

Developing English Vocabulary Mastery through Meaningful Learning Approach

An Applied Linguistics Study at Competitive Class of Junior High Schools in Gorontalo City, Indonesia

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Abstract

The aims of this article are to explore: *Firstly*, the description on the existing of students' mastery of English Vocabularies, teaching English vocabulary model, and the students' condition in Competitive Class of Junior High Schools in Gorontalo City through Focus Group Discussion (FGD); *Secondly*, to observe and to formulate a model of teaching English vocabulary development creatively based on contexts and utilizing ICT Media; *Thirdly*, to study on the effectiveness of that model formulated development in teaching and learning English vocabularies. This research used FGD and Experimental method by applying *One Group Pre-test and Post-test Design*. The result of this research consist of firstly the teachers have used English in teaching non-English subjects, by using traditional method such translation method, and memorizing some words without context, the teachers also do reflection, however is not optimum based on psycholinguistic approach; secondly is this research successfully identifies the average of the students' score on English vocabularies: (a) on pretest, X score is 27.62 from the maximum score 49; then to apply that developed model of learning and teaching English vocabularies; (b) On posttest is found the average of students' score gradually up reaching the X score is 35.66 from the maximum score 53. From the two unit tests seemed on the average score on the posttest get improvement 8.15 point. While on the inferential statically analysis by the significance level $\alpha = 0.05$, the **t score** acquired -5.348. Because of the statically calculation is obtained $0.000 < 0.05$. So it is interpreted that Ho (null) hypothesis is rejected, and accepting Ha (alternative) hypothesis,

while T-test analysis proved that the students' scores increased significantly. It means that the teaching and learning model created which being applied is able to increase significantly the students' mastery on English vocabularies in the competitive Class at Junior High Schools in Gorontalo. Based on that research finding, it is suggested that mastering specific English vocabularies need to emphasize the meaningful learning approach, more over relating to the concept of a certain subject, such as Biology, Physics, Chemistry, Mathematics, and Social Science.

Keywords: English vocabularies, Meaningful approach, Applied linguistics

1. Introduction

The design of competitive class (former called Rintisan Sekolah Berstandar International: RSBI, The Pioneer of International Standardized Schools) is to increase the quality of education institution in global or competitive area. Actually, there are four things that should be paid attention in raising educational quality, those are: (1) learning and teaching English content, including the students' ability to understand the native speakers' culture; while to understand well their own culture (Indonesian culture); (2) The students' knowledge and skills using English as tool of communication; (3) optimizing the role of ICT in learning and teaching activities and other academic activities; (4) The quality of schools management, that may support the academic culture (*well academic atmosphere*), whether concerning to the students, educators, and supporting academics such as library, ICT center and entrepreneurship unit at schools.

Paying attention to the result of National Final Examination (UAN) at Junior High Schools in Gorontalo City since the academic year 2010 until nowadays, it seems that English subject matter still having unsatisfactory achievement (Education and Culture Affair Office, henceforth called DIKNASBUD Gorontalo city, 2012). This case, of course, will influence the lack of mastery on the other subjects content, such as in Physic, Mathematics, Biology, Chemistry and Social Science in the competitive class. Hence, one of the characteristics of competitive class is using English, as an instructional medium in learning and teaching process; so if the students have the low mastery on English, they will have handicaps in obserpting the subject content. That is way the role of English in Competetive Class at Junior High Schools is still needed in accelerating the education quality. Otherwise educators are still recommended to use English as instructional medium in teaching and learning process in competitive class, in order to form sophisticated condition and to capture the students' customs in mastering English. However, it is still doubt whether the students less optimum to obtain the lesson objectives, because of their lack of mastering English (*English academic language proficiency*). This case might happen because of the scarce of frequencies using English in daily activities as a tool of communication, especially in subject-matter instructional activities.

This phenomenon of insufficient English mastery occurred, because of the lack of English vocabularies owned by the students; especially concerning to the academic subject-matter, so many students do not understand the oral or/and written English text in doing interaction. To overcome those problems in this research, the writer is interesting to improve a model of teaching and learning vocabularies creatively, based on context and optimizing the assisted ICT aid. This model is expected to improve the students' motivation that can support the students doing self-learning and self-assess.

Based on that focus, the problems of applied linguistic study can be elaborated are: (a) How is existing condition of in increasing students' English vocabulary integrated with order subject matter; (b) What level of the students' mastery on English vocabularies at Junior High Schools Students, especially in competitive class in Gorontalo City? (c) How to develop a model of learning and teaching vocabularies creatively, based on context by optimizing

assisted ICT aids? (d). Do that teaching and learning vocabularies model created improve the students' mastery on English Vocabularies, including English for specific purpose related to subject-matter significantly?

Based on those problems above, the aims of this research is to explore the existing condition of learning and teaching English vocabularies and the students' mastery on vocabularies to formulate a model of teaching and learning vocabularies creative which based on context and optimizing assisted ICT Media or aid. Then, this model will be treated, in order to observe the effectiveness in its application. Thus, this developed model is expected having meaningful outcomes in raising the students' competencies on the four language skills, namely, having a good mastery on listening, speaking, reading and writing skills. The result of this research is expected to be an inspiration of developing learning and teaching English which being integrated with other subjects, such as Physics, Mathematics, Biology, Chemistry and Social Science.

Concerning to this context, the government has some efforts to make some reflection and revision on some aspect of education quality, for example curriculum has been revised from period to period, that so we recognize Curriculum Based on Competencies (CBC) and Curriculum Based on the Level of Education Unit (CBLEU). Based on that curriculum development, the head master should support the schools having a high quality in managing education independently.

Basically, the criteria of learning based on context can be recognized through the REACT acronym. This acronym can be elaborated as follows: (a) Relating, it means learning should be related with the context, in order to have a meaningfulness of a riel social-life; (b) Experiencing, it means learning language, it should be emphasized on information exploration, discovery and innovation or creativity using language in the interaction communication; (c) Applying, that's meant learning achievement or knowledge should be represented to its utilization on the human social life, in other creating human peace; (d) Cooperating, learning through interpersonal communication by utilizing socio-pragmatics, sharing by applying linguistic politeness based on ethnicity cultures; (e) Transferring, learning through utilizing knowledge in the new context and new situation (Hymes, 1974; Good & Brophy, 1990; Wardaugh, 1986). By applying this concept, it will enrich the students' vocabularies mastery more creative, and interesting because of these principles will prepare the opportunity of the students to optimize their thinking way and creation in enlarging their own vocabularies. Thus, talking learning and teaching context, Trianto (2007) and Asmani (2012) have built up some strategies and models of learning and teaching that can be improved by teachers, those are: (a) *Constructivism*, (b) *Questioning*, (c) *Inquiry*, (d) *Learning Community*, (e) *Modeling*, (f) *Reflection*, (g) *Authentic Assessment*.

2. Literature Review

2.1 English Vocabulary Mastery Development

Related to the focus of this research, some previous researches can be reported in this sections, Behlol (2010:40) stated that vocabularies can be divided into passive vocabularies

and active vocabularies. Thus, he explained that passive vocabulary consists of the words that the students may recognize and understand when they occur in the context but which they cannot produce or use correctly in different context; While active vocabularies consists of the words which the students understand, recall, write with the correct spellings, pronounce them correctly, and use constructively in speaking and writing. Related this context, Grabe (2009:279) stated that raising the students' awareness of the new words that they encounter in texts represents an important learning goal. Furthermore, Grabe reported in his research that a new issue of current review about vocabulary mastery stressing on the importance of (a) making students aware of use the new words they encounter and (b) motivating the students to learn and use the new words, more ever the students need to be collectors of words either by listing words which are interesting or difficult, or by noting possible connection between new words and known words or trying to use the new words in some interesting way.

Thus, in Yu-jing's research (2010) stated in Chinese teaching English, vocabularies is not given seriously attention yet, if we compare with grammar. Thus, Yu-jing suggested that teaching vocabularies is important to be upgraded based on the environment. Further, Yu-jing also suggested to improve material need by redesigning the syllabus, where English should be taught by integrating with the content of other subjects, because of that, it will evoke the vocabulary mastery constantly and continuously. In this contexts, Schmitt (2000) stated that in the classroom we just have a very limit time, so the material of English language teaching should have an extra material that have to assign to the students as a homework. From this view, the students need to analysis the new words that will be consolidated, being enlarged, and being elaborated. So, in the classroom, the students should be given an opportunity to analysis the words. In this case, teaching material can be designed as well as possible, in order to facilitate the students acquiring the new vocabularies. Resnick (1989) argued that the students should be involved the students intensively in acquiring vocabularies is their task collaboratively with their classmate. So, that vocabularies will be realized and internalized in their own cognitive systems that may be utilized in their social language interaction and academic activities.

2.2 The Descriptions of English Communication Competencies

The indicators of English mastery competencies academically can be measured from the four language skills. Those language skills are listening, speaking, reading and writing skills. In Listening skills, the students are expected to interpret the message from the expression in any kinds of discourse, such as recount text, procedure text, descriptive text, narrative text, etc. The students' comprehension on listening activities will supported by a largest vocabularies mastery as basic language competence or we can call as denotation and connotation mastery on vocabularies. Thus speaking skill is the students' competence in expressing thought, ideas, and feeling by using a certain utterance in interaction communication, whether related to the academic or non-academic interaction (general and daily life conversation). In this case, we expect the students having fluencies starting from articulating English sounds component to how use that English language in doing communication in large context culturally. Talking reading competence is the academic ability of students to cope or understanding the message of any kinds of reading text. In this context the students are expected having this competence

as strongly as possible in order as medium of improving their knowledge related other subjects, such as in biology, chemistry, physics, mathematics, and social sciences. We do not deny that this competence is also supported by large vocabularies mastery as a basic competence; because without mastering a large vocabularies, it is difficult for the students to comprehend the text or discourse comprehensively.

The forth is writing competence, namely the ability of people to express their ideas systematically through writing. As academic people, such as students, teachers, or educators writing is necessary to be mastered, in order to help them socializing the science or knowledge, innovation that will be improved. Related to subject matter, the students are expected to own this competence as balance as other skills, in order to customize writing their ideas, though, and reporting their researches or their finding as a scientific papers. This skill is also supported by intensive exercises and vocabularies mastery.

2.3 The Concepts of English Vocabularies Development Mastery

The English vocabularies are including to the core competence in learning English, because, firstly, we need to build up our thinking by entering denotation and connotation of English vocabulary system; in order to utilize in doing communication through the forth language skills as we have been mentioned above. The second is we may argue that the word concepts is a part of lexemes which having meaning concept that may give sense of meaning in expressing or interpreting utterance used in conversation or communication interaction. This is related what Alwasila (1993:77) stated that based on the view of Ferdinand de Saussure, he argued that the abstraction or the meaning of concept in our brain which called *langue* can be expressed or communicated by expressing utterance, that's called as *parole*. So, whenever the message can be copied by the listeners or the readers from the speakers or the writers in social communication interaction in the natural happen, that's meant both of them having the same denotation and connotation vocabularies system in their brain on doing communication interaction.

Vocabularies is the owning system communication of participants which are organized from sounds or phonology regularly to syntactically governing and utilizing to express or to interpret the utterance occurred in communication. Viewing from syntactical system, we will find both content words and function words. The content word is recognized as denotation words or the words are found and listed from whether the monolingual dictionary or the bilingual, or multilingual dictionary. so in constructing syntax, its function is a paradigmatic words in sentence. That's meant that the absolute words used in a sentence or obligatory unit in a sentence; while the function words are recognized as syntagmatic unit, the words used because of fulfilling the sentence grammatically. The other side, we can explain that the content words is the expression that can represent the meaning from that word, such as 'flower'. Thus, the word 'flower' can be stated its component which consists of plantation which has leave, tree, branches; it has a color flowers and it is probably smelt fragrant; while function words is related to the affixations that will attach to the basic words which are adjusted the grammar function. This case will be derivational or inflectional suffixes, such as 'flower' to be 'floweriest' and 'book' to be 'books'.

Harmon, Hendrick & Wood (2005:261) in their article “*Research on Vocabulary Instructions for struggling reader*” stated that vocabularies tends to the all their characteristics, whether related the selected word based on the function of context used, or the words formation process and the creation of the communicative language not only in orally but also written interaction. This case will have an implication on other subjects such as in mathematics, natural and Social science discipline. Beck and McKeown (1991) stated that vocabularies consists of content and function words in a language learned, so words are the knowledge that must be understood by the learners in doing listening, speaking, reading, and writing corresponding to the other subjects such as mathematics, Physics, Biology, Chemistry and Social Sciences. In this context, of course, vocabularies can be categorized as general, and specific vocabularies; or we recognize as technical vocabularies (*vocabularies related to for specific purpose*). Both categories of vocabularies should be mastered well by the students in order to support their ability in doing interaction communication in a certain subject, such as mathematics, Physics, Biology, Chemistry and Social Science whether orally or writing.

What have been presented above refer to the knowledge of meaning, function, word formation, acquisition and the use vocabularies themselves in large context. Shortly, we can state that mastering English vocabularies will support the students’ knowledge of other subjects. So teaching English vocabularies to the students of competitive class in Junior High Schools needs to have a good and systematic, comprehensive plan. Teaching vocabularies in schooling context needs to be considered from multi dimensions, such as the different levels of the students’ proficiency, target words, the school system, curriculum, the effective method and teaching strategy (Schmitt, 2000; Yu-jing, 2010) etc. In fairly intensive instruction second language, Grabe (2009:281) further stated that the students should master 2000 words per year, by its elaboration 50 words per weeks times 40 weeks, that so teachers need have a good plan in achieving the learning vocabularies target, in order to support the students’ language skills competences.

2.4 The Role of ICT in Learning English Vocabularies Development

ICT is regarded as strategic media to assist the students to improve their vocabularies mastery in learning English. As a matter of fact that the role of that media can support optimally the successfulness of the learning and teaching process, and having the role building up communication effectively in teaching and learning process, because and it can be a multi resources of information to enrich the students’ vocabularies.

As a matter of fact, media can open the larger gap information that probably to stimulate the students open their mind or way of thinking in learning and teaching process, because of involving multi equipment aids. Basically, we can assume the use both audio-visual aids combined will increase learning and teaching achievement, especially to cope the vocabularies and being internalized in their vocabularies system in their brain. That is way to treat this condition in learning English, the teachers can build up sophisticated exercises by applying concept of solving problems that containing a large gap information, this will improve the students’ vocabularies in expressing and interpreting discourse. This approach is heightening the meaningful learning of second or foreign language, it primarily provides

opportunity for the learners to engage in natural interaction through the communicative tasks (Richards, 1990:78).

In learning and teaching English, the use of media can be classified several categories, such as (a) Media including non-projected media; (b) projected media such as Over High Projector, slide, Opaque; (c) Media of Audio-Video, (d) audio-cassette, audio-visual, (e) Computer Assisted Instruction (CAI) and Computer Managed Instruction (CMI), (f) Practicum Multimedia Kit (Dick and Carey, 1990). In this research, it will be tried to utilize computer as assisted media to improve the students' English vocabularies mastery.

2.5 The Concept of Creative Competence in Learning English

Talking about creative competence, Getzels & Jackson (1982) stated that the creative people can show the characteristics as follows: (a) He may probably excellent or not; but generally, the creative people owning IQ above the average; (b) The correlation of divergent thinking and cognition level reach minimally around 0.30; Thus, in this contexts Nickerson & Smith (2005:238) stated that even though, it is difficult to prove that the creative people will be better than uncreative people, but the creative people will be able and skillful to overcome problems faced in their society life than the uncreative people.

Simonton (1975) argued that the creative competence is a basic potency which owning every human, however it will be different for each people. Every people has inner creative potency and it can be developed or raised based on their environment interaction such in teaching and learning process; even it can be used as a target to increase vocabulary mastery creatively. Related to this case, Amabile (1983) stated that there is no one has not a creative potency, or null potency.

Based on the above argue, it is quiet relevant to review some researches that have been done by the following experts. Again, as what Fisher and Bullock, (2000:6) has been stated that the external factors also have a significant influence towards the creativity and the childrens' cognition, of course, including learning to a foreign language (Littlewood, 1981, Malamah-Thomas, 1987; Brown, 2005). That's way in improving cognitive competence and creative attitude in learning and teaching process of foreign language, it is needed a specific model design more creative and contextual. In this context, Royer (2006) presented three key questions that can be used as a guide to build up the students' creative learning and innovative learning, especially to improve English vocabularies, those are: (1) How to help the learner in learning English vocabulary ?; (2) What learning experience that should be prepared for the learner?, (3) How to organize the learner's learning experience?

In creative and contextual learning, Treffinger (2000) emphasized that there are several approaches can be applied, those are: (1) Problem Based Learning approach, (2) Authentic Instruction approach, (3) Inquiry Based Learning Approach, (4) Project Based Learning Approach, (4) Work Based learning Approach, (5) Service Learning Approach, (6) Cooperative Learning Approach. More specific in learning English as a foreign language, it needs to be paid attention the component of effective learning such as constructivism, inquiry, questioning, learning community, meaningful learning, reflection, authentic assessment

(Littlewood, 1981; Anderson & Freebody 2007). I think those components can stimulate and accelerate the learners' creativity in learning. To integrate English with other subjects is to enlarge the learners' vocabularies as center of a concept and a key of building up the body knowledge structure. To underline the meaningful and contextual learning, it is regarded that semantic mapping and spider map in improving English vocabulary is more meaningful and effective, that's similar to Moras (2001) view that learning vocabularies need to be designed the relations from many aspects such as process, components, and series meaning, collocations, contexts aspects, including to be optimum the role of ICT. etc. We can observe the following example of model which being designed to improve the learners' vocabularies by integrating Physic subject.

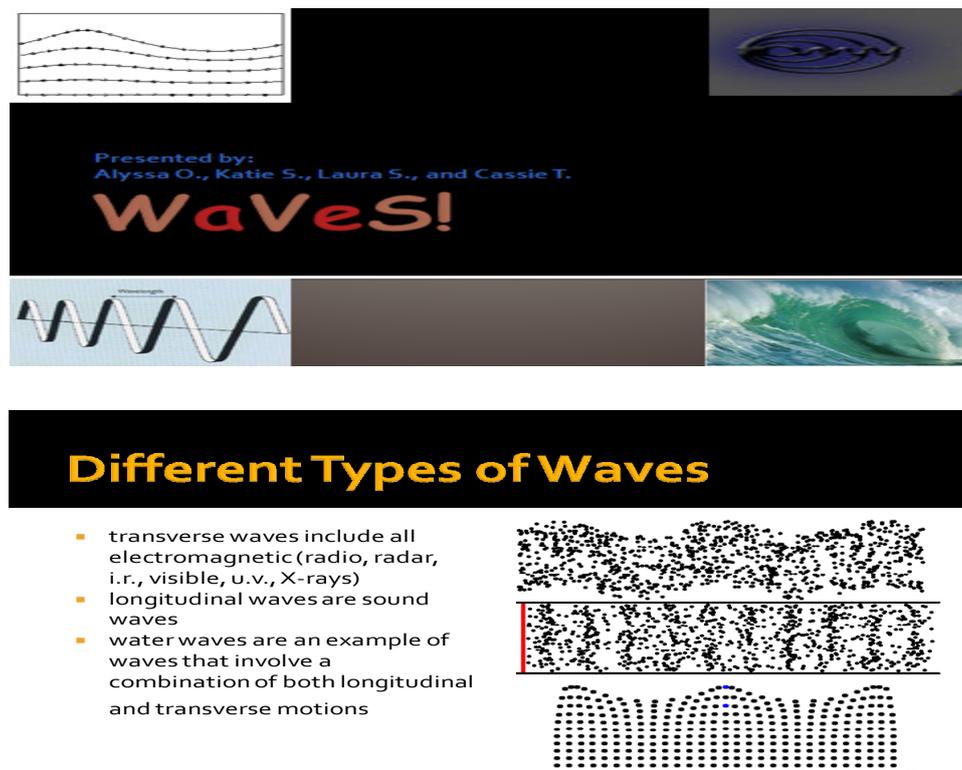


Figure 1. Model Learning Vocabulary Development through Concept Mapping

Source: UNG-LP3. 2009: (Learning Media Development: Presentation Material on Candidate Professional Teacher Training in State University of Gorontalo)

The vocabularies presented in that illustration, further it can be broken down into small scale or further being constructed into *spider mapping* which can be based on **working system**, **process system**, **component**, **series** and **phases**, **collocation** or **families system**. It can be also formed into semantic mapping, such the WEAVE concept in Physics subject, as we can see in the following illustration:

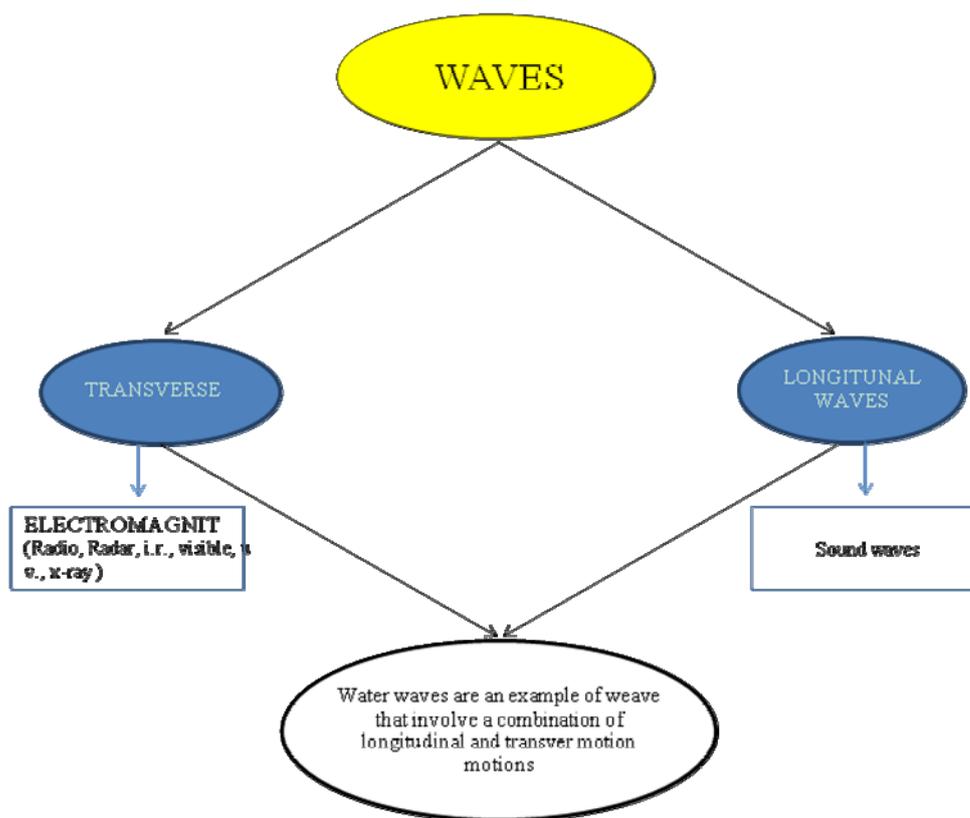


Figure 2. The Example of English Illustration Vocabularies in Physics subject.

Further, from the mapping concept based on the sequences and process, so there are several word concepts that should be mastered by the learner from point of view of Physics subject as specific word related to the Physics. From this case the learners are asked to make the list of those words concerning to “WEAVE” focus. In this case, several practical question can be presented in order to guide them produce utterances around the key word, as follows:

1. What is wave ?
2. What’s longitude?
3. What’s electromagnet?
4. What are the different types of wave?

Of course, the strategy used in presenting English integrated with other subjects in learning and teaching process should be in Focus Group Discussion (FGD) technique, in order to make them customizing use English as communication, even though they speak English mix-language. Thus, each learner is also asked to write a sentence, in order they can write the concept of words in the context. This case will build the students’ creative attitude in creating their creativity and cognition in developing their English vocabularies mastery. So, in this case, the learners not only to acquire the science concept of physics but also their language skills will be developed through mapping concept strategy.

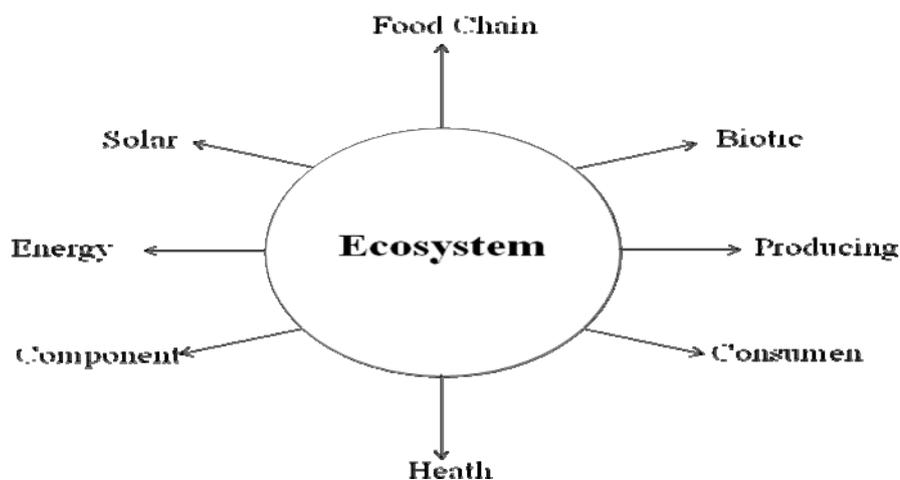


Figure 3. Model Learning Media Development through Mind Mapping

The Developed Model of Learning and Teaching Media through Mind Mapping: Utilizing ICT Combining Utterance Expression Competence (Using Vocabularies Based on Context and Creativity

A set of Instruction Model of developed vocabularies based on context and creative is as follows:

1. Find another words that can build up solar system
2. State in several simple sentences related to food chain
3. Make several sentences related to the health word as one aspects of above concept mapping.
4. Can you explain based on your thinking why energy is including in that chain?
5. Make a simple discourse based on the power words on that chain above.

3. Research Methodology

Some steps done in carrying out this research: *firstly* is to review condition of using English in the competitive class of Junior High Schools in Gorontalo City, Indonesia, namely to search some problems faced in learning and teaching process in non-English subject matter which utilizing bilingual language (English and Indonesian) such as Physics, Biology, Chemistry, Mathematics, and Social Science subjects, through Focus Group Discussion. *Secondly* is to identify the learning English creatively and based on context. *Thirdly* is to identify the learners' previous mastery on English Vocabulary related to the non-English subject matter: Physics, Biology, Chemistry, Mathematics, and Social Science (Pretest). *Fourthly* is to develop and to treat the model of teaching and learning English vocabulary related to the material of non-English subject matter: Physics, Biology, Chemistry, Mathematics, and Social Science. *Fifthly* is to test (Posttest) the learners' English vocabulary related to the material of non-English subject matter after treatment of developed model of teaching and learning English Vocabularies (applying *one group pretest and posttest design method*) in order to know how the effectiveness of the developed model of teaching and

learning English vocabularies creatively based on context by optimizing the use ICT media

3.1 Instrument and Data Analysis of Research

The instrument used in this research consists of interview and focus group discussion (FGD) in order to acquire the data of learning activities, the students' characteristics, the facilities of learning, learning media, including students' motivation, the reflection of developed model implementation in teaching English vocabularies. The English vocabulary test used to get data of the students' competence in English vocabularies, as an instruments to search how the effectiveness of developed learning and teaching vocabularies model based context creatively and utilizing ICT media by using T-test.

3.2 The Samples of English Vocabularies Test

The samples of English vocabulary items of test can be presented as follows.

1. Given a set of ordered pairs as $\{(1,2)(1,4),(1,6), (2,4), (2,6), (3,4), (3,6)\}$. The possible relation of both sets is

 - A. "square of"
 - B. "factor of"
 - C. "less than"
 - D. "more than"

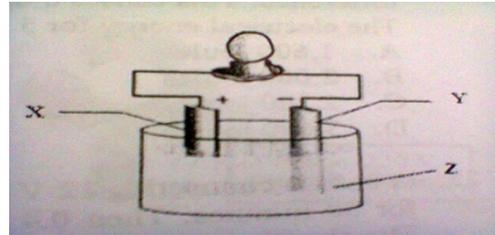
2. The table below shows the list of power of household electric equipment and how long they can be used.

No.	Household Electric Equipment	Power (watt)	Time (hour)
1.	Iron	200	2
2.	Fan	50	1.5
3.	Television	100	6
4.	Water Heater	150	3

Based on the table, the household electric equipment that consumes highest electric energy is

- A. iron
 - B. fan
 - C. television
 - D. water heater
3. Dono was doing an exercise when suddenly he wheezed, coughed, and chest tightness and shortness of breath. His symptoms tell us that he got
 - A. cold

- B. TBC
C. Dizzy
D. Asthma
4. Study the figure of Volta's element on the right. The parts which are labeled X, Y and Z are made from
- A. copper, sulphuric acid and zinc
B. copper, zinc and sulphuric acid
C. zinc, copper and sulphuric acid
D. sulphuric acid, zinc and copper



(Resource: Ministry of Education and Culture, 2012)

3.3 The Description of Students' Performance on Doing Test

In this section, it will be presented the original result of data analysis through the application of SPSS program in order to know how the students' performance on doing both pretest and posttest are. Thus the result both tests will be analyzed in order to examine how the effectiveness of the model that have been developed. That is way the students are asked to do both pretest and posttest. The result of both tests can be seen in the following table and two graphics.

Table 1. The result of pre-test and post-test of english vocabularies calculation by SPSS Program

Statistics		Pre-Test	Post-Test
N	Valid	61	61
	Missing	0	0
Mean		27,62	35,77
Median		26,00	37,00
Mode		25	37
Std. Deviation		8,399	8,343
Variance		70,54	69,604
Skewness		,401	-,445
Std. Error of Skewness		,306	,306
Kurtosis		-,293	-,264
Std. Error of Kurtosis		,604	,604
Range		39	37
Minimum		10	16
Maximum		49	53
Sum		1685	2183
Percentiles	25	22,00	31,00
	50	26,00	37,00

	75	33,50	41,50
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Interpretation

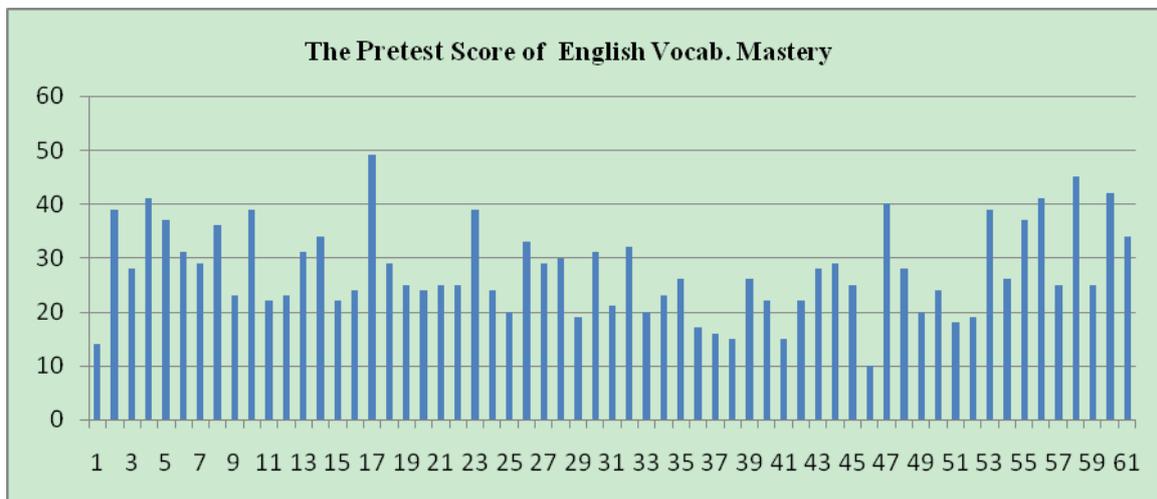
The output of SPSS above, from 61 sampled the score acquired as follows:

for Pre-test:

average (mean): 27,62,
 median : 26,00;
 Stand. deviation : 8,39,
 variance : 70,54,
 range : 39
 minimum : 10
 maximum : 49
 sum/total : 1685

For Post-test:

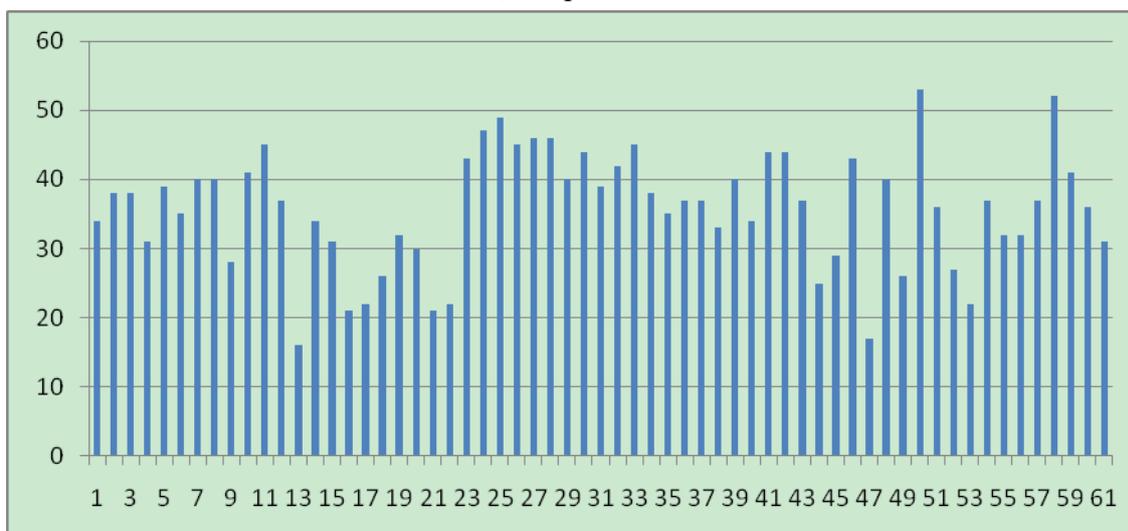
average (mean): 35,77
 median : 37,00;
 Stand. deviation : 8,429,
 variance : 69,604
 range : 37
 minimum : 16
 maximum : 53
 sum/total : 2182



Graphic 1. The score of english vocabularies test before treatment

From the data and graphics above, we get information that the respondent of this research consists of 61 students. On the result of Pretest of English vocabularies is obtained the maximum score is 49, while the minimum score is 10; from this group test the average score is got 27,26, medium score is 26 by its deviation standard is 8,39, and the variance is 70.54.

And the total sum of score is 1685. Thus, the posttest visualization can be observed as follow.



Graphic 2. The students' score of english vocabularies test after treatment

From the graphic, the maximum score is obtained 53 and the minimum score is got 16, while the average score is 35,77, and medium and the modus is obtained 37 score by its deviation standard is 8.429; and total sum of score is got 2182. By comparing the pretest and posttest seemed occurred improvement in English vocabularies mastery, as we can see on the average score is increasingly reach 8.15 points. This improvement score is quiet significant to prove the effectiveness of the model learning and teaching English vocabularies application (further it will be elaborate more detail and to test its significances by using T-Test). The detail improvement we can observe in table 2.

Table 2. The Improvement of Students' English Vocabularies after treatment

The Result of Score Calculation	Pre-test	Post-Test	Point of Improvement
The minimum Score	10	16	6
The Maximum Score	49	53	4
Mean (average)	27.62	35.77	8.15

4. Research Finding and Discussion

4.1 The Result of Theoretical Analysis

The strategy of making developed English vocabulary mastery more meaningful is to design the learning and teaching material more sophisticated by building up a bridge of gap information. This case make the learning material more power to make the students building up strategy of doing communication more effective in creating interaction communicatively,

and causing more communicative way in completing the task given to them, especially in oral communication. This strategy is called communicative approach that can promote self-inquiry for the students. The simple illustration can be presented here, in order to make clear as possible as, such as the teachers ask the students ‘*where is the white board?*’ This question is not communicative, because all people in the classroom knows the white board is in front of, so we recognize is not effective question in learning and teaching, because it is not to force the students to use their cognition optimum. However, the teacher make question such as “Who arrange the layout of this classrooms?” This question give opportunity for the students to think optimum, if this question is continued “why this classroom is arrange like this?” Of course this question make the student do more analysis, then giving the responds. Shortly, this strategy involves the students to think in learning; the more being involved the students the more meaningful learning and teaching activities.

Based on the above research analysis, it can be stated that learning and teaching English vocabulary more meaningful, if the learners involve to think in context, reasonable, self inquiry concept, so the vocabularies concept can be internalized by the learners’ cognition system itself, as the learners’ potentiality themselves (Alington, 2003; Harmon & Hendrick & Wood, 2005). It seems that by using concept mapping or semantic mapping can create the learners’ thinking activities, their innovation, their creativity in language use. So, in developing the learners’ vocabulary mastery in one focus concerning to subject materials in certain subjects.

4.2 The Result of Focus Group Discussion (FGD)

The strategy of teaching integrative English with non-English subjects has been in competitive class done by using mix-language but use conventional strategy approach; namely use translation strategy to translate a certain concepts to be mastered, by memorizing a certain words separated from contexts . However, the learners’ motivation is still low to check the meaning of words and formulating in a certain concepts and contexts of expressing utterance or discourse. The supporting equipment of learning and teaching such as books, dictionaries is still limit, the list of words that the learners should be mastered is not ready yet as well as possible. The utilizing ICT is not created well as vocabularies developed and being integrated with other subjects, so it seems that the creative attitude, creative thinking and sharing knowledge in learning activities are not appear as well as possible. The appeared symptom of problems in learning were overcome simultaneously by applying the developed model of learning English creative vocabularies based on context and ICT utilization in this research activities.

4.3 Examining Developed Model of Teaching and Learning

4.3.1 English Vocabularies by Applying T-Test

As what have been stated above that to make sure whether the improvement of students’ score of English vocabularies master significant or not, it will be tested by T-Test. For fulfilling the requirement of that statistical inferential, firstly it is tested the data normality as follows.

4.3.2 The Data Normality Test

To test the data normality, it is used Liliefort strategy as presented below.

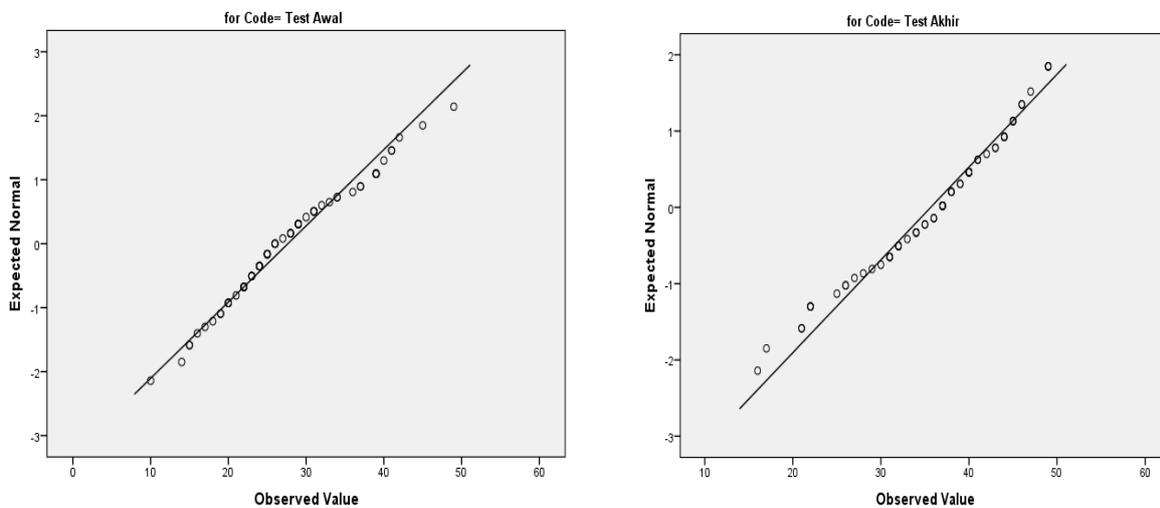
Table 3. Analysis of Normality Test

Tests of Normality							
Variabel		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Variabel of research	Pre-test	.118	61	.035	.976	61	.264
	Post-test	.099	61	.200	.978	61	.351

a. Lilliefors Significance Correction

4.4 Interpretation

Based on the above data by the level of significance $\alpha = 0.05$, it is acquired the value of significance (sig.) at Shapiro-Wilk Test (liliefors) by the pretest $0.64 > 0.05$ and posttest $0.351 > 0.05$. The data above fulfilling the criteria of normal distribution. That analysis is also supported by **Normal Q-Q plots**, namely the data can be stated normal, if spot scores occupy and forming a straight line, as we can see in the graphics below.



Graphic 3. Distribution of Observed Value of Pre-test and Post-test

After observing the normality of data, it can be continued to observe whether the developed model of learning and teaching English vocabularies Creatively based on context and utilizing ICT media, is significantly increase the students’ mastery English, by applying **T-Test**. The result of T-Test as shown below.

Table 4. The Independent Samples Test

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
Variabel	Equal variances assumed	,020	,887	-5,348	120	,000	-8,000	1,516	-11,165	-5,022
	Equal variances not assumed			-5,348	119,95	,000	-8,000	1,516	-11,165	-5,022

The justification of significance test based on the following criteria:

- If the probably value is $\text{prob./P-value/sig} < \alpha$, **Ho is rejected** or if $t \text{ calculation} > t \text{ table}$
- If the probably value is $\text{prob./P-value/sig} \geq \alpha$, **Ho is accepted** or if $t \text{ calculation} \leq t \text{ table}$

Based on the result of test the above table, by the significance level $\alpha = 0,05$, it is acquired the t score -5.348 by d. f. = $n_1+n_2 - 2 = 61+61-2 = 120$, it is acquired the Value of P-Value/Sig. (2 tail) 0,000. Because of the statically calculation is $0.000 < 0.05$, that's meant Ho (null hypothesis) is rejected, otherwise the Ha (alternative hypothesis) is accepted. Based on that inference, it can be stated that there is a significant differentiation between the pretest and posttest (test group unit) of English Vocabulary achievement for the Junior High Schools Students in competitive class in Gorontalo City. From this finding, we can conclude that the treatment of teaching and learning English vocabularies model that has been created and applied is significantly and affectively increase the students' English vocabularies mastery by being integrated with non-English subjects, such as Biology, Chemistry, Physics, and Mathematics.

4.5 Discussions

The criteria of high meaningful learning of English vocabularies are having: (1) the condition of thinking activity domain; (2) some illustrations and exercises that containing a gap information, or having a high communicative interaction dimensions; (3) based on social context and other subject matters such as Biology, Chemistry, Physics, Mathematics and Social Science that so making the students to have a largest insight on English Vocabularies mastery. That case, it can support the fluent expression in that context; (4) integrated with

other subject matters in schools; (5) having environment insight; (6) utilizing ICT that can promote the faster information, supporting the students' motivation, creation and innovations, sophistication and to form the students' learning attitude in improving English Vocabulary mastery (Hymes, 1974; Littlewood, 1981; Wardaugh, 1986; Trianto. 2007).

In Focus Group Discussions (FGD), it is informed that owning both general and specific English vocabularies, the students will increase their insight more perfectly in non-English subjects as in Biology, Chemistry, Physics, and Mathematics subject matters. From FGD activities, it is noted that the students' weaknesses is mostly discussed then the weaknesses of coming from teachers and learning infrastructures and facilities in learning. In discussion, it is also informed that there are some efforts have done by teachers in overcoming students' difficulties in learning, however it is not optimum based on learning psychological principles, so that its treatment less effective and comprehensive to support the learning achievements. Further, it seemed in FGD the advanced English vocabularies as a basic competence is not yet designed as well as possible, based on the characteristics of competitive class. In FGD, it is also argued that extracurricular is not yet designed for increasing students' English vocabularies as a basic competence that may be utilized to use in oral or written language. As a matter of fact that strategy of designing English vocabularies more specifics is very important and strongly support the English vocabularies mastery, whether in oral or in written language. Yu-jing (2010) further stated that the teachers have a chance to improve students' vocabulary learning efficiency by considering cost-benefit idea and utilizing other appropriate vocabulary to improve materials of subject matters.

Based on the scientific principles, as what had been stated above, and the result of FGD have been done in this research, formulating its focus on a developed model of learning and teaching English vocabularies creatively and based on context by utilizing ICT media and applying the meaningful learning approach. In this contexts, there are two important things that can improve the students' vocabularies mastery, those are the English teachers themselves, and the non-English teachers subjects, such as Biology, Chemistry, Physics and Mathematics subjects teachers, etc. This learning and teaching model designed is to emphasizes on the cooperative learning classroom and also to be optimal the self asses learning. This learning and teaching design utilizes concept mapping, the other called mind mapping, spider concept mapping, etc.

Related to the developing strategy above, Grabe (2009: 284) stated that concept or semantic mapping is an activity that can enrich vocabularies which may have an implication to improve reading comprehension. Some advantages of that strategy, namely: (1) the concept mapping strategy will be quiet flexible, namely if the people explain one concept of mind, it is easy for them to add and to improve the concept by adding a key words in anywhere that they like, without confusing and embarrass; (2) Focusing attention by concentration on the ideas without thinking every words that they should state; (3) Improving comprehension, when they read a journal or report; (4) Concept mapping strategy can improve comprehension and also can give a meaningful reflection view; (5) it makes pleasure, imaginations and the unlimited creativities (Resnick 1989). Related to meaningful learning, it has been studied that concept mapping has advantageous in increasing students' English

vocabularies and the principles on certain discipline; because it can be applied network of cognition and the principles of science comprehensively and holistically.

In learning activities, there are two main competences that should be achieved simultaneously, those are basic competence in the subject matter and basic competence on English itself. Based on the theoretical study, it is found that in the concept mapping strategy the students are supported to be reasonable thinking, doing synthesis, having innovation and a high creativity in developing their ability independently (*self asses and self improvement*). This strategy is also recognized as semantic mapping. This strategy can be developed as mapping based on process, based on series turn, based on componential networking, orderly thinking inductively and comprehensively, especially to explain the event or condition.

Based on the above argue, this research formulates the its focus on developing model of learning and teaching English vocabularies mastery based contexts and utilizing ICT Media by connecting the thinking cognitive development through cognitive net or called *concept mapping* or *mind mapping*. Advantageous of this strategy can directly touch the students' cognition that can stimuli them to think, creative, and innovative, whatever this strategy is also related to the context which developing utterance expression in the discourse interaction. In improving self-owning or families vocabularies, the students are given opportunity to consult dictionaries, either electronic or conventional, in order to help them master new lexical items (Laufer and Hill, 2000).

The result of this research shows that the improvement of English vocabularies achievement occurred significantly which is caused by the model treatment created above, as we can see on the post-test from Pre-test. As what have been proved by statistical calculation through SPSS program, by the truth level $\alpha = 0,05$, T-Table = -5,386 and d. f. = $n_1+n_2 - 2 = 61+ 61 - 2 = 120$, based on this criteria calculation, it is acquired P-Value/Sig. $0,000 < 0,05$). Based on this calculation it can be concluded that H_0 (null hypothesis) is rejected, or other case H_a (alternative hypothesis) is accepted. That's meant Model of learning and teaching English vocabularies created based on context creatively and being supported by ICT utilization is significantly and effectively to improve the students' achievement, especially in English Vocabulary mastery.

5. Conclusion and Some Recommendations

The Model of Learning and teaching English Vocabulary creatively based on context and utilizing ICT media designed by empowering meaningful learning approach significantly improve the students' English Vocabulary mastery in Junior High Schools, especially on competitive class. This strategy optimally involve students' activities in learning (*Students center*), by empowering students' potentiality in thinking creative, by enquiring self-finding. This condition support the students doing interaction based on self-driven to express utterance, doing exercise by interpreting meaning through concept and semantic mapping. This case will form creative attitude and cognition based on the key words developed in this strategy that so forming integrated learning language and content science in Biology, Physics, Chemistry and Mathematics and Social Science.

The students' mastery on English vocabularies integration with other subject before the treatment (pretest), it is acquired the average value is 27.62 with its deviation standard 8.39, the minimum score is 10 and the maximum score is 49; while in the posttest, it acquires the average value is 35.77 with its deviation standard 8.429, the minimum score is 16 and the maximum score 53. This data shows clearly that the improvement of the students' mastery on English vocabulary occurred significantly after the treatment carried out; namely in minimum score increased 6 point, maximum score raised 4 point, and the average up 8.15 point.

The improvement of score as what had been stated in point 2, it can be interpreted that there is a significant differentiation between the score of the pretest and the posttest. That's meant the model that had been created is significantly improve the students' English vocabularies mastery as what has been proved T-Test and F-test at the level truth $\alpha = 0.05$, where T- value is acquired $t = -5.348$ with its d.f. $= n_1 + n_2 - 2 = 61 + 61 - 2 = 120$ so the P-Value /sig. $0,000 < 0,05$). From this calculation we can conclude H_0 (null Hypothesis) is rejected and H_a (alternative Hypothesis) is acceptable. That means that the treatment created is affectively improve the students' English vocabularies mastery. That's way we can conclude that the model of learning and teaching English Vocabularies creatively, by governing concept and semantic mapping strategy, and integrated with non-English subject (Physics, Biology, chemistry and mathematics), based on context by utilizing ICT media can improve effectively the students' vocabularies mastery at competitive class, in Junior High Schools in Gorontalo city.

Based on the conclusions above, some recommendations can be presented as follows: (a) in improving students' English vocabularies, it should be integrated with non-English subjects such as Physics, Biology, Chemistry and Mathematics, because the key words from those subjects can become some concepts that must be internalized and improved on the students' mind, as the collective knowledge which may increase their insight on those subjects mentioned. Of course, the main strategies that may utilize in the learning and teaching vocabularies model are concept mapping and semantic mapping; (b) To improve this strategies, it is suggested to be varieties, pleasure for the students and promoting them empowering their thinking activities, utilizing their enquiry learning, that so forming meaningful learning; (c) An extra-time needs to be created by the English and non- English teachers as an effective exercises, that is, of course, will make the students to get opportunity to learn by hard in understanding some discourses, as a media for improving their vocabularies through the language skill activities, based on the content of other subjects mentioned; (d) Of course, the teachers need to create and to promote the collaborative activities of students that may force them to do some exercises on expressing and interpreting the speech acts that may occur in their learning interaction and discourse.

References

- Alington, R. I. (2003). *What really matters for struggling Readers: Designing Research-Based Programs*. New York: Longman.
- Alwasila, A. C. (1993). *Linguistik: Suatu Pengantar*. Bandung: Penerbit Angkasa.

- Amabile, T. M. (1983). *The Social Psychology of Creativity*. New York: Springer Vedag.
- Anderson, R. C., & Free body, P. (2007). Vocabulary Knowledge. In J. Guther (Ed.), *Comprehension and Teaching: Research Review* (pp. 77-117). Rep. No. CS 007 138, ERIC Document Reproduction Service No. ED 203 299. Newark, DE: International Reading Association.
- Asmani, J. M. (2012). *Tips Aplikasi PAKEM (Pembelajaran Aktif, Kreatif, Efektif, dan Menyenangkan)*. Jogjakarta: DIVA Press.
- Beck, I. L., & McKeown, M.G. (1991). *Conditions of Vocabulary Acquisition*. In R. Barn Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of Reading Research* (pp. 789-814) Vol. II, White Plains, NY: Longman.
- Behlol, M. G. (2010). Comparative Effectiveness of Contextual and Structural Method of Teaching Vocabulary. *In Indonesian Journal of English Language Teaching*, 6(1), 39-54.
- Brown, N. P. (2005). *Curriculum and Instruction, an Introduction to Method of Teaching*, London: MacMillan Publishers Ltd.
- Dick, W., & Carey, L. (1990). *The Systematic Design of Instruction*, Florida: Harper Collins Publisher.
- Diknasbud Gorontalo City. (2012). *Rata-rata Nilai Ujian Nasional SMP Negeri dan Swasta*. Kota Gorontalo: Diknasbud Kota Gorontalo.
- Fisher, K., & Bullock, D. (2000). *Patterns of Data: Sequence, Synchrony and Constraint in Cognitive Development*, in Fisher: KW (Ed.), *New Direction for Child development: Cognitive Development*. San Fransisco: Jossey Bass.
- Getzels, J., & Jackson, P. (1982). *Creativity and Intelligence: Exploration with Gifted Students*. New York: Wiley.
- Good. T. L., & Brophy, J. E. (1990). *Educational Psychology: A Realistic Approach*. N.Y.: Longman.
- Grabe. W. (2009). *Reading in a Second Language: Moving from Theory to Practice*. N.Y.: Cambridge University Press.
- Harmon, J. M., Hendrick, & Wood, K. D. (2005). *Research on Vocabulary Instruction in the Content Areas: Implications for Struggling Readers*, in *Reading & Writing Quarterly*, 21 (pp. 261-281).
- Hymes, D. H. (1974). *Foundation in Sociolinguistics: An Ethnographic Approach*. Philadelphia: University Pennsylvania Press.
- Laufer, B., & Hill, M. (2000). What Lexical Information Do L2 Learners Select in a call dictionary and how does it affect word retention? *Language Learning & Technology*, 3(2), 58-76.

- Littlewood, W. (1981). *Communicative Language Teaching: An Introduction*. London: Cambridge University Press.
- Malamah-Thomas, A. (1987). *A Classroom Interaction*. Oxford: Oxford University Press.
- Ministry of Education and Culture. (2012). *Pilot International Standard Junior High School academic Year 2011/2012*. Jakarta. Kemendikbud.
- Moras, S. (2001). *Teaching Vocabulary to Advanced Students: A lexical Approach*. Brazil: Sao Carlos.
- Nickerson, R. S., & Smith, E. E. (2005). *The Teaching of Thinking*. Hillsdale, N. J Lawrence Erlbaum Associate, Pub.
- Resnick, L. B. (1989). *Knowing Learning, and Instruction*. Hillsdale, N. J.: Lawrence Erlbaum.
- Richard, J. C. (1990). *The language Teaching Matrix*. New York: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511667152>
- Royer, J. M. (2006). *Designing Instruction to procedure Understanding*. In G. D. Phye, & T. Andre (Eds.), *Cognitive classroom learning* (pp 83-111), Florida.
- Schmitt, N. (2000). *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.
- Simonton, D. K. (1975). *Sociocultural Context of Individual Creativity*. *Trend historical Time Series Analysis. Journal of Personality and Social Psychology*, 32(1).
- Treffinger, D. J. (2000). *A preliminary Model of Creative Learning*. Dalam *Gifted Childd Quaterly* 24f 127-138.
- Trianto. (2007). *Model-model Pembelajaran Inovatif Berorientasi Konstruktivistik*. Jakarta: Pabliher.
- UNG-LP3. (2009). *Pengembangan Media Pembelajaran: Materi Sajian pada Pelatihan Akta IV UNG*. Gorontalo: UNG.
- Wardaugh, R. (1986). *An Introduction to Sociolinguistics*. New York: Basil Black.
- Yu-jing, H. (2010). Improving English Vocabulary Teaching in a Chinese University Environment. In *Indonesian Journal of English Language Teaching*, 6(1), 1-12.