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Language and Science Education: English proficiency improve your science

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ABSTRACT

The concept of English for specific purpose has brought about a great impact on English language learning across various disciplines, including those in science education. The objective of this study was to find out the influence of English proficiency by use mindmapp technique of student's vocabulary in classification of taxonomy. It was conducted by using experimental research. The sample of this study are 31 students. This study consisted of two cycles and each cycle consisted of four steps, they were 1) planning, 2) action, 3) observation, and 4) reflection. Each cycle was conducted in two meetings. To collect and analyze the data, the researcher used the information from the students' achievement in pre-test, test in cycle 1 and test in cycle 2 in order to support the data collected. The students' achievement in pre-cycle and first cycle and second cycle test showed a significant improvement. The students' mean in pre-test study was 60. In the first cycle the mean score was 66.4. Meanwhile the mean score in the second cycle was 77.4. It means that there was 6.4 points or 22.5% of mean improvement from the students' score in the preliminary study to the first cycle and there was 17.4 points or 77.4% of mean score improvement from the students' score in pre-test study to the second cycle. The result of this research shows English proficiency by using mindmapping technique can improve student's vocabulary and influence their science knowledge about classification of taxonomy in science class.

Keyword : english proficiency, mindmap technique, vocabulary, improve, science, taxonomy

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INTRODUCTION

The concept of English for specific purpose has brought about a great impact on English language learning across various disciplines, including those in science education. Language is the system of communication in speech and vocabulary that is used by people of a particular country. Nowadays, science and bilingual have interconnection in subject of science. The use of language and its proficiency help students to increase their knowledge. To create best communication and comprehension, it is important to learn English. Vocabulary as a central part of a language being one of the language aspect that is very important for studying English.

Mindmapping is a powerful graphic technique which provides a universal key to unlock the potential of the brain. Mind mapping is design to be interactive tool for student or pther use to develop their words and vocabulary in graphic or diagram. A mind mapp is often created around a single concept, drawn as an image in the center of a blank landscape page, to which associated representation of ideas such as an images, words, and part of words are added.

Observing the student assignment in science class, researcher found that the student find difficulties to remember word in English. In the other case, student less motivate to learn



English, and the impact of the problem the student difficult to build some word in speaking in their learning process. This is the main problem that could influence student competences.

The approach in reading research-based articles is different from the approach in reading other academic genres. The reason is because research-based articles are structured in such a way as to present information in a particular logical thinking. There are four components in research-based articles, they are: Introduction, Method, Results, and Discussion abbreviated as IMRaD (Murni and Solin, 2013). The presentation of this component is also chronological. If students fail in finding information on the four components, it can be ascertained that the reports and reviews they make will be very weak.

This research develops students competences and increase English proviciency and collaborate them in science. This research conduct in MTs.AIWashliyah Binjai and choose the science class as experiment class. The research did to find out the level of students proviciency in English. By using Mind mapping technique, students proviciency advance. A mind mapp is a visula representation of hierarchical information that includes a central idea sorrounded by connected branches of associated topic. It also visual thingking tool that can be applied to all cognitive function, especially memory, learning, creativity, and analysis.

MATERIAL AND METHODS

The designof this study isAction Research.And take is all of the students VIII –A as a control group, and students of class VII-B as a control group. The design consist of two cycle woth four phases, namely : Planning, acting, observing, and reflecting. In cycle I, consist of plans of material, lesson plan, time instrument, and attribute that will be use in research. For the instrument for collecting data derived from several way, consist of : observation, questionnaire, and Test. And for the Data analysis technique the researcher tends to use organizing data and verifying the data.

RESULTS AND DISCUSSION

Research design: In the result of this study, the researcher find the significance point every step. In pre-test, and post test the researcher calculate the mean score, score class percentage , and percentage of student’s improvement by using this formula and limit the score according Minimum Mastery Criteria as follow:

$$X = \frac{\sum x}{n}$$

- X** : Mean
∑ : Sum (or add)
x : Individual score
n : Number of students



$$P = \frac{y_1 - y}{y} \times 100\% \quad / \quad P = \frac{y_1 - y}{y} \times 100\%$$

- P** : Percentage of students improvement
Y : pre-test result
y1 : post test result cycle

Analysis and Finding: After conducting the research, the researcher got the data of student's score in pre-test and post-test from experimental group. The data were needed for hypothesis testing. Here the data :

Formula	Pre-Test	Cycle 1	Cycle 2
Students' score mean M =	60	66.4	73.8
Students' score class percentage P = $\frac{F}{N} \times$	22.5 %	45.1 %	77.4 %
Percentage of students improvement $P = \frac{y_1 - y}{y} \times 100\%$	—	10.6 %	23.0 %

Discussion: Considering the result above, the writer concludes that the research was successful and Mind mapping technique can improve the students' vocabulary mastery. The improvement of students' vocabulary mastery through mind mapping technique can be supported by the improvement of students' score. The result of pre-cycle and test in cycle 1 and cycle 2 showed a significant improvement. The use of mind mapping technique in teaching vocabulary can overcome the research problem that is how to improve students' vocabulary mastery. The students also have a positive response to the implementation of teaching vocabulary using mind mapping technique.

CONCLUSIONS

Based on the data of the result of analysis, the writer inferred that teaching English by using mind mapping technique is effective and can improve students' vocabulary mastery. It can be improved through several data, such as; observation result which it shows students enthusiastic and actively participated in learning process. They were also motivated to learn to spoke English with much of vocabulary which it reduces students' hesitation to say in English

REFERENCE

- [1] Jack .C. Richard, et.al, 2003 *Methodology in Language Teaching*, New York: Cambridge University Press,

- [2] James Cuady , 1997 *Second Language Vocabulary Acquisition*, Melborne : Cambridge University Press,
- [3] Jaremy Harmer , 2003. *The Practice of English Language Teaching*, England : Longman thirdimpression,
- [4] H. Douglas Brown, *Language Assesment San Fransisco State University*, Longman, 2004
- [5] Marguerite G. Lodico, 2006. *Method in Educational Research*, San Fransisco: Jossey Bass,
- [6] Michael. L. Kamil, 2005. *Teaching and Learning Vocabulary*, London, Lawrence ErlbaumAssociates Publisher