80
22	Septia Adi Bayu Pratama	90
23	Surya Dwi Purnama	83
24	Wahyu Aji Agung Prasetio	83
25	Wahyu Saputri	83
26	Zein Vega Karuniansyah	70
	N = 26	2137

From the table above, could be seen that the highest scores for experiment class is 93; there are 2 students who got the highest score. The lowest score for experiment class is 70; there are 2 students who have the lowest score. The total of experiment class score is 2137. So it could be concluded the result of post-test of students who are taught using Picture Word Inductive Model (PWIM) was good.

6. The Result of Students' Post Test in Control Group (Variable Y)

The table below showed the score of the post-test of the students who are not taught using Picture Word Inductive Model (PWIM).

Table 4.6 The Score of Students' Post Test in Control Group

No.	Name	Score
1	Alvis Satria Prima	70
2	Ani Novitasari	87
3	Aprilia Indah Maha Rani	83
4	Bangga Bima Bangun A.	70
5	Bangkit Adi Prasetyo	77
6	Dimas Bagus Anggarita	60
7	Divaldi Iqbal Hadi S.	73
8	Evaline Salisila Sari	77
9	Ferdinan Dian Efendi	70
10	Jeni Tri Surya Sari	73
11	Juli Andika Saputra	67
12	Khoiriyah	70
13	Khoirul Anam	77
14	Muda Maulana Evendi	70
15	Nova Ayu Maulinawati	83
16	Prisca Ananda Saputra	77
17	Puji Lestari	87
18	Restiana Mala Sari	73
19	Riska Dewi Aryana	83

20	Rizki Ramadhani W.	67
21	Sadid Abrori	70
22	Sahira Rizky Septiani	77
23	Sridevi Sulistyorini	77
24	Syamsiatul Fauziah	73
25	Wahyu Santoso	67
26	Wahyudha Primada Shakti	83
	N = 26	1941

From the table above, could be seen that the result of post test of the students in control group who are not taught using Picture Word Inductive Model (PWIM) was varieties. There were 2 students got 87, 4 students got 83, 6 students got 77, 4 students got 73, 6 students got 70, 3 students got 67 and 1 student got 60. So it could be concluded the result of post-test of students who are not taught using Picture Word Inductive Model (PWIM) was moderate.

7. The Result of Assumption Test for Parametric Statistic

a. Normality

Normality test was conducted to known whether the data distribution was normal distribution or not.¹⁰¹ For this test, it would be proposed the hypothesis as follow:

¹⁰¹ Retno Widyaningrum, *Statistika*(Ponorogo: STAIN Ponorogo Press, 2009), 204.

Ho : the data was normal distribution

Ha : the data was not normal distribution

Table 4.7 Normality of Data and Calculation of the Students' Post Test in Experimental Group

X	F	FX	X²	FX²
93	2	186	8649	17298
90	3	270	8100	24300
87	3	261	7569	22707
83	7	581	6889	48223
80	6	480	6400	38400
73	3	219	5329	15987
70	2	140	4900	9800
TOTAL	ΣF = 26	ΣFX = 2137	Σ X² = 47836	ΣFX² = 176715

Calculate the average:

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

$$M_x = \frac{2137}{26}$$

$$M_x = 82.19$$

Calculate the deviation standard:

$$SD_x = \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n}\right]^2}$$

$$SD_x = \sqrt{\frac{176715}{26} - \left[\frac{2137}{26}\right]^2}$$

$$SD_x = \sqrt{6796.73 - (82.19)^2}$$

$$SD_x = \sqrt{6796.73 - 6755.19}$$

$$SD_x = \sqrt{41.54}$$

$$SD_x = 6.45$$

Table 4.8 The Result of Normality Test for Experimental Group

X	F	Fkb	F/n	Fkb/n	Z	P≤Z	α₂	α₁
1	2	3	4	5	6	7	8	9
93	2	26	0.077	1	1.676	0.9535	0.0465	0.0305
90	3	24	0.115	0.923	1.211	0.8869	0.0361	0.0789
87	3	21	0.115	0.808	0.746	0.7734	0.0346	0.0804
83	7	18	0.269	0.692	0.126	0.5517	0.1403	0.1287
80	6	11	0.231	0.423	-0.339	0.3669	0.0561	<u>0.1749</u>
73	3	5	0.115	0.192	-1.425	0.0778	0.1142	0.0008
70	2	2	0.077	0.0769	-1.889	0.0294	0.0475	0.0295

$D_{(0,05,26)}$ from index is 0.27

H_0 was accepted if $\alpha_1 \max \leq D_{Index}$

Because the maximum value of a_1 was 0.1749 (0.17) in which the index was less than the D index, so the decision was to accept H_0 , which meant the data was normality distributed.

Table 4.9 Normality of Data and Calculation of The Students' Post Test in Control Group

Y	F	FY	Y²	FY²
87	2	174	7569	15138
83	4	332	6889	27556
77	6	462	5929	35574
73	4	292	5329	21316
70	6	420	4900	29400
67	3	201	4489	13467
60	1	60	3600	3600
TOTAL	ΣF = 26	ΣFY = 1941	Σ Y² = 38705	ΣFY² = 146051

Calculate the average:

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

$$M_y = \frac{1941}{26}$$

$$M_y = 74.65$$

Calculate the deviation standard:

$$SDy = \sqrt{\frac{\sum fy^2}{n} - \left[\frac{\sum fy}{n}\right]^2}$$

$$SDy = \sqrt{\frac{146051}{26} - \left[\frac{1941}{26}\right]^2}$$

$$SDx = \sqrt{5617.35 - (74.65)^2}$$

$$SDx = \sqrt{5617.35 - 5572.62}$$

$$SDx = \sqrt{44.73}$$

$$SDx = 6.69$$

Table 4.10 The Result of Normality Test for Control Group

X	F	Fkb	F/n	Fkb/n	Z	P≤Z	α₂	α₁
1	2	3	4	5	6	7	8	9
87	2	26	0.077	1	1.846	0.9678	0.0322	0.0448
83	4	24	0.154	0.923	1.248	0.8944	0.0286	<u>0.1254</u>
77	6	20	0.231	0.769	0.351	0.6368	0.1322	0.0988
73	4	14	0.154	0.538	-0.247	0.4013	0.1367	0.0173
70	6	10	0.231	0.385	-0.695	0.2451	0.1399	0.0911
67	3	4	0.115	0.154	-1.143	0.1271	0.0269	0.0881
60	1	1	0.038	0.038	-2.189	0.0143	0.0237	0.0143

D (0,05,26) from index is 0.27

Ho was accepted if $\alpha_1 \max \leq D_{\text{Index}}$

Because the maximum value of a_1 was 0.1254 (0.12) in which the index was less than the D index, so the decision was to accept Ho, which meant the data was normality distributed.

b. Homogeneity

Homogeneity test is the variance ratio test between two group or more.¹⁰² This can be tested by Harley test.

The formula is:

$$F(\max) = \frac{\text{var max}}{\text{var min}} = \frac{SD^2_{\max}}{SD^2_{\min}}$$

$$F(\max) = \frac{\text{var max}}{\text{var min}} = \frac{(6.69)^2}{(6.45)^2}$$

$$F(\max) = \frac{\text{var max}}{\text{var min}} = \frac{44.7561}{41.6025}$$

$$F(\max) = 1.08$$

$$D_b = n-1; k$$

$$26-1; 2 = 25; 2$$

Ho = Data is homogenous

Ha = Data is not homogenous

Fmax index is 2.40

¹⁰²Andhita Dessy Wulansari, Statistika Parametrik Terapan untuk Peneliti Kuantitatif, (Ponorogo, STAIN Po PRESS), 22.

So F_{max} was 1.08 in which the index was less than the F_{max} index (2.40), so the decision was to accept H_0 , which meant the data was homogeny distributed.

C. Data Analysis

1. The Analysis of Student's Post Test of Experimental Group

To obtain data, the researcher uses vocabulary test to 26 students for experimental group and 26 students for control group. To know the differentiate students' vocabulary mastery at the seventh grade of SMPN 1 Balong in Academic Year 2016-2017, the researcher applied "t" test formula.

Table 4.11 The Computation of Students' Post Test in Experimental Group

X	F	FX	X²	FX²
93	2	186	8649	17298
90	3	270	8100	24300
87	3	261	7569	22707
83	7	581	6889	48223
80	6	480	6400	38400
73	3	219	5329	15987
70	2	140	4900	9800
TOTAL	$\Sigma F = 26$	$\Sigma FX = 2137$	$\Sigma X^2 = 47836$	$\Sigma FX^2 = 176715$

- a. Finding Average (Mean) of the variable X

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

$$M_x = \frac{2137}{26}$$

$$M_x = 82.19$$

- b. Look for SD_x

$$SD_x = \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n}\right]^2}$$

$$SD_x = \sqrt{\frac{176715}{26} - \left[\frac{2137}{26}\right]^2}$$

$$SD_x = \sqrt{6796.73 - (82.19)^2}$$

$$SD_x = \sqrt{6796.73 - 6755.19}$$

$$SD_x = \sqrt{41.54}$$

$$SD_x = 6.45$$

From the calculation above, it is known $M_x = 82.19$ and $SD_x = 6.45$

2. The Analysis of Student's Post Test of Control Group

Table 4.12 The Computation of Students' Post Test in Control Group

Y	F	FY	Y ²	FY ²
87	2	174	7569	15138
83	4	332	6889	27556
77	6	462	5929	35574

73	4	292	5329	21316
70	6	420	4900	29400
67	3	201	4489	13467
60	1	60	3600	3600
TOTAL	ΣF = 26	ΣFY = 1941	Σ Y² = 38705	ΣFY² = 146051

a. Finding Average (Mean) of the variable Y

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

$$M_y = \frac{1941}{26}$$

$$M_y = 74.65$$

b. Look for SD_y

$$SD_y = \sqrt{\frac{\sum fy^2}{n} - \left[\frac{\sum fy}{n}\right]^2}$$

$$SD_y = \sqrt{\frac{146051}{26} - \left[\frac{1941}{26}\right]^2}$$

$$SD_y = \sqrt{5617.35 - (74.65)^2}$$

$$SD_y = \sqrt{5617.35 - 5572.62}$$

$$SD_y = \sqrt{44.73}$$

$$SD_y = 6.69$$

From the calculation above, it is known $M_y = 74.65$ and $SD_y = 6.69$

3. Testing Hypothesis (t_{test})

From both tables above, the researcher compare the mean score of students' vocabulary mastery who are taught using Picture Word Inductive Model (X) and the students' vocabulary mastery who are not taught using Picture Word Inductive Model (Y) with this steps:

- a. Finding Average (Mean) of the variable X and Y

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

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

$$M_X = \frac{2137}{26}$$

$$M_Y = \frac{1941}{26}$$

$$M_X = 82.19$$

$$M_Y = 74.65$$

- b. Look for SD_x and SD_y

$$SD_x = \sqrt{\frac{\sum fx^2}{n} - \left[\frac{\sum fx}{n}\right]^2}$$

$$SD_x = \sqrt{\frac{176715}{26} - \left[\frac{2137}{26}\right]^2}$$

$$SD_x = \sqrt{6796.73 - (82.19)^2}$$

$$SD_x = \sqrt{6796.73 - 6755.19}$$

$$SD_x = \sqrt{41.54}$$

$$SD_x = 6.45$$

$$SDy = \sqrt{\frac{\sum fy^2}{n} - \left[\frac{\sum fy}{n}\right]^2}$$

$$SDy = \sqrt{\frac{146051}{26} - \left[\frac{1941}{26}\right]^2}$$

$$SDy = \sqrt{5617.35 - (74.65)^2}$$

$$SDy = \sqrt{5617.35 - 5572.62}$$

$$SDy = \sqrt{44.73}$$

$$SDy = 6.69$$

c. Determining standard error mean variable X and Y

$$SE_{Mx} = \frac{SDx}{\sqrt{N1-1}}$$

$$SE_{Mx} = \frac{6.45}{\sqrt{26-1}}$$

$$SE_{Mx} = \frac{6.45}{\sqrt{25}}$$

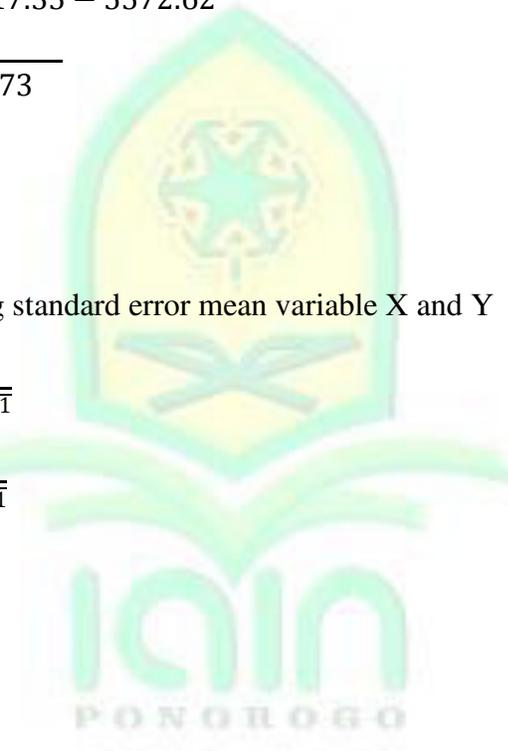
$$SE_{Mx} = \frac{6.45}{5}$$

$$SE_{Mx} = 1.29$$

$$SE_{My} = \frac{SDy}{\sqrt{N2-1}}$$

$$SE_{My} = \frac{6.69}{\sqrt{26-1}}$$

$$SE_{My} = \frac{6.69}{\sqrt{25}}$$



$$SE_{My} = \frac{6.69}{5}$$

$$SE_{My} = 1.34$$

- d. Difference standard error score of the means variable X and variable Y

$$SE_{M1-M2} = \sqrt{SEM1^2 + SEM2^2}$$

$$SE_{M1-M2} = \sqrt{(1.29)^2 + (1.34)^2}$$

$$SE_{M1-M2} = \sqrt{1.6641 + 1.7956}$$

$$SE_{M1-M2} = \sqrt{3.4597}$$

$$SE_{M1-M2} = 1.86$$

- e. to score

$$t_o = \frac{Mx - My}{SE_{M1-M2}}$$

$$t_o = \frac{82.19 - 74.65}{1.86}$$

$$t_o = \frac{7.54}{1.86}$$

$$t_o = 4.054 (4.05)$$

c. Discussion

From the computation above, it was shown that the difference coefficient of students who are taught using Picture Word Inductive Model and the students who are not taught using Picture Word Inductive Model was 4.05. It was used to find out whether the difference coefficient was a significant coefficient or not.

Hypothesis test (t_0) at 4.05 from the computation above would be compared to the “ t ” index (t_t) with the condition stated below:

- 1) If the $t_0 \geq t_t$ so H_0 was accepted. It meant that the mean difference of both variables was a significant difference.
- 2) If the $t_0 < t_t$, so H_0 was rejected. It meant that the mean difference of those variables was not a significant difference.

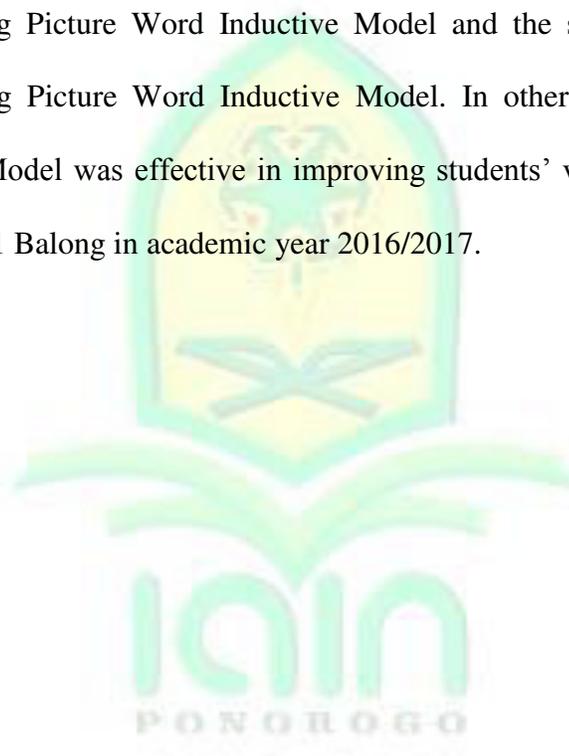
To determine the t_0 was by checking db and consulted with the t_t score:

$$\begin{aligned}
 Db &= (N1 + N2) - 2 \\
 &= (26 + 26) - 2 \\
 &= 52 - 2 \\
 &= 50
 \end{aligned}$$

From the db score, the researcher could know that in 5% signification level $t_0 = 4.05$ and $t_t = 2.01$. Based on this statement, the researcher interpret that there was a significant difference between the students who are taught using Picture Word Inductive Model and the students who are not taught using Picture Word Inductive Model, it implied that the students taught using Picture Word Inductive Model achieve a better score in vocabulary mastery.

So, Alternative hypothesis (H_a)state that the students taught using Picture Word Inductive Model will achieve a better score in vocabulary mastery was accepted.

From the data above, the researcher could conclude that there was a significant difference in vocabulary mastery between the students who are taught using Picture Word Inductive Model and the students who are not taught using Picture Word Inductive Model. In other word, Picture Word Inductive Model was effective in improving students' vocabulary mastery at the SMPN 1 Balong in academic year 2016/2017.



CHAPTER V

CLOSING

A. Conclusion

Based on the data described previously, the researcher draw the conclusion that there is significant different of using Picture Word Inductive Model (PWIM) in teaching vocabulary at the seventh grade students of SMPN 1 Balong in academic year 2016/2017. The students who are taught using Picture Word Inductive Model (PWIM) have a better score than those who are not taught using Picture Word Inductive Model (PWIM). It can be proved by the result of the mean score of the post-test from experimental group is higher (82.19) than mean score of post-test from controlled group (74.65). It has been found that the comparison value (t_0) between students' vocabulary mastery who are taught using Picture Word Inductive Model (PWIM) and who are not is 4.05. This is higher than " t_t " value in the table, which is $t_t = 2.01$ at the level significant 5% with $db = 50$. So, H_a is accepted. In the other word, Picture Word Inductive Model (PWIM) has effect in teaching vocabulary to improve students' vocabulary mastery at the seventh grade students of SMPN 1 Balong in academic year 2016/2017.

B. Suggestion

Considering the conclusion above, the researcher would like to suggest:

1. For the school

The school is suggested to improve the system and facilities for a better condition in teaching and learning process.

2. For the English teacher

The English teacher should be creative to choose the best technique to apply in learning process in order to make the class alive; the teacher should present the language in an enjoyable, relaxed and understandable; the teacher is not only as an information giver but also as facilitator; the teacher should teach using appropriate technique to teach the students and make variation of technique in every meeting.

3. For the Students

The students are hoped to be active in learning process; the students should know that improving vocabulary is not always difficult because improving vocabulary can be enjoyable and easy.