

COMPARING STUDENTS' ACHIEVEMENT IN LEARNING VOCABULARY THROUGH CLUSTERING TECHNIQUE AND DERIVATIONAL EXERCISES

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Abstrak

Penelitian ini bertujuan untuk mencari mana yang lebih baik antara *Clustering Technique* dan *Derivational Exercises* dalam meningkatkan pemerolehan kosa kata siswa. Penelitian ini melibatkan dua kelas eksperimental yaitu kelas XI IPS 1 dan XI IPS 2 di SMAN 1 Kalirejo. Data didapat melalui pemerolehan pre-test dan post test dan dianalisa menggunakan *Independent Group T-test*. Hasilnya menunjukkan bahwa rata-rata nilai tengah dari *post test* di kelas pertama adalah 76,55 sedangkan di kelas kedua adalah 62,79 and level signifikannya (p) adalah 0,000. Hal ini berarti *Clustering Technique* secara signifikan lebih baik daripada *Derivational Exercises* dalam meningkatkan pemerolehan kosa kata siswa. *Clustering Technique* lebih sederhana untuk dimengerti oleh siswa daripada *Derivational Exercises*.

This research was intended to find out which one was better between Clustering Technique and Derivational Exercises in improving students' vocabulary achievement. This research used two experimental classes, they are class XI IPS 1 and XI IPS 2 in SMAN 1 Kalirejo. The data were collected from the gain of pre-test and post test and analyzed by using Independent Group T-test. The result showed that the mean score of post test in the first class was 76.55 while in the second class was 62.79 and probability level (p) was 0.000. It means that Clustering Technique was significantly better than Derivational Exercises in improving students' vocabulary achievement. Clustering Technique is simpler to be understood by the students than Derivational Exercises.

Keywords: Students' Vocabulary Achievement, Clustering Technique, Derivational Exercises.

INTRODUCTION

Vocabulary is a complex aspect in learning a language because it has complicated components such as meaning, form, use, spelling and pronunciation. When learners are learning a new language, they should have enough vocabulary in order to make use their language into four language skills. It becomes an important thing to choose a good technique for teaching vocabulary because the technique will have an important role to make the students get better achievement and better understanding about vocabulary itself.

Teacher of English should make students understand vocabulary in context and make the students use the vocabulary when practicing the language skills. Baleghizadeh and Naeim (2011) states that a good example of meaningful technique, on the other hand is “inference” or “guessing” techniques where learners are asked to infer, or at other time guess, the meaning of certain word in a context using any clues provided before or after that word in the context or even any other strategies (e.g. examining root, prefixes, or suffixes) which might be helpful to arrive at the meaning of the unknown word) or we might use the technique that allow the students to find their own word to be learned. When teacher can bring the students experience about language knowledge in teaching learning process, it will make the students learn and develop the knowledge itself based on their own interest. It makes the students easier to remember the material that have been discussed in the classroom. And it can make the students get higher level of vocabulary achievement.

Word cluster is one of the interesting method that can make the students focus on specific words to learn from the passage. When the students have understood the words, then teacher can direct them to more words in relation. Broody (2005) states that the clustering uses proximity relations rather than sentence structure, and the pattern they seek is of a specific nature- common phrases. Using a hierarcichal clustering method could provide students with more precise generalization, and is suggested as a possible improvement. On the other hand, derivational word which come from word formation also has a good impact when it is used to teach vocabulary. Bauer (2004) states that lexemes are permitted to appear in a new word class so that the same meaning can be transferred to a new function in a sentence. By using derivation the students can find other concept from one word that can be used in another way to construct a sentence.

Based on the fact above, the writer wanted to know whether there was a significant difference of vocabulary achievement between the students who were taught through Clustering Technique and Derivational Exercises and which one was better between those techniques.

METHODS

The design used in this research was two group pre-test post test design. The researcher chose two groups or classes for conducting the research as the samples. The samples consisted of 33 students for each class. Both classes were experimental classes. Both of the classes were given a pre-test of vocabulary. After that, the classes were given a treatment. One class used clustering technique

and another class used derivational exercises. After giving the treatment, the researcher gave a post test to both classes.

The researcher used quantitative approach using SPSS 16.0 to analyze the result of students' vocabulary achievement before and after they were taught through Clustering Technique and Derivational Exercises. In this research, the researcher used two groups pretest-post test design because the researcher investigated which one between clustering technique and derivational exercises that could be more effective for students' achievement in learning vocabulary.

The research design, that is two group pretest-post test design, is illustrated as follows:

G1	T ₁ X ₁ T ₂
G2	T ₁ X ₂ T ₂

In which,

T₁: pretest for students' vocabulary achievement before treatment is given

T₂: post test for students' vocabulary achievement after treatment is given.

X₁: clustering technique

X₂: derivational exercises

In this research there were two variables that were dependent variable and independent variable. The dependent variable was the two techniques that were used as a treatment in teaching vocabulary for the students. On the other hand, the independent variable was students' score in vocabulary test. The score showed data about students' vocabulary achievement and be used to identify which one was better between clustering technique and derivational exercises.

RESULT AND DISCUSSION

Result

This research was conducted to compare students' vocabulary achievement between those who were taught through Clustering Technique and Derivational Exercises in Learning vocabulary for the students in the second grade of SMAN 1 Kalirejo. By comparing these techniques, the researcher found out which one was better between Clustering Technique and Derivational Exercises to increase students' achievement in learning and also how far the techniques increase students' vocabulary achievement.

The researcher found that both techniques improved students' vocabulary achievement. But, there were different results on students' vocabulary achievement taught through Clustering Technique and Derivational Exercises. It can be seen from the table below.

Table 1. Table of gain of pre-test and post test

Group Statistics					
class	N	Mean	Std. Deviation	Std. Error Mean	
Gain 1	30	9.8000	12.77228	2.33189	
2	33	3.1515	12.68888	2.20885	

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
gain	Equal variances assumed	.052	.820	2.071	61	.043	6.64848	3.21095	.22780	13.06917
	Equal variances not assumed			2.070	60.354	.043	6.64848	3.21196	.22437	13.07260

The data showed that both technique could improve students vocabulary achievement. Clustering Technique was better in improving students' vocabulary achievement than Derivational Exercises. The gain between two techniques also showed that there was significant difference of students' vocabulary achievement by looking at p value $0.043 < 0.05$.

Furthermore, the researcher found some results in teaching learning process. The results were different between Clustering Technique class and Derivational Exercises class. In Clustering Technique class, the students were easily finding related words based on the topic given by the teacher, but when they were asked to make the sentences the students only made a common pattern of sentences and did not aware with grammatical correctness. On the other hand, students in Derivational Exercises class were still confused to use and distinguish derivation. But, in the second exercise they began to understand the grammatical pattern and the use of derivation in the sentences. It can be seen from students exercises score that improved significantly from the first exercise to the second exercise.

Beside that, the data also provided the list of vocabulary aspects for each classword getting from pre-test and post test score of vocabulary. The data were the gain of mean score from each aspect of vocabulary which is shown as follows.

Table. 3 Mean score of aspects of vocabulary

	Aspect of Vocabulary	Mean					
		Clustering Technique			Derivational Exercises		
		Pre	Post	Gain	Pre	Post	Gain
1	Noun	67.4	81.5	14.1	56.82	62.42	5.60
2	Verb	73.77	62.93	-10.83	65.03	53.79	-11.24
3	Adjective	72.23	77.97	5.73	54.52	72.67	18.15
4	Adverb	44.37	86.67	42.3	55.61	64.24	8.64

Discussion

In this research, the researcher used two techniques for teaching vocabulary, the techniques were Clustering Technique and Derivational Exercises. In the previous researches, some researchers examined about the effectivity of these techniques compared to conventional technique (translation technique), meaning that there were a control class and experimental class where the researcher found that the techniques (Clustering Technique and Derivational Exercises) gave better improvement on students' vocabulary mastery compared to conventional technique.

As the result of research finding by Wafa (2012), it showed that Derivational Exercises/Affixes could significantly improve students' vocabulary mastery in his experimental class compared to control class which was taught through conventional technique (translation technique). It could also be found in the finding from research conducted by Arbainaya (2012) that Clustering Technique which was used to teach experimental class can significantly gave better improvement to the students' vocabulary achievement.

In this research, the researcher tried to compare the techniques (Clustering Technique and Derivational Exercises) in one occasion. It was needed in order to know which one was better to give improvement in students' vocabulary achievement when students were treated using the techniques which the previous researches proved that the technique could give significant improvement when it was compared to translation technique. Therefore, the researcher chose two

classes for the samples of the research to be the experimental classes. This case was given to optimize the result for the research.

From the result of pre-test and post test score, the researcher found that Clustering Technique was better than Derivational Exercises in improving students' vocabulary achievement in learning vocabulary. Clustering Technique could make the students' mean score in the class improve significantly from 67.07 to 76.87. and it showed that the gain of mean score in Clustering Technique class was 8.9. On the other hand, the class which was taught through Derivational Exercises improved its mean score from 59.64 to 62.79. In other words, the gain of mean score in Derivational Exercises class was 3.15.

Considering the data that Clustering Technique gave better improvement than Derivational Exercises, the researcher analyzed that it happened because Clustering technique made the students create their own words. It is simple and easy to understand by the students and easy to practice. Students did not really care about grammar but understand what words they were going to use. That is why when they were asked to make some sentences they made many mistakes. But, they still remember what words they used in their sentences. It made Clustering Technique suitable not only for teaching vocabulary but also in teaching language skill such as speaking, reading and writing.

For example in teaching speaking, this technique made the students got wider topic for discussion. It was very helpful because when the students get much more topic in their mind, they easily produced sentences to be spoken. In teaching reading, this technique made the students focused on the main topic discussed in

the text. Beside that, Clustering Technique also made the students learn the vocabulary based on their understanding in concrete things rather than abstract. So, it was more memorable for the students to think back again about what they had produced in the past.

Furthermore, the researcher tried to analyze the improvement for each word class. The data showed that the students who were taught through Clustering Technique got better improvement in class word noun and adverb. On the other hand, the students' who were taught through Derivational Exercises got better improvement in class word adjective and adverb. This condition happened because the students who were taught through Clustering Technique used their own creative thinking in producing the words in teaching learning process that was usually dominated by concrete thing. That was a matter which made the students acquire more in class word noun. On the other hand, the students who were taught through Derivational Exercises was more focused on grammatical rules. It made the students more easily built the understanding about the classword adjective. It happened because adjective has their specific characteristic that could be easily remembered by the students. For example, the word adjective can be memorized based on its function as a noun modifier. It made adjective could be found before noun in the sentence structure. Then, both classes also improved in class word adverb because adverb could be easily remembered based on its form where some adverbs in English using suffix *-ly* in its word.

On the other hand, Derivational Exercises made the district for students mind and it made the students could not create their own word. Derivational exercises had

so many rule that made the students busy to understand the rule. When the students were focused on the rule of Derivational Exercises, they did not consider much to the word they learned. But they should consider about word parts (prefixes, suffixes, and word root) and also its grammatical behaviour (word class occur when it is added by affixes). In addition, the rule of derivation is not absolutely regular. Its irregularity made some distraction to the students to remember the word because it seemed to be very complex to the students who learn English as a foreign language. So, it made the students could not remember the word as many as when they produced the words by their own creativity.

Every rule in Derivational Exercises was difficult to be understood by the students because of the students had very limited understanding about the rule of derivation itself. Furthermore, in vocabulary growth of English native speaker derivation become the last step that will be mastered by native speaker in order to increase learner's vocabulary achievement. It is stated in Nation (2001) that researchers on the vocabulary growth of native speakers of English usually distinguish three main ways in which a learner's vocabulary increases: through being taught or deliberately learning new words, through learning new words by meeting them in context, and through recognising and building new words by gaining control of prefixes, suffixes and other word building devices.

Referring to the theory mentioned before, it can be accepted that the students who were taught through Derivational Exercises can not improve their vocabulary achievement better than the students who were taught through Clustering Technique. But, there was an advantage for the students who were taught using

Derivational Exercises. The students became more aware of grammatical correctness. Eventhough, it made them busy to think about the rule and could not memorize the word which was given to the the students effectively.

Derivational Exercises still have contribution to learn vocabulary as stated by Scott (2005) that a number of features of word can influence the attention that readers pay to it as well as the ease with which they remember it. In doing so, the students should understand the rule of derivation itself first. It made the teacher have another work to do when teacher decided to teach vocabulary using this technique the teacher needs more times to explain the rule in derivation before using it to be implemented as the students exercises. In this research, the teacher gave understanding about the rules of derivational excercises explicitly in teaching learning process. Teacher just explained it when the students needed. It was done because in this research grammar was not the objective of the research.

Clustering technique became the simple technique to the students to learn vocabulary because the students only learned about the word, its meaning and how to use it in sentences in common phrases. It was related to Brody (2005) that the clustering uses proximity relations rather than sentence structure, and the patterns they seek are of a specific nature – common phrases. Using a hierarchal clustering method could provide students with more precise generalization, and is suggested as a possible improvement. It showed that some students in learning process in the classroom produced so many words related to the core-word but they used it only to make a simple sentences that they could.

It was rather different from the students who learned vocabulary using Derivational Exercises who was taught about more complex point included in vocabulary itself. The students were demanded to understand all aspects of vocabulary such as meaning, form and its use as defined by Nation (2005). Furthermore, it seemed to be more complex because meaning has related point to concept, reference, and word association. Form of vocabulary has related to word part. And the last, the usage of vocabulary has related point to grammatical function and constraint of use.

From the explanation above, the researcher had two points of view. Clustering Technique was used to know surface structure of vocabulary and Derivational Exercises was used to know deeper structure of vocabulary. Clustering Technique had more significant improvement in this case because it was very simple to use. But, Derivational Exercises also had the strong point that actually gave more improvement when it was used in the longer process. Teacher could use Clustering Technique for teaching any level of students and it could be used anytime. But, teacher should have an extra time to teach the students if teacher used Derivational exercises in order to make the students understood not only about vocabulary but also how to construct it in sentence pattern correctly.

CONCLUSION AND SUGGESTION

Conclusion

Based on the result of the analysis, the writer concludes that:

1. The techniques used in this research can improve students' vocabulary achievement. Eventhough there were different result provided from the

techniques. It showed that Clustering Technique gave more significant improvement than Derivational Exercises.

2. Clustering Technique was better to teach vocabulary because it was very simple. So, it could be used to all grades of learners starting from the beginner level until advanced level. The students who learned using Clustering Technique produced the words by their own creative thinking but do not really concern to grammatical rules. Therefore, they produced simple sentences easily, but made many mistakes in constructing the sentences. The aspects of vocabulary increased using this technique were adverb, noun, and adjective.
3. Derivational Exercises provided more complicated rules to be understood by the students. It made the students should have an extra effort to learn vocabulary using this technique. The students who learn using Derivational Exercises understood the pattern of grammatical construction by doing the exercises. When the students did the exercises, they internalized the pattern of sentence construction. The aspects of vocabulary increased using this technique were adjective, adverb, and noun.

Suggestion

Some suggestion that the writer would like to propose based on the conclusion are as follows:

1. English teacher are recommended to use Clustering Technique for teaching the students if the objective is to use vocabulary in common phrases or sentences.
2. The researcher are recommended to be careful to use Derivational Exercises because it related to grammar understanding. Therefore, Derivational

Exercises can be use to teach the students if the objective of teaching vocabulary was to implement vocabulary into a good context use related to grammar rules.

3. For further researcher are recommended to make a good form of istrument to make the students easier to do the test of vocabulary. For example, multiple choice items with only five options to be chosen for each items. It will make the students easier to do the test because there are not many distractors in the options. So, it can make the result of the test valid and reliable.
4. For further researcher are recommended to find other technique to increase students' score in aspect of verb because both technique were not succeed to increase students' score in aspect of verb.

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