



---

## The Effect Of Venn Diagram To Enhance Students Reading Comprehension At The Second Year Of Smp Negeri 1 Wawotobi

Asri Nofa Rama

Universitas Lakidende Unaaha

kalisamrt@yahoo.com

---

### **Abstract**

This study aimed to find out (1) the extent to which Venn diagram enhance students' reading comprehension. This study was a mixed method research design known as explanatory mixed method design (Quan-Qual model). There were two groups involved namely experimental and control group. The study was carried out at the second year of SMP Negeri 1 Wawotobi with 33 students as the sample. Data were collected by using reading test. Moreover, the data were analyzed quantitatively and interpreted by using the software program of SPSS 16.0. This study found that Venn Diagram give a significant effect on students' reading comprehension from pre-test to post-test revealed the significant difference ( $0.000 < 0.05$ ) before and after the implementation of Venn diagram. This study concludes that Venn diagram enhance students' reading comprehension at the second year of SMP Negeri 1 Wawotobi.

Diterima : 22 April 2018

Direvisi : 19 Mei 2018

Diterbitkan : 1 Juni 2018

*Key words: Venn diagram, Students' Reading Comprehension*

---

### **Introduction**

Having seen from the concept that written word surrounds us daily, reading is regarded as the only way to link with it. It is what assumed as the interaction between the reader and the text. This interaction comes up to draw an understanding of the written words. Carrel (1988) states that reading is a psycholinguistic process in that it starts with a linguistic

surface representation encoded by a writer and ends with meaning which the reader construct. Thus, reading becomes a crucial skill since it is being emphasized by the government to be taught by the teacher to the learners, particularly in English as a Foreign Language (EFL) context. It is because reading is regarded as the most vital and necessary for learners in both a classroom context and an extracurricular environment (Grabe & Stoller, 2002). Therefore, reading is seen as the importance element since it can facilitate the EFL learners to expand their knowledge and gratify their self, to enrich their vocabulary, and sustaining the teaching and learning process.

In spite of the importance of reading in academic context, the ability to read with better comprehension now is the major problem encountered by many readers, one of them is that they often get difficulty in comprehending long texts. Most students find it bored when they face such texts. Moreover, their boredom easily leads them either into lost motivation or low awareness. Kelly and Widin's (2001) study on *International Students' Experience of Academic Reading* found that many students face difficulties in reading. Here are some of students' words:

*"I read everything that I am supposed to but sometimes I am at a loss ... I can't read between the lines. I can read the words, though the language is a bit different to what I am used to, it isn't the terminology, it is the background knowledge and the references to other texts that I don't know. I experience this with most subjects.... I just don't know how to catch up with this knowledge.*

*I have to read all the time, all weekend. I did come here to study but I didn't know that I would have this much trouble with reading"*

Similarly, Eskey (2005) contend that despite the students have adequate language competency, to some extent they still find it difficult in comprehending academic texts thoroughly.

This condition is actually in line with the problems appearing in the Indonesian English as a Foreign Language (EFL) learners. Many studies come up with the investigation that the problems are in the teaching and learning reading in which reading is not really considered as an important skill likes speaking and writing. It may caused by an understanding of most teachers that speaking and writing are productive skills that have become of standard of knowledge of second language, while listening and reading as the receptive skill that have been considered to be the secondary one. This is actually based on the teaching and learning in classroom reading in which students are only given a text and asked to answer the questions without helping them in developing their reading ability.

Moreover, the Indonesian English as a Foreign Language (EFL) teachers, generally, still use translation method as the way to teach learners in classroom reading. It is proven by many learners that still focus on grammatical rules and vocabulary of the literature written. As a result, they get difficulty in comprehending the whole text which makes them being poor readers.

Regarding this phenomena, teachers have attempted their best to help students cope with the problem that they found while reading text books, such as by applying rigorous methodology, providing the students with some materials to attract them to read and giving them more practices that can lead them to interact with the text. It is supposed to encourage students to be the skillful readers.

Another important way to learn a target language is through Venn diagram learning strategies. It affects the successfulness of language learner in acquiring a new language and makes students able to solve problems in reading.

The Venn diagram is one of strategy that is used in teaching reading. It is one of graphic organizer in teaching reading. Rohrich, *et al.*(2007) argued that Venn Diagram is made from two or more overlapping circles and it is useful for comparing two or more items of books, animals, plants, events, or anything else that students wish to compare. Each circle is labeled with the similarities and differences. Based on the National Reading Panel (2000) in the United State, Venn diagram is one of the seven most effective teaching strategies for reading comprehension. Venn diagram is used to compare two concepts, topics, or procedure. By using comparison, the students will be helped to organize their thought; therefore they can understand the reading passage. By applying this strategy, the students will be situated to discuss the upcoming topic which has relation to their prior knowledge and then enable them to compare the meaning of each paragraph.

Venn diagram basically retains individual element in which students work individually to read and take a meaning or construct the meaning on text given by the teacher. This case will make students become the strategic readers in which they can monitor their own thinking and make connections between texts and their own experiences. In short, the researcher simplifies to overcome the problem in teaching reading especially in comprehending the text, the teacher needs to apply Venn diagram strategy that will create the enthusiasm in learning activities.

Following from the explanation above, the researchers investigated whether the use of Venn diagram strategy would reveal students' critical thinking ability in the target language as well as discover if the strategy had any impact on their motivation to use English.

The Research Question of this study is: “to what extent does Venn diagram enhance students’ reading comprehension at the second year of SMP Negeri 1 Wawotobi?”

Based on the background of the study, the aim of this research is to find out the extent to which Venn diagram enhance students’ reading comprehension at the second year of SMP Negeri 1 Wawotobi. The significances of this study are as follows:

1. To increase students’ reading comprehension at the second year of SMP Negeri 1 Wawotobi
2. As an information for English teacher about the use of Venn Diagram in teaching reading in English
3. As information resource for further researcher who wants to conduct a research by using Venn Diagram

The researcher formulates the hypothesis as follows:

**H<sub>0</sub>**= There is no significant effect of using Venn diagram to enhance students’ reading comprehension at the second year of SMP Negeri 1 Wawotobi

**H<sub>1</sub>** = There is a significant effect of using Venn diagram to enhance students’ reading comprehension at the second year of SMP Negeri 1 Wawotobi

## Method

### 1. Design of the Study

This research applied explanatory mixed method design, also known as the Quan-Qual model (Gay, *et al* 2006). The study used quasi-experimental research design. Moreover, there were two groups have been involved; experimental and control group. The experimental group received treatment that was using Venn Diagram and the control group has been taught using conventional way that was top-down processing. To assess students’ prior reading comprehension performance, the researcher conducted pre-test. Then, post-test was carried out to examine the effect of Venn diagram to enhance students’ reading comprehension. The design is formulated as follows:

<i>EG</i>	<i>O1</i>	<i>x1</i>	<i>O2</i>
<i>CG</i>	<i>O1</i>	<i>x2</i>	<i>O2</i>

Gay, *et al* (2006) Research Design

EG = Experimental group

CG = Control Group

O1 = Pre-test

O2 = Post-test

X1 = Treatment with Venn diagram

X2 = Treatment with Conventional Way.

## **2. Variables of the Study**

This study consisted of two variables. They were dependent variable and independent variable. The dependent variable of this study was students' reading skill, while independent variable was Venn diagram.

## **3. Population and Sample**

### **a. Population**

The population of this research was all the students in the second year of SMP Negeri 1 Wawotobi in the academic year of 2016-2017 which consist of 312 students. Sugiyono (2008) stated that population is generalizing region consist of object or subject that have certain quality and characteristic specified by researcher to be studied and then pulled conclusion.

### **b. Sample**

The sample was taken by using purposive sampling. By using this strategy, the researcher was taken sample about 10% from the population. Arikunto (2008) stated that when the population is less than 100 so the sample is all of the population but, when the population is more than 100, the sample is taken is between 10% - 55% of the population. In addition, Arikunto (2002: 97) said that purposive sampling is a sampling technique which is used by a researcher if they have certain considerations in taking samples. The students' placement in every class was not based on students' point when they were enrolled to their class Furthermore, the researcher chose VIIIA I as the sample of the study that consisted of 33 students.

## **4. Instrument of the Study**

There was one of instrument of that used in this study, namely reading comprehension test. The reading comprehension test consists of multiple choice 20 items after pilot study. The reading test was the same in use on pre-test and post-test. The researcher has adopted those reading text from informational English for Junior High School. The researcher decided that 1 score for right answer and 0 to the wrong answer.

## 5. Procedure of Data Collection

The procedures of collecting the four types of the data were as follows:

### a. Pre-test

The pre-test which was conducted to both experimental and control group is carried out to find out students' prior knowledge in reading comprehension performance before receiving treatment.

### b. The Treatment

Following the pre-test, the students in experimental and control group received difference treatment. The Venn diagram has been implemented to the experimental class. Whereas in control class has been taught using conventional way. The researcher chose three stapes strategy to be applied in control class because this technique is commonly used by the teacher in SMP 1 Negeri Wawotobi, especially in teaching reading. The researcher conducted the presentation of material five times.

### c. Post Test

Next, the post-test was given to the students after receiving four meetings of treatment. Then, the result of pre-test and post-test both of two different groups: experimental and control group were compare to examine whether there was significant enhancement on students' reading performance.

## 6. Technique of Analyzing Data

Technique of data analysis in this study divides into two. Those were quantitative data analysis and qualitative data analysis. These analyses were used to know the research questions that formulated.

### a. Quantitative Data Analysis

In this analysis, the researcher divides into two analyses such as scoring the result of students' reading comprehension and pre-test and post-test analysis.

### b. Scoring the Result of Students' Reading Comprehension

1) Calculating students' score:

There were two kinds of scores in this research; pre-test and post-test.

Then in scoring students' answer, it employs this formula :

$$\frac{\text{Total correct answer}}{\text{Total number of items}} \times 100\%$$

2) Classifying the students score into the following criteria.

Table The Classification of Reading Score

No.	Classification	Score
1	Excellent	96-100
2	Very good	86-95
3	Good	76-85
4	Fairly good	66-75
5	Fair	56-65
6	Poor	36-55
7	Very poor	00-35

(Depdiknas, 2006)

### c. Pre-test and Post-test Analysis

In the first phase, the quantitative data were calculated using SPSS version 16, especially descriptive and inferential statistics. Descriptive statistics which include the percentage of students' score, mean score, the SD of the data and inferential statistics are meant to compare the students' result in experimental and control group.

The inferential statistic analysis were used as follows:

#### 1) Normality Test Analysis

The data about students' score of reading test gain from pre-test and post-test analyzed by using SPSS version 16 through Kolmogorov Smirnov. Normality of the data must be tested first since it refers to the appropriateness of applying statistical test analysis.

#### 2) T-test Analysis

T-test analysis in this study were used to test the hypothesis of this study whether there was significant a significant effect of using Venn diagram on students' reading comprehension or not. To know the effect of it, the researcher used Independent Sample t-test Analysis. Independent sample t-test was used to establish whether students who receive Venn diagram classroom can achieve their reading comprehension. The requirements are:

**If  $p \leq 0.05$** , the null hypothesis is rejected, it means that there was a significant effect of using Venn diagram on students' reading comprehension

**If  $p > 0.05$** , the null hypothesis is accepted, it means that There was no a significant effect of using Venn diagram on students' reading comprehension

Moreover, to see the effect size of this study, the researcher used the formula as follows:

$$\text{Effect size} = \frac{(\text{Mean of experimental group} - \text{Mean of control group})}{\text{Standar Deviation}}$$

The criteria to determine the effect size based on Cohen's criteria as follow:

- 0.0.2 : Small
- 0.2 – 0.5 : Moderate
- 0.6 – 0.8 : large

## Findings And Discussion

### 1. Findings

#### a. Inferential Statistical Analysis

##### 1) Normality Test of Score Distribution

To test of hypothesis, the researcher uses independent Sample t-test. Before the hypothesis is tested, normality test is used to obtain whether the data score show a normal distribution or not. In other word, the data must fulfill requirement. In this case Kolmogorov-Smirnov test is employed. Theoretically, if the  $p$  value is higher than 0.05 ( $p > 0.05$ ), it indicates that the data are normally distributed. If it is less or equal than 0.05 ( $p \text{ value} \leq 0.05$ ), it indicates that the data significantly deviate from normal distribution.

Table Test of Normality

#### One-Sample Kolmogorov-Smirnov Test

		GainEx	GainControl
N		33	33
Normal Parameters <sup>a</sup>	Mean	.3127	.0906
	Std. Deviation	.13505	.08389
Most Extreme Differences	Absolute	.206	.201
	Positive	.154	.201
	Negative	-.206	-.140
Kolmogorov-Smirnov Z		1.183	1.155
Asymp. Sig. (2-tailed)		.122	.139

a. Test distribution is Normal.

Table above displays the normality of gain in experimental and control class. The result of normality for experiment class is 0.122 ( $p \text{ value} > 0.05$ ) which is higher than 0.05. The result of normality control class is 0.139 ( $p \text{ value} > 0.05$ ) which higher than 0.05. It can be inferred that all the data both pre test and post test are normally distributed. It means that students' score on experiment and control are acceptable to be analyzed through parametric



statistic in the form analysis of *Independent Sample t-test* in SPSS 16 to see whether there is significant effect of using Venn diagram strategy on students' reading comprehension or not.

## 2) The Result of Hypothesis Testing

After homogeneity test has been met, hypothesis should be tested to know whether Venn diagram has significant effect on students' reading comprehension or not. Based on the result of the normality test, the analysis through *Independent Sample t-test* can be done to find out whether there is a significant effect of using Venn diagram on students' reading comprehension. In this study, the researcher use non directional to find out the result of this research. A non directional hypothesis is appropriate because the researcher is interested in determining whether the scores are either less than or greater than the national average. Sometimes called a two-tailed test, a test of a non directional hypothesis does not state the direction of the difference; it indicates only that a difference exists. The non- directional hypothesis of this study can be seen from following description.

**If  $p \leq 0.05$ ,** the null hypothesis is rejected, it means that there is a significant effect of Venn diagram on students' reading comprehension

**If  $p > 0.05$ ,** the null hypothesis is accepted, it means that There is no a significant effect of Venn diagram on students' reading comprehension.

The result of *Independent Sample t-test* analysis can be seen in the following table:

Table Independent Sample T-test of Experimental and Control Class

### 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
GainScore	10.371	.002	8.026	64	.000	.22212	.02768	.16683	.27741
Equal variances assumed									
Equal variances not assumed			8.026	35.640	.000	.22212	.02768	.16662	.27762

Table above shows that statistical analysis of *independent Sample t-test* has been conducted to compare result for experiment and control class in their reading comprehension. The result shows that Venn diagram has a noteworthy impact on students'

reading comprehension. The probability value ( $p_{\text{value}}$ ) is less than the level of significant which  $p_{\text{value}}$  is  $0.000 < 0.05$  (alpha value). Means, there is difference mean score on experimental and control class class.

### **b. The Effect Size of Venn diagram**

The effect size is calculated to investigate how significance of independent variable (Venn diagram) in practical terms is. If the treatment works well then will be a large effect size (Cohen: 1988). Additionally, an effect size is typically calculated by taking the difference in means of group and dividing that number by their deviation.

To see the large of effect size of Venn diagram, the researcher use Cohen's index or Cohen's Value:

Effect size :  $\frac{(\text{Mean of experimental group} - \text{Mean of control group})}{\text{Standar Deviation}}$

$$(d) = \frac{0.31 - 0.09}{0.21}$$

$$(d) = 1.04$$

The effect size of this study is 0.69 that regarded as Large Effect Size on Cohen's criteria (Cohen: 1988). Based on the criteria of Cohen's effect size above, an effect size equivalent to  $(d) = 1.04$  would qualify as large in size because it is bigger than the minimum threshold of 0.02. In the other words, Venn diagram has worked well and brought a large effect for achieve students' reading comprehension at SMP Negeri 1 Wawotobi.

## **2. Discussion**

The finding of pretest of two different groups were reportedly in the same level, they were mainly categorized as poor users and it was an evident that students still had difficulties in reading skill. Furthermore, the result of post-test revealed that the students' mean score of experimental group in which Venn diagram has been implemented increased from 0.12 to 0.31

This finding indicated that teaching by using Venn diagram is seemed as a new way to students at the second year of SMP Negeri 1 Wawotobi in their reading process. The findings clearly indicated that they got improvement on their reading score. Besides, students' awareness of the use of Venn diagram was also enhanced in which they seemed enthusiastic in thinking out loud. In this case, the researcher compares when she first entered to classroom, the students were so passive in telling their response of the material given. At

the following sections of the treatment, the researcher found that students tend to be active in discussing their answers and reflecting by Venn diagram that they applied.

With respect to the theories, previous studies, and the result of gathered data, the current study researcher proves that the hypothesis “there is any significant effect of using Venn diagram strategy on students’ reading comprehension at second year of SMP Negeri Wawotobi” is accepted. It is proved by using *Independent Sample t-test* analysis shows  $t_{\text{count}}$  is 8.026 and a  $t_{\text{value}}$  is less than level of significance value in which  $t_{\text{value}}$  is  $0.000 < 0.05$ .

Moreover, it is important to know how large the effect of Venn diagram strategy by calculating the effect size of this strategy. Based on the calculation of the effect size of Venn diagram strategy, it shows at the effect size is 1.04 that categorized large effect. It can be seen that Venn diagram gave significant effect to the students particularly in experimental class.

Based on the statistical findings, the researcher can conclude that Venn diagram is effective as new ether for students. In short, this research shows that there is a positive effect in students’ reading comprehension by applying this strategy.

## Conclusion

Venn diagram has a significant effect toward the students’ reading compression of second year of SMP Negeri 1 Wawotobi. It is caused by the application of this technique that gives students opportunity to think and work systematically in reading process. The students’ reading scores of the post-test is higher than scores in pretest (the mean score of students’ post-test is 79.5 while pre test is 58.1) for the result of  $t_{\text{test}}$  analysis shows that the  $t_{\text{test}}$  is 8.026 and a  $t_{\text{value}}$  is less than level of significance value in which  $t_{\text{value}}$  is  $0.000 < 0.05$  (alpha value). Therefore, this result confirms that the hypothesis of this research is accepted. It means that there is a significant effect of Venn diagram toward the students reading comprehension at the second year of SMP Negeri 1 Wawotobi.

## References

- Arikunto, S. (2002). *Dasar-dasar Evaluasi Pendidikan*. Jakarta: Bumi Aksara.
- Arikunto, S. 2008. *Prosedur Penelitian: Suatu Pendekatan Praktek*. Jakarta: Rineka.
- Buana, K. (2018). Penerapan Model Pembelajaran Inquiri Sebagai Upaya Untuk Meningkatkan Prestasi Belajar Pendidikan Agama Hindu. *Cetta: Jurnal Ilmu Pendidikan*, 1(1), 33-40.

- Carrel, P.L., Devine, J., & Eskey, D.E. (1988). *Interactive approach to second language reading*. Cambridge University Press.
- Depdiknas. 2006. *Standar Isi*. Jakarta: Depdiknas.
- Eskey. D., 2005. *Reading in a Second Language*. Mahwah, NJ: Lawrence Erlbaum.
- Gay, L.R., G.E. Mills, P. Airasian, 2006. *Educational Research; Competencies for Analysis and Applications* (8<sup>th</sup>ed.). Colombus Ohio: Pearson Education.
- Grabe, W., &Stoller, F.L. (2002). *Teaching and researching reading*. Harlow: Longman.
- Kelly, S., &Widin, J. (2001).EFL academic reading across disciplines, Pp. 239-247.
- Nunan, D., 1999. *Second language teaching and learning*. BOSTON: Heinle&Heinle Publisher.
- Redway, M.K., 1992. *Membaca cepat metode mutakhir menambah kecepatan membaca dan meningkatkan pemahaman*. Jakarta: Pustaka Binaman Pressindo
- Roe, B., B. Stoodt, P. Burns, 1978. *Reading instruction in the secondary school*. Boston: Houghton Mifflin Company.
- Rohrinch, Karen, Ansebery, & Emily Rachel Morgan. 2007.*More Picture – Perfect Science Lessons*. National Science Teacher Association. INSTA Press.
- Sudarsana, I. K. (2018). *Optimalisasi Penggunaan Teknologi Dalam Implementasi Kurikulum Di Sekolah (Persepektif Teori Konstruktivisme)*. *Cetta: Jurnal Ilmu Pendidikan*, 1(1), 8-15.
- Sugiyono. 2014. *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Alfabeta. Bandung.