TEACHING VOCABULARY THROUGH CLUSTERING TECHNIQUE
AT THE FIRST YEAR STUDENTS OF SMP AL-KAUTSAR BANDAR
LAMPUNG

(A Script)

By
KHAIRINA EFIA PUTRI

ENGLISH EDUCATION STUDY PROGRAM
LANGUAGE AND ARTS DEPARTMENT
TEACHER TRAINING AND EDUCATION FACULTY
LAMPUNG UNIVERSITY
BANDAR LAMPUNG
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ABSTRACT

TEACHING VOCABULARY THROUGH CLUSTERING TECHNIQUE
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LAMPUNG

By

Khairina Efia Putri

This research aims to find out which types of content words improves the most after the students are taught through clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique. The subject of the research was the first grade students of SMP Al-Kautsar Bandar Lampung. Class VII E was chosen as the experimental class and class VII G as the try out class. T-test and one way anova were applied in this research. The result indicates that the students’ mastery of vocabulary is improved significantly with the significant level 0.00<0.05. Noun was noted as a type of content words which improved the most after the students were taught through clustering technique. In addition, the researcher found some positive effects on the students’ perception even though there were some problems faced during the implementation of clustering technique. This suggests that clustering technique facilitates the students to improve vocabulary achievement.
TEACHING VOCABULARY THROUGH CLUSTERING TECHNIQUE
AT THE FIRST YEAR STUDENTS OF SMP AL-KAUTSAR BANDAR LAMPUNG

By
KHAIRINA EFIA PUTRI

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Research Title: TEACHING VOCABULARY THROUGH CLUSTERING TECHNIQUE AT THE FIRST YEAR STUDENTS OF SMP AL-KAUTSAR BANDARLAMPUNG

Student's Name: Khairina Efia Putri
Student's Number: 1513042072
Department: Language and Arts Education
Study Program: Teacher Training and Education

APPROVED BY
Advisory Committee

Advisor Co-Advisor

Prof. Ag. Bambang Setiyadi, M.A., Ph.D. Dr. Tuntun Sinaga, M. Hum.
NIP 19620804 198905 1 201 NIP 19630302 198703 2 002

The Chairperson of
The Department of Language and Arts Education

Dr. Nurlaksana Eko R., M.Pd.
NIP 19640106 198803 1 001
ADMITTED BY

1. Examination Committee
   Chairperson : Prof. Ag. Bambang Setiyadi, M.A., Ph.D.

   Examiner : Dr. Feni Munifatullah, M. Hum.

   Secretary : Dr. Tuntun Sinaga, M. Hum.

2. The Dean of Teacher Training and Education Faculty

   Prof. Dr. Patuan Raja, M.Pd.
   NIP 19620804 198905 1 001

Graduated on: July 25th, 2019
LEMBAR PERNYATAAN

Yang bertanda tangan dibawah ini, saya:

Nama : Khairina Efia Putri
NPM : 1513042072
Program Studi : Pendidikan Bahasa Inggris
Jurusan : Pendidikan Bahasa dan Seni
Fakultas : Keguruan dan Ilmu Pendidikan
Judul Skripsi : Teaching Vocabulary at The First Year Students of SMP Al-Kautsar Bandar Lampung

Menyatakan bahwa skripsi ini adalah hasil karya sendiri. Sepanjang pengetahuan saya, karya ini tidak berisi materi yang ditulis oleh orang lain, kecuali bagian-bagian tertentu yang saya ambil sebagai acuan. Apabila ternyata terbukti bahwa pernyataan ini tidak benar, sepenuhnya menjadi tanggung jawab saya.

Bandar Lampung, 1 Agustus 2019
Yang membuat pernyataan,

Khairina Efia Putri
NPM. 1513042072
CURRICULUM VITAE

The writer’s name is Khairina Efia Putri. She was born in Bandar Lampung on July 15\textsuperscript{th}, 1998. She is the first child in a lovely family of Drs. Edianto and Fitriyani Zhayati, S.E. She has one brother named Achmad Raja Muzaffar and two sisters named Nabila Putri Andini and Nur Aisya Muslimah Putri.

She started her study at kindergarten, TK Aisyiah, Bandar Lampung in 2003. She graduated from SDN 01 Kedaton, Bandar Lampung in 2009. She continued her study at SMP Al-Kautsar Bandar Lampung and graduated in 2012. Having finished her study in that school, she entered SMAN Al-Kautsar Bandar Lampung and graduated in 2015. In the same year, she was accepted in English Education Program of Teacher Training and Education Faculty of Lampung University. During her study, she joined an extracurricular activity namely RAKANILA (Radio Kampus Unila). She conducted her Teacher Training Program (PPL) at SMAN 2 Sekampung Lampung Timur from July to September 2018.
DEDICATION

With love and appreciation, this script is proudly dedicated to:

My beloved father, Drs. Edianto, who always loves me, prays for me, gives me encouragement and my everything, who always supports me, gives me love, and prays for me in every time, she is my mother named Fitriyani Zhayati, S.E.

My beloved brother, Achmad Raja Muzaffar

My beloved sisters, the sweetest things of mine
Nabila Putri Andini and Nur Aisya Muslimah Putri.

English Department 2015

My almamater, University of Lampung
MOTTO

I’ve failed over and over again in my life
That is why i succeed

- Michael Jordan -
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The last, the writer realizes that this paper is still far from perfection. Thus, the writer hopes that this research would be a positive contribution to the education development, the readers, and the other researchers.

Bandar Lampung, July 25th, 2019

The writer

Khairina Efia Putri
NPM. 1513042072
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I. INTRODUCTION

This part contains backgrounds of the research, research questions, objectives of the research, uses of the research, scope of the study, and definition of key terms.

1.1. Background of The Research

Nowadays English becomes an important one and mostly the language used in communication around the world. In Indonesia, the national education has decided English as a foreign language taught in schools from elementary to university. By teaching English in school, students are expected to develop various abilities like understanding what is heard, understanding what is read, expressing ideas in speech correctly and expressing them in writing as well in order to make them be able to communicate effectively and efficiently by using the international language. In learning English, there are four skills that should be mastered by students: listening, speaking, reading and writing. Before they master the four skills, they have to know the vocabulary first to support them in language learning.

Vocabulary is the core component of language proficiency and provides much of the basis for how well learners listen, speak, read, and write (Richards & Renandya, 2002). Therefore, learning language cannot be separated from learning vocabulary. With a limited vocabulary, anyone can also have a limited
understanding in terms of speaking, reading, listening, and writing. In addition, it is supported by Wilkins (as cited in Thornbury, 2002) states that without grammar very little can be conveyed, without vocabulary nothing can be conveyed. It implies that even someone has good grammar but it will be useless if they do not know many vocabularies. Knowing a vocabulary involves much more than knowing its dictionary definition. By mastering English vocabulary, the students may be able to choose proper words to be spoken during a conversation with different people, in different environment, and situation. In reading skill, the students require to learn various vocabularies to be able to comprehend what message is delivered by the author in the written material. It is also essential for the students to have numerous vocabularies to write sentences which are good, appropriate, and highly varied. Additionally, in order to be a good listener who can understand what someone or the teacher says, the students are also required to learn various vocabularies.

However, many students who have learned English for several years in school still faced some difficulties when they have to memorize and understand English words. For example, based on the researcher’s experience in Teaching Training Program (PPL) in 2018, some students still had difficulties in mastering vocabulary when teaching learning process was going on. In reading, students tend to be confused to read a text since they did not have an adequate number of vocabulary to be able to understand the purpose of the text. They did not know the meaning of some words in sentences or a text. It was proved when the teacher asked the students to read a text and answer the question based on the text, they
still opened the dictionary and asked the teacher to translate the meaning into the first language.

Besides that, based on the researcher’s preliminary research when the researcher interviewed the English teacher of SMP Al-Kautsar Bandar Lampung, it was found that the students failed to learn English because of the failure in learning the vocabulary. They got difficult in comprehending the material because of inadequate vocabulary also they have difficulties in pronouncing the words because the written form is different from the spoken form in English. In oral form, they produced bad spelling and pronunciation. In addition, sometimes the students lost concentration and became noisy in the middle of the teaching-learning process. It is because the teacher rarely to use various methods and techniques when teaching the English subject in the classroom. Those made the students get bored and unmotivated because of the teaching method did not give more chances to them to internalize the words in their memory. It all was proved when the researcher taught one of the class in SMP Al-Kautsar Bandar Lampung before did the research, some of the students often asked the teacher the meaning of the difficult words moreover they did not know in identifying the part of speech, such as noun, verb, adjective, and adverb. But in fact, one of the material dealing with vocabulary in curriculum 2013 for Junior High School is the adjective.

Those problems above can be made as justification that there are many students who did not have enough vocabulary to master an English. Since vocabulary is one of the language components which is important to be mastered by the language students, they need an appropriate technique to make teaching-learning
vocabulary become effective and motivated. An appropriate technique should be chosen to make the material interesting, challenging and enjoyable so that the teacher can motivate the students to study and help them to lessen their boredom and laziness. There are actually various techniques that can be applied for teaching vocabulary, one of which was the clustering technique.

Clustering technique is listing word in the form of a bubble diagram and the list of the word is developed from a word which is connected to the related words. Fulwiler (2002:37) states that Cluster starts by writing out a general topic area in the center of a sheet of paper and putting a circle around it. Then, it can be seen how many possibilities one can think of and cluster them around the central idea in smaller circles. In this case, the clustering technique was expected to be a way to encourage students’ vocabulary mastery and make the students more motivated to learn English.

There are many researchers who have done some studies dealing with clustering technique. Among others is Hapsari (2013). Her research was intended to find out the most interesting topic from three topics given and to know the students’ problem during the teaching-learning vocabulary process using Clustering Technique. For the result, she found that there is a significant increase in students' vocabulary achievement of the three topics given by the teacher after being taught through Clustering Technique.

Another research was conducted by Oktavia (2014). The research was conducted to compare students’ vocabulary achievement between those who were taught through Clustering Technique and Derivational Exercises in Learning vocabulary
for the students in the second grade of SMAN 1 Kalirejo. The result of this research is the researcher found that Clustering Technique was better than Derivational Exercises in improving students’ vocabulary achievement in learning vocabulary. In Clustering Technique class, the students were easily finding related words based on the topic given by the teacher.

Based on the previous research above, the researcher assume that clustering technique can increase the students’ vocabulary mastery because this technique will be easier for the students to figure the meaning of the target word, to memorize it, and to use it when they find the right situation based on the context clues they have known. It is also fun so that the students will find that learning a language is enjoyable. Thus, this technique can effectively be used in teaching vocabulary.

So, the researcher chose a topic on her research entitled “Teaching Vocabulary through Clustering Technique at The First Year Students of SMP Al-Kautsar Bandar Lampung”. Through this research, the researcher hopes to find out the types of content word improves the most after the students are taught by using clustering technique and identify the students’ perception towards teaching-learning vocabulary through clustering technique.

1.2. Research Questions

Related to the background stated before, the researcher formulates the problems as follows:
1. What types of content word improves the most after the students are taught by using clustering technique?

2. What are the students’ perception towards teaching-learning vocabulary through clustering technique?

1.3. Objectives of The Research

Based on the problem formulated above, the objectives of this research are as follows:

1. To find out what types of content word gives the most influence to students’ vocabulary mastery using clustering technique in improving students’ vocabulary achievement at the first grade of SMP Al-Kautsar Bandar Lampung.

2. To identify what are the students’ perception towards teaching-learning vocabulary through clustering technique at the first grade of SMP Al-Kautsar Bandar Lampung.

1.4. Uses of The Research

The researcher hopes that the result of the analysis may be useful contribution for educational research particularly to improve students’ vocabulary mastery through clustering technique. The researcher gives the input as follows:

1. Theoretically, the significances of this research are expected:

   a. The results of the research may be useful to support existing theories on vocabulary.
b. To be used as a reference for further research.

c. To enrich the theory about students’ vocabulary mastery.

2. Practically, the significances of this research are expected:

a. As information for English teachers to find an alternative technique when teaching vocabulary.

b. As information and reference for other researchers who are interested in the research related to teaching vocabulary.

1.5. Scope of The Study

The researcher was conducted the research at SMP Al-Kautsar Bandar Lampung. The research was focused to find out the types of content word improves the most after the students are taught by using clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique. The sample was the first year students of SMP Al-Kautsar Bandar Lampung. The materials of the teaching-learning are based on curriculum 2013 for the first grade of junior high school.

1.6. Definition of Key Terms

In order to specify the topic of the research, the researcher provided some definition of terms related to the research. These were the definitions of some terms which are related to this research:

1. Vocabulary
Vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write. (Richards & Renandya, 2002)

2. Teaching Vocabulary
Teaching vocabulary is a process to make the students understand the meaning of the word in different language and use it in appropriate context by using some kind of techniques.

3. Clustering Technique
Clustering also known as diagramming, or mapping, is another strategy that can be used to generate material for an essay. (Langan, 2006:28)

This chapter has explained the background of the research, research questions, objectives of the research, uses of the research, scope of the study, and the definition of key terms. The explanation was used as the main problem why the researcher will conduct the research.
II. LITERATURE REVIEW

The research will be conducted based on some theories, those theories involve the review of previous research, concept of vocabulary, concept of teaching vocabulary, technique in teaching vocabulary, concept of clustering technique, advantages and disadvantages of clustering technique, procedures of teaching using clustering technique, concept of perception, theoretical assumption, and hypothesis.

2.1. Review of Previous Research

There are many researchers who have done some studies dealing with clustering teaching technique as the technique in teaching learning process. The results of the studies are various.

Hapsari (2013) conducted research dealing with clustering teaching technique. This research was intended to find out the most interesting topic from three topics given and to know the students' problem during the teaching-learning vocabulary process using Clustering Technique. The researcher found that there is a significant increase in students' vocabulary achievement of real object, sport, and occupation after being taught through Clustering Technique. It can be seen from the result of pre-test and post-test that there is an improvement from the students' average score in pre-test (44.05) to the post-test (73.61). It means that the
improvement is 29.56. Furthermore, the students still faced some difficulties in learning process of vocabulary through clustering technique such as in understanding the meaning of the words, comprehending the material, and finding the certain part of speech, such as noun, verb, adjective, and adverb. They also could not differ among the noun, verb, adjective and its spelling.

Another research was conducted by Oktavia (2014). The research was conducted to compare students’ vocabulary achievement between those who were taught through Clustering Technique and Derivational Exercises in Learning vocabulary. The result of this research is the researcher found that Clustering Technique was better than Derivational Exercises in improving students’ vocabulary achievement in learning vocabulary. In Clustering Technique class, the students were easily finding related words based on the topic given by the teacher. It was proved because Clustering Technique could make the students’ mean score in the class improve significantly from 67.07 to 76.87 and it showed that the gain of mean score in Clustering Technique class was 8.9.

Moreover, there was a research conducted by Alghani (2017). The objective of this research was to investigate the difference of vocabulary size between extrovert and introvert students who were taught through crossword puzzle game and clustering technique. The researcher used two classes as experimental classes, which consisted of 36 students for each. Based on the findings, it could be drawn that there was an interaction between the techniques and personalities in students’ vocabulary size. The techniques differed significantly with the students performing better in clustering technique. Extroverts did better than introverts regardless of the techniques.
Based on the previous studies above, it can be inferred that the clustering technique can improve students' vocabulary mastery. With reference to those studies presented previously, there are some differences between this research and those previous studies. First, those previous studies focused on the significant difference of students vocabulary mastery after being taught through clustering technique while this research will focus to find out the types of content word improves the most after the students are taught by using clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique. Moreover, this researcher also tries to implement clustering teaching technique at the different level of school that is junior high school. Therefore, in answering those question the researcher conducted this research.

2.2. Concept of Vocabulary

Vocabulary holds an important role in foreign language learning, especially for English language learning. Vocabulary is the core component of language proficiency and provides much of the basis for how well learners listen, speak, read, and write (Richards & Renandya, 2002). It is supported by Nation (2011) which points out that learning vocabulary items plays a vital role in the acquisition of the four language skills – listening, speaking, reading, and writing. They point out that it is important for students to have a deep understanding of academic vocabulary in order to comprehend new concepts and communicate what we know.

The communication will succeed or not is depends on the accurate vocabulary understanding. If the students want to communicate each other, they need
vocabulary to express the ideas in their mind clearly. If they only have few words, they would get difficulties to communicate and they must learn new words more. As Cameron (2001:72) states, "Building up a useful vocabulary is central to the learning of a foreign language at primary level". It becomes important because it can be used as basic foundation to construct a word into a good sequence of the sentence. Therefore, the students should have to obtain vocabulary mastery.

According to Barnhart (2008: 697) vocabulary is a stock of words used by person, class of people, profession, etc. which has connected with language function as media of communication. In line with that, Hanson and Padua (2011) say vocabulary refers to words we use to communicate in oral and print language. Without sufficient vocabulary, people cannot communicate effectively or express his ideas in both oral and written form. Moreover, the language learners have to concern in acquiring more vocabulary in the target language as many as possible to master language skills.

According to the theory above, it can be concluded that vocabulary is a basic element of language that enables people to convey meaning and communicate with each other in a particular language. It plays an important role in mastering four language skills in English such as reading, speaking, listening and writing. If we cannot master a sufficient amount of vocabulary, there will be difficult in comprehending the text and in expressing ideas in speaking and writing.
2.3. Types of Vocabulary

In English, vocabulary means every part of speech which is used to construct the sentences when people communicated each other. It includes noun, verb, adjective, adverb, pronoun, preposition, and conjunction. There are some types of vocabulary. Hatch and Brown (2001) classify vocabulary into two types, namely, content words and functional words.

1. Content words

Content words represent the names of objects or things. Content words are divided into four types, there are concrete nouns, verbs, adjectives, and adverbs.

A. Nouns

Nouns are the name of the subject or things which have a part of speech inflected for case signifying a concrete or abstract entity. Nouns also change form to show number and possession (boy, boy’s, boys, boys). According to Frank (1972: 6), noun can be classified into five types:

1) Concrete noun is a noun that names anything (or anyone) that can be perceived through physical sense. For examples:

   a) He is a teacher.

   b) She gives me a nice book.

2) Abstract noun is usually the name of a quality, state, or action.

   a) Quality, for example: honesty, wisdom, bravery, darkness, etc.

   b) State, for example: freedom, death, childhood, life, youth, etc.

   c) Action, for example: laughter, judgment, treatment, etc.
3) Proper noun is the name of some particular person, place, or thing. A proper noun always begins with a capital letter, for examples: Mr. Smith, Paris, Independence Day.

4) Countable noun (count noun) is noun with both a singular and a plural form, and it names anything (or anyone) that can count. For example:
   a) I like oranges.
   b) He pushes the table to the front of the class.

Uncountable noun is a noun which does not have a plural form. An uncountable noun always takes a singular verb in a sentence. For examples:
   a) I always have sugar in my tea.
   b) My hair is blonde.

5) Collective noun is the name of a group of person, things, or animals were taken together and spoken of as one whole. The examples:
   a) Our class took a field trip to the natural history museum.
   b) The rock group has been on tour for months.

B. Verb

Verb is an action done by those things which have a part of speech without case inflection but inflected for tense, person, and number, signifying an activity or process performed or undergone. Verb typically have four or five forms (walk, walks, walked, walking, etc.). Verb can be classified into five types. They are:

1) Finitive and Non-finitive Verb
A finitive verb (sometimes called the main verb) is a verb that has a subject; this means that it can be the main verb in a sentence. For example: I live in Germany.

A non-finitive verb has no subject, tense and number. The only nonfinitive verb forms are infinitive (indicated by to), the gerund or the participle. For example: I traveled to Germany to improve my German.

2) Auxiliary Verb

A sentence or phrase can have two interlocked verbs. The main verb gives the primary action, whilst the auxiliary verb adds subtle detail. Common auxiliary verbs include the verbs to be, to have, to do. Auxiliary verbs, which are sometimes called helping verbs, act as helpers to other verbs. They appear in front of action verbs and linking verbs. For examples: You will be happy.

3) Reflexive Verb

A reflexive verb is a verb whose agent performs an action that is directed at it. It characteristically takes a reflexive pronoun as its object. For example: He perjured himself.

4) Transitive and Intransitive Verb

A transitive verb acts on an object and hence connects the subject of a sentence with its object, and hence requires both to exist.

For example: I hit the wall.

An intransitive verb does not act on an object and hence acts on its own. It can connect the subject with the object but needs a preposition to do so. For example: I sleep on the bed.
5) Linking Verb

Linking verb does not express action. Instead, they connect the subject to the verb to additional information about the subject. The predicating or linking verbs as in sentences:

a) He wants to be a pilot.

b) He seems like my classmate in Junior High School.

c) My sister looks like a movie star.

C. Adjective

Adjective is used to modify nouns and pronouns. The most short adjective has three forms to show degree. For examples: *(smart, smarter, and smartest)*.

a) Reno is a *smart* student.

b) Rika is *smarter* than Reno.

c) Nilam is the *smartest* student in my school.

Frank (1972) categorizes the types of adjectives into three determiners article *(a, an, the)*, such as:

a) He buys *a* nice ring for his fiance.

b) I give my mother *an* expensive bag.

c) We will visit *the* great museum today.

The followings are the types of adjectives:

1) Demonstrative is an adjective that points out which item, object, person or concept. Demonstrative adjectives always come before the nouns they refer to. For examples: *this, that*.

2) Possessive adjective is a part of speech that modifies a noun by attributing possession (or other sense of belonging) to someone or something.
For examples: *my, your, the girl's.*

3) Numeral adjective is the adjective that describes the amount of something.
   For examples: *four, twenty, fourth, twentieth.*

4) Adjective of indefinite quantity is the adjective that describes indefinite amount of something. For examples: *some, few, etc.*

5) Proper adjective is an adjective that takes an initial capital letter. For examples: *a French dish, a Catholic church, etc.*

6) Participial adjective (*an interesting book, a bored student*). For example:

   *He gives me an interesting book.*

7) Compounds adjective is an adjective that comprises more than one word.
   For examples: *a good-looking girl, absent-minded, etc.*

D. Adverb

How the action is done, that is adverb. Adverb has a part of speech without inflection, in addition to a verb. Adverb also does not change form but has characteristic forms of its own. It is used to modify anything but nouns and pronouns. Adverb has five categorizes, adverb of manner (*slowly, silently*), adverb of place (*inside, there*), adverb of time (*yesterday, tomorrow*), adverb of frequency (*sometimes, often*), and adverb of degree (*very, completely*). For example:

   a) My grandfather walks *slowly.*

   b) I will visit Uncle Joe *tomorrow.*

   c) I feel very *disappointed.*
2. **Functional words**

Function words are those words which are used as a means of expressing the relation of grammar structure, such as conjunction *(and, but, because)* article *(a, an, the)*, auxiliaries *(do, does, did)*.

In this research, the researcher was focus on vocabulary which is classified into content words namely, noun, adjective, adverb, and verb. It is because content word is often used in a daily conversation and appropriate with the English material for Junior High School students.

2.4. **Concept of 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 aspects 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.

In teaching vocabulary, the significant point is the selection of the words that the teacher wants to teach. In teaching students, it is quite easy to teach concrete words and then become more abstract. The frequency almost must be considered by the teacher. The teacher can decide which words to teach on the basis of frequency, how often the words are used by the speaker of the language. The teacher should teach the words that learners are familiar with.
These ideas are relevant to Nation (1974:18) who says that when a teacher teaches a word, she or he has to teach three things, they are:

1. teach the shape or the form of the words

   In teaching vocabulary, the learners must know about the form of the word means of how to write the word. It is very important for students to know what a word sound is like (pronunciation) and what the word looks like (spelling). The teacher can do this activity by spelling the letters of the words loudly and the students repeat it. It can be applied for teaching how to pronounce those words correctly, the teachers are the first then the students followed.

2. teach the meaning of the words

   In teaching the meaning of the word, the teacher can use the sentences that have relation to the word both the meaning and the uses, so that the students can guess the meaning of vocabulary those are taught. For the example, the teacher gives the clue with its function.

3. teach the use of the word

   The teacher may provide the sentences that using the target words, then the students can identify the function or the uses of the word based on its position or domain in the sentences. The teacher may provide the students with the real example in a sentence form and provide some exercises in using the word.

Based on the explanation above, the researcher concludes some theories that the teaching vocabulary as one of the ways to developing the learner knowledge to produce a word by giving the meaning of the parts and the whole word about the target language. In teaching vocabulary, the teacher gives the students knowledge about vocabulary and how to use it in daily life. It is important since vocabulary
as the basic foundation of the students’ learning. Therefore, the teacher should make the students have high curiosity in learning new vocabulary by using enjoyable appropriate teaching technique that at least covers the three things above. As had been explained in chapter 1, the problem that most of the students faced in the class is they have inadequate vocabulary to comprehend the text. In this research, the students are expected to be able to, at least, get the point of what the text is actually talking about and, after that, answer the questions following the text.

2.5. Technique in Teaching Vocabulary

Without some knowledge of vocabulary, neither language production nor language comprehension would be possible. Thus the growth of vocabulary knowledge is one of the essential pre-requisites for language acquisition and this growth of vocabulary knowledge can only be possible when teachers employ effective vocabulary teaching and learning technique. Technique is a way that is used by the teacher in teaching learning process. In teaching vocabulary, the teacher should be creative to create and determine an appropriate technique or strategies in order to make the students interested in learning English vocabulary.

There are six strategies in teaching vocabulary, which have proved to be very powerful and effective. (Pan & Xu, 2011)

1. Teaching Vocabulary in Context

Context means the words that come just before and after a word, phrase or statement and helps the learners to understand its meaning. Context teaching caters to students’ need for effective reading and communication by making
correct use of the words learned. More importantly, context teaching helps
cultivate students’ good reading habit of reading between the lines, thus
improving their reading comprehension. For example, there is a sentence
containing a new phrase: *That magazine story, and the person who wrote it, I have
never been able to track down.* In light of the context, we can guess the meaning
of track down, that is to find or discover. Then, added one more example: *It was
almost two weeks before the police tracked down the facts they needed.*
Teaching vocabulary in the context is more helpful to learners to master a
polysemy—word that carries different meanings in different context. Take the
word *means* for example.

- Only a man of *means* could afford to buy such a big house. (money, income or wealth)
- Television is an effective *means* of communication. (a way of achieving something)
- The load was lifted by *means* of a crane. (with the help of something)
- She is by no *means* an inexperienced teacher. (not at all)
- I don’t particularly like the work but I see it as a *means* to an end. (an uninteresting or unimportant thing but is a way of achieving something else)
- He was too *mean* to pay for the work. (not generous)
- He has the look of the man who *means* business. (be serious in one’s intentions)
- I do not *mean* any harm to you. (have no intention of hurting somebody)
After experiencing the word means in its many contexts, students can get a complete understanding of its meaning. Meanwhile, they get to know the difference between means and mean. In a word, only if students are immersed in a context when learning new words will they be able to gradually develop a more accurate, structural framework in which they use these words.

As we all know, to memorize the isolated words is hard. So to convey the meaning of a new word exactly, it’s better to present the word in the sentence or in the context. There are three advantages: Firstly, assessing the meaning of a word in context obliges the students to develop strategies, such as anticipating and inferring, which become increasingly profitable as learning progresses because they instill an attitude of self-reliance that is the hallmark of proficiency. Secondly, systematically meeting new words in context underlines the fact that words are indeed used in discourse for purposes of communication. Finally, context provides an indication of the way the words are used.

2. Teaching Vocabulary with Semantic Field Theory

The basic assumption underlying the theory of semantic field is that words do not exist in isolation: rather, they form different semantic fields, such as "a vegetable" field which contains all kinds of words that denote vegetables: spinach, cauliflower, cabbage, pepper, eggplant, onion, tomato, cucumber. Words that belong to the same semantic class are in the same semantic field. According to the theory of semantic field, the meaning of a word is decided by its relationships with other words in the same semantic field. There are various kinds of such sense relationships, for example, hyponymy, part/whole relationships, synonymy, and antonymy. By association of words in the same semantic field, the teacher can
train the students to constantly deepen their recollection of words learned and reinforce learning and retention of newly learned words.

3. Expanding Vocabulary by Word Formation

Word formation is an effective way to help students see words in the network of association. Therefore, to teach lexical items effectively, teachers must familiarize students with these common roots, prefixes, suffixes. For example, in teaching the word transplant, students are told that the prefix ‘trans-’ means ‘across; beyond; into another place or state’. When they are aware of the meaning of organ (liver, kidney, heart) transplant, they are asked to tell the meanings of the following words with a given context: transport, transform, translate, transact, transfer, transit, transatlantic, transparent, translucent. While learning the word scribble, the root ‘scribe’ is taught first. It means ‘to write’. Then more derivatives of ‘scribe’ are given to the students: describe, prescribe, inscribe, prescribe, subscribe. With the accumulation of common roots, prefixes, and suffixes, it can encourage the students to guess the meanings of new words and to summarize the common roots, prefixes and suffixes.

In this way, the students not only know how words are formed but also understand the motivation of English word formation. By and by, their vocabulary multiplies and they become increasingly interested in learning English.

4. Creating Mental Linkages by Association

When teaching vocabulary, the atmosphere of the classroom setting must be active, it's good to consolidate and enlarge students' vocabulary. For example, make a word cluster or it can be called a clustering technique. The teachers make
a bubble of diagram or write a word tree in the center of the blackboard, and then
ask students to brainstorm all the words they can think of that are connected with
it. The circle of associated items is in itself a meaningful context for the learning
of new vocabulary; the focus is on the meaning of isolated items. Of course,
teachers can use other sorts of stimulus-words or connections: put a prefix sub-in
the center and invite the class to think of words that begin with it.

5. Teaching Cultural Connotations and Cultural Differences

The teachers should provide students with information about cultural background,
customs whenever possible, which will not only broaden students’ horizon but
also motivate their interest in English. Take "dragon" for example. In Chinese
culture, "dragon" has a positive connotation. It stands for "power, strength, and
prosperity". So the Chinese regard themselves as the descendants of dragon. The
image of dragon can be seen in ancient Chinese buildings, in sculptures, in
furniture, etc. However, in English-speaking culture, "dragon" is a negative word,
standing for "something fierce, ugly or monster". So "a dragon lady" is used in
English to refer to a woman who behaves in a fierce and frightening way.

6. The Use of Dictionaries

Usually, we are sure that students want to know the meaning of many more words
than teachers can teach them. The dictionary provides one of the best resources
for students who wish to increase the number of words they understand. But it’s
better to use the monolingual dictionary. In it, there are many more words than
students will ever see in class. There is more grammatical information about the
words. There is information about pronunciation, spelling, word formation, and
metaphorical and idiomatic use a whole profile of a practical word. It requires teachers to introduce to their methods of choosing and using a proper.

In this case, the researcher will use the clustering technique that included as one of the examples in "Creating Mental Linkages by Association” strategies in teaching vocabulary. Through clustering technique, the students are expected to produce new words and remaining the words they have easily by developing the word clue from the teacher.

2.6. Concept of Clustering Technique

Clustering is introduced by Gabriele Lusser Rico, a professor of English and Creativity at San Jose State University, California in 1980s. At that time, it is introduced as a kind of technique which can be used in the pre-writing stage. It is a technique which provides an alternative way for writers to do the brainstorming before starting to write. However, because of some studies have found that clustering technique is used to make learners easier to memorize vocabulary, in this proposal the researcher will also use this technique in teaching vocabulary to proved the previous studies but with different research questions. There are some definitions about clustering stated by the experts.

According to Fulwiler (2002:37), cluster starts by writing out a general topic area in the center of a sheet of paper and putting a circle around it. Then, it can be seen how many possibilities one can think of and cluster them around the central idea in smaller circles. It points out that the students can add a new word based on their own creativity as long as the word still has a relation with the central word. The
students effortlessly remember the word they add because they are actively included in thinking.

With reference to this, Langan (2006:25) adds that clustering is also known as diagramming, or mapping, is another strategy that can be used to generate material for an essay. This technique is helpful for people who like to think in a visual way. In clustering, students can use line, boxes, arrows, and circle to show the relationship among the ideas and details that occur to them. It means that clustering is a technique that can help students to narrow the subject, especially for visual learners.

He also explained that the clustering technique begins by stating the subject in a few words in the center of a blank sheet of paper. Then, as ideas and details come to mind, put them in boxes or circles around the subject and draw lines to connect them to each other and to the subject. Put minor ideas or details in smaller boxes or circles, and use connecting lines to show how they relate as well. There is no right or wrong way of clustering or diagramming. It is a way to think on paper about how various ideas and details relate to one another.
Here is the examples of clustering pattern.

![Diagram](image)

**Figure 1. The example of Cluster**

From the diagram above, it can be seen that the core-word "school" has many related words, both physic, and activity which exist in the school. Some words that have been mentioned above can be defined into four-word classes, such as, noun (building, teacher, schedule, students, and knowledge), verb (teach and study), adjective (discipline), and adverb (diligently).

In addition, the word "building" which has relation with the core-word "school" also can be a core word for related words which describe more specific term from building, i.e., classroom, library, and office, which also still have relation with the main core-word "school". These words can be used by the students to make a sentence. For example "The teacher teaches Physics to the students in the classroom". So, the students can combine some words into a good sentence and it makes the students easier to understand the context of the word.
By using the words in the diagram, the students can make some sentences. For example "The school makes some rules to make the students discipline." "There are some kinds of building in my school such as classroom, teacher, office, library, etc.", and "The teacher teaches the students based on the schedule." This sentence is easily made by the students because they understand the context of the sentences in order that they easily memorize it.

From the example above, it indicates that the students memorize a high number of vocabularies with only one word as a core to trigger the students to find out another word related to the core-word. By using clustering technique, the students are expected to be able to memorize and reproduce the words they have learned easier than by memorizing and they will be more interested in learning vocabulary so that their vocabulary will increase.

2.7. The Advantages and Disadvantages of Clustering Technique

As a matter of fact, every technique bears some advantages and disadvantages. Therefore, it is important to determine each of the advantages and disadvantages in order to make the implementation of the technique in teaching process more effective. The following are the advantages and disadvantages of the clustering technique.

2.7.1. The Advantages of Clustering Technique

There are many advantages of using Clustering technique:

- Clustering technique is simple to be applied by the students.
- Clustering technique can make the students find the word as a keyword related to the topic easily.
- The students are actively involved in making a connection between context clues given and existing vocabulary they have in their mind.

- The student will learn about the meaning of the words, the part of the speech of the words and try to use them in sentences.

**2.7.2. The Disadvantages of Clustering Technique**

The disadvantages of using clustering teaching technique can be described as follows:

- Not all the students could think fast and express the words that have a connection from the main word.

- The class might be noise because dialogue or discussion happens during learning for all group in the class.

**2.8. Procedures of Teaching Using Clustering Technique**

Teaching English vocabulary through clustering technique can be done by having the following general procedures:

**Pre-Activity**

- The teacher greets the students

- The teacher and students pray together

- The teacher checks students’ attendance list

- The teacher asks the students about the previous material and gives brainstorming to the students related to the topic.

**While Activity**

- The teacher directs the students to list as many as possible vocabulary related to the topic.
- The students are asked to pronounce the words clearly and correctly.

- The students together with the teacher determine the vocabulary that already mentioned into each category of content words.

- The students are divided the class into some groups consists of 5 students in order to accustom them to cooperate with others.

- The students are asked to make their own clustering.

- The teacher monitors the students while they are doing the task.

- The teacher allows the students to ask when they face difficulty.

- Some students are asked to read their answer in front of the class as representative of their group.

- The teacher together with the students gives corrections to every incorrect answer.

- The students are given the task based on the material they have been learnt.

**Post Activity**

- The teacher asks the students whether they have some difficulties or not.

- The teacher gives a summary of the lesson.

**2.9. Concept of Perception**

Perception is one of interesting topics in learning English as a second language. Perception is our recognition and interpretation of sensory information. Perception also includes how we respond to the information. In teaching and learning process, perception is important because an individual’s perception of learning influences one’s motivation to learn. In this research, the researcher identified the students’ perception toward the teaching-learning vocabulary through clustering
technique in order to know if the technique has positive effect to students or not. If the students had positive perceptions toward the technique, it can affect their result in learning vocabulary because of their motivation to learn was increased.

According to Jacobs et al (2004:231) refer to perception as one of the most important elements underpinning effective teaching and learning. Learning can only occur after exposure to stimuli, and each person is exposed daily to a variety of stimuli that affect the different senses. However, perception can be defined as our experience stimuli. Hamachek (1995:199) defines perception as how individuals experience stimuli by the sensory receptors, from the world around them. People’s perception is affected by the way in which they view the world around them. Therefore individuals’ interpretation of sensory stimuli will be affected by their own views (Hamachek, 1995:199). In other words, perception is the process where people interpret something based on their own experience as the result of stimuli in producing information.

From previous definition and explanation above, it can be concluded that perception is a process to interpret the information related to his/her experience as the result of physical stimulation of the sense organs (by seeing and hearing). It includes a specific idea, concept, and impression. It means that, when someone gives a response on something he/she involves his/her specific idea, concept, and impression he/she will get knowledge and understand something. The understanding and knowledge that was obtained is called someone’s perception.
Here, the researcher asserts that perception is the recognition of things by using the sense, especially the senses of seeing and hearing. It is about perception of what he/she experienced, which gives an impression to him/her.

2.10. Theoretical Assumption

Vocabulary is an important element of the language; it consists of the total number of words to make a language. Therefore, to master language students should master the element of the language that is vocabulary. In teaching vocabulary, the teacher should choose the appropriate materials that will be taught for students and it should be based on the need of the students. Besides that, the teacher should select the appropriate technique that can make students interested in learning vocabulary.

In teaching vocabulary, there are some techniques that can help the teacher to reach the aim of the teaching-learning process. In this research, the clustering technique is chosen as the technique in teaching vocabulary. By using clustering technique, the students will more interested in learning vocabulary and they will give high attention to learn a new vocabulary because they are actively involved in making a clustering of the words. Hopefully, by using clustering technique the students' difficulties in learning English vocabulary will be decreased and the goal of the teaching-learning activity will be achieved.

2.11. Hypothesis

Regarding the theories and theoretical assumption above, the researcher formulates the hypothesis as follows:
1. Noun is a type of content word improves the most after the students are taught by using clustering technique

Those are the explanation about the concept of vocabulary, concept of teaching vocabulary, technique in teaching vocabulary, concept of clustering technique, advantages and disadvantages of clustering technique, procedure, theoretical assumption, and hypothesis. In the next chapter, the researcher will describe more about a method in teaching vocabulary by using a clustering technique.
III. METHODS

In this chapter, there are some discussions about research methods which consist of research design, population and sample, data collecting technique, instruments of the research, quality of research instrument, scoring system, research procedure, data analysis, and hypothesis testing. These topics will be explained as follows.

3.1. Research Design

This research is quantitative and qualitative research. According to Creswell and Plano Clark (2007), the combined use of quantitative and qualitative approaches provides a better understanding of research problems than either approach alone. It was intended to find out the types of content word improves the most after the students are taught by using clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique. Therefore, the vocabulary test was used to collect the quantitative data and questionnaire was used to collect the qualitative one. The research design used in quantitative research is one group pretest-posttest design. The researcher used two different classes, one class where the students get pre-test, treatments, post-test...
and one more class for try out. The design of this research could be illustrated as follows:

$$T_1 \ X \ T_2$$

Notes:

$T_1 = $ Pre-test  
$T_2 = $ Post-test  
$X = $ Treatments

(Setiyadi, 2006)

To see the students’ basic vocabulary ability, pre-test was administered before the treatment using Clustering Technique. Then the researcher gave the treatment of Clustering Technique in teaching vocabulary. To find out the types of content word improves the most after the students are taught by using clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique, the posttest and questionnaire were administered afterward.

3.2. Population and Sample

The population of this research is the first year students of SMP Al-Kautsar Bandar Lampung in academic year of 2018/2019. There were nine classes for the first year students. The researcher took one class that experimented using a clustering technique and one class as try out class. In determining the class that was given the treatment, the researcher was use purposive sampling. It is purposive because the sampling was determined by certain consideration.
3.3. Data Collection Technique

In collecting the data, the researcher administered the test and non-test. The test that was used was vocabulary test which consisted of pretest and posttest. Before doing the pretest and posttest, the researcher conducted a tryout test. Moreover, non-test was also used by researcher to collect the qualitative data in order to support the quantitative data. In collecting the qualitative data, the researcher used questionnaire. The explanation is discussed in detail as follows:

1. Pretest

The pretest was conducted in order to know the students’ vocabulary achievement before the treatment were administered. This test were given after the researcher getting the result of try out test class. The material based on the curriculum for the first grade of Junior High School students. The researcher used the objective test in the form of multiple choices which consisted of 30 items with four options (A, B, C, and D) of each item. One of the option was the correct answer and the others were distracters. It was allocated 60 minutes for the test. Pretest data compared with the posttest data find out the content words that improved the most after being taught through clustering technique.

2. Posttest

The posttest was conducted after the treatment had been administered. This test aimed to find out whether the result in teaching learning process after the treatment have progressed or not. The posttest was conducted in 60 minutes and it was administered once. The questions or the items in posttest are the same as the pretest. However, the researcher changed the questions number. This test have the same difficulty as pretest.
3. Questionnaire

The questionnaire is given to the students after the treatment and posttest in order to get information from the students that cover their data about the strength and weaknesses of using clustering technique in teaching vocabulary. In this research, the researcher will use the open-ended question. The students were provided with a set of questions or statements and asked to answer the questionnaire freely.

3.4. Instruments

In this research, the researcher used three kinds of instrument to collect the data. There are try out, vocabulary tests, questionnaire, and interview. Try out and vocabulary tests are the instruments to collect quantitative data while the questionnaire was used to collect qualitative data.

1. Try Out

Tryout test was administered to find out the quality of vocabulary test as the instrument of the research such as validity, reliability, level of difficulty and discrimination of power. Try out test consists of 50 multiple choice items with four options (A, B, C, and D) of each item. One of the option is the correct answer and the others are distracters. The students were those class who has been chosen randomly, out of experimental class. They were given 90 minutes for doing the tryout test.
2. Item of Vocabulary Test
The items of vocabulary test that the researcher used in collecting the quantitative data were pretest and posttest. The tests were administered before and after the treatment. There were 40 items and it was allocated in 60 minutes.

3. Questionnaire
Questionnaire is given to the students after the treatment and posttest in order to identify the students’ perception toward the teaching vocabulary through clustering technique. The researcher used open-ended questionnaire. By using open-ended question the respondents can give long answer, moreover, long answer as paragraph (Setiyadi, 2006: 36).

3.5. An Analysis of Research’s Instrument
In order to know the quality of every single question, the researcher was used the instruments of the test. A good test as the measuring instrument should fulfill the requirement of the test such as validity, reliability, the level of difficulty and the discrimination power.

3.5.1. Quantitative Data
3.5.1.1. The Validity of The Test
In general, validity is a measuring instrument that shows the extent to which the measuring instrument measures something that must be measured. Although the measuring instrument has shown high reliability by providing consistent test results, the measuring instrument will be said to be invalid if it does not measure
what should be measured (Setiyadi, 2006). There are two basic types of validity; content validity and construct validity.

1. Content Validity

Content Validity is the extent to which the questions on the instrument and the scores from these questions represent all possible questions that could be asked about the content or skill (Creswell, 2005). The statement is in line with Setiyadi (2006), in making the final test of the English subject matter content validity is related to the extent to which the preparation of the items in the test is based on the curriculum. Content validity is intended to know whether the test items are good reflection of what were covered. The test items are adapted from the materials. To get content validity, the researcher gave the material suited with the syllabus of the first grade of junior high school. In other words, the researcher made the test based on the materials in English Curriculum (13) for Junior High School. To measure the agreement of the test which has been development based on individually. The following is table of distribution of the vocabulary test.

Table 3.1. Specification Used to Judge the Content Validity

<table>
<thead>
<tr>
<th>Types of content word</th>
<th>Spread of Item</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noun</td>
<td>4, 5, 7, 8, 18, 26, 30, 31, 41, 42, 43, 46, 49</td>
<td>13</td>
<td>26%</td>
</tr>
<tr>
<td>Verb</td>
<td>2, 6, 17, 20, 21, 22, 27, 28, 29, 35, 45, 47</td>
<td>12</td>
<td>24%</td>
</tr>
<tr>
<td>Adjective</td>
<td>1, 3, 10, 12, 13, 14, 15, 32, 33, 34, 37, 48, 50</td>
<td>13</td>
<td>26%</td>
</tr>
<tr>
<td>Adverb</td>
<td>9, 11, 16, 19, 23, 24, 25, 36, 38, 39, 40, 44</td>
<td>12</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

2. Construct Validity

Construct validity concerned with whether the test actually corresponded to the theory of vocabulary. To know whether the test is a true reflection of the theory of
vocabulary being used, the test items should really test the students in terms of vocabulary mastery. In this case, the test is designed by word classes of vocabulary in terms of single words in form of nouns, verbs, adjectives and adverbs. If all items in the test have measured vocabulary test, the instruments has fulfilled construct validity (Setiyadi, 2006).

To make the vocabulary test valid, the two raters checked the test whether each item is suitable with the specification above or not. In this section, the researcher consulted the test to the English teacher of SMP Al-Kautsar Bandar Lampung to check whether the specification vocabulary mastery and items number were have been fixed.

3.5.1.2. The Reliability of The Test

Reliability is a measurement of accuracy, consistency, dependability or fairness of scores resulting from the administration of particular examination. Setiyadi (2006) says that reliability was a consistency of measurements or how far that measurements can be measured the similar subjects in a different time but showed the same result. To know the reliability of the test, the researcher administered the tryout test. The steps of doing the try out are as follow:

1. Perform the test to the students.
2. Divide the result into even and odd member.
3. Analyze the result by using the Pearson Product Moment Formula as follow:

\[ r = \frac{\sum xy}{(\sum x^2)(\sum y^2)} \]

Notes:
The coefficient of reliability between odd and even numbers items

\( r \) : odd number

\( y \) : even number

\( \sum x^2 \) : The total score of odd number items

\( \sum y^2 \) : The total score of even number items

\( \sum xy \) : The total of odd and even number

(Lado, 1997)

Based on the criteria of reliability, the try-out of vocabulary test had average reliability that is 0.97.

4. After getting the coefficient correlation between odd and even numbers, then the researcher continued to put them into reliability formula Spearman-Brown’s Prophecy to know the coefficient correlation of the whole items. The researcher used the formula of Spearman-Brown as follows:

\[
rk = \frac{2rl}{1 + rl}
\]

Notes:

\( rk \) : Reliability of a full test

\( ri \) : Reliability of half test

The criteria of the reliability are:

1. Reliability coefficient 0.800-1.00 is very high

2. Reliability coefficient 0.6000-0.800 is high

3. Reliability coefficient 0.400-0.590 is fair

4. Reliability coefficient 0.200-0.390 is low
5. Reliability coefficient 0.000-0.190 is very low

(Hatch and Farhady, 1982: 246)

The result of the computation shows that rk is 0.98 (see Appendix 10). Based on the criteria of the test reliability, the result belongs to very high level. It indicated that the data collecting instrument in this research was reliable and good reflecting their consistent vocabulary mastery.

3.5.1.3. **Level of Difficulty**

Level of difficulty is the way to see how easy or difficult item is from point of view of the student who takes the test. A good test is the one which is not too easy or too difficult. The researcher used the following formula to see the difficulty level of the test:

\[
LD = \frac{R}{N}
\]

LD : Level of difficulty
R : The number of the students who answer correctly
N : The number of students

The criteria are:

LD < 0.30 is difficult
LD = 0.30 -0.70 is average
LD > 0.70 – 1.00 is easy

(Shohamy, 1985:79)
The difficulty level of the test is presented in the table below.

Table 3.2. Difficulty Level of Test Items

<table>
<thead>
<tr>
<th>Number of Item</th>
<th>Computation</th>
<th>Criteria</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>38, 48</td>
<td>&lt; 0.30</td>
<td>Difficult</td>
<td>Dropped</td>
</tr>
<tr>
<td>1, 2, 3, 4, 6, 7, 8, 10, 11, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 47, 49, 50.</td>
<td>0.30 – 0.70</td>
<td>Average</td>
<td>Administered</td>
</tr>
<tr>
<td>5, 9, 12, 18, 19, 20, 27, 46.</td>
<td>&gt; 0.70</td>
<td>Easy</td>
<td>Dropped</td>
</tr>
</tbody>
</table>

Based on the table above, it can be inferred that there were two items which its computation result below 0.30. It means that the items were difficult. Therefore, the items were dropped. Moreover, there were also eight items that were dropped since its result above was about 0.70. In the other words, it was too easy. Meanwhile, there were 40 items which resulted the number of difficulty level in 50 range 0.30 up to 0.70. The items were categorized into average so that they could be administered.

3.5.1.4. Discrimination Power

Discrimination Power is used to indicate discrimination of the fail and the success of the student. To know the discrimination power of the test, the researcher used the formula below:

\[ DP = \frac{U - L}{\frac{1}{2}N} \]

DP : Discrimination Power

U : The number of the upper group students who answer correctly

L : The number of low group students who answer correctly
N : The total number of students

The criteria are:

D : 0.00 - 0.20 is poor items
D : 0.21 – 0.40 is satisfactory items
D : 0.41 – 1.00 is excellent items
D : - (negative) is bad items, should be omitted

1. If the value is positive discrimination - a large number of more knowledgeable students then poor students get the item correct. If the value is zero, it means that there is no discrimination.
2. If the value is negative, it means that more low-students than high-level students get the items correct.
3. In general, the higher the discrimination index, the better. In the classroom situation, most items should be higher than 0.20 indexes.

(Shohamy, 1985:81)

The following is the table of discrimination power of the test items.

Table 3.3. Discrimination Power of Test Items

<table>
<thead>
<tr>
<th>Number of Item</th>
<th>Computation</th>
<th>Criteria</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>9, 12, 18, 19, 20, 27, 33, 38, 46, 48, 49.</td>
<td>&lt; 0.20</td>
<td>Poor</td>
<td>Dropped</td>
</tr>
<tr>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 47, 50.</td>
<td>0.21 – 0.40</td>
<td>Satisfactory</td>
<td>Administered</td>
</tr>
<tr>
<td>21, 24, 29, 32, 44.</td>
<td>&gt;0.40</td>
<td>Excellent</td>
<td>Administered</td>
</tr>
</tbody>
</table>
Based on the table above, it is shows that there were ten test items which resulted the number of discrimination power less than 0.20. The criteria of them were poor which meant that those items could not discriminate the upper group and the lower group students well. Therefore, the ten items were dropped. Meanwhile, there were 40 items that showed number of discrimination power more than 0.20. Thus, those items were administered as pretest and posttest.

3.5.1.5. Scoring System

In analyzing the collected data, the researcher used some formulas by Arikunto. First of all, the researcher used the following formula in scoring the students’ tests.

\[ S = \frac{R}{N} \times 100 \]

Notes:

\( S \) = Score of the test  
\( R \) = The total of the right Answer  
\( N \) = total of the items

(Arikunto, 1993)

3.5.2. Qualitative Data

3.5.2.1. Questionnaire

1. Examination of The Data Validity

According to Hatch and Farhady (1982), there are at least two types of validity should be fulfilled; they are content and construct validity. The content validity of
the instrument which is used by the researcher is the content of the questionnaire itself. It is already achieved at the table of specification. Then, the construct validity of the questionnaire is achieved by looking at the relationship with the indicator. The questionnaire consists of 6 items. The table specification of the questionnaire could be seen as follow:

Table 3.1. Specification of Questionnaire

<table>
<thead>
<tr>
<th>Specification of Questionnaire</th>
<th>Items Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions about the types of content word</td>
<td>1,2,3,4. (4 items)</td>
</tr>
<tr>
<td>Questions about students perception towards</td>
<td></td>
</tr>
<tr>
<td>Clustering Technique</td>
<td>5,6. (2 items)</td>
</tr>
<tr>
<td>Total Items</td>
<td>6 items</td>
</tr>
</tbody>
</table>

To make the questionnaire valid, the two raters checked the test whether each item is suitable with the specification above or not. In this section, the researcher consulted the questionnaire to the lecturer in University of Lampung to check whether the specification of the questionnaire have been fixed.

2. The consistency of The Questionnaire

To find out the consistency of the questionnaire, the researcher conducted the interview. It aims to make sure the data which was collected by the researcher to identify the students’ perception about clustering technique during the teaching-learning process.
3.4.2.2. Interview

1. Examination of The Data Validity

The researcher did the interview with the subject of this research. To avoid the errors in collecting the data, the researcher did the examination of the data validity. In collecting and analyzing the data, the researcher used triangulation to check the validity of the data. Triangulation is an attempt to check the correctness of the data or information obtained by the researchers from different angles by reducing as many errors as possible at the time of collecting and analyzing the data. There are five types of triangulation such as triangulation of time, place, theory, researcher and method. In this research, the researcher used the time triangulation and method triangulation.

Time Triangulation

The researcher used time triangulation because time often affects the credibility of the data. Data collected by interview technique in the morning would produce more valid data than in the afternoon. Therefore, to test the validity of data could be done in various ways such as interview methods, and observation in other times and situations. When the test results produce different data, it was necessary to test repeatedly to produce valid results.

Method Triangulation

Method triangulation used by researcher is in order to test the credibility of data performed by checking the data to the same source but using different methods. In this research, the data obtained through questionnaire, then checked using interview. If they produced different results then it needed to be checked again to produce valid and unchanged data.
3.6. Research Procedures

In conducting the research, the researcher employed these following steps:

1. Identifying the Problem

In this research, the researcher focused to identify the types of content word improves the most after the students are taught by using clustering technique and to identify what are the students’ perception towards teaching-learning vocabulary through clustering technique at the first grade of SMP Al-Kautsar Bandar Lampung.

2. Determining the Population and Sample

The population of this research was the first year students of SMP Alkautsar Bandar Lampung. One class was selected as an experimental class. The researcher was used purposive sampling. It is purposive because the sampling was determined by certain consideration.

3. Administering the Try-out Test

The try out was administered to make sure whether data collecting was good quality or not. A try out administered, especially to determine the validity, the reliability, the level of difficulty anad the discrimination power.

4. Administering the Pretest

The pretest was aimed to find out the students’ basic vocabulary achievement. The researcher administered pretest before giving the treatments.

5. Conducting the Treatments
After giving the pretest, the treatment of teaching vocabulary through clustering technique were implemented in the class.

6. Administering the Posttest
The researcher administered posttest to find out whether the result in teaching learning process after the treatment has progressed or not.

7. Delivering the Questionnaire
This study used open-ended question to help the researcher know the students’ perception towards teaching-learning vocabulary through clustering technique.

8. Conducting the Interview
The researcher conducting the interview using the same question as questionnaire to find out the consistency of the questionnaire.

9. Analyzing the Data
The data were analyzed by using SPSS program and the result of the calculation was used to test the researcher's hypothesis.

3.7. Data Analysis
After the research was conducted, the data were analyzed. Data analysis is a process for organizing the data in order to get the explanation form. The researcher computed the students’ score to find out what types of vocabulary in terms of content word improves the most after being taught through the clustering technique and to identify the students’ perception towards teaching-learning vocabulary through clustering technique. The researcher examined the students’ score using the following steps:
1. Scoring the pretest and posttest.

2. Scoring the questionnaire

   The data were analyzed by using manual analysis and descriptive statistics. According to Setiyadi (2006:262), in analyzing the questionnaire the researcher used description analysis to analyzing the questionnaire since the researcher uses her idea and interpretation towards the data. The researcher also interviewed the students to make the students’ answers in questionnaire more valid.

3. Tabulating the result of the test and finding the mean of the pretest and posttest.

4. Drawing a conclusion from the tabulated result of the pretest and posttest that was administered.

3.8. Data Treatment

3.8.1. Quantitative Data

After collecting the data, the researcher analyzed the data by using t-test in SPSS (Statistical Program for Social Science). The researcher collected the data by looking at the result of pretest and posttest to find out the result of students’ vocabulary achievement. The result of the test was in form of score or interval data. After getting the result, the researcher analyzed the types of content word improves the most after the students are being taught through clustering technique and to identify the students’ perception towards the teaching-learning vocabulary thorough clustering technique.
Therefore, the researcher used normality test and homogeneity test to treat the data taken from the result of the test. The result of the treatment were as follows:

### 3.8.1.1. Normality Test

Normality Test is used to measure whether the data are normally distributed or not. The students’ score of pretest and posttest were analyzed to gain the normality test. The data were tested by *One-sample Kolmogorov-Smirnov Formula* (SPSS 16.0 for Windows) to test normality of the data.

The hypotheses for normality test as follows:

- **H₀**: The data are not distributed normally
- **H₁**: The data are distributed normally

The criteria of conclusion are:

a) If significant level is less than 0.05 (<0.05), **H₁** is rejected

b) If significant level is more than 0.05 (>0.05), **H₁** is accepted

The result of the normality testing can be seen in the table below:

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>Kolmogorov-Smirnov&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Pretest</td>
<td>.137</td>
<td>30</td>
</tr>
<tr>
<td>Posttest</td>
<td>.137</td>
<td>30</td>
</tr>
</tbody>
</table>

a. Lilliefors Significance Correction

From the table above, it can be seen that the significant level of the normality test of pre-test is 0.072 and post-test is 0.219 which are higher than 0.05. In this case,
the hypotheses were accepted if sig. > 0.05. Therefore, it can be concluded that the
data were taken from normally distributed population.

3.8.2. Homogeneity Test

As stated by Hatch and Farhady (1982: 57-59), homogeneity of items test are
measured to test whether the data of pretest and posttest have a homogenous
variance or not. The data were calculated through SPSS 16 program. The data is
homogenous if the significance is greater than 0.05. The result of homogeneity
testing is as follows:

Table 3.6. Homogeneity testing of Pretest and Posttest

<table>
<thead>
<tr>
<th>Test of Homogeneity of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>Levene Statistic</td>
</tr>
<tr>
<td>.625</td>
</tr>
</tbody>
</table>

Table 4.8 shows that the data was homogeneous since the significance was 0.733.
As the significance was more than 0.05 (p > 0.05, or 0.733 > 0.05), it illustrated
that the data were homogeneous.

3.8.2. Qualitative Data

In this research, the researcher used qualitative data. Qualitative method is a study
intended to understand the phenomenon experienced by students in regard with
motivation, skill, ability, etc. This research used the qualitative method because
this research used open ended questionnaire and interview. On the other hand, this
research used the descriptive data to collect detail information based on the direct
research and the researcher could understand the students’ perception towards teaching and learning English vocabulary using clustering technique. Additionally, this research did not test hypotheses or theories but merely to describe the information in detail without being charged by theory. In this qualitative research, the researcher wrote the result of questionnaire and interview at the first grade of SMP Al-Kautsar Bandar Lampung in order to get the complete result as follows:

a. Data Analysis
Data analysis is the step where the researcher tried to sort the result of the research’s data then sorted into the table and described in descriptive form. In this step, the researcher tried to analyze the result of the questionnaire and interview described in descriptive form in order to simplify the reader to comprehend the data.

b. Report Writing
This is the last step of the research where the researcher wrote the result of the research in descriptive form which is arranged in specific and systematically. In writing the descriptive data, the researcher required to write the framework creatively based on the result of the research.

3.9. Hypothesis testing
Hypothesis testing is intended to see whether the hypothesis that is proposed in this research is accepted or not. The researcher was used SPSS to know the types of vocabulary in terms of content word that improves the most after the students are taught by using clustering technique give the most influence to the students’
vocabulary mastery. The hypothesis is analyzed at the significance level of 0.05 (p< 0.05). In this case, One Way Anova was used in this research. The formulation of the hypothesis can be seen as follows:

H₀: There is no types of content word improves the most after the students are taught using clustering technique.

H₁: There is a type of content word improves the most after the students are taught using clustering technique.

These are the explanation about the method related to the research. The method is used as guidance to conduct the research.
V. CONCLUSIONS AND SUGGESTIONS

In this chapter, the researcher presents conclusion and suggestions. The suggestions are proposed for teachers and for other researchers who are going to conduct the closely-related research.

5.1. Conclusion

With reference to the previous chapters, it can be summarized that the result of the implementation of clustering technique enabled the students to increase their ability in vocabulary achievement. Then, the conclusions can be drawn as follows:

1. The content words improves the most is noun with the increase 11.34%, followed by verb 10.00%, adjective 8.33%, while adverb has the lowest score of improvement gain 7.67%. The content of word that mostly improve students’ vocabulary achievement after being taught through using clustering technique is noun, because noun is likely more common in naturalistic setting and noun often use a simple frames, different with another type of content word like verb, adjective, and adverb that use a complex frames, making the comparison of learning across studies more difficult.
In line with Gentner (1982), she argued that children acquire nouns before verbs (and hence nouns dominate early vocabularies) because the meanings noun encode are easier for children to learn than are the meanings verbs encode. Nouns refer to entities or things, and young children can have an understanding of things based on their perception of the physical world. verb, on the other hand, express relationships among things, and this relational meaning are less available to young children through nonlinguistic experience.

2. The use of Clustering technique in the process of teaching-learning vocabulary has good perception from the students. It can be proved from the result of the questionnaire that all students agreed if the technique helped them in gaining the noun, 28 students agreed in verb, 26 agreed in adjective, and 25 agreed in adverb. It also can be seen from the ability of the students in making cluster of the words, and the ability to mention the content word that belong to every word they found which impacted to their score.

5.2. Suggestions

In this research, the researcher gives some suggestions in order to be successful in teaching vocabulary through clustering technique which described as follows:

1. For English Teacher

Referring to the findings, the researcher suggests the English teachers to implement clustering technique in teaching vocabulary because the technique is
recommended to help the students in developing and increasing their vocabulary mastery. Teachers are also suggested to construct the cluster pattern for more specific purposes. For example, teachers can make clustering technique of certain word based on its function, definition, or based on its synonym or antonym so that the result of cluster the words will be well organized.

2. For Further Researcher

For further researcher who will intend to conduct research with the same technique should try to implement this technique on different levels of students, for example in elementary school students, senior high school students, or even university students. The researchers are also suggested to find the other way to make class active with efficient time. For example: by changing their result of making cluster with the other groups, and then each of group can give comment and suggestion to the other groups’ work.
REFERENCES


