

THE EFFECT OF LEXICAL INFERENCING STRATEGIES ON STUDENTS' READING COMPREHENSION

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Abstract: This study was conducted to investigate the effect of lexical inferencing strategies on students' reading comprehension. This study was aimed to find out whether the use of lexical inferencing strategies had effect on students' reading comprehension. The population of this study was 90 Informatics Engineering students of Potensi Utama University in the fifth semester of 2014-2015 academic year. A placement test was given to 90 students to select 60 similar English proficiency level students. The instruments used for collecting data were written test and spoken test. These tests were conducted to identify students' reading comprehension performance toward lexical inferencing strategies. These data were analysed by applying an experimental research design involving pre-test and post-test which were administered for control and experimental groups. The control group was taught by using conventional method, while the experimental group was treated by using lexical inferencing strategies. The results of the test showed that the use of the lexical inferencing strategies had significantly affected to students' reading comprehension performance. Hence, it was concluded that lexical inferencing strategies was recommended to improve the students' reading comprehension performance.

Key Words: Lexical Inferencing Strategies, Reading Comprehension Performance

Abstrak: Penelitian ini dilakukan untuk mengetahui pengaruh strategi inferensi leksikal terhadap pemahaman bacaan siswa. Penelitian ini bertujuan untuk mengetahui apakah penggunaan strategi inferensi leksikal berpengaruh pada pemahaman bacaan siswa. Populasi penelitian ini adalah 90 mahasiswa Teknik Informatika Universitas Potensi Utama pada semester lima tahun akademik 2014-2015. Tes penempatan diberikan kepada 90 siswa untuk memilih 60 siswa yang memiliki tingkat kemahiran bahasa Inggris yang setara. Instrumen yang digunakan untuk pengumpulan data adalah tes tulis dan tes lisan. Tes ini dilakukan untuk mengidentifikasi pemahaman bacaan siswa terhadap strategi inferensi leksikal. Data ini dilakukan dengan menggunakan rancangan penelitian eksperimental yang melibatkan pre-test dan post-test, yang diberikan untuk kelompok kontrol dan eksperimental. Kelompok kontrol diajarkan menggunakan metode konvensional, sementara kelompok eksperimen diberi perlakuan dengan menggunakan strategi inferensi leksikal. Hasil pengujian menunjukkan bahwa penggunaan strategi inferensi leksikal memiliki pengaruh yang signifikan terhadap peningkatan pemahaman bacaan siswa. Oleh karena itu, disimpulkan bahwa strategi inferensi leksikal direkomendasikan untuk meningkatkan kemampuan pemahaman bacaan siswa.

Kata Kunci: Strategi Menebak Makna Kata, Kemampuan Memahami Teks Bacaan

INTRODUCTION

Reading comprehension is the ability to understand the writer's intention through the text. It is not only considered as the process of communication between the writer and the reader but also as the product of communication to get the understanding of the text. In the reading comprehension process, the reader must be able to understand the way of writer's communication and the meaning of the text want to deliver. To achieve the reading comprehension, a reader must have the ability, experience and knowledge to understand the text. One of the important knowledge in reading comprehension is

vocabulary knowledge. As Schmitt states (2010:4) that vocabulary knowledge helps to understand and to communicate between the writer and the reader through text. In other words, vocabulary knowledge contributes to the reading comprehension.

Generally, vocabulary knowledge and reading comprehension have a close relationship. The relationship of vocabulary knowledge and reading are clearly understood for the understanding of word meanings and their use that contribute to reading comprehension. Vocabulary knowledge is as an important factor that affects language learning especially in reading. As Stoller & Grabe (1993:23) states that vocabulary knowledge is one of the important elements in reading comprehension. A good reader can guess the meanings of some unknown words in a text using their vocabulary knowledge. Therefore, it can be stated that the higher vocabulary knowledge have, the easier to understand the text. The reader with much vocabulary knowledge can comprehend a text better.

To become a good reader, she or he must not only have the vocabulary knowledge, but also need to learn the strategies to deal with unknown words encountered in reading. By employing the strategies, the reader can use the appropriate strategies to deal with unknown words in reading comprehension process. One of the effective strategies in reading comprehension is lexical inference strategies.

Lexical inference strategy is one of the effective strategies to guess or inference the meaning of unknown words in a text. Lexical inference strategy plays an important role in dealing with unknown words encountered in reading. According to Haastrup (1991:24) explains that lexical inference strategy is a process of guessing the meaning of an unknown word by employing all linguistic clues available in the text together with the reader's world knowledge, his/her linguistic knowledge, and his/her awareness of the context.

One of the best ways to understand the meaning of the words constructed in the sentences is to begin practicing the lexical inference strategies in reading comprehension. Using a dictionary is also a good way to define and guess the word as long as it is not prohibited in the learning situation. But, when the use of dictionary is not allowed in a testing situation, it is useful to employ the lexical inference strategy in reading comprehension as an alternative to understand the meaning of the text. This strategy is used by guessing the meaning through the context clues in the sentence of the text. The term context clues are other words in the sentence give away or give clues to the definition of the word. For example, there is sometimes clue for the synonyms (words with the same meaning) or antonyms (words with the opposite meanings), or details that lead to identify the vocabulary word.

The studies on the use of lexical inference strategies actually have been more conducted by teachers and researchers since they have understood to the positive effect and the important of using the strategies for improving the students' vocabulary knowledge and reading comprehension performance. Therefore, this study analysed the use of lexical inference strategies to help students who still have difficulty in understanding the text and using the appropriate strategies to improve the students' performance in reading comprehension

This study focused on the investigation to the effect of using lexical inference strategies toward the students' performance in reading comprehension. The research questions of this study were in the following:

1. Does the use of the lexical inference strategies have significantly affected to the students' performance on the reading comprehension?
2. How are the relationships between the uses of lexical inference strategies toward students' success in reading comprehension?

LITERATURE REVIEW

Reading Comprehension

Reading is one of the important skills in learning language. According to Tierney and Readence (2005:51), learning to read is not only learning to recognize words but also learning to make sense of texts. Good language learners are also considered to be good readers (Bialystok, 1983). Paribakht and Wesche (2006) states a good reader can guess the meanings of some unfamiliar words in a text for reading comprehension.

Thus, Souvignier and Moklesgerami (2006) define reading comprehension as the reader's ability to read and remember, reproduce, learn from, and find deeper meaning in text for later use. In the process of reading comprehension, the reader not only needs to comprehend the direct meaning of what he/she is reading, but, he/she also needs to understand the implied meaning of the text. As G. Woolley(2011:2) states that reading comprehension is the process of making meaning from text. The goal of reading comprehension is to gain an overall understanding of what is described in the text.

Reading involves a lot of cognitive capacity which is available for understanding the reading materials (Karbalaie, 2010:166). As comprehension involves the interaction of a wide range of cognitive skills and processes there are many occasions where difficulties arise that may lead to comprehension failure (Cain and Oakhill, 2007). For example, during reading the ability to derive meaning is normally enhanced when there is a reduction in the cognitive load of a reader's working memory, and the reader can decode the words and phrases fluently and bring meaning to the unfamiliar vocabulary encountered. The indications are that successful readers are more efficient at gaining unfamiliar word meanings from texts because they have a greater existing vocabulary, more experience using context clues, and greater background knowledge (Goerss et al. 1999). In contrast, less skilled readers are considered to have more difficulties integrating read text information Pressley (1997). Furthermore, due to the fact that strong contextual cues are not always found in many texts, less skilled readers may have more difficulty considering the writer's interpretations, and forming appropriate inferences from unfamiliar events or relationships (Goerss et al. 1999).

Since the main goal of reading is comprehension. A comprehension is a task that comprises many skills, describes outcome of taking out the meaning from a written text by using one's intellect. Curtis (2002) believes that there are a number of skills that the reader needs to employ in order to achieve maximum reading comprehension, skills such as deciding about the main idea of the reading text, making questions regarding the content of the text and being able to answer those questions by employing context clues, and

summarizing the passage. However, the reading must also involve the students actively in the reading process by applying strategies.

Hosenfeld (1981) proposes that students must utilize the strategies in order to comprehend reading passages. Reading comprehension strategies are as tools that proficient readers use to solve the comprehension problems they encounter in texts. Barnett (1988:110) states that there were 20 effective reading strategies for students to identify the meaning rather than words. To identify meaning, the students can illustrate, evaluate, guesses, uses a variety of types of context clues, and follow through with proposed solutions to understand the text.

Furthermore, there are a lot of studies that support the role of vocabulary knowledge in a successful reading comprehension. For example, Ouellette & Beers (2010) have recently pointed out the important role of vocabulary knowledge in reading comprehension. As Nation (2001) states that there is a high correlation between the amount of vocabulary known and reading comprehension. Therefore, the size of one's vocabulary knowledge is a strong predictor of one's ability in reading comprehension.

The Relationship between Reading and Vocabulary

Vocabulary development is important element in reading. Many studies have found evidence of vocabulary development by reading (Paribakht and Wesche, 1993 & 1997). Schmitt (2001:144) states that studies on reading shows that vocabulary knowledge and reading comprehension are very closely related to each other. The relationship is not one directional way, vocabulary knowledge can help reading, and reading can contribute to vocabulary development.

Furthermore, Laufer (2003) discusses the effects on vocabulary development from reading. She states that reading is the major source of vocabulary acquisition for the second language students. In order to learn new words from reading, the students have to notice the unknown words and then try to guess the meaning of the unknown words by context (lexical inference). As a result, the learners can strengthen their vocabulary knowledge as the new words accumulate in learners' minds. Thus, it is essential to treat the students with lexical inference strategies so that when they meet unknown words in reading, they can make use of the skills to guess the meanings. They actually help them to construct meanings for the whole text. Thus, they can get reading comprehension due to vocabulary knowledge they master.

Reading Strategies

Reading strategies are also important for students to be skilled readers. A reading comprehension strategy is a cognitive or behavioural action that is enacted under particular contextual conditions, with the goal of improving some aspect of comprehension. Teachers often instruct students to look up a word in a dictionary when they encounter a rare word with which they are unfamiliar. But, most of them are too lazy to hunt for a dictionary every time they encounter a rare word. So an alternative strategy is often advocated by reading instructors, namely to infer the meaning from context. One of the inferencing strategies are a contextual word definition strategy. This strategy is employed by the following way: If the word X is infrequent or Reader does not know meaning of word X, then (1) reader rereads previous text for definitional clauses, (2) reader reads subsequent

text for definitional clauses, (3) reader rereads sentence with the word X, and then (4) reader attempts to comprehend sentence as a whole.

Lexical Inference (Guessing) Strategies

Inference is defined as a cognitive process that utilizes familiar attributes and contexts to recognize something unfamiliar in reading (Paribarht, & Wesche, 1999: 198). Haastrup (1991:67) states that lexical inference refers to the process of making informed guesses as to the meaning of a word in light of all available linguistic cues in combinations with the learner's general knowledge of the world, her awareness of context and her relevant linguistic knowledge. As Oxford (1990) states guessing (inference) strategies involve using a wide variety of clues linguistic or non-linguistic to guess the meaning when the learner does not know all the words. She adds that good language learners, when confronted with unknown expressions, make educated guesses.

Lexical inference is one of effective strategies to help students utilize the amount of exposure in learning vocabulary. Haastrup (1991:13) states that the process of lexical inference involves making informed guesses as to the meaning of a word in the light of all available linguistic cues in combination with the learner's general knowledge of the world, her awareness of the co-text and her relevant linguistic knowledge. Thus, lexical inference is much more than merely guessing from context, as students use both their existing knowledge and the textual context to guess the meaning of unknown lexical items. It is probably best to think of lexical inference as qualified guessing of the meaning of lexical items in context, rather than guessing from context, as contextual clues are only one of several knowledge sources. Learners typically rate lexical inference as a useful strategy

The effect of lexical inference strategy on second language acquisition has been conducted at least in three studies. One study is from Paribakht and Wesche (1999). He finds that their university ESL students used inferencing in about 78% of all cases where they actively tried to identify the meanings of unknown words. Second study, Fraser (1999) finds that her students used inference in 58% of the cases where they encountered an unfamiliar word. It also seems to be a major strategy when learners attempt to guess the meaning of phrasal vocabulary, at least for idioms (Cooper, 1999). Third study is from Haastrup (1991). He studies the lexical inference success of young Danish learners of English, in both their L1 and L2, in Grades 7, 10, and 13. she finds that her participants' L1 lexical inference was better than their L2 inference, but she also find increasing success as the learners matured, both in the L1 and the L2. However, by Grade 13, the lexical inference success rate had still only improved to the region of 50%. One of the reasons for this relatively poor rate is that learners often confuse unknown words for words which they already know with a similar form (Nassaji, 2003) and highlighting the importance of form in learning vocabulary. Other factors include the percentage of unknown words in the text, word class of the unknown words, and learner proficiency.

Chesla (2001:45) explains some clues to determine meaning from the context in the simple example of the word *erratically*. First clue is looking for the clues for the word *erratically* and in what context is this word used?. The sentence is as I'm sure you've noticed, the heating system has once again been behaving *erratically*. Yesterday the office temperature went up and down between 55 and 80 degrees. From this sentences can be said that since the heating system had been behaving *erratically*, the temperature wavered between 55 and 80 degrees—that's a huge range. This means that the heating system is not

working the way it's supposed to. In addition, the temperature went up and down between 55 and 80 degrees. That means there wasn't just one steady drop in temperature. Instead, the temperature rose and fell several times. Now, from these clues, it can be probably take a pretty good guess at what erratically means from the questions below:

Which of the following means the same as erratically?

- a. steadily, reliably b. irregularly, unevenly c. Badly

The correct answer is b, irregularly, unevenly. *Erratically* clearly can't mean steadily, or reliably, because no steady or reliable heating system would range from 55 to 80 degrees in one day. Answer c makes sense—the system has indeed been behaving badly. But badly doesn't take into account the range of temperatures and the ups and downs Herb Herbert described. So b was the best answer and is, in fact, what erratically means.

The second clue is to find out what part of speech *erratically* is. It is good for trying to refer back to the definitions of the word *erratically*, but it is also good to memorize the different parts of speech as soon as possible. This clue will develop far more productive skills to the dictionary. By using this clue, the part of speech of the word *erratically* is an adverb. It describes an action: *how the system has been behaving* and the form of the suffix -ly in the word "erratically" had noticed the clue that *erratically* was an adverb—it ended in -ly.

And the last clue was another sentence to expand the context *for the word in the context*. Clearly of unknown word in the context is something good/ or not. For example, the sentence The new manager is a very affable person. Everyone likes her. Here is a simple clue found from sentence to expand the context for *affable*. Clearly *affable* is something good. The simple enough clues in the sentence to tell you what this word means or even whether *affable* is positive or negative. Therefore, it is also needful to get more context to guess the meaning.

In short, there are some simple clues to determine the meaning of unfamiliar words of the context in which they are used. First clue, look for the clues in the words and sentences surrounding unfamiliar words to help determine what they mean. Secondly is to find out part of speech. And the last clue is to look at from the positive or negative of another context followed. Even if it is difficult to determine, the exact meaning of a word could be figured out at least from the word meaning something good or not.

Classification of Lexical Inference Strategies

The meaning of a word can be figured out by relating it to the text that surrounds it. The clues can be examples, contrasts, definitions, or restatements that provide some information about a word's meaning. Teaching students to successfully use context clues is a process that requires careful modeling, scaffolding, and a great deal of practice, especially for struggling readers (Beck et al., 2002). Effective use of context clues involves making connections between the known meaning of the text and the unknown word. For example, in collaborative strategic reading, students are taught to employ such strategies as rereading the sentence and looking for clues or rereading the sentence before and after the unknown word (Klingner, 2001). One of the strategies to guess meaning using context clues is lexical inferencing strategies.

Lexical inferencing is one of effective strategies to help students utilize the amount of exposure in learning vocabulary. Haastrup (1991:13) states that the process of lexical inferencing involves making informed guesses as to the meaning of a word in the light of all available linguistic clues in combination with the learner's general knowledge of the world, her awareness of the co-text and her relevant linguistic knowledge. The analysis of lexical inferencing strategies often needs to consider the following two aspects. One is using linguistic and other knowledge to infer the unknown words; the other is using the cognitive processes to infer the meaning of new words. (Roskams, 2005: 71).

These are some lexical inferencing strategies used in the study (Roskams, 2005: 71-72). Firstly, guessing using extra textual (thematic or world) knowledge, secondly, guessing using discourse context like outside the sentence in which the word occurred (using forward or backward context), thirdly, guessing using local (sentence level) context, fourthly, guessing using association or collocation knowledge (a clue word), fifthly, guessing using syntactic knowledge, sixthly, guessing using visual form (similarity or morphological understanding), seventhly, guessing using phonological similarity. All these lexical inference strategies are used in dealing with unknown words from the clues in the context for the reading comprehension.

METHOD

Research Design

Experimental design was conducted in this study. There were two groups of students, namely the control and experimental groups. The control group was taught by conventional method while the experimental group was treated using the lexical inferencing strategies. Both groups were given the pre-test before treatment. The control group was given post-test without treatment and the experimental group was given post test after treatment. The research design can be seen below:

Pretest - NO INFERENCING → WITH (INFERENCING) → Post test
(Control & Experimental Groups) (Experimental Group) (Control & Experimental Groups)

Population and Sample

This study took place in Potensi Utama University and located at Jl.K.L.YosSudarso km: 6,5 No.3-ATanjungMulia, Medan. The population of this study was the informatic engineering students of the fifth semester in 2014-2015 Academic Year. There were 90 students of 3 classes. Each of classes consists of 30 students. A placement test was given to 90 students to select 60 similar English proficiency level students for this study. The two classes involved that consist of 60 students then divided into control and experimental groups. The control group was taught using conventional method, while the experimental group was treated using lexical inferencing strategies.

Materials

The materials used in this study were an assesment tests in pre-test and post-test for students' reading comprehension and vocabulary knowledge. Before the study, the

proficiency test was conducted to the students. The proficiency test used the reading passage and the vocabulary test. The reading passage consists of 25 comprehension questions and the underlined words in the passage.

The assesment tests consist of one reading passage with one reading comprehension questions and a vocabulary test. The source of reading passage test was taken from Longman Complete Course for the TOEFL Test by Deborah Phillips (2001). The reading comprehension questions in the passage consists of 25 questions about the information in the passage. A vocabulary test of the passage used 25 words underlined for the purpose of examining the strategies used by the students for the unknown words. These materials were used after treating the lexical inferencing strategies to the experimental group.

Instrument of Data Collection

The data was collected by using two different instruments, they are the Proficiency and the assesment tests. These data were collected in some steps. In the first step, the proficiency level of the students was determined by conducting a placement test. The placement test consist of two parts. The first part was about the reading passage with 25 reading comprehension questions. And the second part was 25 vocabulary guessing meaning task with the synonyms. All questions were in multiple choice test.

After the first set of data was collected, the students were divided into the control group and the experimental group. The control group was given conventional method. The students read the text and try to understand the meaning of unknown word from the text without treatment. While the experimental group was given and treated explicit strategy instruction in lexical inference strategies.

Then, in the second step, the students in the control and experimental group were evaluated using the assesment test in the vocabulary knowledge Scale (VKS) and the interview (known and unknown words) for the post test. The purpose of which was to obtain some information of students' reading comprehension, vocabulary knowledge toward text and to examine the lexical inferencing strategies used.

The post test consisted of two parts. The first part was a reading comprehension assesment in which the students were asked to answer the comprehension questions based on the text. The second part was a vocabulary test in which the students were requested to choose the best definition or synonym of the underlined words from four given choices and use the words into an appopriate syntatically, semantically and contextually sentences. The last part was the survey about self-evaluation using lexical inference strategies. This survey was conducted to know the students lexical inferencing strategies used to guess the unknown words during reading the text. And the students were requested to choose the lexical inferencing strategies they employed in reading the text.

Vocabulary Knowledge Scale (VKS)

The vocabulary Knowledge Scale (VKS) was employed to gather data about the students' vocabulary knowledge performance. This scale was designed to capture initial stages in vocabulary knowledge that have positive effect for guessing the meaning of unknown words that impact the students to understand the text. This scale was accurately

self-report through the use of a five-category Elicitation Scale and provided information for scoring using a five-level Scoring Scale. This was the following a five level scoring scale by Paribakht and Wesche (1997: 181).

1. I don't remember having seen this word before.
2. I have seen this word before, but I don't know what it means.
3. I have seen this word before, and I think it means ———. (*synonym or translation*)
4. I know this word. It means ———. (*synonym or translation*)
5. I can use this word in a sentence: ———. (*Write a sentence.*)

After the first set of data was collected, the data of the students' vocabulary knowledge performance was then evaluated based on the separate scoring scale which depending on levels 1–5 on the quality of *the synonym, translation, or sentence responses*.

Table 1. VKS Scoring Scale. (Paribakht and Wesche, 1997: 181)

Self-Report Categories	Possible Scores	Meaning of Scores
I	1	The word is not familiar at all.
II	2	The word is familiar, but its meaning is not known.
III	3	A correct synonym or translation is given.
IV	4	The word is used with semantic appropriateness in a sentence.
V	5	The word is used with semantic appropriateness and grammatical accuracy in a sentence

Inference Success Levels

Inference success is a conveniently short term that in reality covers 'levels of lexical inference successes. The different measurement on a 4-point scale was between accurate guesses, approximate guesses, wrong guesses that could logically fit the context and, finally, wrong and wild guesses. For example of four different proposals for word meaning that achieved a score of either 0, 1, 2 or 3 points (Table 2). The test word is 'shaggy' appearing in the context: 'Theorangutan has a shaggy coat of reddish-brown hair.'

Table 2. Lexical Inference Success Level (Dorte, 2008:90)

Level of success	Points
Accurate guess	3 Points
Approximate guess	2 Points
Wrong, but logical guess in context	1 Point
Wrong and 'wild' guess	0 points

The accurate guess obviously emphasizes the lexico-semantic perspective, in that the informant has identified the correct meaning of the word so, viewed in a vocabulary acquisition perspective, this successful guess constitutes a promising start. As to the 'wrong but logical guess' in a rather unorthodox way, to give the informant credit for conceiving of the target word within the textual framework by rewarding it with one point. From the above example, it is evident that the proposal 'protective' reflects no

understanding of the actual meaning of 'shaggy'. However, in the verbal protocol the informant reveals that his reason for suggesting 'protective' is that 'the orangutan spends time.

Treatment

The treatment used the three selected passages with the help of the training materials. The three passages were interesting topics and used some new words for the students. The treatment of data was performed for 8 meetings in the following steps:

In the first step, the control group was asked to read each text and underline the unknown words. While the experimental group was asked to read each text, underline the unknown words and taught with the training materials about trying to guess the meaning of unknown word using lexical inferencing strategies.

In the second step, the control group was asked to choose and guesses the meaning of unknown words from the text by consulting the dictionary. They also requested to write the synonyms and the translation of unknown words. While the experimental group was requested to read each text, underline the unknown words and try to guess the meaning of unknown word using inferencing strategies. From this activity, the teacher treated the students how to employ some lexical inferencing strategies of unknown words in the text. The teacher also gave and made some tricks to guess the meaning of unknown words using lexical inferencing strategies.

In the last step, the control group was asked to make sentences using their chosen words. While the experimental group was treated how to make the appropriate syntactically, semantically and contextually sentences using the words in the text. These were some following procedures of treating treatment in experimental group :

1. Read and paraphrase: The teacher or student reads the passage with the unknown word and then restates the passage. Initially, the teacher paraphrases the passage, but students should take over this step as they become more familiar with the strategy.
2. Establish the context: Students are taught to ask and answer questions such as, "What is going on?" or "What is this passage about?" Again, when students are first learning this step, the teacher guides the questioning and probes responses until the student is able to correctly describe the context.
3. Initial identification and support: The student is asked to state what the word could mean and to provide support from the context for his or her choice. "What do you think unsatisfactory might mean?" The teacher asks probing questions such as "Why do you think that?" You may have to restate the context and then ask again for possible word meanings. Other options: In this step, the student is asked to generate other plausible word meanings and to defend his or her choices. Students are encouraged to consider several options because there isn't always one correct word meaning. Students are asked, "What else might unsatisfactory mean?" and then, "Can you think of any other meanings? Here, the students were taught some lexical inferencing strategies to guess the meaning and directed students to use the strategies by themselves. The independent use of strategies requires both the ability to recognize that a word is unknown as well as the knowledge of specific strategies that could be used to help find its meaning. To make the most of these strategies, teachers need to have a thorough understanding of

students' abilities to use learning strategies as well as their vocabulary knowledge and reading proficiency.

4. Summarize: In the final step, the student was asked to put all of the information together. In this way, the student learns to reflect on the contextual information that might be used to find the meaning of an unknown word.

The Validity of the Test

This study used construct validity. According to Bachman and Palmer (1996:21) construct validity refers to the extent to which we can interpret a given test score as an indicator of the ability(ies) or construct(s) we want to measure. Such interpretation should be based on the evidences supporting that the test score reflects the area(s) of language skills that we want to measure. Ferguson (2006:4) mentions that there are many ways of assessing construct validity. The first way is studying internal correlation between the sub-tests. The second way is comparing the test with theory and the last way is comparison with Students biodata and Psychological characteristics. Therefore, this study used the construct validity due to the result of the test would be correlated or compared.

The Reliability of the Test

Reliability indicates whether a measurement device can measure the same characteristic over and over again and get the same results. This study used formulas of KR-20 (Kuder & Richardson, 1937) for measuring reliability.

$$KR_{20} = \frac{k}{k-1} \left[1.00 - \frac{\sum (pxq)}{\sigma^2 \times} \right]$$

Notes:

KR20 = Coefficient reliability

k = the number of items on the test.

p = the proportion of students who had an item correct.

q = the proportion of students who had the item wrong.

$\sigma^2 \times$ = the variance on the test (pronounced sigma squared).

The value of reliability is as the following:

0,00 – 0,40 : the reliability is low

0,40 – 0,70 : the reliability is significant

0,71 – 0,90 : the reliability is good

0,90 – 1,00 : the reliability is very good

This study used Internal Consistency Formulas to measure reliability. This approach is used to look for consistency between how students performed on each item and on the test as a whole. This approach is determined through correlation.

FINDINGS AND DISCUSSION

Findings

The findings were obtained from the result of study directed to the two groups separately. There were two parameters to determine the different findings from both groups (control and experimental groups). Firstly, both groups were determined and obtained from their meaningful difference between the scores of students in pre-tests and post-tests of the control and the experimental groups. Secondly, both groups were determined from their meaningful differences between treatment directed to the two groups.

Table 2. Descriptive Statistics in Pre-Test and Post Test

Group	Test	Mean	N	Std Deviation	Max Score	Min Score
Control Group	Pre-Test	15.43	30	3.91	20	5
Experimental Group	Pre Test	16.03	30	4.04	22	5
Control Group	Post- Test	17.43	30	4.20	21	5
Experimental Group	Post Test	18.20	30	4.03	25	10

The table 2 showed the comparison of means scores between the pre-test and the post-test for students in the control and experimental groups. In control group, the mean result of the pre-test was 15.43 and the mean score for post-test was 17.43. While in experimental group, the mean result of the pre-tests was 17.43 and the mean score for post-test was 18.20. This result indicated that the different significant scores between the pre-tests and post-tests for students in the control group and experimental groups. Since the p-value is higher than 0.05, it can be determined that there was meaningful difference between pre and post test score among students in the control group and experimental group.

From the result of the score of the pre-test and post-test, it can be concluded that the use of lexical inferencing strategies had significantly effected to the reading comprehension. Furthermore, according to results of the post-test, for which evaluations were higher than those of the pre-test, results show that using lexical inference strategies had a positive impact of reading comprehension.

Discussions

This study was analyzed in the following steps. First step was the analysis of variance. For the given hypothesis, the results of analysis of variance were applied to determine any meaningful difference between the two groups of the students' scores. This evaluation was conducted from the results of the pre-test and post-test.

Table 3 : Analysis of Variance and Comparison of Pre-Test and Post Test Scores

Pre-Test						Post-Test					
Control Group			Experimental Group			Control Group			Experimental Group		
Mean	Variance (X ²)	Std Deviation	Mean	Variance (X ²)	Std Deviation	Mean	Variance (X ²)	Std Deviation	Mean	Variance (X ²)	Std Deviation
15.43	7605	3.91	17.43	9647	4.20	16.03	8251	4.04	18.2	10426	4.03
Max		Min	Max		Min	Max		Min	Max		Min
Score = 20		Score = 5	Score = 22		Score = 5	Score = 21		Score = 5	Score = 25		Score = 10
N= 30						N= 30					

The table 3 shows the analysis of variance and comparative scores in the Pre-test and Post-test. From this table can be seen that the standard deviation was found 3.91 for pre-test in the control group. The range of the table was between 2.66 and 5.3. While the experimental group, the standard deviation was found 4.20. The range of the table was between 2.99 and 5.9. The standard deviation for post-test in control group was found 4.04. The range of the table was between 2.83 and 5.66. The standard deviation was found 4.03 in experimental group. The range of the table was between 2.66 and 5.33. It can be stated that the standard deviation for both groups in Pre-Test and Post Test were correctly computed and no significant computational errors. In other words, from the different result of the test scores and the range of the standard deviation of score can be stated that the use of lexical inferencing strategies had positive impact on the students' performance on reading comprehension.

After calculating the raw score of Pre-test and Post-test, It was obtained that the raw scores in Pre-Test above the mean have positive z-scores, whereas raw scores below the mean have negative z-scores. A z-score of 0.19 means that student who had a raw score of 19 scored 3.915 standard deviations above the mean. In a similar fashion, a z-score of -2.66 means that student who had a raw score of 5 scored 2.66 standard deviations below the mean. A z-score of 0.88 means that student who had a raw score of 20 scored 3.915 standard deviations above the mean. In a similar fashion, a z-score of -2.73 means that student who had a raw score of 5 scored 2.73 standard deviations below the mean.

After converting the raw scores of pre-test and post-test into Z-Score, to analyze the correlation between the test was used Pearson Product-Moment Correlation Coefficient. A correlation coefficient of this study was 0.92. It is considered a strong positive correlation. This means that those students who scored well on Pre-Test also did well on post-test. A positive correlation means that individuals tended to score similarly on the two variables: if high on the one variable then high on the other, if average on the one variable then average on the other, and if low on one variable then low on the other. A zero (or near zero) correlation essentially means that there is no relationship between the variables: scoring well on one variable is unrelated to how one will score on the other. A negative correlation essentially means that high scores on one variable are associated with low scores on the other variable. The PPMC coefficient can range from -1.00 to +1.00. The correlation of 0.92 is high. In short, there was the significance effect the use of lexical inferencing strategies toward the students' reading comprehension.

Second step was the analysis of the data about the lexical inference strategies employed by the students of Potensi utama University. All lexical inference strategies and the vocabulary tasks were gathered in either correct or incorrect items. These assessment

were counted and categorized for each level to have an overall idea of the inferences. Then the correct inferences were counted and their percentages were taken, and the result of the pre-test and post-test by the students were also compared.

Table 4. Frequency of Using Lexical Inference Strategies in Experimental Group

No	Lexical Inference Strategies	Often/Some times	Rarely/ Never	Total
1	Guessing using extra textual (thematic or world knowledge (world clue)	0	1	3.33
2	Guessing using discourse context such as outside the sentence in which the word occurred (using forward or backward context (context clue))	5	0	16.7
3	Guessing using local (sentence level) context (sentence clue)	10	0	33.33
4	Guessing using association or collocation knowledge (a word clue)	9	0	30
5	Guessing using syntactic knowledge	0	1	0
6	Guessing using visual form (similarity or morphological understanding) (picture clue)	0	1	3.33
7	Guessing using phonological similarity	0	1	3.33
8	Other Strategies related such as consulting dictionary	2	0	6.7
TOTAL N= 30		26	4	100 %

The table 4 shows 30 students were identified in the survey testusing the lexical inference strategies. The students were mostly used the lexical inferencing strategies for the sentence, word and context clues than other lexical strategies. The strategies for the sentence, word and context were mostly dominant used and followed with the other strategies. The table shows that students used the sentence clues most (10/30). The use of word clues was ordered in the second place (9/30), following context clues (5/10) and the other strategies was (2/30). For textual, syntactical, morphological and phonological clues was 4/10 was rarely/never used in the last three positions. This contradicts the claims students made about lexical strategies in the process of reading in the survey.

The next step was the frequency analysis of the data about Students' Success using vocabulary between Control and Experimental Groups in which impact to the students' success using the lexical inferencing strategies. And the last step was the frequency analysis of data about students' success using the lexical inferencing strategies. Then the correct vocabulary and succesful inferences were counted and their percentages were taken, and the result of the students also compared.

Table 5. The Frequency of Students' Success using Vocabulary in Pre-Test and Post-Test

Vocabulary Knowledge Scales (VKS)		
Appropriate Semantically, Syntactically and Contextually	Appropriate Semantically, but Inappropriate Syntactically and	Inappropriate Semantically, Syntactically, and

(2)		Contextually (1)		Contextually (0)	
Control Group	Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group
2,7,9,10,13,15	1,3,4,7,9,11,13,16,18,19,20,22,25,27,30	1,3,4,5,6,11,12,14,16,20,21,23,25	2,5,6,8,10,12,14,15,24,26,29	17,18,19,22,24,26,27,28,29,30	17,21,23,28
6	15	14	11	10	4
Students	Students	Students	Students	Students	Students

The table 5 shows that the students in control group were not successful to use the unknown word into an appropriate syntactically, semantically and contextually sentences. While the students in experimental group was successful to guess the meaning of unknown words in the text using lexical inferencing strategies with the appropriate semantically, syntactically and contextually way. The table also showed that the quantity of the successful students in experimental group using the words effectively higher than the quantity of students in control group.

In the control groups, there were 6 successful students, 14 was partially successful students and 10 unsuccessful students to use the words into appropriate semantically, syntactically and contextually sentence. While in the experimental group, there were 15 successful students, 11 were partially successful students, and 4 unsuccessful students to use the words in appropriate semantically, syntactically and contextually sentence. In other words, there were significant scores had effected to the students' vocabulary knowledge and students' reading comprehension between the control group and the experimental group.

*Table 6. The Frequency of Students' Success using Lexical Inference Strategies
Lexical Inference Success Levels*

Accurate Guess (3)	Approximate Guess (2)	Wrong, but logical guess in context (1)	Wrong and 'wild' guess (0)
2,7,8,9,10,13,15,17,18,19,22,24,26,30	1,3,4,5,6,11,12,14,16,20,21,25,28	23,29	27
14 Students 46.67%	13 Students 43.33%	2 Students 6.66%	1 Student 3.33%
100%			

The table 6 shows that the students were mostly dominant successful to use the lexical inferencing strategies. There were 14 successful students, 13 partially successful students and 3 unsuccessful students to use the lexical inferencing strategies. In other words, the vocabulary knowledge and teaching the lexical inferencing strategies impact the students' performance on reading comprehension. In short, there were significant scores between vocabulary knowledge and the success of using lexical inferencing strategies. The

use of lexical inferencing strategies help the students to understand text better and improve their performance on reading comprehension.

Table 7. Comparison of interview results with Vocabulary Knowledge test results

Interview Test Result Mean				Vocabulary Knowledge Test Result Mean			
(Known)		Unknown		Correct		Incorrect	
Control	Experimental	Control	Experimental	Control	Experimental	Control	Experimental
14.45	15.45	10.54	9.55	17	17.6	8.0	8.27

The table 7 shows that the vocabulary knowledge and the treatment of the lexical inferencing strategies had effected to the reading comprehension. In the interview test result, The mean score of known students in control group was 14.45 while the mean score of known students in experimental group was 15.45. In the vocabulary knowledge test result, the mean score of correct students in control group was 17 while the mean score of known students in experimental group was 17.76. In other words, there were significant scores had effected to the students' vocabulary knowledge and their attitude to understand and use the words in an appropriate syntactically, semantically and contextually.

The two mean score Reliability indicates whether a measurement device can measure the same characteristic over and over again and get the same results. This study used formulas of KR-20 (Kuder & Richardson, 1937) for measuring reability. From measuring the reability, it can be obtained the frequency of the highest score for the correct item was $1.04 > 0.95$ and the frequency of the lowest score for the wrong item was $1.04 > 0.97$. In other words, the coefisien reability was very good since the value of the observation is higher than the critical value ($1.04 > 0.95$) then, the lexical inferencing strategies had a significant effect to the students' reading comprehension.

CONCLUSION AND SUGGESTIONS

Conclusions

The lexical inferring strategy had significant effect to the student's reading comprehension. The result of this study revealed that the students' vocabularies knowledge toward the lexical inferencing strategies have effect on students' reading comprehension. In other words the guessing success of the students in the texts with unknown words interpreted that the lower the number of unfamiliar words, the higher the available clues for the students to use for inferring the correct meaning of those words so that they can understand the text well. When students come across a text with new words, these new words are more difficult for the students to guess because they don't know how to employ the strategies to guess the meaning and understand the text.

Suggestions

There were some suggestions based on the findings of this study related to lexical inferencing strategies, vocabulary knowledge and reading comprehension. Firstly, for the teachers should employ the lexical inferencing strategies to teach vocabulary knowledge of

the students and also help the reading comprehension of the text. Language vocabulary learning. And for the future resercher, the similar research still needs to be conducted with the bigger scale proportion of the students to get a clearer picture of vocabulary strategies used by the students. It would also be good to learn for the students who were in the highly proficiencior competent level in order to know the relationship between their proficiency level toward their vocabulary knowledge and understand the reading text. And the last one, it is also worth to look at the students' English knowledge and experiences background toward strategies used.

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