THE INFLUENCE OF SENSORY PREFERENCES TOWARDS THE VOCABULARY MASTERY OF THE STUDENTS OF SMP DIPONEGORO 10 PEKUNCEN, BANYUMAS

A THESIS
In Partial Fulfillment of the Requirements
For The Master Degree in Linguistics

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I hereby declare that this submission is in my own work and that, to the best of my knowledge and belief, this study contains no material previously published or written by another person or material which to a substantial extent has been accepted for the award of any other degree or diploma of a university or other institutes of higher learning, except where due acknowledgement is made in the text of the thesis.

Semarang,   Januari 2012

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ABSTRACT

One of problems for students in studying English in the class is Vocabulary Mastery. The vocabulary mastery is a main key to master listening, speaking, reading, and writing English skills. Therefore, a teacher needs appropriate vocabulary teaching technique. The technique is teaching vocabulary through sensory preferences of learning style. They are visual, auditory, and tactile- kinesthetic.

The aim of this research is to know the effectiveness and significant difference of teaching vocabulary through sensory preferences of learning style to the seventh grade students of SMP Diponegoro 10 Pekuncen, Banyumas. The type of this research is quantitative and experimental. For validity and reliability of data, try-out test was calculated by using SPSS 16.0 software program. After that, the new objective test was designed; the new objective test is valid and reliable ones.

The taken data were from the objective vocabulary test. By applying a random sampling technique, the valid and reliable total samples of Pre-test after being calculated are 42 students. The samples are divided into two groups; experimental and the control group. Then, the data were analyzed using the t-test method to find out the significant difference between the experimental group (using sensory preferences of learning style) as a treatment, and the control group (conventional technique). Furthermore, the Post-test data of treatment group is analyzed by using multiple linear regression analysis to reveal the most significant value of sensory preferences of learning style.

The research results analysis of Independent Samples T-Test, the experimental group mean is $\overline{X} = 84.76$, and the control group mean is $\overline{X} = 75.52$. There is 13.59% improvement difference in the two groups. Thus, teaching Vocabulary through sensory preferences of learning style is better than Teaching Vocabulary conventionally. Besides, it can also be concluded that the t calculation value obtained (8.154) > t table (1.684), so H_0 is refused and accept the H_1 (alternative). Thus, the hypothesis that states that "there is a significant difference between teaching Vocabulary through sensory preferences of learning style and teaching Vocabulary without sensory preferences of learning style" is accepted. Furthermore, based on the regression coefficients table, the ρ and t value among visual, auditory, and tactile-kinesthetic, the visual sensory preference of learning style has the lowest p value (p value=0.01) and the biggest t value (t value=4.151). Thus, the visual sensory preference of learning style has the most significant influence of all sensory preferences in vocabulary mastery.

Keywords: **Teaching Vocabulary, the Sensory Preferences of Learning Style, Vocabulary objective test, the Significance.**

INTISARI

Salah satu masalah siswa dalam belajar bahasa Inggris adalah penguasaan Vocabulary. Penguasaan Vocabulary merupakan kunci utama pada keterampilan-keterampilan bahasa Inggris: listening, speaking, reading, and writing. Oleh karena itu, dibutuhkan teknik pembelajaran Vocabulary yang tepat, Teknik tersebut adalah teknik pembelajaran Vocabulary melalui preferensi-preferensi sensori, yaitu visual, auditori and taktil-kinestetik.

Tujuan penelitian ini adalah untuk mengetahui keefektifan dan perbedaan signifikasi dalam mengajarkan Vocabulary melalui preferensi-preferensi sensori pada gaya pembelajaran di kelas tujuh SMP Diponegoro 10 Pekuncen, Banyumas. Jenis penelitian ini adalah kuantitatif dan eksperimen. Untuk validitas dan reliabilitas data, hasil dari try-out dihitung dengan program software SPSS 16.0. Setelah itu terbentuklah bentuk tes objektif valid dan reliable yang baru.

Data-data penelitian diambil dari soal soal tes objektif. Dengan menerapkan teknik pengambilan sample secara acak, jumlah sample yang valid dan reliable dari pre-test sebanyak 42 siswa. Selanjutnya sample tersebut dibagi menjadi kelompok eksperimen dan kelompok kontrol. Kemudian data-data tersebut dianalisis menggunakan metode uji t untuk mendapatkan perbedan signifikasi diantara kelompok eksperimen, yaitu kelompok yang diajar menggunakan preferensi-preferensi sensori pada gaya pembelajaran, sebagai kelompok yang dikondisikan dan kelompok kontrol yang diajar secara tradisional. Selanjutnya, data post-test pada kelompok eksperimen atau yang diberi perlakuan dianalisis menggunakan analisis regresi linear berganda untuk mengetahui salah satu preferensi sensori pada gaya pembelajaran yang paling signifikan.

Dari analisis hasil penelitian pada pengujian sample bebas pada t tes, kelompok eksperimen mempunyai skor rata-rata 84,76 dan kelompok kontrol sebanyak 75,52. Ada 13,59 persen perbedaan kemajuan pada kelompok kelompok tersebut. Ini berarti bahwa pengajaran vocabulary melalui preferensi preferensi sensori pada gaya pembelajaran lebih baik daripada secara tradisional. Hasil ini juga dapat disimpulkan dari kalkulasi nilai t yang diperoleh, yaitu (8.154) > t table (1.684), maka H_0 ditolak dan menerima H_1 (alternative). Jadi hipotesis yang menyatakan ada perbedaan signifikasi antara pengajaran Vocabulary melalui sensori sensori preferensi pada gaya pembelajaran dan tanpa melaluinya, diterima. Selanjutnya, berdasarkan table koefisien-koefisien regresi pada nilai p dan t dari preferensi-preferensi visual, auditory dan taktil-kinestetik, nilai p pada visualnya paling kecil, yaitu 0,01 dan memiliki nilai t yang terbesar, yaitu 4,151. Jadi preferensi sensori visual pada gaya pembelajaran mempunyai pengaruh yang besar dalam penguasaan vocabulary.

Kata kata kunci: Pengajaran vocabulary, Preferensi-preferensi sensori pada gaya pembelajaran, Test objektif Vocabulary, Signifikasi.

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CHAPTER I

INTRODUCTION

A. Background of The Study

The students' English competence of Junior High School level is still low. This is because of the limitation of vocabulary mastery that students have. They feel difficult when they study vocabulary mastery in the classroom. the mastering vocabulary is something essential in developing English skills, whether this is listening, speaking, reading, or writing. To overcome this situation, there are some important techniques must be considered. One of them is the techniques that relate to students' sensory preferences of learning style. They are visual, auditory, or tactile- kinesthetic.

In the academic competence, the students of Junior High School must master the competencies in syllabus of curriculum 2006 officially applied in 2007 that contains many English texts and language functions. To master both of competencies, students must have enough vocabulary. The vocabulary here contains some word classes such as verbs, nouns, adjectives, and adverbs. It is not easy for students to master vocabulary. In order to master it, a teacher must have appropriate method in teaching and learning.

Language is a linguistic system. Cunningsworth (2001: 51) categorizes language system into six main components, namely grammar, vocabulary, phonology, discourse, style and appropriacy, and varieties of the TL. He adds that

vocabulary is the major aspect of knowing a language, even it is more important than grammar because it will always be present in a course; he states:

> *"The basic of the language is lexis. It has been, and remains, the central misunderstanding of language teaching to assume that grammar is the basis of the language and the mastery of the grammatical system is a prerequisite for effective communication."*

David Wilkins sums up the importance of Vocabulary learning by saying "without grammar very little can be conveyed, without vocabulary nothing can be conveyed." The students would get most improvement if they spend most their time learning words and expressions.

G. V. Rogova (1975: 116) maintains that 'to know a language means to master its structure and words.' As a result, vocabulary is one of the aspects of the language to be taught in schools.

However, vocabulary is more complex than its definition. First, words are formed of oral and printed forms. Oral vocabulary includes those words that students recognize and use in listening and speaking. Print vocabulary includes those words that students recognize and use in reading and writing. Second, word knowledge also comes in two forms, receptive and productive knowledge. Receptive vocabulary includes words that students recognize when they hear or see the words, while productive or active vocabulary includes words that students use when they speak or write it. In the case of students with receptive knowledge, the recognized words that the students hear or read are greater than they speak or write (James Milton, 2009:13).

Vocabulary or lexicon is the most important level of second language knowledge for all learners to develop, whether they are aiming primarily for

academic or for a broader scope of communicative competence. There is a core of high frequency words in a language that everyone needs to learn, but beyond that, the specific words to study for students depend on whether the L2 is going to be something for "academic" or "interpersonal functions".

Learning vocabulary is an ongoing process that takes time and practice. Hence, vocabulary acquisition requires continual repetition in order for effective vocabulary learning. Vocabulary acquisition is not something a student can spend time to learn and memorize one of language systems, like grammar, and be successful, but then the Vocabulary acquisition requires the learners to be disciplined, spending time each day working on words based on the student's appropriate level in order to remember the words in high frequency. Therefore, the stored words must be in long-term memory.

In order the brain to store the words in the long- term memory and retrieve them, these words have to connect to something else that has already known by the learners. It can be done by activating all of sensory preferences (visual, auditory and tactile-kinesthetic), which learners have in multiple times and in multiple learning accesses, whether by seeing, hearing, touching the words and even moving the body in meaningful context. R.C. Atkinson and R.M. Shriffin 1971:3) illustrate the information-processing model of memory is as follows:

Input → Short Term Sensory Storage → Short Term Memory | Working Memory Retrieval → Encoding → Retrieval ← Long Term Memory

Forgotten   Forgotten

Response
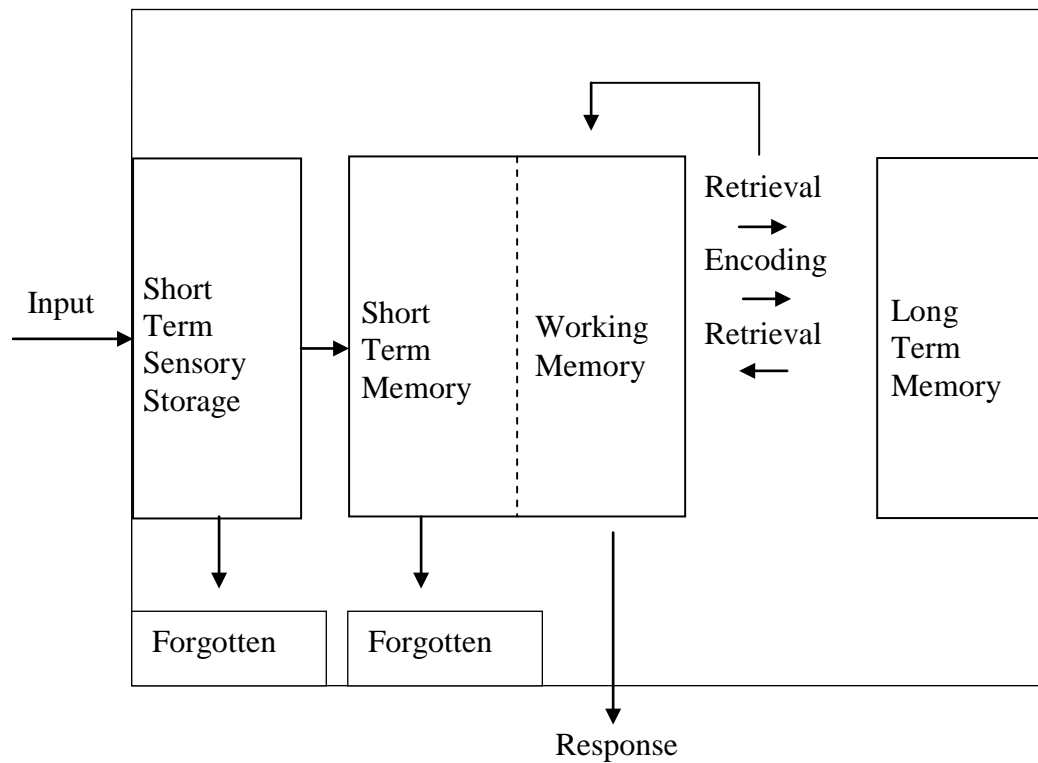
As a foreign language teacher, to understand the sensory preferences students learning styles is very crucial. Because it can help them to study more effectively by using techniques that can really improve the way they perceive, process, and present information.

The first stage is perceiving information. It concerns with employing all students senses (visual, auditory, tactile- kinesthetic) when they gather information about the world around them (including the information that the students need in order to study).

The second stage is processing information. Once the students have acquired information (by seeing, listening, touching the words, and moving the body.), they then process it mentally (by thinking about it and memorizing it). In this stage, the students would have a natural preference for how to grasp, order,

and engage with the information. In grasping the information, do they prefer deal with abstract concepts and generalizations, or concrete, practical examples? Then in ordering the information, would the students rather receive facts in a logical, sequential way (to build up a picture one-step at a time), or with an overview straight away (to show the big picture first, and then the details)? Then the last in engaging with the information, do the students prefer active experimentation, or reflective observation?

The last stage is organizing and presenting information. It concerns with presenting how the students choose to share information with others. They will have a preference how they organize information (with a holistic overview, or with detailed and logical analysis) and or with present information (verbally or using images).

There are many second language teachers have ignored students learning styles and considered as an insignificant component in the learning process recently. The teachers are not aware of students' sensory preferences of learning style in which it may differ from other students learning style preferences. Most of them still apply traditional methods in teaching and learning process, especially in vocabulary mastery. They only ask students to memorize words and retrieve them back without paying attention to students learning preferences (visual, auditory, or tactile-kinesthetic).

In order to get the success of teaching and learning process, the Second Language teachers must consider all of learning strategies (the selected and employed operations or processes by the learner to learn the target language or

facilitate a language task (Stella Hurd and Tim Lewis, (2008:9)) that relate to learning styles the students have. The teacher's individual instructional methods and approach and the characteristic manner in which the teacher carries out instruction must accommodate students learning strategies as well. As an essence, a teacher differs in the way they see their role in the classroom, the type of teacher–student interaction they encourage, their preferred teaching strategies and these differences lead to differences in the teacher teaching style (Jack C. Richards and Richard Schmidt, 2002: 292).

The employed teaching styles (the enduring personal qualities and behaviors that appear in how a teacher conduct the classes include the guiding and directions teacher instructional processes, and the effects on students and their ability to learn (Anthoni F. Grasha, 2002:1)) and strategies of teaching must consider the students learning styles in this case sensory preferences.

The first sensory preference is visual learners (learning by seeing). They tend to be astute observers and have the ability to create knowledge for themselves by watching and listening. They like to look before they leap because in the looking is the initial learning. Strong visual learners can take their time in observing several sides of a situation before acting. They can think visually and helped by learning programs that start by giving them something to observe, whether words, pictures, computer screens, or real- world examples.

The second sensory preference is auditory learners (learning by talking and interacting with others. Auditory learners are also affective learners). That is, tend to be sensitive to the feelings and emotions in presentations and learning

environments. As such, they tend to be more intuitive than rational. They are simultaneous processors (as apposed to sequential processors). The "feel" of a learning experience is more powerful for them than the "logic" of it. They rely on feelings and hunches rather than rational analysis. They tend to "live in the moment." Moreover, for them, talking and writing is a way of thinking and a necessary adjunct to optima learning. The more they can talk about what they are learning, the more their learning tends to integrate and stick.

The third sensory preference is tactile- kinesthetic learners. (Learning by moving, doing, acting out and touching). That is, tend toward a practical, hands-on approach to learning. They prefer to be body movement while they learn and get things done quickly. Tactile- kinesthetic learners are often impatient with conventional education approaches. They can get easily bored with lectures, presentations, and computer- based learning programs that give them no opportunity for physical action. "Theory is fine, "they feel, "but let's get on with practical applications." When engaged in a phone conversation or listening to a presentation it often, help them stay focused by doodling, manipulating objects, or moving their bodies in some way. They are direct and to the point and want to that works. Their orientation is "Don't make me just sit there. I want to do something!"

B. Scope of the Study

The study focuses on describing the mastery of English vocabulary mastery in general. It includes the word classes such as Noun, Adverb, Verb, and Adjective classes. John Eastwood (2002) states "learning vocabulary means

learning verbs, nouns, adjectives, and adverbs." The employed learning style here is sensory preferences. According to Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 65), the sensory preferences of learning style are auditory, visual, and tactile- kinesthetic. The researcher carries out a research in the Seventh Grade of first semester students of SMP Diponegoro 10 Pekuncen, in Academic year 2009- 2010.

C. Formulation of the Problem

Due to the limitation of the problem, the formulated problems of this research are as follows:

1. Is teaching English Vocabulary through multi- sensory modalities including visual, auditory, and tactile- kinesthetic activities effective for students of Seventh Grade Students in first semester of SMP Diponegoro 10 Pekuncen, in Academic year 2009- 2010?

2. Are there any significant differences in the results of teaching English Vocabulary using multi- sensory modalities which including visual, auditory, and tactile- kinesthetic activities and without it?

3. Which one is the most effective result of teaching English Vocabulary among multi- sensory modalities in specific including visual, auditory, and tactile- kinesthetic activities?

D. Purposes of the Study

There are four main parts deal with the Purpose of the Study, namely;

1. To find out the vocabulary mastery of Seventh Grade Students in first semester of SMP Diponegoro 10 Pekuncen, in Academic year 2009- 2010 regarding

their use of multi- sensory modalities includes visual; auditory; and tactile- kinesthetic activities whether it is effective or not.

2. To find out the significant difference of the vocabulary mastery of the Seventh Grade Students in first semester of SMP Diponegoro 10 Pekuncen, in Academic year 2009- 2010, taught by using multi- sensory modalities includes visual; auditory and tactile- kinesthetic activities and taught without them.

3. To find out the result of teaching English Vocabulary among multi- sensory modalities includes visual, auditory, and tactile- kinesthetic activities whether it is effective or not.

E. Significance of the Study

The researcher would like to divide the significance of the research, into two parts, as follows

1. For Students

It could identify which kind of sensory preferences that the students themselves prefer to, whether it is visual, auditory, tactile- kinesthetic or combination of two or all of them concerning with the way to increase students vocabulary mastery, so they could apply the appropriate and various behaviors or techniques based on the sensory preferences they themselves have.

2. For Teachers

Teacher could apply the preferred learning styles the students have in English teaching and learning of vocabulary so they easily could understand the competencies that they must master in each semester.

3. For English books publishers

The English books developer could publish the English books that relate to the appropriate learning styles, which would have positive impact to the book users and publishers.

F. Definition of Terms

This study involves a number of specific terms. The researcher defines terms in the thesis as follows:

1. Influence

Influence is an effect of one person or thing on another.

2. Learning styles

Jack C. Richard and Richard Schmidt (2002:85) state that learning styles are the particular ways in which a learner tries to learn something. They also add that in the context of second or foreign language learning, different learners may prefer different solutions to learning problems.

3. Vocabulary

Vocabulary is a set of lexemes, including single words, compound words or idioms (Jack C. Richard and Richard Schmidt, 2002:580)

4. Mastery

Mastery is comprehensive knowledge or skill in a particular field.

G. Organization of Writing

Chapter 1 shows background of the study, scope of the study, formulation of the problem, purpose of the study, significance of the study, definitions of the terms, and organization of writing. This chapter generally shows up the framework or the ground thinking of this study to bridge the following

chapters. Chapter 2 shows up the review of the related literature. It describes the theories used in developing the study. All of them will serve the fundamental references in conducting and analyzing the study. Chapter 3 concerns in the method of investigation conducted by the researcher. It gives the description of Research Design, Research Variables, Population and Samples, Place and Time of the Research, Research Instrument, and Technique of Data Analysis. Chapter 4 deals with the analysis of the data collected. The last is chapter 5; it gives the conclusions of the thesis and provides some suggestions for further study.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Previous Research

In Academic Year 2004/ 2005, Nurini as the student of English Department in Muhammadiyah University of Purwokerto (Indonesia) conducted a research concerning 'vocabulary mastery and learning styles' with its title "A Study on The Comparison in Vocabulary Competence between Students with Visual and those with Auditory Learning Style." The instruments applied here were questionnaire and document. The writer applied questionnaire to determine preferred learning styles and documentation to get the same grade of students that would be participants. Finally, the research has shown that there was not any difference on vocabulary competence between students with visual and those with auditory learning style at the first semester of English Department Students of Muhammadiyah University of Purwokerto, Banyumas.

The research conducted by Nurini is different from the research on this thesis. Based on the collected data of the questioner and objective test of students, the research conducted by Nurini was to find out significant difference between the groups of visual and auditory sensory preference of learning style. On the other hand, the research conducted on this thesis is to find out significant difference between the group of students that are taught by using sensory preferences (visual, auditory and tactile-kinesthetic) of learning style and the group of students that are not.

Next in the same Academic Year, Dwi Purwoningsih as an English Student in the Languages and Arts Faculty of State University of Semarang also conducted a research entitled "Using Visual Dictionary in Teaching Vocabulary to Elementary School Students" (A Case at the Fourth Graders of SD Negeri 06 Cendono, Kudus In the Academic Year 2006/ 2007). The aim of the research was to find out whether there is any significant difference in vocabulary achievement of the students taught by using visual dictionary and those taught by using conventional way (without using visual dictionary). The research has shown that there is a significant difference on the vocabulary achievement between the students who have been taught using visual dictionary and those who have been taught using the conventional way for the fourth grade students of SD N Cendono 06, Kudus in academic year 2006/ 2007.

The research conducted by Dwi Purwoningsih is different from the research on this thesis. The research conducted by Dwi Purwoningsih was to find out significant difference between the groups of students that were taught by using visual sensory preference of learning style and without it (conventional way). On the other hand, the research conducted on this thesis is to find out significant difference between the group of students that are taught by using visual, auditory, and tactile-kinesthetic sensory preferences of learning style and without it (conventional way).

Next, still in same academic year and university with Dwi Purwoningsih above, Yeni Oktaviani conducted a research entitled "The Application of Total Physical Response in Teaching English Vocabulary to the Fourth Graders of SD

Negeri 04 Krajan Kulon Kaliwungu, Kendal in Academic Year 2006/ 2007.' The objectives of this study were to describe the procedure of teaching English vocabulary to the fourth year students of Elementary School using the Total Physical Response (TPR) method and to identify the advantages and disadvantages of using the TPR method in teaching foreign language vocabulary. The research has shown that the students' achievement in learning English vocabulary by applying TPR had a significant improvement.

The research conducted by Yeni Oktaviani is different from the research on this thesis. The research conducted by Yeni Oktaviani is to find out significant difference between the groups of students that were taught by using tactile-kinesthetic sensory preference of learning style and without it (conventional way). On the other hand, the research conducted on this thesis is to find out significant difference between the groups of students that are taught by using visual, auditory, and tactile-kinesthetic sensory preferences of learning style and without it (conventional way).

B. Underlying Theory

1. Learning Styles

H. Douglas Brown (2000: 113) carefully defines that, "Style is a term that refers to consistent and rather enduring tendencies or preferences within an individual." On the other hand as stated by Anne Jordan, Orisen Carlile, and Anneta Stack (2008: 200) concern with the definition of "learning", Kolb, Mezirow, Wilson, and Bear and Wilson they have their own definition of "learning". According to them, there is an importance of experience in learning

definition. Kolb states "learning is the process whereby knowledge is created through the transformation of experience". Mezirow states "learning is the process of using a prior interpretation to construe a new or revised interpretation of the meaning of one's experience as a guide for future action". Wilson states "learning is a relatively permanent change of knowledge, attitude or behavior occurring as a result of formal education or training, or as a result of informal experience". Moreover, the last Beard and Wilson state, "learning is the sense-making process of active engagement between the inner world of the person and the outer world of the environment".

In accordance with the definition of learning style, Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 65) state, "Learning styles are habitual patterns of perceiving, processing, or reacting to information". A teacher can apply learning styles by using sensory preferences. They are the physical channels through which students take in and perceive new information: ears, eyes, and touch, and directly relate to the perceiving (or attention) aspects of cognition. In other word, Learning styles are convenient shortcuts for talking about patterns of what an individual is likely to prefer as a learner.

Dealing with Learning Styles, Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 65) state that there are three kinds of Sensory Preferences, namely

a. Visual Learning Style

Visual learners acquire new vocabulary primarily through sight; they understand grammar better when they can read about it in a book. H. Douglas

Brown (2002: 122) also states that "Visual learners tend to prefer reading and studying Charts, drawing, and other graphic information.

Leaver as stated by Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 67) defines two kinds of visual learners: imagists and verbalists. When imagists hear or read something in a foreign language (or in their native language, for that matter), they see a picture of what they have heard or read. In other words, they make an image of it. They understand through that image, and they typically store the information in their memory as an image.

The image, then, is more likely to help them recall the words or grammar than is a verbal prompt. Verbalists, on the other hand, see words. If they hear the French word, "soleil" for example, they will not necessarily see a picture of the sun; that is what the imagists would do. Rather, the verbalists will see the letters "s-o-l-e-i-l" in their heads. Verbalists store the letters, and when they have difficulty remembering a word, they can usually remember the initial letter or some of the letters in it. They do not associate the word with an image but with the letters that compose it. For verbalists, reading is a key to remembering – much more so than with imagists. Verbalists, not surprisingly, are much better at correct spelling (and very likely, the winners of most spelling bees are verbalists or people who have learned the kinds of memory strategies that come naturally to verbalists).

Visual learners can cope with and even take advantage of non-visual activities that come up in the classroom by applying strategies that are used by auditory and motor learners or by turning an auditory activity into a visual one.

An example of the former is using rhythm or ditties to remember new vocabulary words. An example of the latter is remembering phrases for a role-play by imagining that you can see these phrases on the ceiling, then reading them aloud.

According to Robert W. Lucas (2003: 19), there are some indicators that visual learners have. The first is 'gaining understanding from stimuli received through their eyes and envisioned in their minds'. The second is 'extracting interpersonal message meaning by observing a person's body's language, facial expressions, gestures, and dresses. The third is 'being prone to daydreaming or imagining'. The fourth is 'visualizing concepts of theory and content received through patterns or pictures in their mind'. The fifth is 'often sitting in a location where their view is unobstructed (e.g., front of the room)'. The sixth is 'often being good spellers'. The seventh is learning best from visual stimulus (e.g., slides, transparencies, handouts, flip charts, posters, or videos)'. The eight is 'taking many notes to reinforce what they experience and for reference later'. The ninth is 'having a subconscious, emotional reaction to color and light'. The tenth is 'often having trouble following verbal instructions or directions'. The last is 'sometimes being able to be identified by their verbal statements. Such as: 'I see what you are saying', 'I get the picture', 'I believe I see what you mean', 'The picture is clear to me', 'I see your point', 'I have a good picture of the situation now', 'as I see it . . .', 'That conjures up images for me', I can see light at the end of the tunnel'.

b. Auditory Learning Style

H Douglas Brown (2002: 122) states on his book, "…audio learners prefer listening to lectures and audiotapes". Auditory learners acquire new information through sound; they hear grammatical endings, and they associate new words with sounds they already know. Even pitch, tempo, and intonation provide them with clues to the meaning of what they are hearing, and they are very quick to learn to make these differences when they are speaking the foreign language.

Leaver as stated by Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 68) divides auditory learners into two groups: aural learners and oral learners. Aural learners learn by listening to others. They tend not to take notes in class because they usually remember what they hear. They are usually pretty good at listening comprehension tasks; can figure out either the essence of broadcasts and films or the details contained in them- or both, depending on their learning style; and have generally pretty good accents. Oral learners learn by listening to themselves. Oral learners, then, like to talk. Talking and hearing themselves talk are often essential to their ability to comprehend information and store it in memory. Whereas aural learners need auditory input, oral learners need auditory output, which becomes their input. Simply put, they get to learn by hearing when they hear themselves speak. As classmates, they can be perceived to be interruptive because they talk "all the time." However, if they were to stop talking, the quantity and quality of their learning would diminish. If the learner is an auditory learner, He or She may become confused or impatient if He or She is

asked to learn through written materials. Most auditory learners have varying tolerances for visual input. Since much of language learning is visual, with a good half of the activities that auditory learners are asked to accomplish being reading and writing, chances are that they will have to learn to cope with non-auditory requirements. They can do this by using some of the same strategies that visual learners use or by turning a visual requirement into an auditory one. An example of the former would be to learn how to encode sounds into letters and words. One way to facilitate this is to ask the teacher or a native speaker to record some of auditory learners reading texts for them- then read the reading texts as auditory learners listen. To turn visual activities into auditory ones, try reading aloud or subvocalizing (saying the words under the breath); auditory learners can use this latter strategy not only when they are reading but also when other learners are answering in class.

Concern with indicators that auditory learners have, Robert W. Lucas (2003: 16) claims there are some indicators that auditory learners have. The first is 'easily being able to be distracted by people and things around them as well as by actions being processed in their minds'. The second is 'often talking to themselves when reviewing information, problem solving, or making decisions'. The third is 'often reading out loud (their lips move)'. The third is 'gaining the most value from information gathered in verbal lectures or presentations, small group discussions, and in listening to audiotapes or other'. The fourth is 'extracting emotional meaning and intent from vocal nuances, such as rate of speech (words spoken per minute), inflection or pitch (high/ low), voice tone, volume (loudness/

softness), voice quality (pleasant/ unpleasant), and articulation or enunciation of words (clearly pronouncing words without cutting off endings or slurring)'. The fifth is 'often being able to recall conversations, jokes, and stories and to attribute them to the right person'. The sixth is 'typically being benefit from learning activities involving verbal interaction. Math, spelling, and writing may be difficult'. The seventh is 'sometimes being able to be identified by their verbal statements'. Such as: 'I hear what you are saying', 'It sounds to me as if . . .' 'What you are saying is music to my ears', 'If I'm hearing you correctly . . .', 'Sounds like a good idea . . .', 'It sounds like you are saying . . .', 'It's clear as a bell'.

c. Motor or Tactile- Kinesthetic Learning Style

Motor or Kinesthetic learners acquire new information through movement. Leaver as stated by Betty Lou Leaver, Madeline Ehrman, and Boris Shekhtman (2005: 68) differs among motor learners based on the kinds of muscles being used: gross motor muscles (arms, legs, or whole body) or fine motor muscles (fingers or hands).

Motor or tactile kinesthetic learners are in perpetual motion. They use their entire body for learning. In language classes, role-plays and total physical response activities (those that require some kind of physical response, such as carrying out commands) help them learn and remember new information, like new vocabulary.

Mechanical learners like to write. They also like to draw and doodle. In class, their fingers are rarely idle. They learn by taking notes, writing compositions, and even copying.

Unfortunately, most classrooms are not well set up for the motor learner. Much work is done in the same seat with only occasional breaks. If the learner is a motor learner, He or She may need to find ways to move while seated. One way He or She can do this is by using his or her hands. Some kinesthetic learners, while preferring to use their arms and legs, find that taking copious notes can provide enough activity to keep them from fidgeting. (By the way, doodling really is okay as an assist to learning for mechanical and kinesthetic learners but keep in mind that some teachers do consider it rude.).

Robert W. Lucas (2003: 20) states, Motor or tactile- kinesthetic learners have some indicators. The first is 'gathering information and gain maximum understanding by being involved in an activity or by performing a task'. The second is 'learning best through explaining, exploring, manipulating, and assembling or disassembling ideas or objects'. The third is 'being bored or fidgety during lectures and periods of inactivity'. The fourth is 'extracting meaning and comprehension through touching, doing, and interacting'. The fifth is 'preferring physical face-to-face input'. The sixth is 'typically enjoying activity but often leaving a mess when working on projects'. The seventh is 'mentally being stimulated by movement (theirs and others)'. The eighth is 'doing interpersonal communication often punctuated by strong gesturing and enthusiastic vocal quality'. The last is 'being able to be identified by their verbal statements'. Such

as: 'I'm moved by what you said', 'I think I have a handle on what you mean', 'I cannot quite grasp your point', 'Let's pick the problem apart and see what we are dealing with', 'Let's jump in and get started, It feels to me as if…. 'Let me handle this', 'I've a grip on what you are saying', and 'Let's do it'

2. Vocabulary Mastery

a. Aspect of Knowing a Word

Vocabulary is "list of words with their meanings, glossary; sum of words used in a language, or in a particular book or branch of science etc" (The New Oxford New Illustrated Dictionary, 1978: 1852) while Mastery is "complete control or power over someone or something" (Longman Dictionary of American English, 2009: 622). Therefore, Vocabulary Mastery is the ability of someone to complete control or power over word meaning.

As stated by Helmut Daller, James Milton and Jeanine Treffers-Daller (2007: 5), Nation divides word knowledge into three areas; the explanation is in the following table:

Form	Spoken	R	What does the word sound like?
		P	How is the word pronounced?
	Written	R	What does the word look like?
		P	How is the word written and spelled?
	Word parts	R	What parts are recognizable in this word?
		P	What word parts are needed to express the meaning?
Meaning	Form and	R	What meaning does this word form signal?

	meaning	P	What word form can be used to express this meaning?
	Concepts and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	Associations	R	What others words does this word make use think of?
		P	What other words could we use instead of this one?
Use	Grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	Collocations	R	What words or types of word occur with this one?
		P	What words or types of word must we use with this one?
	Constraints and use	R	Where, when and how often would we meet this word?
		P	Where, when and how often can we use this word?

Acquiring a word is not just familiarizing oneself with its form and meaning. The model used by Nation above covers all aspects that are involved in knowing a word. Beside the model above shows the components of word knowledge, it also shows that knowing a word means knowing its form, meaning and use in a broad sense. To specify the forms, it involves spoken, written and word parts. Regarding

the meaning, it relates to the form and meaning relationship, concept and referent as well as associations to other words. Concerning the use, it includes grammatical functions, collocations and constraints on use such as register and frequency of using a word.

Nation further divides the word knowledge into receptive and productive skills. Receptive vocabulary use concerns recognizing the word forms through listening and reading and remembering its meaning while productive vocabulary use involves expressing a meaning by means of speaking and writing. A learner needs to retrieve the meaning in his mind and then produce the suitable written or spoken word form.

According to Nation, receptive knowledge of a word means that a learner is able to recognize the pronunciation and its written form while listening and reading. In addition, he is able to recognize the word parts that contribute to its meaning. Besides, he knows what the word form signals a particular meaning and understands the meaning of the word in a particular context. Moreover, he or she should know the concept behind the word so that he can understand the meaning in different contexts. He or she should also think of other related words while encountering the word. In addition, the learner should be able to know whether the used word is appropriately in a sentence and recognizes which words usually collocate with it. Finally, the learner should know the frequency of the word occurs and in which situation, whether it is in formal or informal context, that the word usually appears.

On the other hand, productive knowledge of a word means the learner is able to pronounce and spell the word correctly. He or she is also able to express the meaning by using the right word parts and its appropriate forms. Besides, he or she should be able to produce the word in a variety of contexts to express different meanings accordingly. Some related words like synonyms and antonyms should be associated while producing the word. The learner should also know how to use the word correctly in a sentence and collocate suitable words with it. Finally, he or she should be able to decide whether the word suits the formality of the context.

Vocabulary mastery is something essential in a language. Without having this skill, we would get difficulties to do something relates to four English skills. Jack C. Richards and Willy A. Renandya (2002: 225) argue that vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write.

Language is a system. The language we think about is as a systematic way of combining smaller units into larger units for the purpose of communication. Linda Thomas et. al (2004: 6) state that language is the combination of the language sound (phonemes) to form words (lexical items) according to the 'rules' (grammar) of the language (s) people speak. Those lexical items can be combined to make grammatical structures, again according to the syntactic 'rules' of the language(s). As stated Dr. M.F. Patel and Praveen M. Jain (2008: 28) The Cambridge Concise Encyclopedia defines the term "language" as:

> A species-specific communicative ability, restricted to humans, which involves the use of sounds, grammar, and vocabulary, according to a system of rules.

Though other animals can communicate vocally and by gestures, they are restricted to a participate set of messages, genetically given, which cannot be creatively varied.

Dealing with vocabulary and its grammatical structures, John Eastwood (2002: 3) states "…*Learning vocabulary means learning verbs, nouns, adjectives, and adverbs.*" Another name for these words is word classes. Concern with it, Howard Jackson (1982: 61) states that,

Word classes are generally divided into two broad groups: those, which are open classes, and those, which are **closed classes**. These terms refer to the membership of the classes. For the closed classes the membership is fixed; it is in general not possible to add new members. For the open classes the opposite is the case: new members are being constantly added, as new words are coined in science, technology, or by advertiser or sub- cultures. The open classes of words are **noun, verb, adjective, adverb**; the closed classes are **pronoun, numeral, determiner, preposition, conjunction**.

Mary S. Schatz (2002: 1- 33) divides word classes in English into four parts, namely noun, verb, adjective, and adverb. She defines, that a noun is a word that names a person, place or thing. Next, a verb is usually an action word, sometimes it works alone, needs helpers, and some of them are common helping verbs. Next, an adjective describes or modifies a noun or a pronoun. (A pronoun is a word that stands for a noun, such as 'he, it, the, or me'). An adjective describes 'which one, what kind, or how many'). Moreover, the last is an adverb. It describes or modifies a verb, an adverb, or an adjective. It answer the questions 'when, where, how, or how often'. Adverbs often end in 'ly'.

In similar, Anne Seaton and Y. H. Mew (2007: 8) adds some statements about word classes. They divide noun itself into common nouns and proper nouns. An adjective is a describing word. It usually appears before the noun it describes.

It sometimes, though, the adjective appears after the noun, later in the sentence. Next, verbs are action words. They tell us what people, animals or things are doing. Moreover, the last is an adverb. An adverb is a word that describes a verb. It tells you about an action, or the way something is done.

b. The Incremental Nature of Vocabulary Mastery

As a learner, he or she cannot master full knowledge of a word such as meaning, form, collocation behavior and register constraints at one time. Different components of word knowledge may be developed in a sequence or one after another. For instance, before a learner knows how a word collocates with other words, he must at least know the basic meaning of that new word.

3. Teaching Vocabulary Mastery through students Sensory Preferences

a. The Importance of Teaching Vocabulary

Knowing the knowledge of the vocabulary or word is very crucial for the second language learners. To know a word involves the knowledge of the following things, the first one is Physical form (able to pronounce and write the word correctly). The second one is meaning (able to relate the word to other words same family, synonyms, and antonyms). The third is word forms (to know any words derived from the word, a noun, an adjective, a verb, or an adverb). The fourth is grammatical class (to know the grammatical function of the word). And the last one is style (to know whether the word is formal or informal situation.

In deciding about content, a teacher must pay attention to the some factors. The first is 'the criteria of selecting words'. In the scientific principles of selecting vocabulary, G. V. Rogova (1975: 117) states the selected words should

consider some criteria; such as 'frequently used in the language'. The frequency of words may be determined mathematically by means of statistic data. The soundest criterion claimed is frequency because it is completely objective. It is derived by counting by number of occurrences of words appearing in the representative printed material comprising novels, essays, plays, poems, newspapers, textbooks, and magazines. The next one is 'easily combined'. To remember words well a teacher should combine the word with other another, for example in the some phrases such as, 'nice room', 'nice girl', 'and 'nice weather.' The next one is 'unlimited from the point of view of style'. The scope of chosen words is wide. The words are often used in communication, whether it is oral or written. The next one is 'included in the topics of the syllabus sets'. For Junior High School level students, the selected words must support main learning material that develop basic competence and consist of the open classes of words such as; nouns, adjectives as mentioned in the following syllabus sample that BSNP or Badan Standar Nasional Pendidikan (National Standard of Education Bureau) publishes.

Competence Standards	Learning Main Materials	Learning activities
Listening 1. Responding meaning of simplest transactional (to gets things done)	For examples: A: Pass me the pencil, please! B: Sure, here you	1. Asking and answering anything that relates to given material. 2. Discussing **vocabulary** (noun phrase, adjective, adverb, and

and interpersonal conversation (making socialization) accurately, fluent, and acceptably to interact with many daily life contexts that involves the following speech acts; 'asking and giving services, asking and giving goods, and asking and giving fact.'	are. A: Give me a piece of paper, please! B: Sure, here you are. A: Did you come yesterday? B: I did.	verb) and structure of language that relates to 'asking and giving services, asking and giving goods, asking and giving fact.' 3. Listening to conversation, this relates to the given materials. 4. Answering questions, these relate to the content of given conversation. 5. Answering questions, these relate to the structure of given conversation.
2. Responding meaning of simplest transactional (to gets things done) and interpersonal conversation (making socialization)	For examples: A: What do you think? B: Not bad. A: I like tea. B: I don't like milk. A: Are you sure?	1. Listening and responding to introduction about the topic that teacher would deliver. 2. Listening and responding to **vocabulary** and structure of grammar about the topic that students would study. 3. Listening to transactional and

accurately, fluent, and acceptably to interact with many daily life contexts that involves the following speech acts; 'asking and giving opinions (like and dislike), asking for clarification, responding interpersonally.'	B: I am. A: Are you? B: Yes, I am.	interpersonal conversations, about the topic those students would study. 4. Identifying the expression of speech acts, that teacher delivers. 5. Responding expressions, that teacher delivers.
3. Responding meaning of simplest Short Functional Texts accurately, fluent, and acceptably to interact with many daily life contexts.	›Short Functional texts: Instruction, Goods List, Greeting, Announcement ›**Vocabulary** relates to theme and genre ›Language features of	1. Doing 'Brain Storming' that relates to the studied materials. 2. Discussing **vocabulary** and structure of language, these relate to 'noun, noun phrase, adjective, verb, and adverb' of studied materials. 3. Listening to Functional text that uses gambits of 'attention please, thanks, excuse me,

	Functional Text:	sorry.'
	Instruction, Goods	4. Answering questions, these
	List, Greeting,	concern the content of text that
	Announcement	students listen.
		5. Answering questions about the
		structure of functional text that
		students listen.
4. Responding meaning of simplest Monolog (in Descriptive and Procedure text) accurately, fluent, and acceptably to interact with many daily life contexts.	›Monolog text of Descriptive and Procedure form ›**Vocabulary** relates to theme and genre ›Language features of Descriptive and Procedure text ›Rhetoric steps of Descriptive and Procedure text	1. Listening and responding to the discussed theme and genre 2. Paying close attention to the explanation of appeared **vocabulary** and structure of grammar 3. Listening to the model of Descriptive and Procedure text 4. Answering the questions of Descriptive and Procedure text verbally 5. Mentioning the function of communicative text that students listen. 6. Identifying verbs of the text that students listen.

		7. Listening to other Descriptive and Procedure Texts
Speaking 5. Expressing meaning of simplest transactional (to get things done) and interpersonal conversation (making socialization) accurately, fluent, and acceptably to interact with many daily life contexts that involves the following speech acts; 'asking and giving services, asking and giving goods, and asking and giving fact.	For examples: A: Pass me the pencil, please! B: Sure, here you are. A: Give me the paper, please! B: Sure, here it is.	1. Asking and answering anything that relates to given material. 2. Discussing **vocabulary** (noun phrase, adjective, adverb, and verb) and structure of language that relates to 'asking and giving services, asking and giving goods, asking and giving fact.' 3. Imitating the used expressions, this relates to the given materials. 4. Training to use expressions with other friends, these relate to the content of given conversation. 5. Playing role with other friends, these relate to the studied expressions.

6. Expressing meaning of simplest transactional (to get things done) and interpersonal conversation (making socialization) accurately, fluent, and acceptably to interact with many daily life contexts that involves the following speech acts; 'asking and giving opinions (like and dislike), asking for clarification, responding interpersonally.'	For examples: A: What do you think of this? B: Not bad. A: I like tea. B: I don't. A: Are you sure? B: I am. A: Do you? B: I do.	1. Listening and responding to questions about the topic that teacher would deliver. 2. Listening and responding to **vocabulary** and structure of grammar about the topic that teacher would deliver. 3. Listening to transactional and interpersonal conversation models, these relate to the topic that students study. 4. Imitating to transactional and interpersonal conversation models, these relate to the topic those students study. 5. Doing transactional and interpersonal conversations with other friends, these relate to the topic that students study.
7. Expressing	›Short Functional	1. Asking and answering question

meaning of simplest Short Functional Texts accurately, fluent, and acceptably to interact with many daily life contexts.	texts: Instruction, Goods List, Announcement Greeting	activities, those relate to the studied materials. 2. Discussing **vocabulary** (noun, noun phrase, adjective, verb, and adverb) 3. Imitating the used expressions in conversation, these relate to the material 4. Listening to short Functional Text, that teacher reads. 5. Answering the questions, these relate to the content of the text that students listen. 6. Using expressions that exist in the conversation, these relate to the studied material in pairs. 7. Using expressions, which relate to the studied material in a real situation
8. Responding meaning of simplest Monolog (in Descriptive and	›Monolog text of Descriptive and Procedure form ›**Vocabulary**	1. Listening and responding to anything that relates to Descriptive and Procedure text 2. Paying close attention and

Procedure text) accurately, fluent, and acceptably to interact with many daily life contexts.	relates to theme and genre ›Language features of Descriptive and Procedure text ›Language features of Descriptive and Procedure text	responding to the explanation of **vocabulary** and structure of grammar in monolog text in the form of Descriptive and Procedure, such as 'Dea/ How to make a cup of tea.' 3. Listening to verbal monolog text model, in the form of Descriptive and Procedure 4. Discussing back the draft of monolog text in group and delivering draft procedure using student own words 5. Doing verbal monolog text individually
Reading 9. Responding meaning of simplest Written Texts accurately, fluent, and acceptably to interact with many	›Short Functional texts: Instruction, Goods List, Greeting, Announcement	1. Asking and answering question activities, those relate to the studied materials 2. Discussing **vocabulary** and structure of language, these relate to 'noun, noun phrase, adjective, verb, and adverb' of

daily life contexts.		studied materials.
		3. Listening to texts that teacher reads loudly
		4. Discussing to answer the questions of reading texts in group
		5. Answering the questions of reading texts verbally and individually
		6. Reading the reading texts loudly in turn
10. Responding the meaning and procedures of rhetoric accurately, fluent, and acceptably in simplest essay of Descriptive and Procedure form in daily life contexts	›The monolog text in Descriptive and Procedure form ›The **vocabulary** relates to studied theme and genre ›The language features of Procedure and Descriptive text	1. Listening and responding 'Introduction' to Descriptive or Procedure text relates to topic of material that students would read
		2. Paying close attention to **Vocabulary** and Structure of Grammar that relate to the Descriptive or Procedure text that students would read
		3. Paying close attention to the procedures of rhetoric in

		Descriptive or Procedure text
		4. Identifying the procedures of rhetoric in group
		5. Identifying any information of Descriptive or Procedure text group
		6. Identifying any information and the procedures of rhetoric independently
11. Responding meaning and procedures accurately, fluent, and acceptably of the simplest essay that relates to the daily life context in the form of Descriptive or Procedure text	The Monolog text in the form of Descriptive or Procedure	1. Listening and responding 'Introduction' to Descriptive or Procedure text relates to the topic of material that students would read
	The **Vocabulary** relates to theme or genre	2. Paying close attention to the explanation of **Vocabulary** and the Structure of Grammar that relates to the Descriptive or Procedure text students would read
	The Language Features of Procedure and Descriptive text	3. Paying close attention to the rhetoric procedure of Descriptive or Procedure text

		4. Identifying the rhetoric of Descriptive or Procedure text in pairs
		5. Identifying any information in pairs
		6. Identifying the rhetoric of Descriptive or Procedure text and any information independently
12. Reading the simplest short Functional Text and Essay of Descriptive or Procedure text by using acceptable pronunciation, stress, and intonation	›Descriptive or Procedure Text ›Pronunciation ›Intonation ›Punctuation	1. Listening and paying close attention to Pronunciation, Intonation, Punctuation, and voice quality in reading Descriptive and Procedure loudly
		2. Listening to the model of how to read Descriptive and Procedure Text loudly
		3. Imitating the model to read Descriptive or Procedure text loudly
		4. Reading the Descriptive or Procedure text by using correct

		Pronunciation, Intonation, Punctuation loudly and individually
Writing 13. Expressing the meaning of simplest Short Functional Text, by using students own written style accurately, fluent, and acceptably to interact with many daily life contexts	Procedure form ›The **vocabulary** relates to studied theme and genre ›The language features of Procedure and Descriptive text	1. Asking and answering question activities, those relate to the studied materials 2. Discussing **vocabulary** and structure of language, these relate to 'noun, noun phrase, adjective, verb, and adverb, Simple Present, Imperative 3. Making phrases and sentences, those relate to the studied materials 4. Discussing Generic Structure of Short Functional Text 5. Making written Short Functional Text together or in pairs 6. Making written Short Functional Text individually by using students own words

14. Expressing the meaning and procedures of rhetoric accurately, fluent, and acceptably by using students own written style in simplest essay of Descriptive and Procedure form in daily life contexts	The Monolog in the form of Descriptive or Procedure Text	1. Listening and paying close attention to How to write the Monolog form of Descriptive and Procedure Text
		2. Paying close attention to the explanation of **Vocabulary** and Grammatical Structure those relate to How to write Monolog Descriptive and Procedure Text
		3. Paying close attention to read Descriptive or Procedure text
		4. Writing needed phrases and sentences write Descriptive or Procedure text
		5. Writing Descriptive or Procedure text correctly

In addition, the last one is 'valuable from the point of view of word- building.'

The second is 'receptive' vocabulary means term that refers to language items which can only be recognized and comprehended in the context of reading and listening material, and 'productive' vocabulary to be language items which the learner can recall and use appropriately in speech and writing.

The third concerns with "how many items to teach'. According to Scott Thornbury (2002: 75) sum of vocabulary items the teacher should teach depends on some factors, namely 'the level of the learners (whether beginners, intermediate, or advanced)', 'the learner's likely familiarity with the words (learners may have met the words before even though they are not part of their active vocabulary)'. 'The difficulty of the word items (whether the learners express abstract rather than concrete meanings or whether they are difficult to pronounce)'. 'The 'teach ability' of words it selves (whether they can be easily explained or demonstrated, and whether items are being learned for production or for recognition only)'.

The fourth concerns with 'grouping of items of vocabulary'. Vocabulary consists of a series of interrelating systems and is not just a random collection of items, there seems to be a clear case for presenting items to a students in a systematized manner that will both illustrate the organized nature of vocabulary and the same time enable him to internalize the items in coherent way. Semantic fields, or, as they are commonly called in pedagogical terms, lexical are made up of sets of semantically similar items. These fields may range from very broad categories, such as 'life and living things' to smaller areas such as 'kinds of man' (for examples, man, gentleman, fellow) or 'kinship relations' (for examples, son, daughter), and clearly the same items will occur in different fields.

In vocabulary teaching and learning process, students do some activities and so does a teacher. G. V. Rogova states there are three main processes in learning a word, namely Identification of concepts (learning what the word

means), students's activity for retaining the word, and students's activity in using this word in the process of communication in different situations. While teacher processes are furnishing explanation (presenting the word in order to get the students to identify the concepts correctly), getting the students to recall or the word by means different exercises, and stimulating the students to the words in speech.

b. The Approach, methods, and techniques of teaching Vocabulary employing students sensory preferences

As stated by Jack C. Richards and Theodore S. Rodgers (1986: 15) Edward Anthony identifies three levels of conceptualization and organization, which he terms approach, method, and technique. He states an approach is a set of correlative assumptions dealing with the nature of language teaching and learning. An approach is axiomatic. 1t describes the nature of the subject matter to be taught. While method is an overall plan for the orderly presentation of language material, no part of which contradicts, and all of which is based upon, the selected approach. An approach is axiomatic and a method is procedural. Within one approach, there can be many methods. Finally, a technique is implementation that which actually takes place in a classroom. It is a particular trick, stratagem, or contrivance used to accomplish an immediate objective. Techniques must be consistent with a method, and therefore in harmony with an approach as well.

The appropriate approach employed in this research is Multi- sensory Approach. The derived word 'Multisensory' is from the early work of Samuel and June Orton under the general rubric of "Orton–Gillingham" approaches. Early

versions of these programs emphasized the need for instruction to all sensory modalities. These approaches required the student to learn associations between letters and sounds. A teacher teaches students through seeing a letter (visual), hearing its sound (auditory), saying its sound (auditory), tracing the letter (tactile), and writing the letter (kinesthetic).

Many Researchers employ multisensory approach to overcome the negative feelings that many students have because of their prolonged difficulties in learning or learning disabilities. Concerning with the definition of learning disabilities, Tom Tait and Nicky Genders (2002: 15) state '…,having a learning disability does mean difficulties in learning and every day functioning.'

Based on the employed approach above, many English teachers expand traditional method to find appropriate techniques to convey a meaning of new items. Most of these are means, which tend to be associated with a more teacher-centered approach and consequently the teachers select the items their selves.

There are some appropriate methods of multisensory approach can be employed. G. V (1975: 128) states that the method to convey the meaning of a word depends on Psychological (students age and intelligence), pedagogical (the stage of teaching, the size of the class, the time allotted to learning the new words, and the qualifications of the teacher), and Linguistics factors (abstract and concrete notions, extent or range of meaning).

In addition, G. V Rogova (1975: 123) suggested two kinds of traditional methods (teacher- centered learning) in conveying the meaning of words, namely 'Direct method' and 'translation'. Beside both methods, Scott Thornbury (2002:

79) states there is other teaching method that is appropriate for beginners, when translation is not an option that is total physical response (TPR).

The first method is the direct method. In this method, presenting the words of a foreign language means bringing the learner into direct contact with them, mother tongue does not come in between; it establishes links between a foreign word and the thing or the concept directly. The Direct Method of conveying the meaning of foreign words is usually used when the words denote things, objects, their qualities, sometimes gestures and movements, which can be shown to and seen by pupils, for examples: a book, a table, red, big, take, stand up, and so on. The teacher should connect the English word He presents with the object, the notion it denotes directly, without the use of pupil's mother tongue, by employing exact teaching techniques.

Some traditional techniques from The Direct Method taken that a teacher could employ are,

a) **Visual techniques**

Visual techniques employed when teaching and learning process are all of objects including flashcards, photographs, blackboard drawings, wall charts, and realia. Many teachers use them extensively for conveying meaning and are particularly useful for teaching concrete items of vocabulary such as food or furniture, and certain areas of vocabulary such as places, professions, descriptions of people, actions, and activities. They often lend themselves easily to practice activities involving student interaction.

b) Physical Paralinguistic Features (PPF)

A teacher could convey a number of meanings through the way in which He or she uses his or her bodies. The first is Facial expression. This is a powerful conveyor of meaning. Take for example is smiling is an almost universal signal of pleasure or welcome. Other facial actions such as biting the lip (indicating thought or uncertainty), compressing the lips (to show decision or obstinacy), and a visible clenching of the teeth to show anger are all-powerful conveyors of meaning too. Moreover, the second is gesture. It may be specific to particular cultures. In British English behavior, to indicate indifferent people can shrug their shoulders that shows an attitude of *I don't care*, or *I don't know*, and crossing the arms may indicate relaxation, but it can also powerfully show boredom. When teaching the items whether they are noun, verb, adjective, and adverb forms, a teacher might build a situation to illustrate it, making use of the blackboard or whiteboard and gesture to reinforce the concept.

c) Verbal techniques

A teacher can employ some verbal techniques to convey a meaning, such as 'use of illustrative situations (oral or written), word- building elements, use of synonymy and definition, contrasts and opposites, scales, and examples of the types'.

Using illustrative situations (oral or written) is most helpful when items become more abstract. To ensure that students understand, teacher often make of more than one situation or context to check that learners have grasped the concept.

Teacher can communicatively build word elements by illustrating

situation at the first time, and then write the word in different word classes.

Teachers often use synonymy with low-level students, where inevitably they have to compromise and restrict the length and complexity of their explanations.

In similar, Jill Hadfield and Charles Hadfield (1999: 4) adds and explains two more techniques in presenting new language, namely

a) Realia

In presenting new vocabulary, the students will be more interesting if a teacher uses real objects. For example, in naming and representing a kind of food and drink, a teacher brings real food and drink.

b) Visualization

When a teacher gives students a question, they do not have to respond it in words. They could only respond the question in mental picture. A teacher asks students to talk slowly and gently in imaging represented words.

The use of the direct method, however, is restricted. Whenever the teacher is to presents words denoting abstract notions He must resort to the mother tongue that is translation.

The second method is the translation method. This method is efficient for presenting new words; it is economical from the point of view of time, it presented. As far as the stages of instruction are concerned, G. V (1975: 127) states the methods of conveying the meaning of unfamiliar words should be used, namely, 'visual presentation prevails in junior forms; verbal means prevail in intermediate and senior forms; translation in all the forms, especially in senior

forms. He adds that the translation method applied has two variants, namely 'Common (proper) translation', and 'Translation- interpretation.'

On the other hand, regarding to student- centered learning Ruth Gairns and Stuart Redman (1986: 76) state there are three strategies for dealing with skill activities namely; asking others, using dictionary, and making use of context to deduce meaning and guessing from the item itself.

The first is 'asking others.' This strategy appears when a student finds that he or she wants to use a particular item but does not know how to say it in English. He or she could ask a teacher or another student to explain the meaning of an item that he or she has just encountered. The best strategy is for the student to make the context sufficiently clear so that the listener can then provide the student with the word he or she is looking for.

The second is 'using dictionary.' If the student does not have a teacher or peer to ask, he or she can still solve a number of problems by using a dictionary. Using a dictionary is another technique of finding out meanings of unfamiliar words and expressions. Students can make use of a variety of dictionaries: bilingual, pictorial, thesauri, and the like. Using them is one of the student-centered learning activities.

The third is 'contextual guesswork.' This involves making use of the context in which the word appears to derive an idea of its meaning or in some cases to guess from the word itself.

Another method is Total Physical Response (TPR). According to Scott Thornburry (2002: 79), it has some main characteristics namely; firstly, in order to

replicate the experience of learning one's mother tongue, making use of the immediate environment of the classroom and the things that a teacher brings in, like flashcards, wall charts, transparencies or board drawings. Secondly, in teaching and learning process, a teacher demonstrates actions using real objects, and then getting the learner to perform the same or similar actions in response to commands.

c. Teaching Vocabulary employing Students Sensory Preferences in the Classroom

Regarding to Vocabulary teaching and learning, Multisensory is an appropriate approach that has some method, the method itself has its own techniques to present new words. There are two stages in teaching vocabulary, namely presentation or explanation and retention or consolidation (G. V Rogova, 1975:122).

i. Presentation of new words

In order to present new words through visual sensory preference, a teacher could employ some techniques. Firstly is the 'Visual Technique.' By employing this technique, learners remember better, when the presented material uses visual aids means. It would work well to present concrete items of vocabulary such as nouns; many are also helpful in conveying meanings of verbs and adjectives. Secondly is 'Use of Dictionary technique.' A teacher could ask students to use of pictorial dictionaries to convey meaning.

Concerning with presentation new words through auditory preference, a teacher also could employ some techniques. Firstly is the 'Verbal Explanation

technique.' It pertains to the use of illustrative situations, synonymy, opposites, and categories. In addition, the secondly is the 'Translation technique.' It is the Traditional and economical method that has been the most widely used means of presenting the meaning of a word in monolingual classes. There are three kinds of this technique; the first is the used teacher's talk presentation is in the first language. To involve students a teacher gets them to repeat the word. The second is the used teacher's talk presentation is in the second or target language. A teacher uses words in the first language to introduce meaning. The last is the used teacher's talk a teacher entirely uses presentation in English. He or she uses the first language to check whether learners have understood the meaning or not. Translation technique would be helpful to convey meaning all of word classes.

While presenting new words through Tactile- Kinesthetic preference, a teacher employs 'demonstrating in touching to feel real objects or doing actions technique', and then getting the learners to perform the same or similar actions (verb classes) in response to commands and to touch to feel the real objects (noun classes).

ii. Retention or Consolidation of Words

Consolidation (recycling or practicing) refers to the persistence of the learnt item, so that students can reveal it later. In other words, consolidation is the process of making memories more stable and creating stronger representation over time. For this purpose, it is necessary to organize students work in a way permitting them to approach the new words from many different sides, whether it is visual, auditory or tactile- kinesthetic. Through consolidation, a teacher

strengthens and stabilizes connections meaning into memory over time by using rehearsal for its process.

Regarding to consolidating through visual sensory preference, a teacher employs some techniques; first technique is 'read my lips'. That is a teacher puts introduced words on the board. Then he or she removes one of those words. Next he or she asks his or her students to see his or her lips. Then he or she mouths on of words without making any sound. Finally, the students should guess which word it is by reading teacher lips. Second technique is 'what is missing.' That is asking the students to close their eyes. Then remove one or more drawings (or cards with the written word) from the board. Finally ask the students to open their eyes and then find 'what is missing.' Third technique is 'visual anchoring.' That is a teacher writes a number next to each word (drawing + written version) on the board, beginning with number 1 next to the first word. Tell the students that they have one minute to concentrate on the numbers and words, and to remember which word goes with which number. After the minute is up, ask them to close their eyes. Say a number and get them to remember the word that goes with it.

In other hands, to consolidate new words through auditory preference a teacher employs some techniques; the first technique is 'Oral Drill Technique.' Here, a teacher pronounces the word several times, and on the other side, learners listen. Learners repeat the word aloud (chorally or individually), and then learners individually pronounce the word to themselves (in low tones). It is aims to aid memorization of the form and phonology of the new vocabulary. The second is

'Guessing word.' A teacher verbally explains the meaning of presented word in context using very simple sentence, and then learners guess it.

The last is consolidating new words through tactile- kinesthetic preference. For this consolidation, a teacher employs some drilling techniques. By using flash card and or real thing, a teacher gives some commands. For examples: 'hold the cat (represented by drawing flash card) or 'hold the pen.' 'Put the cat (represented by drawing flash card) on the table or 'put the pen on the book.' 'Touch the cat (represented by drawing flash card, touching one or more card) or 'touch the pen.' 'Give Anna the cat (represented by drawing flash card) or 'Give Anna the pen.'

C. The use of Learning Styles for the teaching of Vocabulary

1. Visual Learning Style

According to Scott Thornburry (2004: 25) that "…*easily visualized words are more memorable than words that don't immediately evoke a picture."* It means that it will be easy for the learners to memorize the words if they are learn the word by using a picture even for abstract words, because a picture can help the learners to associate them with some mental image.

Other linguists such as Jack C. Richards and Wily A. Renandya (2002: 263) also argue that in teaching vocabulary, the learners can efficiently learn the unfamiliar words when the both of picture and text are available.

In the handbook of research on Teaching and The English Language Arts edited by Diane Lapp and Douglas (2011: 55), In addition to Social Practices Affecting Middle-Grades (10- 14 years old) Literacy Joyce E. Many, Mary Ariail,

and Dana L. Fox argue that 'Multimodal literacy transcend written and spoken language for communications and include other sign systems that carry meaning, such as visual and spatial.'

2. Auditory Learning Style

Even though there are many linguists assume that both Visual and Auditory learning styles are the effective way to learn vocabulary, it rarely found that, the auditory learning style itself claimed as the better way to learn words than visual learning style.

Elizabeth Maxwell (2002: 373) states that the learners with auditory style are good listener. They can break down complex information into small bits then present it step by step by doing the easier step first. Then they gradually move into the more complex and difficult parts. It is different from visual learners. When they think in image, they feel hard to find the right words, because they have to try to translate the images and thoughts into words.

In addition, Richard C. Gacka (2001: 1) also states that the learners with auditory learning style will have no difficulty with complex grammar and enjoy the nuances of vocabulary. They are able to grasp abstract associations, articulate, respond the verbal utterance. They will listen intently, possibly classifying or storing information in memory for future use.

3. Tactile- Kinesthetic Style

As stated by Peter Westwood (2008: 39), Blaustein argues that the used activities and methods with young children should take full account of their relative immaturity, their need for a safe and secure learning environment, their

desire for activity and hands-on experience, the value of play and exploration, and

the importance of social interaction and talk.

CHAPTER III

RESEARCH METHOD

A. Research Design

The data measured are in the form of numbers. The method of the research is experiment. It concerned primarily with discovering the effectiveness between or among interrelationship of two variables at the same time.

The research aim is to reveal and describe the effectiveness of the use of multi- sensory modalities includes visual; auditory; and tactile- kinesthetic activities in the vocabulary mastery of Seventh Grade Students in first semester of SMP Diponegoro 10 Pekuncen, Banyumas, in Academic year 2009- 2010. The design of this research is a true experimental design with pre-test and post-test procedure. According to Stephen Isaac and William B. Michael (1981:52) the purpose of true experimental research is:

> to investigate possible cause and effect relationships by exposing one or more experimental groups to one or more treatment conditions and comparing the results to one or more control groups not receiving the treatment

There are two kinds of groups; they are the experimental and the control group. Either experimental and control group have different treatments; the experimental group is treated by using sensory preferences of learning style while there is not treatment in another one. Those treated groups have the same materials based on the curriculum and syllabus and in the same month and semester. At the end of treatment, the experimental group and the control group received a post-test, then researcher calculates the compared findings to find the significant differences

between the experimental and control group and among sensory preferences learning style. The following is the design of the true experimental research:

G1 (random)	T1	X	T2
G2 (random)	T1		T2

Research Design

Adapted from: Evelyn Hatch and Hossein Farhady, 1982:22

Note:

T1	:	The Pre-test
X	:	The treatment
T2	:	The Post-test
G1	:	The experimental Group
G2	:	The Control Group

B. Research Variables

According to Evelyn Hatch and Hossein Farhady (1982: 13-15), variables can be defined as "attribute of a person or of an object which "varies" from person to person or from object to object." They also classify it as Independent and dependent variables which researcher is possible to intervening and control as well. The independent variable is the major variable which researcher hopes to investigate which usually uses 'X' symbol of letter. Meanwhile the dependent variable is the variable which researcher observes and measures to determine the effect of the Independent variable, which usually uses 'Y' symbol of letter.

The title of this thesis is 'The influence of Learning Styles towards The Vocabulary Mastery of The Students of SMP Diponegoro 10 Pekuncen, Banyumas.' Relating to the research aims, the questions, and the hypotheses addressed in this research, the variables of this study are:

1. Variable X (Independent Variable) is the influence of sensory preferences Learning Style to Junior High School.

2. Variable Y (Dependent Variable) is the mastery of English vocabulary in SMP Diponegoro 10 Pekuncen, Banyumas.

C. Population and Samples

1. Population

Population is all individuals from whom the data are collected. The population of this research is the students of SMP Diponegoro 10 Pekuncen, Banyumas. It consists of 67 students of the seventh grade, 82 students of the eighth grade, and 80 students of the ninth grade. The total population is 229 students. The Population of SMP Diponegoro 10 Pekuncen, Banyumas, 2009/ 2010 is as follows:

Table 1: The Population of SMP Diponegoro 10 Pekuncen, Banyumas 2009/ 2010

Number	Class	Sum of Students
1	VII	67
2	VIII	82
3	IX	80
Total of Population		229

2. Sample

The used sampling technique of this research is random sampling. Kothari (2004: 60) argues that random sampling from a finite population refers to that method of sample selection, which gives each possible sample combination

an equal probability of being picked up and each item in the entire population to have an equal chance of being included in the sample.

Suharsimi Arikunto (1998: 120) argues if the subjects are less than 100, it is better for a researcher to take it all. The researcher takes seventh grade students of SMP Diponegoro 10 Pekuncen, Banyumas as a sample. The researcher takes all students to be respondent, because the population is about 67 students. Therefore, it is a population research. All 67 students are divided into two classes, namely experimental and control group. To find out the homogeny of the respondents, researcher conducts Pre-test. This shows that there are only 42 students who have same similar score (in the range of 64 to 70). A half of 42 students are in the experimental group and the other students are in the control group.

D. Place and Time of the Research

The research was conducted in SMP Diponegoro 10 Pekuncen. It is an institution under the authority of The Ministry of National Education, Directorate General of National Education Institution. SMP Diponegoro 10 Pekuncen, Banyumas locates on Jalan Raya Stasiun Legok Pekuncen, the Pekuncen sub district, Banyumas regency, Central Java Province. This research was started in July 2009

The English vocabulary materials were given once a week for both groups and the duration was forty minutes for each meeting. The experiment lasted for ten weeks altogether. It began in the first week of July in the Academic Year of 2009 and ended in the last of October 2009.

The preparation for experiment test had been made before it was started in July 2009. Trying-out the test for the instrument was conducted in order to get valid and reliable tests. The try-out of the test was randomly carried out for other school's students of seventh grade of SMP Negeri 3 Pekuncen, Banyumas. Then the results of the test were calculated to find out the reliability and the validity of the tests and then the validated test-items were revised that were ready for the Pre-test of the experiment. The schedule of the research as follows:

Topic	Week/ meeting				Month
	1	2	3	4	
		√	√		July
Verbs, Nouns,	√	√	√		August
Adjectives, Adverbs		√	√	√	September
		√	√		October

E. Research Instrument

The instrument used in this research is a reading knowledge of vocabulary test. In collecting the data, the researcher uses the multiple choice items "a, b, c, and d". It is presented with a question along with four possible answers from which one must be selected. In addition, Jack C. Richards and Richard Schmidt (2002: 346) argue that first part of a multiple-choice item will be a question or incomplete statement. This is known as the stem. The different possible answers are known as alternatives. The alternatives contain (usually) one

correct answer and several wrong answers or distractors. The total number of item

is 50. The objective test is used because it is more objective and representative.

According to H. Douglas Brown (2004: 191) the most popular method of

testing a reading knowledge of vocabulary is multiple- choice format, because it is

practical, easy to administer, and can be scored quickly.

The instrument used in the research is as follows,

Number	The Material of Control Group and treatment	The Material of Experimental Group and treatment	Number of items	Sum of Test Items
1.	Teaching nouns by employing conventional way	Teaching nouns by employing visual sensory preferences	1, 3, 4, 5, 6, 7, 9, 11, 12, 14, 16, 17, 35, 36, 40, 41, 42, 44, 45, 46, 47	21
2.	Teaching nouns by employing conventional way	Teaching nouns by employing auditory sensory preferences	2, 8, 10, 13, 15, 32, 33, 34, 43, 48	10
3.	Teaching nouns by employing conventional way	Teaching noun by employing kinesthetic sensory preferences	31	1
4.	Teaching adjectives by employing conventional way	Teaching adjectives by employing visual sensory preferences	18, 19, 20, 21, 22	5
5.	Teaching adjectives by employing conventional way	Teaching adjectives by employing auditory sensory preferences	23	1
6.	Teaching verbs by	Teaching verbs by	25	1

	employing conventional way	employing auditory sensory preferences		
7.	Teaching verbs by employing conventional way	Teaching verbs by employing kinesthetic sensory preferences	24, 26, 37, 38, 39	5
8.	Teaching adverbs by employing conventional way	Teaching adverbs by employing visual sensory preferences	29, 30	2
9.	Teaching adverbs by employing conventional way	Teaching adverbs by employing auditory sensory preferences	27, 28, 49, 50	4
Total of Items				50

To get a valid and reliable instrument, the test was tried out. The tryout of the test was done before the instrument was used in the research. The try-out of the instrument was carried out in the first grade students of SMP Negeri 3 Pekuncen, Banyumas. The results of try out can be seen in the Appendix. After finishing the try-out, it is found that there are fifty valid and reliable items.

1. The Validity of the Test

The data resulted would be valid if the instruments used are also valid, and a test would be reliable if it is constant, or it is reliable if the results of test show their constancy.

Suharsimi Arikunto (1978: 160) states that the instrument is valid if it measures what it is supposed to measure. For example, a researcher would like to measure the vocabulary mastery by using an instrument in the form of multiple

choice test items, so, the items inside have to reflect the content of its vocabulary

mastery.

In computing the validity of the test, the researcher used" Product

Moment Correlation" of Ngalim Purwanto (1985:141), namely:

$$r \quad = \quad \frac{\Sigma \; x^t \; y^t}{\sqrt{\left(\Sigma \; x^{t^{\,2}}\right)\left(\Sigma \; y^{t^{\,2}}\right)}}$$

in which:

r	=	*Validity*
Σ	=	*To* add up or sum up
x^t	=	Standard Deviation of first group
y^t	=	Standard Deviation of second group
$x^{t\,2}$	=	The Square of Standard Deviation of first group
$y^{t\,2}$	=	The Square of Standard Deviation of second group

After the researcher analyzes the result of by using Product Moment Correlation,

the researcher found the results as follows:

Number	Classifications	Number of Items
1.	Valid	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 26, 27, 28, 30, 31, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60
2.	Invalid	3, 19, 22, 29, 32, 33, 35, 48, 49, 54

2. The Reliability of the Test

According to Ngalim Purwanto (1985: 138) reliability is the consistency of the instrument. The instrument is reliable if it is believable, consistence or stable and productive as well. To find out the reliability value of test instrument, researcher uses KR-21(Kuder- Richardson) formula, it is as follows:

$$r = \frac{n}{n-1} \left(\frac{S_t^2 - n\, p\, q}{S_t^2} \right)$$

In which:

n = A number of items in the test
S_t = Standard Deviation of all tests
p = Mean is divided by a number of items
q = $1 - p$

The results of reliable and valid of try-out test instrument can be seen in Appendixes. It shows there are 50 valid and reliable items. Furthermore, researcher used this valid and reliable test instrument to have pre and post test for experimental and control group after the researcher had calculated this. The pre-test used is to know the homogeneity of students. The test material of the pre-test has to be the same as the material of the post-test. The subjects of research must be homogeny. Based on the results of the pre-test gained by the two groups (control and experiment group), all participants had variety mark, so the researcher calculated and took only some students from each group who got the

same ability. At last, there are totally 42 students, who get mark in the range of 64- 70 from each group, 21 students are from control group and the other ones are from experimental group. Then researcher divides groups into two, they are experimental and control group, 21 students for experimental group and 21 for another. The experimental group is treated by using sensory preferences learning style and not for another group.

F. Technique of Data Analysis

Data analysis in this research is quantitative. It means that the data measured is in the form of numbers. After the data has been collected, then the data is analyzed by using descriptive statistic.

This is multiple linear regression model. According to Mark R. Leary (2001: 179-180), the regression analysis is used to develop a regression equation that describes how variables are related and allows researchers to predict people's scores on one variable based on their scores on other variables. A regression equation provides a regression constant (equivalent to the y-intercept) as well as a regression efficient for each predictor (independent) variable.

The regression analysis is one of the examples of the parametric statistics is done to find out the model of multiple linear regression equation, where this is based on data distribution. Statistically, the appropriate method to analyze this model is Ordinary Least Square (OLS). To use this method, there are some certain classical assumption tests must be passed, otherwise the model is invalid. This is done, in order to make the multiple regression equation BLUE (Best Linear Unbiased Estimator). This means that the determined judgment

through F and T Test must be unbiased. The classical assumption tests are normality, homogeneity, autocorrelation, linearity, multicollinearity, and heteroskedascticity test. Those data are calculated by using SPSS 16.0 version software program.

Firstly, the data that will be compared and or analyzed by using regression analysis must be normally distribution. Normality is a situation where the analyzed data (population samples) representative distribution population. To find out this judgment, the normality test is conducted. This test is used to find out whether the taken population samples representative distribution population or not. The kind of used test here is Kolmogorov-Smirnov test. By looking at value of Asymptotic (Asymp.) sig. (2-tailed), we can determine judgment whether the population distribution is normal or not. If the value of Asymp. sig (2-tailed) is more than α (0.05) means that the data is normal distribution, on the other hand if the value of Asymp. sig. (2-tailed) is less than α (0.05) means that the data is not normally distribution.

Secondly, the data that will be compared must be homogenous. Homogeneity is a situation where the analyzed data (population samples) has the same competent skills. To find out this judgment, the homogeneity of variance test is conducted. This test is used to find out whether the taken population samples have the same competent skills or not. By looking at significant value of homogeneity of variance table, we can determine judgment whether the population samples are homogenous or not. If the significance is more than α

(0.05) means that the data is homogenous, on the other hand if the significance is less than α (0.05) means that the data is not homogenous.

Thirdly, still relating to the good multiple linear regression model, the analyzed data that will be compared and or analyzed by using regression analysis must have negative autocorrelation. Autocorrelation refers to the case in which the residual errors terms from different observations are correlated. To find out whether the data has negative autocorrelation or not, the autocorrelation test is conducted. The used test is called Durbin- Watson test (DW Test). This statistics test is used for serial correlation of the errors in a time-series regression. The test procedures are: firstly, determining null and alternative hypotheses ($H_0 =$ there is not autocorrelation, $H_a =$ there is autocorrelation), secondly, determining the value of significance (0.05), thirdly, determining d_L and d_U value by looking at Durbin- Watson table, and fourthly, determining judgment whether the data has problem with autocorrelation or not by confirming the following equation $d_U < \text{DW} < 4\text{-}d_U$. If the value of DW is appropriate with this equation, it means that H_0 is accepted (there is not autocorrelation).

Fourthly, according to Chris Brooks (2008: 38) in order to use OLS, a model that is linear is required. This means that, in the simple bivariate case, the relationship between x and y must be capable of being expressed diagrammatically using a straight line. This is conducted by finding out the regression line equation of each independent (x variable) to dependent variable (y variable). To determine whether the regression model is linear or not, a researcher compares the value of significance of 0.05 with the obtained

significance value. If the significance value of each independent variable is minimally same or more than the significance value of 0.05, this means that the model of regression is linear, on the other hand, if this is not, this means that the regression model is not linear.

Fifthly, relating to the good multiple linear regression model, the data among independent variables that will be analyzed by using regression analysis must not have linear relation (multicollinearity/ collinearity). The multicollinearity is a situation where there is a linear relation between two or more independent variables. To find out this judgment the multicollinearity test is conducted. This test is used to determine whether there is a relation among independent variables (visual, auditory, and tactile- kinesthetic) or not. To determine judgment whether there is multicolinearity or not, we can look at the value of VIF (variance inflation factor). This is a measure of the impact of multicollinearity on the precision of estimation of a coefficient. If the value of VIP is less than 10 means that the data is free from multicolinearity, on the other hand, if the value of VIP is more than 10 means that the data is not free from multicollinearity.

Sixthly, relating to the good multiple linear regression model, the analyzed data that will be compared and or analyzed by using regression analysis must have same variances (homoskedasticity) or must not heteroskedasticity. The heteroskedasticity is the situation where the data has the different variances. To find out whether the data has the same variance or not the heteroskedasticity test is conducted. To determine judgment whether the data

has the same variance or not, we can look the value of significance from absolute made residual. Unless the significance from absolute made residual of independent variables is more than the value of significance of 0.05, this means that the data has problem with heteroskedasticity.

After the classical assumption tests are passed, the calculations are continued to compare the mean score between treatment and control group (t test). Furthermore, the calculation is conducted to find out the model of multiple linear regression equation (F test).

Firstly, in analyzing the data, the researcher used t-test. The researcher uses this formula to determine whether there is a significant difference between the group that its vocabulary mastery is through sensory preferences learning style (treatment group) and the group that is not (control group). The formula of the t-test by is as follows:

$$ t \quad = \quad \frac{\overline{x_1} \ - \ \overline{x_2}}{s_\sigma} $$

$$ s_\sigma = \frac{s_D}{\sqrt{n}} $$

$$ s_D = \sqrt{\frac{\Sigma D \ - \ (1/n) \ (\Sigma D)^2}{n-1}} $$

In which:

$\overline{X}_1$	=	The Mean of variable 1
$\overline{X}_2$	=	The Mean of variable 2
S_σ	=	For Pairs
D	=	Difference
n	=	Number of pairs
Σ	=	To add or sum up

(Evelyn Hatch and Hussein Farhady, 1982: 55)

Secondly, in analyzing the data, the researcher also uses multiple regression Discrimination function. According to Suharsimi Arikunto (1998: 253), the multiple regression Discrimination function is used to describe the strength of relationship between several independent variables including visual, auditory, and tactile-kinesthetic sensory preferences, and one dependent variable, that is vocabulary mastery whether they are significant or not.

Louis Cohen, Lawrence Manion, and Keith Morrison (2007: 539- 543) argue there are some calculations must a researcher takes into consideration. They are calculating the effect of one independent variable on one dependent variable; measuring of difference between groups and mean; and discovering whether there are statistically significant differences between the mean of two groups, and using parametric statistics data drawn from random samples with a normal distribution.

Evelyn Hatch and Hossein Farhady (1985:233) states multiple regression is a very important procedure because the research usually does have more than two independent variables and the researcher wants to identify which one is more important or contributes more to dependent variable. To identify this, a researcher must find out the equation of multiple regressions equation.

Therefore, to reveal the value of regression and its interpretations, the procedures of calculations must researcher employ are

1. Finding out the multiple correlation coefficient (R), by using formula:

$$R = \sqrt{\frac{r^2_{yx_1} + r^2_{yx_2} - 2r_{yx_1} . r_{yx_2} . r_{x_1 x_2}}{1 - r^2_{x_1 x_2}}}$$

(Bluman 2009: 576-580)

Where,

r_{yx_1} = The value of the correlation coefficient for variables y and x_1

r_{yx_2} = The value of the correlation coefficient for variables y and x_2

$r_{x_1 x_2}$ = The value of the correlation coefficient for variables x_1 and x_2

2. Testing the significance of R, by using F test. By using formula:

$$F = \frac{R^2 / k}{\left(1 - R^2\right) / \left(n - k - 1\right)}$$

Where,

n = The number of data groups $\left(x_1, x_2, ..., y\right)$

k = The number of independent variables

The degrees of freedom are d.f.N. = $n - k$ and d.f.D. = $n - k - 1$

An F test is used to test the significance of R. The hypotheses are:

$H_0 : \rho = 0 \, and \, H_1 : \rho \neq 0$

Where,

ρ represents the population correlation coefficient for multiple correlation.

3. Finding out the value of the adjusted R^2, by using formula:

$$R^2_{\,adj} = 1 - \frac{\left(1-R^2\right)\left(n-1\right)}{n-k-1}$$

Since the value of R^2 is dependent on n (the number of data pairs) and k (the number of variables), statisticians also calculate what is called an adjusted R^2, denoted by $R_{adj}^{\,2}$. This is based on the number of degrees of freedom.

4. Determining the value of the model of multiple regression equation form from the general form of it, as follows

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon$$

Where;

Y =   The Independent Variable

β_0 =   The Intercept

$\beta_1, \beta_2, \beta_3$ =   Partial Regression Coefficient

ε =   Random Error Term

G. Research Hypothesis

Kothari (2004: 184) defines hypothesis as a proposition or a set of proposition set forth as an explanation for the occurrence of some specified group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probable in the light of established facts. Hypotheses testing in this research are:

Hypotheses 1

H_0 : There is no significant difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it.

H_1 : There is a significant difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it.

The criteria of the test is that the null hypothesis is refused when t value $\geq$ t table or t $\geq$ t (1-α) (H1 + H2 -1) and vice verse.

α : The level of significance: 0.05

H1 + H2 – 1 : The degree of freedom

t (1- α) (H1+H2 -1) : t. distribution.

When the null hypothesis is refused, the alternative hypothesis accepted implied that teaching English vocabulary through sensory preferences learning style is better than teaching vocabulary through without sensory preferences learning style.

Hypothesis 2

H_0 : There is no significant difference among teaching English vocabulary through visual, auditory, and tactile-kinesthetic sensory preferences learning style in mastering English vocabulary

H_1 : There is a significant difference among teaching English vocabulary through visual, auditory, and tactile-kinesthetic sensory preferences learning style in mastering English vocabulary.

The test for significance of regression is a test to determine whether a linear relationship exists between the response variable *y* and a subset of the regressor variables $x_1, x_2, ..., x_k$. The hypotheses are:

$$H_0 : \beta_1 = \beta_2 = ... = \beta_k = 0$$

$$H_1 : \beta_j \neq 0 \ \textit{for at last one j}$$

Rejection of $H_0 : \beta_1 = \beta_2 = ... = \beta_k = 0$ implies that at least one of the regressor variables $x_1, x_2, ..., x_k$ contributes significantly to the model.

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter presents the result of the research. It consists of two sections; the first section is the description of the data. It is about where the data is derived from and what kind of data is used. The second section tells about the research result and data analysis.

A. Description of the Data

This is a quantitative research, which is an experimental research. The method used in this research relates to finding out the influence of sensory preferences learning style (visual, auditory, and tactile- kinesthetic) and its independent variables to vocabulary (noun, verb, adjective, and adverb) mastery. The research aims are showing the influence and significance of teaching vocabulary through sensory preferences learning style, and describing the significant difference of independent variables to vocabulary mastery to the students of SMP Diponegoro 10 Pekuncen, Banyumas as well.

The researcher used random sampling technique to get the samples so that all individuals of population have equal chance to be the sample. There are two kinds of group, the experimental and the control group. Both them were given pre- test and post-test.

The research data were collected from July to October 2009 in the first semester of the academic year of 2009-2010. The preparation for the instruments was made in the previous months. There were 60 questions in the try-out test.

Trying-out the test for the instrument had been conducted in another school before this instrument was analyzed in order to get the valid and reliable items.

Furthermore, 50 questions were ready for the Pre-test and Post-test. The pre-test is used to find out the homogeneity of students, and the post-test is used to find out the significant difference between the experimental and the control groups and the significant difference among independent variables to vocabulary mastery. Based on the Pre-test result of 67 students (seventh grade), there are only 42 of them who have same ability score in the range of 64 to 70 (see in appendix). The result of the pre-test and post-test from both the control group and experimental group is as follows:

Table 1: The Pre-test and Post-test Result of Control and Experimental Group

Number	Experimental Group	Mean	Number	Control Group	Mean
1	Pre-test	68.0	1	Pre-test	68.0
2	Post-test	84.76	2	Post-test	75.52
	Increasing	16.76		Increasing	7.52
	Percentage	24.65%		Percentage	11.06%

Based on the calculation above, we can see that the results of experimental group increases by 16.76 points (68.0 to 84.76), while the control group improves by 7.52 points (68.0 to 75.52). It means that there is 9.24 points improvement difference between 2 groups or 13.59% (24.65% to 11.06%).

1. The Post-test Result of the Verbs

There are six questions for the Verb items, and the result of students'
answers can be seen in the following tables:

Table 2: The Students' Answers for the Verb items of the Control Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
1	1	4.8	4.8	4.8
2	3	14.3	14.3	19.0
3	4	19.0	19.0	38.1
4	6	28.6	28.6	66.7
5	4	19.0	19.0	85.7
6	3	14.3	14.3	100.0
Total	21	100.0	100.0	

Table 3: The Students' Answers for the Verb items of the Experimental Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
4	12	57.1	57.1	57.1
6	9	42.9	42.9	100.0
Total	21	100.0	100.0	

Out of the six questions for the Verb items given to the twenty-one
students in the control group, three students can answer all questions or 14.3%,
four students can answer 5 questions or 19.0%, six students can answer 4
questions or 28.6% and the other ones still get low result. On the other hand, the
experimental group result is high where nine of the total students can answer all
questions and the other ones gain four correct answers.

From the table of students' answers for the verb items of the control and
experimental group is presented above, it can be interpreted that the vocabulary
mastery of 'verbs' is still relatively difficult for the control group and not for the

experimental group. This is relatively easy for them after they have had treatment

on July to October.

2. The Post-test Result of the Nouns

There are thirty-two noun items, and the result of students' answers can

be seen in the following tables:

Table 4: The Students' Answers for the Noun items of the Control Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
22	1	4.8	4.8	4.8
23	3	14.3	14.3	19.0
24	1	4.8	4.8	23.8
25	3	14.3	14.3	38.1
26	7	33.3	33.3	71.4
27	3	14.3	14.3	85.7
28	2	9.5	9.5	95.2
29	1	4.8	4.8	100.0
Total	21	100.0	100.0	

Table 5: The Students' Answers for the Noun items of the Experimental Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
26	1	4.8	4.8	4.8
27	1	4.83	4.83	9.5
28	9	42.9	42.9	52.4
29	8	38.1	38.1	90.5
30	2	9.5	9.5	100.0
Total	21	100.0	100.0	

Out of the thirty-two questions for the noun items given to the twenty-

one students in the Control group, one student can answer twenty-nine questions

or 4.8%, two students can answer twenty-eight questions or 9.5%, and three students can answer twenty-seven questions or 14.3%. Most of them that is seven students can answer twenty-six questions or 33.3%, and the other ones still get under twenty-six of correct answers. On the other hand, the experimental group gain is high, where there are only twenty-six to thirty of correct answers that students obtain. There are only two students, who get the highest correct answers or 9.5%. They can answer thirty questions. In average, there are nine students, who can answer 28 questions or 42.9%.

From the table of the students' answers for the noun items of the control and experimental group total of correct answer of verbs is presented above, it can be interpreted that nouns mastery is still relatively easy for both groups, whether the control or experimental group.

3. The Post-test Result of the Adjectives

There are six for the adjective items, and the result of students' answers can be seen in the following tables:

Table 6: The Students' Answers for the Adjective items of the Control Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
3	4	19.0	19.0	19.0
4	7	33.3	33.3	52.4
5	9	42.9	42.9	95.2
6	1	4.8	4.8	100.0
Total	21	100.0	100.0	

Table 7: The Students' Answers for the Adjectives items of the Experimental Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
3	4	19.0	19.0	19.0
4	4	19.0	19.0	38.1
5	11	52.4	42.4	90.5
6	2	9.5	9.5	100.0
Total	21	100.0	100.0	

Out of the six questions for the adjective items given to the twenty-one students in the control group, four students can answer three questions or 19.0%, seven students can answer 4 questions or 33.3%, and 9 students can answer 5 questions or 42.9%. Furthermore, there is one student, who can answer all questions or 4.8%. On the other hand, the experimental group gain does not too differ from the control group. Four students can answer 3 questions or 19.0%, four students who answer 4 questions or 19.0%, eleven students can answer 5 questions or 52.4%. Furthermore, two students can answer all questions or 9.5%

From the total of correct answer for adjectives of the Control and Experimental Group presented above, it can be interpreted that adjectives mastery is still relatively easy for both groups, whether the Control or experimental group.

4. The Post-test Result of the Adverbs

There are six for the Adverb items, and the result of students' answers can reported in the following tables:

Table 8: The Students' Answers for the Adverbs items of the Control Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
2	1	4.8	4.8	4.8
3	4	19.0	19.0	23.8
4	11	52.4	52.4	76.2
5	5	23.8	23.8	100.0
Total	21	100.0	100.0	

Table 9: The Students' Answers for the Adverbs items of the Experimental Group

The total number of the correct answers	Frequency	Percent	Valid percent	Cumulative Percent
4	9	42.9	42.9	42.9
5	12	57.1	57.1	100.0
Total	21	100.0	100.0	

From the six questions for the Adverb items given to the twenty-one students in the Control group, there is one student who can answer 2 questions or 4.8%, four students who can answer three questions or 19.0%, and eleven students who can answer 4 questions or 52.4%. Furthermore, there are five students, who can answer 5 questions or 23.8%. On the other hand, the experimental group gain differs from the control group. There are nine students who can answer 4 questions or 42.9%, twelve students who can answer 5 questions or 57.1%.

From the total of correct answer for the adjectives of the control and experimental group is presented above, it can be interpreted that adverbs mastery is still relatively difficult for the control group and not for experimental group. Adverbs gain of its group is high. It means that adverbs gain for experimental

group is relatively easy after respondents of its group have had treatment on July to October.

B. The Research Result and Data Analysis

There are two groups in this research. They are experimental and control group. The test for last session had been conducted to compare the last gain for each group. The last gain of its score for each group is presented on appendix. After tabulating the post-test data of the experimental and the control group, then the analysis to identify the score differences among the tests of each group was conducted. Furthermore, the last gain of the post-test were analyzed by using statistical analysis with the software SPSS (Statistical Package for the Social Sciences) 16.0.

1. Control Group Result

Based on the result of statistical analysis calculation by using the SPSS 16.0, it shows that the average score of the control group is 75.52 with standard deviation of 4.37. The minimum value is 66, and the maximum value is 86. Then in reporting the frequency distribution of Control Group Score, researcher uses calculation as follows,

$K = 1 + 3.33 \log n = 1 + 3.33 \log (21) = 1 + 4.4 = 5.4$ (converted to 5)

Range (maximum- minimum score) = 86 - 66 = 20

Interval = 20/5 = 4

Table 10: The Frequency Distribution of Control Group Score of the Students'
taught conventionally

No	Class	Frequency	Percent
1	66-70	1	4.76
2	71-75	9	42.86
3	76-80	9	42.86
4	81-85	1	4.76
5	86-90	1	4.76
	Total	21	100.00

From the table above, we can report the distribution spread of the control group score of students who were taught conventionally. Two classes have the same sum of students this is nine (42.86%) of each class in the range of 71 to 75 and 76 to 80. Three classes have the same sum of students this is one (4.76%) of each class in the range of 66 to 70, 81 to 85, and 86 to 90. Simply this can be reported in the following histogram of frequency distribution in control group,
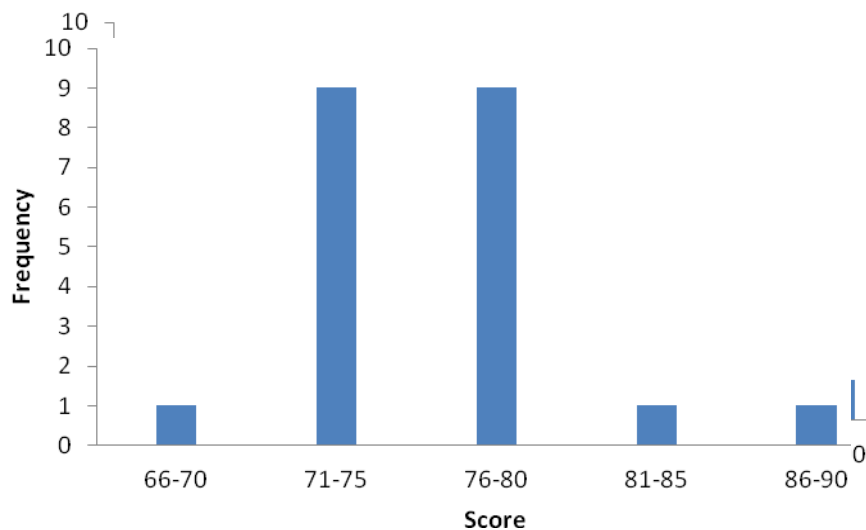

Figure 1 : The Histogram of the Control Group Score of the Students
taught conventionally.

2. Experimental Group Result

Based on the result of statistical analysis calculation by using the SPSS 16.0, it shows that the average score of the experimental group is 84.76 with standard deviation of 2.79. The minimum value is 82, and the maximum value is 92. Then in reporting the frequency distribution of experimental group score, researcher uses calculation as follows,

K = 1 +3.33 log n = 1 + 3.33 log (21)   = 1 + 4.4 = 5.4 (converted to 5)

Range = 92 - 82 = 10

Interval = 10/5 = 2

Table 11: The Frequency Distribution of Experimental Group Score of the Students' taught by using Sensory Preferences Learning Style

Number	Class	Frequency	Percent
1	82-84	12	57.14
2	85-87	6	28.57
3	88-90	2	9.52
4	91-93	1	4.76
	Total	21	100.00

From the table above, we can report the distribution spread of the experimental group score of students who were taught by using Sensory Preferences Learning Style. There is one student, who gets the highest score in the range of 91 to 93 (4.76%). Twelve students get score in average in the range of 82 to 84 (57.14) and the other ones are still get low score. Each of them is 28.57%, 9.52%, and 4.76%. This simply can be reported in the following histogram of frequency distribution in experimental group,
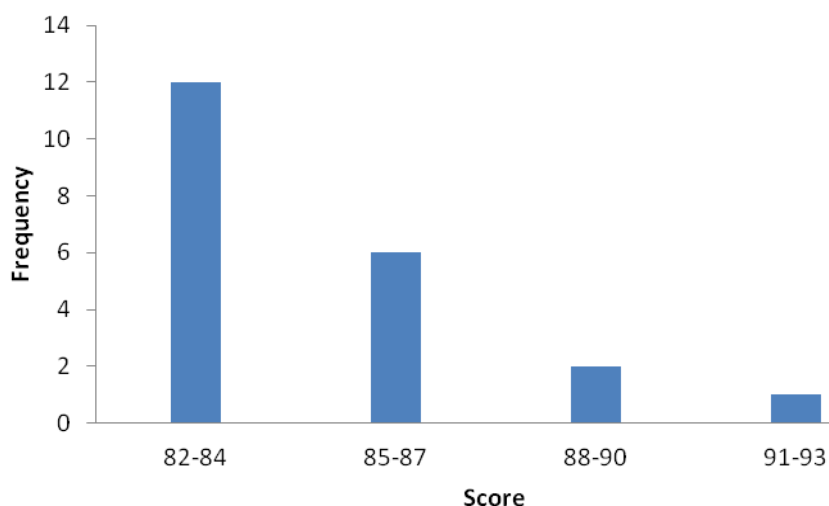
Figure 2   : The Histogram of the Experimental Group Score of the Students taught by using Sensory Preferences Learning Style.

C. The Classical Assumption Tests

The result of conducted classical assumption tests as pre- conditions to calculate regression analysis by using SPSS 16.0 software program is as follows,

Normality test

One-Sample Kolmogorov-Smirnov Test

		VISUAL	AUDITORY	TACTILE-KIN ESTHETIC	VOCABU LARY
N		21	21	21	21
Normal Parameters[a,b]	Mean	24.9048	11.0476	6.0952	42.1905
	Std. Deviation	1.1792	.7400	.9437	1.5690
Most Extreme Differences	Absolute	.246	.335	.222	.176
	Positive	.137	.335	.207	.167
	Negative	-.246	-.284	-.222	-.176
Kolmogorov-Smirnov Z		1.129	1.154	1.016	.808
Asymp. Sig. (2-tailed)		.156	.118	.253	.531

a. Test distribution is Normal.

b. Calculated from data.

As we can see on the table in Kolmogorov-Smirnov test above that the value of Asymp. sig (2-tailed) of each independent variable, namely visual

(0.156), auditory (0.118), and tactile- kinesthetic (0.253) is more than α (0.05).

This means that the data is normally distributed.

Homogeneity test (one way)

Test of Homogeneity of Variances

VISUAL-VOCABULARY

Levene Statistic	df1	df2	Sig.
1.492	4	16	.251

Test of Homogeneity of Variances

AUDITORY-VOCABULARY

Levene Statistic	df1	df2	Sig.
1.451	3	17	.263

Test of Homogeneity of Variances

TK-VOCABULARY

Levene Statistic	df1	df2	Sig.
1.826	4	16	.173

As we see on the table of each homogeneity of variances test above, the significant value of each visual (0.251), auditory (0.263), and tactile kinesthetic (0.173) value is more than α (0.05). This means that the data is homogenous.

Autocorrelation test

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-W atson
1	.875[a]	.766	.724	.8239	2.053

a. Predictors: (Constant), TACTILE-KINESTHETIC, VISUAL, AUDITORY

b. Dependent Variable: VOCABULARY

By confirming the value of significance 0.05 on Durbin- Watson table, n= 21 (sum of experimental group respondents), k=3 (sum of independent

variables), the value of d_U is 1.669, and the value of Durbin- Watson 2.053 on model summary^b above, the Durbin- Watson equation of $d_U < DW < 4-d_U$ becomes $1.669 < 2.053 < 2.331$. This equation means that the hypothesis that states $H_0 =$ there is not autocorrelation is accepted.

Linearity tests

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
VOCABULARY * VISUAL	Between Groups	(Combined)	20.530	4	5.132	2.860	.058
		Linearity	10.863	1	10.863	6.054	.026
		Deviation from Linearity	9.667	3	3.222	1.796	.189
	Within Groups		28.708	16	1.794		
	Total		49.238	20			

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
VOCABULARY * AUDITORY	Between Groups	(Combined)	27.514	3	9.171	7.177	.003
		Linearity	22.821	1	22.821	17.858	.001
		Deviation from Linearity	4.693	2	2.347	1.836	.190
	Within Groups		21.724	17	1.278		
	Total		49.238	20			

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
VOCABULARY * TACTILE-KINESTHETIC	Between Groups	(Combined)	25.905	4	6.476	4.441	.013
		Linearity	17.431	1	17.431	11.952	.003
		Deviation from Linearity	8.474	3	2.825	1.937	.164
	Within Groups		23.333	16	1.458		
	Total		49.238	20			

As we see on the table including visual, auditory, and tactile- kinesthetic tables of ANOVA above, each independent variable has the significance value that is less than the confidence interval of 0.05. This means that the correlation between each independent to dependent variable is linear.

Multicollinearity test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	11.805	4.644		2.542	.021		
	VISUAL	.663	.160	.498	4.151	.001	.958	1.044
	AUDITORY	.865	.306	.408	2.825	.012	.661	1.512
	TACTILE-KINESTHETIC	.710	.242	.427	2.940	.009	.653	1.530

a. Dependent Variable: VOCABULARY

As we see on the table, the VIF value of visual, auditory, and tactile-kinesthetic above, each independent variable has the significance value that is less than 10, this means that the data is free from multicollinearity.

Heterokedasticity Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.649	5.621		.116	.909
	VISUAL	-1.83E-02	.193	-.023	-.095	.926
	AUDITORY	-.113	.371	-.090	-.304	.765
	TACTILE-KINESTHETIC	.165	.292	.167	.564	.580

a. Dependent Variable: Absut Residual

As we on the table above each independent variable (visual, auditory, and kinesthetic) has significant value that is more than the confidence interval 0.05. This means that the source data is free from heterokedasticity problem.

D. The Testing of the Score Difference of the Post Test Sore in Experimental and Control Groups

In parametric statistics data, to test of the score difference of the Post-test and in Experimental and Control Groups, Independent sample t-test is used. Sally Barnes and Cathy Lewin (2005: 228) state that one assumption of the t-test

is that the variances of the two groups are the same. It means that the equality of variances or that the spread of values around the mean of each group being compared must be similar. To have the Independent sample t-test, the Levene's test is used. Researcher used software SPSS 16 to calculate the test result. The test result can be seen in the following tables,

Table 12:

	Group	
Score	Control	
	Experiment	

Table 13:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	2.779	.103	8.154	40	.000	9.2381	1.1329	11.5278	6.9484
	Equal variances not assumed			8.154	33.956	.000	9.2381	1.1329	11.5405	6.9357

Resource: Output SPSS 16.0

Based on the table of independent samples test above the value of Levene's test is significant at p>0.05. The variable score of the control and experimental group shows level that the results are not significant with p-value: it is 0.103 higher than 0.05 (reality α=5%). It shows that the score of the both group have the same variance or, there are not the differences because the both population have the same variance or the variances are assumed to be equal.

E. The Multiple Regression analysis

This is Multiple Regression where it is used to build the type of relationship between sub- variables of X (Independents variable) and Y variable (Dependent variable). This is cause and effect relation between Sub-Independent and Dependent variables. There are three independent variables, namely visual, auditory, and tactile-kinesthetic variable. In addition, there is one dependent variable, namely vocabulary mastery. Researcher used SPSS 16.0 to analyze Multiple Regression. The results of data analysis can be seen are as follows,

Table 14: multiple regression results predicting vocabulary mastery

Variance Explained			
R	*R Square*	*Adjusted R Square*	*Std. Error of the estimate*
.875[a]	.766	.724	.8239

ANOVA Results				
Sum of Squares	*Df*	*Mean Square*	*F Value*	*p Value*
Regression	37.699	3	12.566	18.514	.000[a]
Residual	11.539	17	.679		
Total	49.238	20			

Regression Coefficients				
Unstandardized Coefficients		*Standardized Coefficients*		
B	*Std. Error*	*Beta*	*t Value*	*p Value*
Intercept	11.805	4.644		2.542	.021
Visual	.663	.160	.498	4.151	.001
Auditory	.865	.306	.408	2.825	.012
Tactile- Kinesthetic	.710	.242	.427	2.940	.009

Resource: Output SPSS 16.0

Based on the table 14 'Variance Explained' above, there is an R value of .875, and an R^2 (R Square) value of .77. These statistics tell us that the three independent variables, combined, have a moderate correlation with vocabulary mastery (multiple R = .875) and explain 77% of the variance in vocabulary mastery. This R^2 value is reduced to .724 when adjusted for the error associated with multiple independent variables.

Based on the table 14 "ANOVA Results," researcher sees that there is an F value of 18.514 and a corresponding p value or sig. of .000. It means that, as a group, the three independent variables explain a statistically significant portion of the variance in vocabulary mastery. In other words, the overall regression model is statistically significant.

Based on the table 14 'Regression Coefficients" above, all independent variables are fairly closed in their strength of relation to the dependent variable in significance of .05. The p Values associated with each independent variable are much smaller than .05, indicating that each of the independent variables is a significant predictor of the dependent variable. Therefore, all sensory preferences learning style are statistically significant predictors of vocabulary mastery.

Test of Hypothesis

There are two kinds testing in this research. The first Hypothesis concerns with comparing mean of Pos-test result between control and experimental group, and the second Hypothesis concerns with finding out at least

one subset of independent variables (visual, auditory, or tactile-kinesthetic) that is significant difference with vocabulary mastery.

The Hypotheses are,

1. Hypothesis one

H_0 : There is no significant difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it.

H_1 : There is a significant difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it.

2. Hypothesis two

H_0 : There is no significant difference among teaching English vocabulary through visual, auditory, and tactile-kinesthetic sensory preferences learning style in mastering English vocabulary

H_1 : There is a significant difference among teaching English vocabulary through visual, auditory, and tactile-kinesthetic sensory preferences learning style in mastering English vocabulary.

F. Discussion

Based on table 13, the calculation of t value is 8.154. The significant probability (sig.) of *t* Distribution table with $\alpha = .05$ and degrees of freedom (d.f) of 40 is 1.684 (see the *t* distribution table on appendix page). The calculation of t

value is higher than degrees of freedom value or 8.154 > 1.684. This means that there is significant difference between Experimental and Control group.

When t value is higher than t table, the null hypothesis (H_0) is rejected, or the alternative hypothesis (H_1) is accepted. It means that there is significant difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it. Furthermore, the hypothesis-testing picture can be described as follow:

T-test

The Rejected Area (H_0)

The Accepted Area (H_1)

8.154

1.684

Figure 3
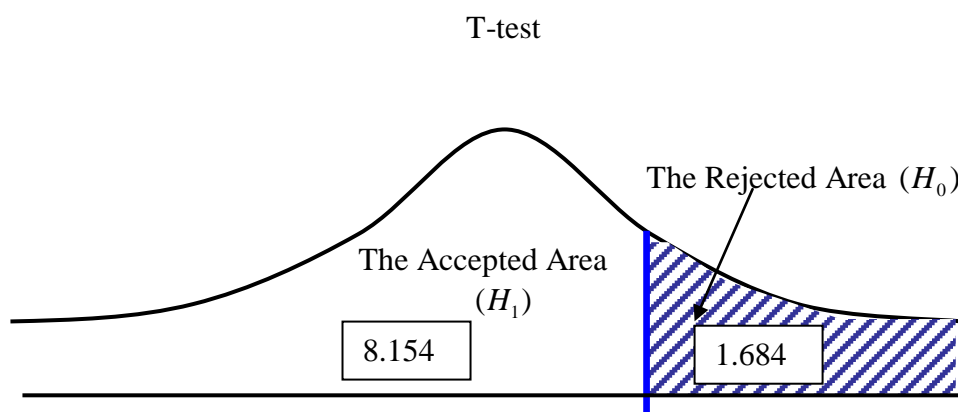
Based on data analysis in table 14 analyzed by using SPSS Software version 16.0, the value of Adjusted R Square is .724 or 0.724 or 72.4% (value of vocabulary mastery in percent). It means that the other percent residual (27.6%) is influenced by other variables except visual, auditory, and tactile-kinesthetic).

Based on table 14, it can be made the multiple regression equation as well. It is as follows:

$$\hat{Y} = a + b_1 x_1 + b_2 x_2 + b_3 x_3,$$

$\hat{Y} = 11.805 + 0.663x_1 + 0.865x_2 + 0.710x_3$, the meanings of this multiple regression equation are:

$a = 11.805$ means that 'the ability point of vocabulary mastery that student has will be 11.805 if this point is not influenced by visual (x_1), auditory (x_2), and tactile-kinesthetic (x_3) variable.'

$b_1 = 0.663$ means that 'the ability point of vocabulary mastery that student has will increase 0.663 if visual variable (x_1) increases 1 point by assumption that auditory (x_2) and tactile-kinesthetic (x_3) have constant value.

$b_2 = 0.865$ means that 'the ability point of vocabulary mastery that student has will increase 0.865 if auditory variable (x_2) increases 1 point by assumption that visual (x_1) and tactile-kinesthetic (x_3) have constant value.

$b_3 = 0.710$ means that 'the ability point of vocabulary mastery that student has will increase 0.710 if tactile-kinesthetic variable (x_3) increases 1 point by assumption that visual (x_1) and auditory (x_2) have constant value.

In order to make the estimation of Multiple Regression Equation Model is accepted ($\hat{Y} = 11.805 + 0.663x_1 + 0.865x_2 + 0.710x_3$), the Simultaneous and Partial Testing must be calculated whether each of them has significant difference or not. Based on table 14 in 'ANOVA Result', F Value$\geq$ F table (d.f: 3, 17), this is

18.154≥ 3.20. It means that the Independent variables including visual, auditory, and tactile-kinesthetic simultaneously influences vocabulary mastery.

Based on table 14 in 'Regression Coefficient', t and p Value of visual, auditory, and tactile-kinesthetic are different, but all of values are less than .05. This means that all of these variables have variety significant differences. The higher the t value has, the more significant difference its variable has and the less the p value has, the more significant difference its variable has. Therefore, the visual preference learning style is the strongest one and tactile-kinesthetic preference learning style is a bit stronger than auditor preference learning style.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

A. Conclusions

The 'independent sample test' table in chapter IV reveals that there is a difference between teaching English vocabulary through sensory preferences learning style and teaching English vocabulary without it. This means that the varied sensory preferences of leaning style in order to have rich vocabulary for students are effective.

After the level of significance of control and experimental group in the table of independent samples test is consulted to t table, it is significant different. Consequently, considering the sensory preferences including visual, auditory, and tactile-kinesthetic becomes a must in teaching and learning vocabulary.

On the other hand, the 'regression coefficient' table in chapter IV also reveals that there is one of sensory preferences that has the most significant difference. This is visual sensory preference. This value is the most significant difference among audio and tactile-kinesthetic sensory preferences. This means that visual sensory preference is the kind of sensory preference that the most Junior High School students has.

B. Suggestions

1. For Students

Especially for Junior High School Students, they should try to find the interesting way in learning vocabulary by employing visual, auditory, and tactile-

kinesthetic sensory preferences. Try to visualize any words in anytime as often as possible.

2. For teachers

When giving new words, teachers should use variety strategies that employing multi-sensory channel, whether it is through visual, auditory, or kinesthetic. However maximizing giving new words through visual channel is better than auditory and tactile-kinesthetic. Bringing picture into the class and visualizing any new words in teaching vocabulary are the examples.

3. For English books developers

Especially for all English book developers, they should try to develop the English books that always need variety sensory preferences in how to learn them. Giving as many as pictures in the book, audio compact disc, and all instruction concerning sensory preferences inside are the examples.

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LIST OF APPENDIXIES

The technique of Presentation and Consolidation of new words through Sensory Preferences of Learning Style

1. **Visual Preference of Learning Style of the words:**
   'Peter and I, teacher, dictionary, ruler, cat, kitten, farmer, mother, The Statue of Liberty, son, sheep, rooster, thin, long, sunny, blue, stone, light, glasses, family, bench, flowers, leaves, bedroom, collection, sugar, really, kitchen'

   Presentation of the words:
   - By using direct method, ask students to look at the teacher. Then the teacher points the real things like somebody or something in the class that refer to the meaning of the words '**Peter and I, teacher, dictionary, ruler, flowers, leaves**,' in conveying the meaning.
   - Ask the students to look at the real things, pictures or plastic-made things pictures that refer to the meaning of the words '**cat, kitten, farmer, mother, The Statue of Liberty, son, sheep, rooster, stone, glasses, bench, sugar,**' in conveying the meaning.
   - Ask the students to look at the pictures that refer to the meaning of the words' **thin, long, sunny, blue, light, family, bedroom, collection, really, kitchen,**' in conveying the meaning.
   - Show the students the meaning of the words in contextual image.
   - Ask the students to see teacher's lips in pronouncing the words.
   - Write the meaning of the words in target language on the board or show them in an interesting image.

   Consolidation of the words:
   - Ask the students to guess the meaning of words in target language when the teacher shows up the picture.
   - Make a group, distribute the picture for each group, then ask students to show the picture when the teacher write the meaning of target language on the board.
   - Ask students to guess the meaning of target language by looking at teacher's lips when the teacher pronounces the words.

2. **Auditory Preference of Learning Style of the words**:
   'saturday night, zoo, New year' Day, The Japanese, President, duty, intelligence, sadness, stories, now, British, speak, correctly, twice a week, why, when'

Presentation of the words:
- By using direct method, teacher uses verbal explanation in the illustrative situations form to refer to the words '**zoo, saturday night, New year' Day, The Japanese, President, stories, British, speak, correctly, twice a week**'
  For example for the word '**zoo**': 'we live in a house, right and how about the elephant, giraffe, lion and other animals. Where do they live? They live at the zoo.
- Teacher uses verbal explanation in antonym to refer to the word '**sadness**'
  For an example: the opposite of the word big is small, while the opposite of the word happiness is sadness.
- Teacher uses translation method when the students are difficult to convey the meaning. Take for examples for the words' **duty, intelligence, now, why, when**'
  For an example: Adakah seseorang yang tahu arti atau makna kata 'duty' dalam bahasa Indonesia?

Consolidation of the words:
- Ask the students to spell the words after the teacher does.
- Ask the students to do drills of the words after the teacher does.
- Ask the students to guess the words that the teacher spells or pronounces.

3. **Tactile-Kinesthetic preference of learning style of the words:**
   'writes, run, soccer, sends, gives

   Presentation of the words:
   - By using Total Physical Response (TPR), teacher asks students to come forward and together with the teacher, ask the students to imitate what the teacher does for the words '**writes, run, soccer, gives, sends**' in conveying the meaning.

   Consolidation of the words:
   - Ask the students to guess the words that the teacher practices.
   - Ask the students to practice the meaning of the words that the teacher say.

THE RESEARCH INSTRUMENT OF ENGLISH VOCABULARIES TEST

FOR SEVENTH GRADE STUDENTS OF SMP DIPONEGORO 10 PEKUNCEN, BANYUMAS

NUMBER	WORD CLASSES	SUM OF ITEMS	POSITION IN NUMBER OF TEST	KEYS
1.	**NOUN.**			
	A. According to Meaning.			
	1) Proper Noun.			
	a) The name of people.	1	1	A
	b) The names of the day of the week and the month of the year.	2	2, 3	B, A
	c) The name of special day.	1	11	B
	d) The name of famous monument.	1	13	B
	e) The name of people who live in a particular country.	1	14	D

2) Common Noun.			
a) The words for things			
I. Abstract Nouns.	5	38, 39, 40, 41,	B, C, C, C, D
II. Concrete Nouns.	2	42	A, D
b) The words for adult and young animal.	2	5, 6	B, A
c) The word for place.	1	7, 8	B
d) The words for people who do certain things.	2	9	C, B
3) Non-Count/ Mass Nouns.	2	4, 10	B, A
4) Collective Nouns. (Collective noun that are used for group of people, and thing).	2	33, 57	C, B
B. According to Form.			
1) Gender.			
a) Masculine (The word for boy and male animal).	2	47, 56	C, B
b) Feminine (The words for women, and female animal).	2	15, 18	C, C

	c) Common (Member of species which can be a male or for a female).	**2**	**12, 19** **16, 17**	**A, C**
	d) Neuter. (A member of a species which is neither a male nor a female).	**1**	**50**	**D**
	2) Number.			
	a) Regular. (The normal plural rule of adding – es or – s to form a plural, or changing –y to – I and adding – es).	**3**	**43, 51, 52**	**D, C, D**
	b) Irregular.			
	I. Noun that ends in –f changed to -ves in the plural.	**1**	**53**	**A**
	II. Noun that changes the vowel sound in becoming plural.	**1**	**54**	**D**
2.	c) Compound (made up of two or more words used together).	**1**	**55**	**A**

	VERB.			
	A. Linking Verb (Link a subject to a complement).	**1**	**48**	**B**
	B. Auxiliary Verb (Used for offering something).	**1**	**49**	**C**
	C. Verbs that have objects.			
	1) Direct objects.	**3**	**27, 28, 45**	**D, C, A**
	2) Indirect objects.	**2**	**44, 46**	**D, B**
3.	D. Verbs that don't have an object.	**2**	**29, 30**	**D, D**
	ADVERB.			
	A. Adverb of Time.	**1**	**58**	**B**
	B. Adverb of Frequency or number.	**1**	**34**	**C**
	C. Adverb of Place.	**1**	**37**	**C**
	D. Adverbs of Manner.	**2**	**31, 32**	**B, B**

	E. Adverb of Affirmation.	1	36	D
4.	F. Adverbs of Interrogation.	2	59, 60	C, D
	G. Adverb of Duration.	1	35	B
	ADJECTIVE.			
	A. Adjectives tell about the size of people or thing.	2	20, 21	C, C
	B. Adjective tell about the color of thing.	1	24	A
	C. Adjectives tell what person or thing is like by describing their quality.	2	22, 23	D, D
	D. Adjective tell what thing is made of. It refers to substance.	1	25	D
	E. Adjective is made from proper noun of place (adjectives of origin).	1	26	B