

## DEVELOPING VOCABULARY THROUGH CROSSWORD PUZZLES

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### ABSTRACT

This study is a Classroom Action Research which took place for three weeks at the second grade students of Ensino SECUNDARIO Dom Martinho da Costa Lopes Maliana in the school year 2018. The conducting research was done with the second grade students of Ensino Secundario Dom Martinho da Costa Lopes Maliana in the school year 2018 was administered the pre-test and post-test. Based on the data analysis and discussion, the means score of pre-test was **6.7** and post-test was **8**. Besides that, It can also be seen the differences between mean scores of pre-test and post-test with the **t-calculation** is **6.7** which is greater than  $t$  table = **2.060**. Therefore the writer concludes that there were some significance differences between before and after the implementation teaching English vocabulary because the  $t$  test table is 6.7 which is greater than  $t$  table is 2.060. It can be interpreted that the Crosswords Puzzles is considered as the useful strategy to develop students' vocabulary. This is why, the English teacher and students are recommended to use Crosswords Puzzles for the teaching and learning process of English vocabulary in the classroom.

**Key words:** Crossword Puzzles, English Vocabulary

### INTRODUCTION

English language is considered one of the most important languages all over the world. It uses to facilitate the communicating with some foreigners in the country or abroad. In view of this point, English is widely used in technology science, computer service programs. On the other hand, politics, economy and education must be developed in every country through amongst the bilateral, regional and multilateral countries cooperation with the English as a lingua franca.

Hence, many countries accentuate the importance of teaching English as a subject in every country. Since there has been a constant change in the teaching methods and techniques all over the world in every subject, English vocabulary teaching methods and techniques need desirable and radical changes in a view of the demanding job market in the globalized world. The English language has a special

place in the world today which has become an international language that many others have learnt to speak it as a second language. Cheshire & Swann, (1987) Ardeo (2003) uttered that during the last few decades there has been increasing need to use the English language for the expression of knowledge within specific professional fields.

In order to achieve a successful process of learning English, one must acquire its vocabulary, grammar, pronunciation and the four skills: listening, reading, speaking and writing. Vocabulary is needed for expressing meaning and in using the receptive (listening and reading) and the productive (speaking and writing) skills. It should be considered as an internal part of learning a foreign language since it leads the way to communication. Unfortunately, many teachers keep teaching and learning as a tedious process.

They speak formally in front of the class, give some clarification, interpret some information from the books and just translate the any new words directly in mother tongue or look up in the dictionary. Students do fewer contributions in the class actions and do not have broad chance to call out what they have learnt. The usual method that is being used to teach vocabulary at school is traditional vocabulary instruction from many teachers involves having students look words up in the dictionary, write definitions, and use words in sentences. That is why, the students could not acquire language skills and produce meaningful way as well.

Vocabulary is a fundamental meaning of language to make people communicate with each other. In fact, without vocabulary communication in a second or foreign language is not possible to convey meaningful way. And the study of vocabulary is at the center while learning a new language. English being a foreign or second language, one needs to learn vocabulary in the systematic way. As Wilkins & Lewis (2000:111) stated that Vocabulary of a language is just like bricks of a high building. Despite quite small pieces, they are vital to the great structure. *"if without grammar very little can be conveyed but without vocabulary nothing can be conveyed"*. Vocabulary of a language is just like bricks for constructing a building. Like bricks, they are vital for the building of a language which means language is made up of words.

If we want to use language effectively, we must have good stock of vocabulary. We cannot use the language, if we don't know the words of that language. English

language has vast vocabulary. It is the richest language of the world. One cannot learn a language without learning vocabulary. Therefore, the study of vocabulary has occupied the central place in teaching and learning activities. Thornbury (2002) expressed his idea that “If you spend most of your time studying grammar, your English will not improve very much. You will see most improvement, if you learn more words and expressions.

You can say very little with grammar, but you can say almost anything with words.”So, vocabulary is a very important means to express our thoughts and feeling, either in spoken or written form. It is mainly through using words that we compose and express our thoughts to others. We can tackle our own task through words that shows words are powerful tools. Larsen and freeman (2000) stated that games are important because they have certain feature in common with real communicative events- there is a purpose to the exchange. Also the speaker receives immediate feedback from the listener on whether or not he or she has successfully communicated. In this way, students can negotiate meaning and working in a small group maximizes the amount of communicative practice their achievement as a social skill.

The emphasis in the game is successful communication rather than on correctness of language. They provide in many cases, as much concentrated practice as a drill and more importantly, they provide an opportunity for real communication and thus constitute a bridge between the classroom and the real world. Hatfield, Jill. (1990) suggested that the most useful place for these games are at the free stage of the traditional progression from presentation through practice to free communication of the lesson, as a chance for the students to use the language they have learnt freely and they can also serve a diagnostic tool for the teacher, who can note the areas of difficulty and take appropriate remedial action. Based on the statement above, it is seen fact that the teachers of Second Grade Students of Ensino Secundario geral Dom Martinho Da Costa Lopes use traditional vocabulary instruction for teaching vocabulary to the students and the result is poor performance in English language skills.

These phenomena can be explained by the condition that there are many secondary teachers who still encounter problems in presenting English in their classes. The English teachers should always try to make or use of different strategies and

technique of teaching vocabulary. And one of the solutions is using crosswords puzzle to improve vocabulary skills because Crossword puzzles can offer an entertaining way of reviewing vocabulary.

Students can do the puzzles in class with pairs and among other to cooperate in groups to find and circle the words that the puzzle contains. Therefore, the researcher is highly motivated to conduct a research through an Innovative ways of Teaching Vocabulary by using Crosswords Puzzle.

Second year students of **Ensino Secundario Dom Martinho Da Costa Lopes** realized that the importance of vocabulary when they learn language. Most of them are really poor in vocabulary; the reason behind this is probably due to the techniques are used to teach vocabulary, because the improvement of students' knowledge of vocabulary depends on the teachers' strategy about how to transfer their knowledge to the students and the methods they use are very important. That is why; the English teachers in every school must find an Innovative Method and good techniques for teaching vocabulary as a meaning in language. To specify the problems to be discussed, the researcher formulates the problems as following questions: (1) Can crosswords puzzle strategy develop students' vocabularies?, (2) Are there any significant differences between before and after the implementation of crosswords puzzle?

The significance of this study can be viewed from practical aspects as describe below:

- 1) For students; this study is expected to help the students' learn vocabulary in a good manner of innovative way of strategy and enjoyable way through puzzle.
- 2) For teacher; the result of this study will be directly in tended to provide them with more understanding the innovative strategy of teaching vocabulary through puzzle.
- 3) For other researchers; hopefully puzzle can be used as a reference in conducting some study for obtaining better result in the future investigation.

## **THEORETICAL FRAMEWORK**

In this chapter, the researcher presents some review of local and foreign related literatures of studies which is related to the main and supporting theories of "Using Crosswords Puzzle to develop students' vocabulary.

### ***The Definition of Vocabulary***

Graves (2000 as cited in Taylor, 1990) defines that vocabulary as the entire stock of words belonging to a branch of knowledge or known by an individual. He also adds that the lexicon of a language is its vocabulary, which includes words and expressions. Krashen (1998 as cited in Herrel, 2004) extends Graves' definition further by stating that lexicon organizes the mental vocabulary in a speaker's mind. An individual's mental lexicon is that person's knowledge of vocabulary. Miller (1999 as cited in Zimmerman, 2007) states that vocabulary is a set of words that are the basic building blocks used in the generation and understanding of sentences.

It is impossible to learn a language without knowing its vocabulary, its words. Oxford dictionary (2007), Vocabulary is defined as the total number of words that made up a language. And Long man dictionary (1995) defines vocabulary as all the words that someone knows, learns or uses. It is that vocabulary leads learners to express themselves clearly and appropriately in a wide large of situation.

Hatch and Brown (1995) considered vocabulary as a list or set of words of a particular language that individual speakers of a language might use. According to Gardener (2009) as cited in Adger (2002) vocabulary is not only confined to the meaning of words but also includes how vocabulary in a language is structured: how people use and store words and how the learn words and the relationship between words, phrases, categories of words and phrases. (Widaningsih, 2009) said that Vocabulary is of primary importance to language teaching and learning because it plays a pivotal role in molding the four language skills: reading, writing, speaking and listening.

As Wilkins & Lewis (2000:111) stated that Vocabulary of a language is just like bricks of a high building. Despite quite small pieces, they are vital to the great structure. "if without grammar very little can be conveyed but without vocabulary nothing can be conveyed". Fernández et al., (2009) & Widaningsih (2009), nevertheless, points out that vocabulary mastery should be the first priority in English language teaching and learning. Stanovich (1981), believes that it is impossible for learners to perform well in English if their vocabulary is very poor. Thornbury (2002:13) puts it succinctly: If you spend most of your time studying grammar, your English will not improve very much.

You will see most improvement if you learn more words and expressions.

You can say very little with grammar, but you can say almost anything with words! Berne et al (2008); Nagy and Scott, 2000) discussed that Learning vocabulary is a complex process and most teachers normally ignore vocabulary teaching and focus on phonics, phonemic awareness, fluency and comprehension. Mukoroli (2011) also argues that vocabulary learning is an important and indispensable part of any language learning process and also vocabulary acquisition is the most important task facing the language learner. Changhong, (2010) recognized that Vocabulary acquisition is a complex process an

a challenge for teachers as well as students especially because it is not an easy subject to learn by analyzing both the Traditional Lexical Pedagogy and the use of crossword puzzles approach to develop vocabulary skills.

### ***Types of Vocabulary***

Cummins (1999, as cited in Herrel, 2004) states that there are different types of vocabulary, that are (1) reading vocabulary, this refers to all the words an individual can recognize when reading a text, (2) listening vocabulary, it refers to all the words an individual can recognize when listening to speech, (3) writing vocabulary, this includes all the words an individual can employ in writing, (4) Speaking vocabulary; this refers to all the words an individual can use in speech. Celce-Murcia and Larsen Freeman (1999) define lexicon as a mental inventory of words and a productive word derivational process. They also state that lexicon does not only comprise of single words but also of word compounds and multi-word phrases.

Lexicon also refers to a reference book containing an alphabetical list of words with information about them and can also refer to the mental faculty or power of vocal communication (McCarthy, 1990, as cited in Taylor, 1990) said that the role that mental lexicon plays in speech perception and production is a major topic in the field of psycholinguistics and neuron linguistics. Nations and Waring (2000, as cited in Adger, 2002) on the other hand, classify vocabulary into three categories: high frequency words, general academic words and technical or specialized words. Based on those definitions above, the researcher conclude that vocabulary as a fundamental of being learning language as an independent and successfully writer and reader; and is

compresses of the words that are understood when read or heard.

### ***The Purpose of Teaching Vocabulary***

It shows that how important vocabulary for the students in teaching learning process. If the students just have a little vocabulary they will be unable to understand the question, the text of English. In addition, if the learners have a small vocabulary, they cannot have very much information or knowledge. Moreover, without the words the learner cannot really understand facts or ideas.

### ***The source of Vocabulary***

For the statement above, we know that vocabulary is important in teaching learning process, therefore we must improve our vocabulary. To improve vocabulary, we must know, where the source of vocabulary comes from is. So the statement will be easier to learn English. As Harmer (2001:56), there are some sources to learn vocabulary in teaching learning process, they are:

- (1) **Words list:** Word list is an economical way of organizing vocabulary for learning and it doesn't matter a great deal if they are put together in a random way. The students can learn vocabulary wherever they are, because it is easier to bring.
- (2) **Vocabulary book:** It is also integrated into skills work, typically in the form of a pre-task or post-task vocabulary focus. There is many vocabulary and task in vocabulary book which can be an exercise for the students.
- (3) **Teacher:** The teacher is a potential fruitful source of vocabulary input not only in terms of incidental learning, but also as a means of introducing vocabulary through teacher talk.
- (4) **Learner:** Each learner can contribute to the shared class lexicon through activities as brain storming. Learner can improve their vocabulary from other learner by discussion and sharing with their friends.

### ***Improving vocabulary***

After we have known the source of vocabulary, we must improve our vocabulary. There is an efficient way to improve vocabulary (Edward: 2006:71), they are:

- (1) Be aware of words many people with poor vocabularies do not pay attention to the words around them. The first step to better vocabulary is start paying attention to the word.
- (2) Reading can help to find new and interesting words. Read new magazines, books and

newspapers. Identify the words that you don't know and write them down.

- (3) Use dictionaries Use the dictionary dictionaries to look up the meaning of the words that you find while reading for pleasure and for school. The dictionary is filled with information about words and the use of words (Mullen; 1963; 29). It can be a basic reference tool when the learner using words in doing the task.
- (4) Use index cards to study: Learner should write the new word on an index card. Then write the definition and a sentence using the word on the back of the card. Carry these card wherever the learner go.

### ***Assessing Vocabulary***

According to Brown (pg. 229) stated that most vocabulary study is carried out through reading. A number of assessments reading recognition of vocabulary were discussed in the previous chapter: multiple choice techniques, matching, picture-cued identification, cloze techniques, guessing the meaning of a word in context, etc.

The major techniques used to assess vocabulary are (a) defining and (b) using a word in a sentence. The latter is the most authentic, but even that task is constrained by a contrived situation in which test-taker, usually in a matter of seconds, has to come up with an appropriate sentence, which may or may not indicate that the test-taker "knows" the word. Read (2000) suggested several types of items for assessment of basic knowledge of the meaning of a word, collocation possibilities, and derived morphological forms.

### ***Crossword Puzzle in Learning Vocabulary***

Nunan (1992) & Slavin (2003) explained that the role of the learner in the teaching and learning process is emphasized by recent developments in educational psychology. (Atkinson, 2003) suggested that Using puzzle is considered as a tool that allows language teachers to add color to their classroom activities and to make them lively by providing challenge and entertainment at the same time.

There is the process of learner-centered instruction where learner is responsible for the learning process whereas, the teacher is just a guide and facilitator. As Danesi (1979:7) added that "puzzles may also serve as a needed change of pace to the daily routine of teaching techniques and can perhaps serve to increase students' motivation as a result". Clearly, it is to the learners' advantage to be exposed to a variety of classroom techniques so that interest is asserted.

It is evident from our experience as EFL learners that the more words students exposed to, the better vocabulary they will have. Oxford learner's dictionary (2003;103 - 349), crossword puzzle is words have to be guessed from clues and written in spaces in a grid and a crossword is a word puzzle that normally takes the form of a square or rectangular grid of white and shaded squares.

Other words, Puzzle is game that you have to think about carefully in order to answer it or do it as same as Puzzle is game or toy to exercise the mind. It is the funny way learning a language in using crosswords puzzle games that improve the knowledge of learners during the process is running. (<http://www.wikipedia.org>).

And Longman Handy Learner's Dictionary of American English: (2000:336) from some definitions above, the writer can conclude some definition of crossword puzzle:

- (1) Crossword puzzle is a game that you have to think about carefully which is consist of words that written in space in a grid.
- (2) Crossword puzzle is a game to exercise the mind which is consisting of words that written in space in a grid.
- (3) Crossword puzzle is a game that you have think about carefully which is normally takes the form of a square or rectangular grid of white and shade square.
- (4) Crossword puzzle is a game to exercise the mind which is normally takes form of square or rectangular grid of white and shade square.

Longman Handy Learners' Dictionary of American English (2000:99), crossword puzzle is printed game in which words are fitted into numbered square and a game which is consists of words in the grid that has to think carefully to guess from the clue and can be exercise the mind.

## **METHOD**

### ***Research Design***

Class Room Action Research designed used in this study for conducting to find out solutions of learning vocabulary encountered by a particular group of the students. The study conducted in second year's students of secundario geral Dom Martinho Da Costa Lopes which is located in Maliana-Timor Leste.

### ***The Subject of the Study***

The subject of this research will be second grade students which consist

altogether with males and females. They are still considered as young language learners because their age is from 16 until 17 years. One group was chosen as the subjects of this study because their level of vocabulary is still poor rather than the others.

### ***Instrument***

The instruments that used to collect the data consist of one set pre-test item and another one set of posttest. One group of students will be selected to be administered the pretest before the implementation using crosswords puzzle as a innovative method teach vocabulary. Then, after the implementation of teaching vocabulary by using crossword puzzle, the students will be administered the posttest.

**The pre-test;** the purpose of conducting pre-test is to know the problem faced by the students as the usual or traditional method that is being used to teach vocabulary at school.

**The post-test;** the purpose of conducting posttest is to know the effect or significant differences of using crosswords puzzle as the innovative way of teaching vocabulary to the second year students Ensino Secundario geral Dom Martinho Da Costa Lopes.

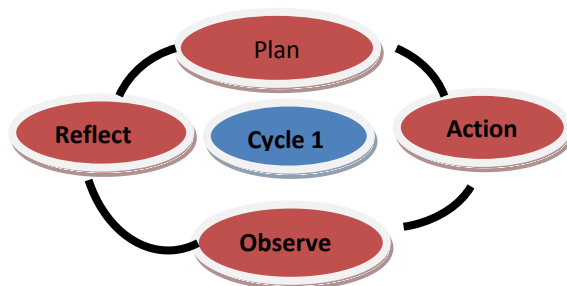
Table 3.3.1 presents the standard of measurement as the Evaluation Criteria that is being used by the school of Second grade Students of Ensino secundario geral Dom Martinho da Costa Lopes

Scores	Level
8.5 -10	Excellent or very good
7 – 8.4	Good
5.6 – 6.9	Average
0 – 5.5	Very low/fail

### ***The Procedures of Research***

There are two cycles in this action research and in each cycle there are two meeting. The procedures of Classroom Action research will take several steps as

follows: **Kemmis, S. (2011)** has developed a simple model of the cyclical nature of the typical action Research process (figure 1) each cycle has four steps: plan, act, observe and reflect.



**a. Planning: The activities of the planning are:**

- 1) Preparing material, making lesson plan and designed the step in doing action.
- 2) Preparing the list of student's name
- 3) Preparing teaching aid (Color pens, color board makers, pictures)
- 4) Preparing sheets for classroom research and process observation
- 5) Preparing a test (to know how far students understand about writing)

**b. Action:**

- 1) The teacher administers the pre-test
- 2) The teacher teaches vocabulary by using pictures of Crosswords puzzle
- 3) The teacher explains short explanation and guides the students to learn, practice,
- 4) The teacher gives opportunities to the students to ask any difficulties or problems
- 5) The teacher asks the students orally to check the students understanding
- 6) The teacher reviews materials and gives the students some evaluations
- 7) The teacher gives the students some evaluations including materials that are not used in the research; it is used to know students understanding written in the white board according to teacher's instruction.
- 8) The teacher gives posttest in the last meeting

**c. Observation**

Observation is one of the instruments which are used in collecting data. As a

scientific method, observation can be systematically used to observe and note all of the phenomena investigated like the students feeling, thinking and something they do in the process of teaching learning writing.

The teacher as the researcher observes all activities in the teaching and learning process. The teacher also creates a conducive atmosphere in the classroom and makes collaborative efforts to explore teaching possibilities. It is proposed to create the students, motivation in learning. In classroom action research, the researcher as the English teacher to observe the notes all of the processes in learning activities and prepares the observation sheets as follow:

**Table 3.4.1 presents the classroom Observation Sheet**

Nu.	Activity	Distribution		
		Excellent	Good	Fair
1	<b>Pre-teaching</b>			
	<b>a. Opening /greetings</b>	✓		
	Q : “Good morning” A : “Morning sir”	✓		
	<b>Asking Condition</b> Q : “How are you today?” A : “I am fine	✓		
	<b>Attendance</b> Q : “listen to your name” A : “yeah teacher”		✓	
2	<b>b. Introduction</b>			✓
	<b>c. Motivation</b>			✓
	<b>Whit Teaching</b>			✓
	<b>a. Explanation</b>			
	Teaching Vocabulary		✓	
	Introduce the Crosswords Puzzle		✓	
	Providing the vocabulary into the puzzle.		✓	

**Table 3.4.2 presents the process of teaching and learning Observation Sheet**

Nu.	Process	Distribution		
		Excellent	Good	Enough
1	Teacher prepares the material	✓		
2	Show the students to be familiar with the crosswords puzzle.		✓	
3	Teacher clarifies the students Answers		✓	
4	Students pay attention teacher’s Explanation		✓	
5	Teacher explains about puzzle		✓	
6	Teacher introduces crosswords puzzle	✓		
7	Teacher explains to fill the puzzle with the related meaning of words.	✓		
8	Teacher asks the students difficulties	✓		
9	Students understand the teacher’s Explanation		✓	
10	Students practice to complete the another puzzle with new vocabulary.		✓	

11	The students become active in the class		✓	
12	Teacher corrects the students Answer		✓	
13	Students feel happy and enjoy during the lesson		✓	

#### d. Reflection

Reflection is an activity in expressing of experience which has by teacher as the self-evaluation. The teacher makes an evaluation based on the observation to find the weaknesses of the activities that have been carried out in using pictures in teaching vocabulary. The weaknesses can be refined in the next cycle; so that finally it can be determined how effective pictures can improve the technique of teaching vocabulary. The writer analyzes the result of the observation.

He evaluates the teaching learning process during implementation of the action by identifying the field notes which are made during the action. In conducting the evaluation, the researcher also gives pre test before he starts to teach using mind mapping. It is given in the beginning of cycle 1 and cycle 2 the post-test given at the end of action in cycle I and cycle II based on the data evaluation, the researcher can make a self reflection in doing the action. The data from the test will also show whether the student descriptive writing mastery improve or not.

#### Data Analysis

A descriptive technique is used to know the extent to using mind mapping in descriptive text to increase the students, attention the result of pretest and posttest. This research is calculated by t-test analysis:

##### a. Mean

Mean is average from division between sums of students' scoring a total number of respondents. The research applied the following formula are:

$$\bar{X} = \frac{\sum x}{N}$$

$\bar{X}$  = mean

$X$  = score

$N$  = number of score

$\sum$  = sum or add

##### b. *t* test dependent means

The research will apply the following formula are:

$$t = \frac{\sum D}{\sqrt{\frac{N \sum D^2 - (\sum D)^2}{N-1}}}$$

## FINDINGS AND DISCUSSION

In this chapter, the writer presents the data gathered from the classroom action research activities which was obtained from the pre – test and post – test. The writer realized the pre-test on 18 of July 2018 and post-test on 18 of August 2018 before and after the implementation of using crossword puzzle to develop the students vocabulary. This analysis is to measure students' vocabulary improvement through the following teaching and learning process through the classroom action research.

### Data Presentation

#### 1. Cycle I

##### a. Planning

Before conducting the research, the writer prepared the instrument as follows:

- 1) Materials teaching by using pictures (look in appendix)
- 2) Lesson Plan (*look in appendix*)
- 3) Students List
- 4) Sheet for classroom observation and process observation
- 5) Test (*Pre-test and Post-test*)

The pre-test was done with the 25 students before the implementation of crosswords puzzles using to develop the students' vocabulary, and within the pre-test there was no explanation material for the students.

Table 4.1.1 presents the result of mean score of pre-test of Vocabulary by the Second grade Students of Ensino Secundario Dom Martinho da Costa Lopes Maliana in the school year 2018 (before the implementation teaching Vocabulary by using Crosswords Puzzle.

Nu	Codes	Score
1	EC	6,5
2	CCDA	6,5
3	JVA	6,5

4	GDS	6,5
5	BCDS	7
6	DAL	7
7	HDR	8
8	PDSC	6
9	SM	7,5
10	CMDS	7
11	SMA	7
12	GSA	7
13	AB	6
14	ADA	6
15	EASDC	6
16	LTV	6,5
17	PB DR	7
18	DHDC S	7,5
19	JCB	6,5
20	VS	6,5
21	MDS	7
22	MDC	5,5
23	PLP	7
24	JDR	7
25	IMG	7
TOTAL		168
AVERAGE		6.72

Calculate the result of mean score of pre-test:

$$\text{Mean: } \bar{x} = \frac{\sum x}{n} = \frac{168}{25} = 6.72$$

## Action

### Meeting I

The first research activity was conducted in July 18th 2018, when the researcher was allowed to enter the class, the situation was noisy, some students spoke with their friends, they did not care the teacher was coming into the classroom.

The researcher stood in front of class all of student eyes looked at the teacher, they surprised because there was a new teacher. Some students made little discussion and another just kept silent. A few second later, the researcher begun to start the class, firstly He led the students to pray.

After that He opened the lesson and introduced herself as a researcher. After that, the students were also asked by the researcher to introduce themselves one by one. Then, teacher introduces the topic of teaching **“Developing students’ English vocabulary through crossword puzzle”**.

Teacher showed them the Puzzles with the many words and asked to students to fill up the puzzles based on the synonyms, antonyms words to find out from the lists of words that has provided. After that, the post-test was done with the 25 students who were receiving the instructional material of crossword puzzle as a game to improve their vocabulary. The post-test was done after the implementation of teaching vocabulary by using the crosswords puzzle to develop students' vocabulary.

**Table 4.1.2 presents the result of mean score of Post Test** of the English Vocabulary by the Second Grade Students of Ensino Secundario Geral Dom Martinho da Costa Lopes Maliana in the school year 2018. After the implementation teaching English vocabularies by using Crossword Puzzle.

Nu	Codes	Scores
1	EC	7
2	CCDA	8
3	JVA	8
4	GDS	8
5	BCDS	8,5
6	DAL	8
7	HDR	8
8	PDSC	9
9	SM	8
10	CMDS	8
11	SMA	9
12	GSA	9
13	AB	9
14	ADA	8,5
15	EASDC	8
16	LTV	8
17	PB DR	9,5
18	DHDC S	8
19	JCB	8,5
20	VS	9
21	MDS	8
22	MDC	8
23	PLP	8,5
24	JDR	8,5
25	IMG	8
TOTAL		200
AVERAGE		8

Calculate the result means score of **post test**:

$$\text{Mean: } \bar{x} = \frac{\sum x}{n} = \frac{200}{25} = 8$$

Table 4.1.3 presents the differences Result between mean scores of pre-test and

Post-test by the Second Grade Students of Ensino Secundario Geral Dom Martinho da Costa Lopes Maliana in the school year 2018.

No	Name of students	Pre-test	Post test	D	D <sup>2</sup>
1	EC	6,5	7	0,5	0,25
2	CCDA	6,5	8	1,5	2,25
3	JVA	6,5	8	1,5	2,25
4	GDS	6,5	8	1,5	2,25
5	BCDS	7	8,5	1,5	2,25
6	DAL	7	8	1	1
7	HDR	8	8	0	0
8	PDSC	6	9	3	9
9	SM	7,5	8	0,5	0,25
10	CMDS	7	8	1	1
11	SMA	7	9	2	4
12	GSA	7	9	2	4
13	AB	6	9	3	9
14	ADA	6	8,5	2,5	6,25
15	EASDC	6	8	2	4
16	LTV	6,5	8	1,5	2,25
17	PB DR	7	9,5	2,5	6,25
18	DHDC S	7,5	8	0,5	0,25
19	JCB	6,5	8,5	2	4
20	VS	6,5	9	2,5	6,25
21	MDS	7	8	1	1
22	MDC	5,5	8	2,5	6,25
23	PLP	7	8,5	1,5	2,25
24	JDR	7	8,5	1,5	2,25
25	IMG	7	8	1	1
Total		168	200	40	98,75
Good		6,72	8		

Calculate pre test and post test:

$$\begin{aligned}
 t &= \frac{\sum X}{\sqrt{\frac{N \cdot \sum X^2 - (\sum X)^2}{N - 1}}} \\
 &= \frac{40}{\sqrt{\frac{25 \cdot 98,75 - (40)^2}{25 - 1}}} \\
 &= \frac{40}{6} = 6,7
 \end{aligned}$$

The level of significance is ( $\alpha = 0.5$ )

$$Df = N - 1 = 26 - 1 = 25$$

Based on the level significance is ( $\alpha = 0.5$ ) with the degree of freedom is 25 which is indicated to the  $t$  table is 2.060. Therefore, it is decided the  $t$  test = 6.7  $\geq$  than the  $t$  table is 2.069.

Interpretation: based on the data result of data analysis above, the writer can conclude that T- test is 6.7 greater than  $\geq t$  table was 2.069. It is meant that there are some significant differences between before and after the implementation of using crosswords puzzle as the learning method to teach English Vocabulary to the Second Grade Students of Ensino Secundario Geral Dom Martinho da Costa Lopes Maliana in the school year 2018.

Lastly, the teachers and Second Grade Students of Ensino Secundario Geral Dom Martinho da Costa Lopes Maliana in the school year 2018 are recommended that Crosswords Puzzle is an useful strategy to facilitate the English Vocabularies learners understand faster.

Based on the data presentation from tables above, the writer would like to discuss each of the tables as follows;

- 1) **Table I** Presents the result of **pre test** which was administered first to the Ensino Secundario geral Dom Martinho da Costa Lopes Maliana in the school year 2018 before the implementation teaching English vocabulary by using crossword puzzle. The mean score of the result of pre-test is **6.7**
- 2) **Table II** Presents the result of **post test** was administered second time to the students of Ensino Secundario geral Dom Martinho da Costa Lopes Maliana in the school year 2018 after teaching English vocabulary through Crossword Puzzle. The mean score of post-test is 8. It is decided crossword puzzle can be considered as useful way or one of innovative method to be used to teach English vocabulary.
- 3) **Table III** Presents the differences result of mean score of pre test and post test scores by the second grade students of Ensino Secundario geral Dom Martinho da Costa Lopes Maliana in the school year 2018. It is to measure the significant differences between before and after the implementation teaching vocabulary by using crossword puzzle as the strategy to teach English vocabulary.

The researcher analyzes that the students' improvement bases on the result of analyzing in **cycle I** that the mean of the pre test is **6.72** increases to be **8** in the post-test.

As the explanation above mentioned shows that by applying Crosswords Puzzle method can improve English Vocabulary. Moreover, the result of ***t*-test** value = **6.7** which is greater than ***t*-table** = **2.060**. It shows that there are some significance differences between pre-test and post-test which means that students' achievement in English Vocabulary has improved. It can be concluded that students of Second grade of the Escola Secundario geral Dom Martinho da Costa Lopes should prefer to learn vocabulary with the method of Crosswords Puzzle.

## **CONCLUSION**

Before using crosswords puzzle to teach English vocabulary to the 25 Students of Ensino Secundario geral Dom Martinho da Costa Lopes Maliana were administered the pre-test and the the mean score of pre test is **6.72**. After the implementation using crosswords puzzle to teach English vocabulary to the 25 Students of Ensino Secundario geral Dom Martinho da Costa Lopes Maliana were administered the post-test and the the mean score of post test is **8**. Besides that, it can be observed through the comparison differences between mean score of pre-test and post – test by using formula *t*-calculation is = 6.7 which is greater than *t* table is 2.060. Therefore, it is interpreted that there are some significance differences between before and after the implementation teaching vocabulary by using crosswords puzzle.

In cycle I the Crosswords puzzle improve the students' English vocabulary by the Second grade of Ensino Secundario geral Dom Martinho da Costa Lopes Maliana. And based on the teaching and learning classroom observation sheet, the class was going smoothly and the most of the students are enthusiastic to acquire the foreign language vocabulary skill. Fill up the related words meaning into the puzzle game. It can be seen on the result of observation in the class; the most of the students feel enjoyable and happy in the teaching and learning process. It also can be proven of the students are active to develop their own vocabulary.

Based on the result of the study and conclusion above, the English teacher and students are recommended that crosswords puzzle game can be one of the alternative solution for the students who are very poor English vocabulary. Vocabulary could be learnt through the crosswords puzzle is a good interested startegy for students, because they can find the related meaning of words through the guessing words in the crossword

puzzle, and game can makes the students enjoy the learning English vocabulary to memorize the vocabulary. Students should always be active filling the gaps in puzzle to learn more vocabulary and they should study continually in the classroom and in their house. Crosswords puzzle can facilitate the students find as much as related meaning of vocabulary in order to be able to construct the sentence well.

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