THE EFFECTIVENESS OF RECIPROCAL TEACHING TO TEACH READING
VIEWED FROM THE STUDENTS’ INTELLIGENCE

(An Experimental Study at the Second Grade Students of SMP Negeri 6 Sragen
in the Academic Year of 2011/2012)

by:
Dian Permata Sari
NIM. S 891008017

ENGLISH EDUCATION DEPARTMENT
GRADUATE PROGRAM
SEBELAS MARET UNIVERSITY
SURAKARTA
2012
PRONOUNCEMENT

This is to certify that I myself write this thesis entitled “THE EFFECTIVENESS OF RECIPROCAL TEACHING TO TEACH READING VIEWED FROM THE STUDENTS’ INTELLIGENCE (An Experimental Study at Second Grade Students of SMP Negeri 6 Sragen in the Academic Year of 2011/2012)”. It is not a plagiarism or made by others. Anything related to the other’s work is written in quotation, the source of which is listed on the bibliography.

If then this pronouncement proves wrong, I am ready to accept any academic punishment, including the withdrawal or cancellation of my academic degree.

Surakarta, June 2012

Dian Permata Sari
S891008017
ABSTRACT


The objectives of the research are: (1) to prove whether Reciprocal Teaching is more effective than Direct Method to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012; (2) to prove whether the students who have high intelligence have better reading skill than the students who have low intelligence to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012; (3) to prove whether there is an interaction between teaching methods and intelligence to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.

This is an experimental research which was conducted at the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012. The total number of population is 256 students coming from eight classes. The sampling of the research is cluster random sampling. The sample used in this research is class VIII F as the experimental group and VIII G as the control group which each consists of 32 students. The techniques of collecting data in this research are tests (reading test and intelligence test). Before reading test is used, a tryout is done to know the validity and reliability. The techniques of analyzing the data are descriptive statistics for looking mean, mode, median, and standard deviation. The researcher uses normality test adopting Liliefors and homogeneity test adopting chi-square (X) test. The data are analyzed using ANOVA 2x2 and TUKEY. ANOVA and TUKEY are to know the significance of the difference between the mean scores of two cells.

The findings of this research show: (1) Reciprocal Teaching is more effective than Direct Method to teach reading. The result from ANOVA shows that $F_0$ is higher than $F_t$ or $F_0 (4.24) > F_{(0.05)} (4.00)$. The mean score of reading, the students who are taught by using Reciprocal Teaching is 70.22 while the students who are taught by using Direct Method is 66.13; (2) The students who have high intelligence have better reading skill than the students who have low intelligence. The result from ANOVA shows that $F_0$ is higher than $F_t$ or $F_0 (11.00) > F_{(0.05)} (4.00)$. The mean score of students’ reading scores, the students who have high intelligence is 71.47 while the students who have low intelligence is 64.88; and (3) There is an interaction between teaching methods and students’ intelligence. The analysis gained from the ANOVA shows that $F_0$ is higher than $F_t$ or $F_0 (91.04) > F_{(0.05)} (4.00)$.

Based on the findings, it can be summarized that: (1) Reciprocal Teaching is more effective than Direct Method to teach reading; (2) The students who have high intelligence have better reading skill than the students who have low intelligence; and (3) There is an interaction between teaching methods and students’ reading test. The findings of this research imply that teaching methods have a strong influence on students’ reading skill.

Referring to the finding above, it can be concluded that Reciprocal Teaching is an effective method for the second grade students of SMP Negeri 6 Sragen. Therefore, it is suggested that: (1) it is better for English teachers apply appropriate methods by considering students’ characteristics especially based on their intelligence; (2) the students must be active, and they have to take part in every activity in the class; (3) This research can be used as a starting point and also as a reference for the future researches.

Key Word: Reciprocal Teaching, Direct method, Intelligence.
MOTTO

“Science without Religion is Lame
while Religion without Science is Blind”

~ Albert Einstein ~
DEDICATION

With deep profound love, this research is devoted to:

- The Al-Mighty, Allah SWT
- My beloved father and mother, for being my heroes.
- “Mas Hendra - my precious gift from God”, for your love and support.
- And my little brother “Dek Ponang”, for your pray.
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Alhamdullillahirabbil’alamin. All praises for the Al-Mighty God, ALLAH SWT, for His mercy and blessing so that the writer can complete the writing of this thesis as a partial requirement for achieving the graduate degree of education in English, English Education Department, Graduate Program of Sebelas Maret University.

The writer is also fully aware that her thesis can never be finished without the help and supports of others during the process of writing. Therefore, in this occasion she would like to give her deepest gratitude and appreciation to all of them who have given valuable contribution:

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6. The Second grade students of SMP Negeri 6 Sragen who have participated well in the research.
7. The graduate degree of education in English community 2010, thanks for all.

The writer realizes that this thesis is still far from being perfect. Therefore, comments and suggestions are welcome. Hopefully, this thesis will be useful for everyone who reads it.

Surakarta, 2012

Dian

commit to user

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CHAPTER I

INTRODUCTION

A. Background of the Study

Language is an integral part of human behavior. It is the primary means of interaction between people (Bonvillain, 2003: 1). If we think about the importance of language in our everyday life, language is so crucial in our daily life. We need to speak, listen, read and write to the others by using language. It is also used as the means of communication which connects people from different backgrounds, nations, and cultures. Speakers use language to convey their thoughts, feelings, intentions, and desires to others. When they say something through language, they send their messages and information from their feeling or thought for communicating in their society. Language links interlocutors in a dynamic and reflective process of communication. We learn about people through what they say and how they say it. We learn about ourselves through the ways that other people react to what we say and we also learn about our relationships with others through giving and taking of communicative interactions by using language.

According to Foss and Hakes (1978: 3) language permits people to communicate a tremendous range of attitudes and information, biases, and truths. It permits the building of a tradition through which a person’s actions and thoughts can be influenced by the thoughts of someone who lives hundreds of years earlier. It can enable us to describe past event in detail and plan for our
future. Language lets us pass down information for one generation to the next. It also permits a degree of self-expression impossible to any other species for greeting someone else, giving opinions, making compliments, making apologies or it may be used for hurting the others by teasing or accusing.

One of the languages that is acceptable and spread throughout the world is English. English is called as International language or Lingua Franca. It is used in many fields of life such as: in politic, economic, social, and education. It is the most widespread language in the world which has an important role in every aspect of life as medium of transferring sciences, technologies, arts, culture, etc. Realizing the important role of English as the International language, the students are expected to have interest and ability to communicate in English either orally or written. Thus, it is clear that the mastery of English is urgently required if people want to be well informed with these issues in delivering thought and interacting in a variety of situation.

The mastery of English as a means of communication for entering global era which is the era of openness in which the skills of using English are required in order to be able to compete with the others in many aspects of life is really crucial for human especially the students. For those who haven’t mastered English, it will be a big problem to be involved in the global era in which the association and communication with foreign people can’t be avoided. In the other side, for those who have mastered English, they can access information and communicate easily to the foreign people with the English ability they have.
English is regarded as a foreign language in Indonesia which has been widely used as the language of education, science, and technology. It is also as the compulsory subject which is taught from kindergarten up to university. Teachers and the students will be demanded to have English skills if they expect to understand the idea or the message of what they are reading.

Learning a foreign language such as English is a complex matter. It deals with so many things that differ from those of the student’s first language. In learning English, students have to master four major skills which are crucial to be learnt in English, namely listening, reading, speaking, and writing. Reading and listening are said to be receptive or passive skills while writing and speaking are said to be productive or active skills.

However, as one of English skill, reading has an important role in English teaching learning process. Pang, et al. (2003: 6) states that reading is a complex activity that involves both perception and thought. It consists of two related processes: word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one’s spoken language. Comprehension is the process of making sense of words, sentences, and connected text. It enables the students to learn the text structure and vocabulary and to understand the content of the text itself.

Students must have capability in reading because reading is not only a skill of drawing meaning from the printed page but also interpreting the information inside it appropriately. Harmer (1998: 68) states that many of the students want to
be able to read texts in English either for their careers, for study purpose, and for simply pleasure. By reading, the students can get and become familiar with the new grammar and can widen their vocabularies. Nunan (1989: 69) states that for most of the learners, it is the most important skill to master in order to ensure success not only in learning English, but also in learning any content subject where reading is required. In short, by mastering reading skill, learners will make greater progress and development in all areas of learning.

In fact, many students in SMP Negeri 6 Sragen especially second grade students have difficulties in reading skill. Most of the materials in second grade students are genre text like narrative, descriptive, and recount texts so the students are insisted to translate the text if they want to know and understand the meaning and message of these texts. The teaching learning process problems arise when the students have low understanding of determining main idea of the text, determining the writer’s or the text’s purpose, mentioning the explicit and implicit information of the text, finding the reference in the text, and understanding vocabulary of the text. Many students have low vocabularies; that is why, it is so difficult for them to understand the text. Sometimes, they know the meaning of the words or vocabularies but they don’t know how to make a good translation. In the other case, the students know the meaning of the words but they can’t get the message from the text. Moreover, some students don’t know the meaning of the words and can’t get the message from the text at all. It can be known from the daily activities in the class. The students always have mistakes in reading the text, translating the sentences, and understanding the message of the text. The result of
the test is still low and unsatisfying. Besides, they also don’t understand the questions and can’t answer the questions from the teacher although the teacher has explained and translated the text sentence by sentence.

There are some factors which influencing teaching learning process of reading. These factors can come from the students, the teacher, and the text. Student’s purpose, interest and ability in reading can influence their understanding of text (Donoghue, 2009: 176). Students who can read accurately and effectively will get maximum information from the text with minimum misunderstanding. Purpose of reading can focus the students’ attention and help them in understanding the text. Students who have high interest in reading the text will seek more information and discover answers to satisfy their curiosity. The factor coming from the text is the quality of the text itself (Lenz, 2005: 1). If the text is well organized, the students will understand the text easily. On the other hand, the students will find many difficulties, if the text is poorly organized.

The next factor is the quality of the teacher or instructor. The creative teacher will use teaching method which is appropriate with the students’ condition in the class and can attract them to be more interesting in learning English especially reading skill. There are many teaching methods that can be applied in teaching reading. One of them is reciprocal teaching. Specifically, reciprocal teaching consists of three main components: (a) the teaching and learning of specific reading comprehension strategies by using four comprehension strategies, namely questioning, predicting, clarifying, and summarizing, (b) the dialogue between a instructor and students where the instructor, why, when, and where to
use these reading comprehension strategies, and (c) the appropriating of the role of the instructor by the students, that is, students begin to model the reading comprehension strategies for other students (Palincsar & Brown, 1984:165). It is designed to make the students active in a discussion, be self-confident to speak in front of their friends, express their own ideas, and have a good cooperation with the other students in discussing the material. This method is good enough to make the students more creative and interested in learning English especially reading skill.

In fact, many teachers still feel comfortable to use "Direct Method" to be implemented for teaching reading in their English class. This Direct method is actually ineffective to be applied in teaching learning process because this Direct method is teacher centered. The teacher has main role in delivering, translating, and explaining the materials. By using this Direct method, the teacher will only ask the students for reading the text, asking the difficult words, translating the words together, and asking the students some questions. The students will not be interested in paying attention to the teacher’s explanation because they will feel bored quickly. The students tend to be passive in which they are only as the listeners and followers of the teacher’s explanation and instruction. They can’t develop their own ideas and expressions in reading ability.

The factors of learning reading which come from the students consist of their background knowledge, their vocabulary knowledge, their linguistic and discourse knowledge, their knowledge of specific comprehension strategies, and their intelligence. Readers who do not have background knowledge about the
topic of the text or the text type will have more difficulty in comprehending the text (Lenz, 2005: 1). According to Snow (2002), to comprehend the text the readers must have vocabulary knowledge. It means that to get comprehension in reading, sufficient vocabulary knowledge is needed. Snow (2002) states that to comprehend the text, the readers must have a wide range of capacities abilities. These can include various type of knowledge, like linguistic knowledge and discourse knowledge. Both linguistic and discourse knowledge are interrelated to each other. The reader must have knowledge of specific comprehension strategies in reading to get comprehension (Snow, 2002: 2). It means that knowledge of reading strategies is important in reading comprehension.

Intelligence is as the last factor of learning reading which arises from the students. Deboer (1966: 131) states that background experience, interest, and native intelligence may also play a part in determining how many and which individual words a reader may miss and still have high comprehension. It can be concluded that intelligence has a crucial role for improving students’ comprehension in reading skill. There is a substantial correlation between intelligence and reading ability (Deboer, 1966: 132). It is said that students who have high level of intelligence will have high skill to comprehend the text and can learn more quickly rather than students who have low level of intelligence.

For solving the problems above, the researcher uses reciprocal teaching to teach reading to the second grade students of SMP Negeri 6 Sragen in order to improve the students’ ability in reading and make them more interested in learning English especially in reading skill. She considers that the students’
intelligence even low intelligence or high intelligence is as a tool for knowing whether reciprocal teaching is suitable for the students who have high intelligence or low intelligence and to know whether direct method is suitable for the students who have high intelligence or low intelligence.

Based on the explanation above, the researcher is interested in conducting an experimental research entitled “The Effectiveness of Reciprocal Teaching to Teach Reading Viewed from the Students’ Intelligence”.

B. Problem Identification

Based on the background of the study above, the researcher identifies some problems as follows:

1. Why do the students have difficulties for understanding text?
2. What factors are the causes of low understanding of text?
3. Is reciprocal teaching effective to teach reading?
4. Does the students’ intelligence influence their reading skill?
5. Is there an interaction between teaching methods and intelligence to teach reading?
C. Problem Limitation

The researcher realizes that it is impossible to investigate all identified problems above. Thus, the problems of this study are limited to the certain variables. In this matter, the researcher emphasizes the problems of the research on Reciprocal Teaching Method which is as an experimental variable and Direct Method which is as a control variable. Then, the teaching reading is focused on the materials of the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012. Meanwhile, intelligence is as an attribute variable because this variable is believed as one factor that may affect students’ ability in reading.

D. Problem Statement

This research focuses on the problems formulated as follows:

1. Is Reciprocal Teaching more effective than Direct Method to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?

2. Do the students who have high intelligence have better reading skill than those who have low intelligence of the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?

3. Is there an interaction between teaching methods and intelligence to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?
E. The Objectives of the Study

Based on the statement of the problems, the objectives of this research are as follows:

1. Whether Reciprocal Teaching is more effective than Direct Method to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?

2. Whether the students having high intelligence have better reading skill than those having low intelligence of the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?

3. Whether there is an interaction between teaching methods and intelligence to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012?

F. The Benefits of the Study

1. For the students of SMP Negeri 6 Sragen

By applying reciprocal teaching to teach reading, it can motivate the students for improving their reading skill. It is also expected to be a smart solution for the students in studying English and it can help them to find out the effective method of solving their difficulties in studying English especially in reading.

2. For the English teachers of SMP Negeri 6 Sragen

The research result is very valuable for them to expand their knowledge of English learning strategy applied in learning process in developing the
reading skill of the students of SMP Negeri 6 Sragen.

3. For other researchers

The result of the research is expected to be used as the additional references for the similar research.
CHAPTER II

LITERATURE REVIEW

In this chapter, the researcher describes theoretical description underlying the research, rationale, and hypothesis.

A. Reading

1. The Definition of Reading

Reading comprehension commonly entails seven skills. They are recognizing the words in the context, identifying main ideas, recognizing the sequence, decoding details, drawing inferences, recognizing cause and effect, and comparing and converting. Being able to state the main idea of what has been read is one of the most important comprehension skills (Rosenshine in Dupuis and Askov, 1982: 186). It means that reading is a complex activity which covers seven skills above.

According to Brown (2004: 213) skimming reading is the process of rapid coverage of reading matter to determine its gist or main idea. Meanwhile, Burn/Roe/Ross (1984: 10) state that reading is a thinking process. The process of recognizing words requires interpretation of graphic symbols to understand the figurative language, determine the authors purpose, to evaluate the ideas presented, and apply the ideas to the actual situation.

Hafner and Jolly in Burns, et al. (1984: 27) define reading as a process of looking at written language symbols/convert them into overt and convert
speech symbols, and manipulating them so that both overt (direct) and (implied) ideas intended by the author may be understood. In the other word, reading can be stated as a thinking process of understanding the meaning which is planned by the writer explicitly and implicitly.

According to Smith (1993) states that reading also means responding. The response may be at the surface level of “calling” the word. It may be the somewhat deeper level of understanding the explicit meaning of sentence, paragraph or passage. It is stated that reading is a responding process of thoughtful understanding of direct meaning.

Smith (1995: 23) states that reading is an interactive process in which the reader's prior knowledge of the world interacts with the message conveyed directly or indirectly by the text. A good reading competence requires many components. The students have to have some indicators that can indicate their reading competence such as: understanding reference in the reading text, understanding kinds of paragraph development, understanding the message of the story, understanding topic sentence, understanding the tone (of emotion) of the text, understanding vocabulary, understanding logical inference, distinguishing between general idea and topic sentence, making accurate prediction, making restatement, and understanding grammar (Bermuister, 1974: 83). In the other word, it can be concluded that reading is an interactive process which requires many components for understanding the message of the text directly and indirectly.
Based on several ideas of reading which have been stated above, it can be concluded that reading is a complex thinking process that allows readers to recognize, understand, and evaluate ideas and thoughts by looking for the purpose, main idea, explicit and implicit meaning, reference of pronoun and meaning of words of the text.

2. The Skills of Reading Comprehension

Brown (2004: 187-188) states that there are two skills in reading, namely macro skills and micro skills.

a. Macro Skills

1) Recognizing the rhetorical forms of written discourse and their significance for interpretation.
2) Recognizing the communicative functions of written texts, according to form and purpose.
3) Inferring context that is not explicit by using background knowledge.
4) Describing events, ideas, etc, inferring links, and connecting between events, deducing causes and effects, and detecting such relations as main idea, supporting idea, new information, given information, generalization, and exemplification.
5) Distinguishing between literal and implied meaning.
6) Detecting culturally specific references and interpret them in a context of the appropriate cultural schemata.
7) Developing and using a battery of reading strategies, such as scanning and skimming, detecting discourse markers, guessing the meaning from context, and activating schemata for the interpretation of texts.

b. Micro Skills

1) Discriminating among the distinctive graphemes and orthographic patterns of English.

2) Retaining chunks of language of different lengths in short term memory.

3) Processing writing at an efficient rate of speed to suit the purpose.

4) Recognizing a core of words, and interpret word order patterns and their significance.

5) Recognizing grammatical word classes (noun, verbs, etc) systems (tense, agreement, and pluralization) patterns, rules, and elliptical forms.

6) Recognizing that a particular meaning may be expressed in different grammatical forms.

7) Recognizing cohesive devices in written discourse and their role in signaling the relationship between and among clauses.

Aebersold and Field (1997: 16) state that there are 19 reading skills. These reading skills are as follows:

a. Recognizing the word quickly.

b. Using text features (subheadings, transitions, etc)

c. Using title(s) to infer what information might follow

d. Using word knowledge

**commit to user**

e. Analyzing unfamiliar words
f. Identifying the grammatical functions of words

g. Reading for meaning, concentrating on constructing meaning.

h. Guessing about the meaning of the text

i. Evaluating guesses and trying guesses if necessary.

j. Monitoring comprehension.

k. Keeping the purpose for reading the text in mind

l. Adjusting strategies to the purpose for reading

m. Identifying or inferring main ideas.

n. Understanding the relationship between the parts of text.

o. Distinguishing main ideas and minor ideas.

p. Tolerating ambiguity in a text.

q. Paraphrasing.

r. Using context to build meaning and aid comprehension.

s. Continuing reading even when unsuccessful, at least for a while.

3. The Types of Reading Performance

Brown (2001: 312) states that there are some kinds of reading performance, as follows:

a. Oral reading

   It serves as an evaluation check on bottom-up processing skills, check students’ pronunciation, and serve to add some extra students’ participations if the teacher wants to highlight a certain short segment of reading passage. For advance levels, it has some disadvantages. These
disadvantages are as follows: (1) oral reading is not very authentic language activity, while one student is reading, others can easily lose attention; and (2) it may have the outward appearance of students’ participation when in reality is mere recitation.

b. Silent reading

Silent reading can be categorized into intensive and extensive reading. Intensive reading calls students’ attention to grammatical forms, discourse makers, and other surface structure details for the purpose of understanding literal meaning, implications, rhetorical relationship, and the like. It is used to teach or practice specific reading strategies or skills. The text is treated as an end in itself. It deals with linguistic background and the content of the text.

Extensive reading involves reading of large quantities of material, directly and fluently. It is treated as a means to an end. It may include reading simply for pleasure or reading technical, scientific, or professional material. It involves two specific types of reading, scanning for key details or skimming for the essential meaning. A relatively quick and efficient read, either on its own or after scanning or skimming, will give a global or general meaning.
4. The Aims of Reading

Reading is a variant skill in which there are different types of reading skills that correspond to many different aims we have for reading.

Grabe and Stoller (2002: 13-15) state that there are seven aims for reading. These aims are as follows:

a. Reading to search for simple information

It is used so often in reading tasks that it is probably best seen as a type of reading ability. In reading to search, we typically scan the text for a specific piece of information or specific word.
b. Reading to skim quickly

It is a common part of many reading tasks and a useful skill in its own right. It involves, in essence, a combination of strategies for guessing where important information might be in the text, and then using basic reading comprehension skills on those segments of the text until a general idea is formed.

c. Reading to learn from the text

It requires ability to remember main ideas as well as a number of details that elaborate the main and supporting ideas in the text recognize and build rhetorical frames that organize the information in the text, and link the text to the reader’s knowledge base.

d. Reading to integrate information

It requires additional decisions about the relative importance of complementary, mutually supporting or conflicting information and the likely restructuring of a rhetorical frame to accommodate information from multiple resources.

e. Reading to write (or search for information needed for writing)

It requires abilities to compose, select, and critique information from a text. It represents common academic tasks that call upon the reading abilities needed to integrate information.
f. Reading to critique texts

It has similar abilities with reading to write. It also requires abilities to compose, select, and critique information from a text. It also represents common academic tasks that call upon the reading abilities needed to integrate information.

g. Reading for general comprehension.

It is accomplished by a skilled fluent reader and it requires very rapid and automatic process of words, strong ideas, and efficient coordination of many processes under very limited time constraints.

Rivers and Temperley in Nunan (1989: 33) suggest that the second language learners will want to read for the following aims:

a. To obtain information for some purposes or because we are curious about some topic.
b. To obtain instruction on how to perform some tasks for the work or daily life.
c. To act in a play (play a game or do a puzzle).
d. To keep in touch with friends by correspondence or to understand business letter.
e. To know where on when something will take a place or what is available.
f. To know what is happening or has happened.
g. For enjoyment or excitement.
5. The Principles of Teaching Reading

In teaching reading, there are some principles that must be known by the teachers. These principles are as follows:

a. Learning to read is a complicated process and is sensitive to a variety of pressures.

b. Learning to read is an individual process.

c. Pupils’ differences must be a primary consideration in reading instruction.

d. Reading instruction should be thought of as an organized, systematic, growth producing activity.

e. Proper reading instruction depends on the diagnosis of each child’s weaknesses and needs.

f. The best diagnosis is useless unless it is used as a blueprint for instruction.

g. No child should be expected or force to attempt to read material which, at that moment, he is incapable of reading.

h. Reading is a process of getting meaning from printed word symbol. It is not merely a process of making conventionalized noises associated with these symbols.

i. Any given technique, practice or procedure is likely to work better with some children than with the others. Hence, the teacher of reading must have a variety of approaches.

j. Learning to read is a long term developmental process extending over period of years.
k. This concept of readiness should be extended upward to all grades

l. Children should not be in learning formal situation if they have emotional problems sufficiently serious to make them uneducable at the moment, or if they interfere with, or disrupt the learning

m. Emphasis should be on prevention rather than cure. Reading problems should be detected early and corrected before they deteriorate into failure – frustration – reaction cases

6. The Strategies of Reading

There are four strategies of teaching reading. These strategies are as follows:

a. Top Down Strategy

It means that the reader brings a great deal of knowledge, expectations, assumptions, and questions to the text, and it gives a basic understanding of vocabulary. They continue to read as long as the text confirms their expectations.

b. Bottom Up Strategy

It argues the reader to construct the text from the smallest unit, from letters to words, from words to phrases, from phrases to sentences, etc and then become automatic. Readers are not aware of how it operates. Decoding is earlier term in this process.
c. Interactive Strategy

It describes a process that combines bottom up and top down, depending on the type of the text as well as on the reader’s background knowledge, language proficiency level, motivation, strategy use and culturally shaped beliefs about reading.

d. Scanning and Skimming Reading.

Scanning is the technique of looking up message in the text quickly over the page to find particular words or phrases that are relevant to the task you are doing. It is useful to scan parts of texts to see if they are going to be useful like the introduction or preface of a book, the first or last paragraphs of chapters, and the concluding chapter of a book. Meanwhile skimming is the technique which is used for getting the gist or main idea of text quickly, and skipping over the detail. It is useful to skim preview a passage before reading in detail to refresh the understanding of a passage after reading in detail.

Based on the theories above, it can be concluded that reading is a thinking process of determining its gist or main idea of the text, determining the writer’s or the text’s purpose, mentioning the explicit and implicit information of the text, finding the reference of pronoun, and finding the meaning of words based on the context.
B. Reciprocal Teaching

1. The Definition of Reciprocal Teaching

Reciprocal Teaching is a technique used to develop comprehension of expository text in which the teacher and the students take turns leading of a dialogue concerning sections of a text. Four activities are incorporated into the techniques: prediction, questioning, summarizing, and clarifying misleading or complex sections of the text (Carroll, 1988). It means that reciprocal teaching is as technique to improve reading comprehension by using four techniques through a dialog.

Reciprocal teaching is an instructional strategy based on modeling and guided practice, in which the instructor first models a set of reading comprehension strategies and then gradually cedes responsibility for these strategies to the students. Specifically, reciprocal teaching consists of three main components: (a) the teaching and learning of specific reading comprehension strategies; (b) the dialogue between a instructor and students where the instructor, why, when, and where to use these reading comprehension strategies; and (c) the appropriating of the role of the instructor by the students, that is, students begin to model the reading comprehension strategies for other students (Palincsar & Brown, 1984: 166-167). Thus, the goals of reciprocal teaching are for students to learn the reading comprehension strategies, learn how and when to use the strategies, and become self-regulated in the use of these strategies.
Palincsar and Brown (1984: 168-169) state that reciprocal teaching is summarized as follows:

a. Reciprocal teaching involves extensive modeling of the type of comprehension fostering and comprehension-monitoring activities that are usually hard to detect in the expert reader.

b. The Reciprocal teaching routines force the students to respond, even if they are not capable of reaching an expert level.

c. The Reciprocal teaching procedure involves continuous trial and error on the part of the students and the continuous adjustment on the part of the teacher to their current competence.

d. The teaching training is intended to imitate the conditions of natural teaching. The interactions of reciprocal teaching are based on the forms of guided learning interaction that are said to occur naturally between experts and novices, both in the ideal home and school settings and in the workplace.

The reciprocal style of teaching is based around the cognitive theories of learning. In this style, the learners often work in pairs, one doing the work, whilst the other observes. The teacher decides which aspect of performance should be 'worked practiced'. The students are encouraged to work together to decide how to develop the performance.
It be concluded that reciprocal teaching can be defined as a strategy in which uses summarizing, questioning, clarifying, and predicting to help or teach each other (teacher and students) to understand text.

2. The Basic Strategies of Reciprocal Teaching

Palincsar and Brown (1984: 117-175) describe four basic strategies in reciprocal teaching. These basic strategies are as follows:

a. Questioning: Questioning involves the identification of information, themes, and ideas that are central and important enough to warrant further consideration. The central or important information, themes, or ideas are used to generate questions that are then used as self-tests for the reader. Questioning provides a context for exploring the text more deeply and assuring the construction of meaning.

b. Summarizing: Summarizing is the process of identifying the important information, themes, and ideas within a text and integrating these into a clear and concise statement that communicates the essential meaning of the text. Summarizing may be based on a single paragraph, a section of text, or an entire passage. Summarizing provides the impetus to create a context for understanding the specifics of a text.

c. Clarifying: Clarifying involves the identification and the clarification of unclear, difficult, or unfamiliar aspects of a text. These aspects may include awkward sentence or passage structure, unfamiliar vocabulary, unclear references, or obscure concepts. Clarifying provides the
motivation to remediate confusion through re-reading, the use of context in which the text was written and/or read, and the use of external resources (e.g., dictionary or thesaurus).

d. Predicting: Predicting involves combining the reader’s prior knowledge, new knowledge from the text, and the text’s structure to create hypotheses related to the direction of the text and the author’s intent in writing. Predicting provides an overall rationale for reading to confirm or disconfirm self-generated hypotheses.

3. The Steps of Teaching using Reciprocal Teaching

According to Hartman (1994) there are five steps in teaching using reciprocal teaching. These steps are as follows:

Step 1: Teacher Demonstration

Instructor models and explains coordinated use of the four reading strategies: questioning, predicting, summarizing and clarifying.

Step 2: Student Learning & Practice

Instructor directly instructs students on the four strategies and their coordinated use. Students get guided practice and feedback from the instructor.
Stage 3: Teacher-Student Groups

Instructor leads dialogues about text in small groups, repeatedly modeling the strategies. Students take turns leading dialogues, getting feedback from the instructor.

Step 4: Student Groups

Students take turns leading dialogues using the four strategies in small groups with other students. Students give each other feedback on strategy use. The instructor moves from group to group observing progress and providing assistance as needed. Instructor phases out.

Step 5: Student Self-Regulation

Students competently use the four reading comprehension strategies on their selves and provide their own feedback.

Palinscar and Brown (1984: 175) state that the teacher hands out a passage of the text to each student in the group. Each student reads the passage and writes questioning, summarizing, clarifying, and predicting related to what they have read. The “teacher” of the group asks one of the questions. The “teacher” is the leader of the group who starts off the questioning. One group member responds by using the text to support their answer. The student who answers the questions then asks a question and the process repeats.
4. The Reciprocal Teaching Guidelines

To prepare for class discussion, the teacher will read the text and compose questions in each of the four areas.

a. Questioning, write three kinds of questions:
   1). Questions of facts
      - Focus on details from text
      - Ask about people, places, and things
      - Choose surface questions for others to answer

Adapted from: http://condor.admin.ccny.cuny.edu/~yq6048/
2). Questions of interpretation

- Focus on meanings that the text communicates
- Ask about symbols, themes, and underlying messages
- Choose deeper questions for others to answer

b. Summarizing

1) What happened?
2) What is the essential to tell?
3) What is the outcome?
4) Who is involved?
5) Why does this happen?
6) What is the main point?
7) What does the author want me to remember or learn from the passage?

c. Clarifying

1) What was confusing?
2) What words or phrases did you need more information on?
3) What strategies can you see to clarify your understanding?

d. Predicting

1) What will happen next?
2) Why do you think what you do?
3) What effect will events in what you have read have on the story or the characters?
5. The Advantages of Reciprocal Teaching

There are six advantages of reciprocal teaching. These advantages are:

a. Greater knowledge of the topic
b. More positive attitudes when extracting, organizing, and recording information
c. Improving skills
d. Improving leadership skills
e. More self-confidence and motivation to read
f. Increasing co-operation and greater initiative

6. The Disadvantages of Reciprocal Teaching

There are four disadvantages of Reciprocal teaching. These disadvantages are:

a. The students could provide wrong feedback.
b. The process is time consuming.
c. Not suitable with large groups.
d. Worksheets are required to guide students.

C. Direct Method

1. The Definition of Direct Method

According to Champion (1986), “The direct method is a method of teaching English directly. To teach English directly is to establish a direct or
immediate association between experience and expression, between the English word, phrase, or idiom and as meaning in other words of establishing in connection with English the same habit of direct experience as exists is the use of mother tongue.” Meanwhile, Peterson (1999: 231) defines direct method as the similar to traditional teaching. Generally speaking traditional teaching is directed toward teaching academic content. It is also characterized by teacher-centered and teacher-dominated classroom. We can say that it is teacher-centered method in which the lesson is taught by using English directly.

According to Joyce and Weil (1986: 326) direct method has the highest priorities on the assignment and complexion of academic tasks in the classroom. The teacher also provides feedback and correction for the students’ mistake. In the other side, Person, Hinson, and Brown (2001: 11) state that in direct method, the teacher becomes decision maker. Teacher will engage in many planning decisions, such as deciding what he/she would like to teach, he/she wishes to teach, about and how he/she will go about the reading process. It is highly structured and teacher directed. The teacher control occurs when the teacher selects and directs the learning tasks.

Engelmann (2002) states that direct method is probably the most popular teaching strategy that is used by teachers to facilitate learning. It is teacher directed and follows a definite structure with specific steps to guide pupils toward achieving clearly defined learning outcomes. The teacher maintains the locus of control over the instructional process and monitors pupils' learning throughout the process.
From the explanation above, it can be concluded that direct method is a method of teaching in which the teacher uses English directly and as a decision maker in teaching learning process.

2. The Principles of Direct Method

Richards and Rogers in Flowerdew and Miller (2005: 5) describe eight principles of Direct Method. These principles are as follows:

a. Classroom instruction was conducted exclusively in the target language
b. Only everyday vocabulary and sentence were taught
c. Oral communication skills were built up in a carefully graded progression organized around question and answer exchanges between teachers and students in small, intensive classes
d. Grammar was taught inductively
e. New teaching points were introduced orally
f. Concrete vocabulary was taught through demonstration, objects, and pictures; abstract vocabulary was taught through association of ideas
g. Both speech and listening comprehension were taught
h. Correct pronunciation and grammar were emphasized

3. The Steps of Teaching using Direct Method

Engelmann (2002) states that there are six steps in teaching using Direct method. These steps are as follows:
a. Introduction/Review

The teacher gains the pupils' attention. Sometimes this step is referred to a focusing event and is meant to set the stage for learning to take place. At this stage, the pupils are informed as to what the learning goal or outcome is for the lesson and why it is important or relevant. This step can either take the form of introducing new information or building upon what has been previously learned or covered as a review.

b. Development

Once, the goal is communicated to pupils, the teacher models the behavior (knowledge or skill) that pupils are ultimately expected to demonstrate. This step includes clear explanations of any information with as many examples as needed to assure pupils' understanding (depending on pupils' learning needs) of what is to be learned. During this step, the teacher also checks for understanding by asking key questions relative to what is to be learned or by eliciting questions from pupils. At this stage, teachers can also use prompts (visual aids, multimedia presentations, etc.) to encourage pupils to process information successfully.

c. Guided Practice

Once, the teacher is confident that enough appropriate examples and explanation of the material to be learned has been modeled with sufficient positive pupil response to the instruction, activities or tasks can be assigned for pupils to practice the expected learning with close teacher monitoring. It is at this stage that teachers can offer assistance to pupils
who have not yet mastered the material and who may need more direct instruction from the teacher (step 2 repeated).

d. Closure

As a final step to this model, closure brings the whole lesson to a conclusion and allows the teacher to recap what was covered in the lesson. It is meant to remind pupils about what the goal for instruction was and for preparing them to complete the independent practice activities that are then assigned by the teacher.

e. Independent Practice

Activities or tasks related to the defined learning outcomes are assigned in this step usually after pupils have demonstrated competency or proficiency in the 3rd step. Independent practice is meant to eliminate any prompts from the teacher and is meant to determine the degree of mastery that pupils have achieved. (Homework can be classified as an independent practice because it is meant to provide the opportunity for pupils to practice without the assistance or help from the classroom teacher.)

f. Evaluation

Evaluation tools are used to assess pupils' progress either as it is occurring (worksheets, classroom assignments, etc.) or as a culminating event (tests, projects, etc.) to any given lesson. Evaluation of pupils' learning provides the necessary feedback to both the teacher and the pupil and can be used to determine whether expected learning outcomes have been met or have to be revisited in future lessons.
4. The Advantages of Direct Method

There are some advantages of Direct method. These advantages are as the following:

a. It makes the learning of English interesting and lively by establishing direct bond between a word and its meaning.

b. It is an activity method facilitating alertness and participation of the pupils.

c. This serves as a strong foundation of further learning.
Due to application of the Direct Method, students are able to understand what they learn, think about it and then express their own ideas in correct English about what they have read and learnt.

Psychologically it is a sound method as it proceeds from the concrete to the abstract.

This method can be usefully employed from the lowest to the highest class.

Through this method, fluency of speech, good pronunciation and power of expression are properly developed.

5. The Disadvantages of Direct Method

There are six disadvantages of Direct method. These disadvantages are as follows:

a. There are many abstract words which cannot be interpreted directly in English and much time and energy are wasted in making attempts for the purpose.

b. This method is based on the principles that auditory appeal is stronger than visual. But there are children who learn more with visual than with their oral- aural sense like ears and tongue.

c. The method ignores systematic written work and reading activities and sufficient attention is not paid to reading and writing.

d. Since in this method, grammar is closely bound up with the reader, difficulty is experienced in providing readers of such kind.
e. There is dearth of teachers trained and interested in teaching English in this method.

f. This method may not hold well in higher classes where the Translation Method is found suitable.

g. In larger classes, this method is not properly applied and teaching in this method does not suit or satisfy the needs of individual students in large classes.

D. Intelligence

1. The Definition of Intelligence

Intelligence exists as a very general mental capability involving ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. The brain processes involved are little understood. Thordike in Djaali (2007: 64) states that intelligence is demonstrable in ability of individual to make good responses from the standpoint of truth or fact.

According to Santrock (1990: 115) intelligence is problem solving skills, the ability to adapt and to learn from life’s everyday experience. Vygotsky in Santrock (1990: 115) says that intelligence is the ability to use the tools of the culture with help for more skilled individual. Binet in Aiken (1997: 136) defines intelligence as the ability to think abstractly, the ability to learn, and the ability to adapt to environment. Intelligence is the ability to adjust to the environment or to learn from experience (Super and Cities in Soemanto, 1990: 178).
Garret in Soemanto (1990: 179) states that intelligence is the abilities demanded in the solution of problem which require the comprehension and use of symbol. Intelligence is the ability to think abstractly and to learn readily from experience (Flynn in Christensen, 2000: 114).

From the explanation above, it can be concluded that intelligence is a mental capability of an individual involving ability to think abstractly, the ability to solve problem, the ability to learn from life’s everyday experience, and the ability to adapt to environment.

2. The Types of Intelligence

According to Howard Garner (2002) there are nine types of intelligence. These types of intelligence are as follows:

a. Naturalist Intelligence (Nature Smart)

It designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. It is also speculated that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like.
b. Musical Intelligence (Musical Smart)

Musical intelligence is the capacity to discern pitch, rhythm, timbre, and tone. This intelligence enables us to recognize, create, reproduce, and reflect on music, as demonstrated by composers, conductors, musicians, vocalist, and sensitive listeners. Interestingly, there is often an affective connection between music and the emotions; and mathematical and musical intelligences may share common thinking processes. Young adults with this kind of intelligence are usually singing or drumming to themselves. They are usually quite aware of sounds others may miss.

c. Logical-Mathematical Intelligence (Number/Reasoning Smart)

Logical-mathematical intelligence is the ability to calculate, quantify, consider propositions and hypotheses, and carry out complete mathematical operations. It enables us to perceive relationships and connections and to use abstract, symbolic thought; sequential reasoning skills; and inductive and deductive thinking patterns. Logical intelligence is usually well developed in mathematicians, scientists, and detectives. Young adults with lots of logical intelligence are interested in patterns, categories, and relationships. They are drawn to arithmetic problems, strategy games and experiments.

d. Existential Intelligence

Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why do we die, and how did we get here.
e. Interpersonal Intelligence (People Smart)

Interpersonal intelligence is the ability to understand and interact effectively with others. It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods, and temperaments of others, and the ability to entertain multiple perspectives. Teachers, social workers, actors, and politicians are all exhibit interpersonal intelligence. Young adults with this kind of intelligence are leaders among their peers, are good at communicating, and seem to understand others’ feelings and motives.

f. Bodily-Kinesthetic Intelligence (Body Smart)

Bodily kinesthetic intelligence is the capacity to manipulate objects and use a variety of physical skills. This intelligence also involves a sense of timing and the perfection of skills through mind–body union. Athletes, dancers, surgeons, and craftspeople exhibit well-developed bodily kinesthetic intelligence.

g. Linguistic Intelligence (Word Smart)

Linguistic intelligence is the ability to think in words and to use language to express and appreciate complex meanings. Linguistic intelligence allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public speakers. Young adults
with this kind of intelligence enjoy writing, reading, telling stories or
doing crossword puzzles.

h. Intra-personal Intelligence (Self Smart)

Intra-personal intelligence is the capacity to understand oneself and one’s
thoughts and feelings, and to use such knowledge in planning and to give
direction one’s life. Intra-personal intelligence involves not only an
appreciation of the self, but also of the human condition. It is evident in
psychologist, spiritual leaders, and philosophers. These young adults may
be shy. They are very aware of their own feelings and are self-motivated.

i. Spatial Intelligence (Picture Smart)

Spatial intelligence is the ability to think in three dimensions. Core
capacities include mental imagery, spatial reasoning, image manipulation,
graphic and artistic skills, and an active imagination. Sailors, pilots,
sculptors, painters, and architects all exhibit spatial intelligence. Young
adults with this kind of intelligence may be fascinated with mazes or
jigsaw puzzles, or spend free time drawing or daydreaming.

3. The Factors Influencing Intelligence

Scarr (1966) states that there are fifteen factors that influence people’s
intelligence:

a. Heredity factors (genetic code, genotype, phenotype)
b. Twin studies (identical twins and fraternal twins. Identical twins originate from a single fertilized egg and share the same gencode. The fraternal twins arise from two different eggs fertilized by two different sperm cells/

c. Relationship median correlation (the correlation between the IQs of identical twins and fraternal twins)

d. Adoption studies (the studies on adopted children)

e. Environmental factors (a wide range of stimulations that the child is subjected to)

f. Prenatal environmental (mother's nutrition, mother's emotional state, illness of the mother, mother's use of drugs, and birth complications)

g. Postnatal environment (the environment the child faces after he is born)

h. Home environment (all the mental and behavioral transactions taking place among the family members)

i. Parent child interaction (the nature of mental behavioral transactions between the parents and the child)

j. Social and environmental deprivation (If the environmental opportunities and stimulations are low, children show poor cognitive performance vice versa)

k. Socioeconomic status (the index of socioeconomic status is based on parental education, occupation, and income)

l. Race and Culture (racial and cultural differences in performance on lard intelligence tests)
m. Sex differences (females are superior in language skills, verbal fluency, and reading, while males are superior in mathematical reasoning and spatial abilities)

n. Personality dispositions (general pattern of adjustment and personality like assertiveness, independence, self-in and competitiveness)

o. Psychological conditions (nutrition, health, drugs, disease, and physical injury affect the cognitive competence of the child).

4. The Aspects of Intelligence

According to Sternberg (1985) there are three aspects of intelligence. These three aspects are:

a. Analytical intelligence.

Analytical intelligence is involved when the components of intelligence are applied to analyze, evaluate, judge, or compare and contrast. It typically is involved in dealing with relatively familiar kinds of problems where the judgments to be made are of a fairly abstract nature.

b. Practical intelligence.

Practical intelligence involves individuals applying their abilities to the kinds of problems that confront them in daily life, such as on the job or in the home. Practical intelligence has centered on the concept of tacit knowledge. They have defined this construct as what one needs to know, which is often not even verbalized, in order to work effectively in an
environment one has not been explicitly taught to work in and that is often not even verbalized.

c. Creative intelligence. It involves insights, synthesis and the ability to react to novel situations and stimuli. It is the experiential aspect of intelligence and reflects how an individual connects the internal world to external reality. In work with creative intelligence, people tend to create various kinds of products in the realms of writing, art, advertising, and science.

F. Review of Related Research.

There are some related researches which used in this research. First, Sahhosseini (2011: 4) in his research states that for freshmen at Shahroood University of Technology in Iran who took Comprehensive English Language Test course, reciprocal teaching has the edge over transmission model. Going beyond statistical significance, one can relate the differential effect of reciprocal teaching to the dialogical process of constructing the meaning of the text and the strategies which lead to the active involvement of the learners. Although initially, teacher-student interaction may dominate, as the course progresses gradually student-student interaction is more dominant. The subjects were trained to employ the four key strategies and to know what strategies to use, and when, why, and how to use each of them. They learned to predict, to generate questions, to identify the main idea of a paragraph, to clarify unclear words, phrases, or sentences, and to summarize their reading. The researcher recommends the use of this method as a substitute for traditional models in EFL contexts.
Second, Cho/Eng/Ahmad (2010: 6) state that Reciprocal teaching strategies are as good, effective, and useful for Six-Form students’ reading comprehension in Malaysia. In Malaysia, English is taught to prepare pre-university (Sixth-Form) students to meet various academic challenges through the development of critical thinking and the competent use of language skills. Furthermore, students are taught to understand texts beyond the literal level, to understand the interconnectivity of content from a variety of genres, and to respond critically. This research has been proven that students’ language skills had improved after they were taught by using reciprocal teaching. Students can interact with each other, co-construct meanings from the text.

Third, Hamzah and Hani (2010: 34) state that the results of applying Reciprocal Teaching by Jordanian teachers show that the Secondary Stage teachers valued the strategies of using it significantly higher than the Basic Stage teachers. The results also show that Secondary Stage teachers implemented it more often than their Basic Stage counterparts. It can be concluded this method is more suitable for secondary school students than lower stage students. The latter studies showed that reciprocal teaching can be used effectively with students in all school stages (i.e. basic, intermediate and secondary). Language teachers valued the importance of practicing the strategies of reciprocal teaching, but they conceded that much time should be invested in achieving planned instructional objectives. They also indicated that basic stage students cannot practice the Reciprocal Teaching strategies because they do not have the developmental cognitive skills required. The beliefs expressed by the respondents in this study
are summarized that Reciprocal Teaching strategies can be modified and applied effectively in teaching different school subjects.

Fourth, Peter, Davis and Cheri (2006: 115) state that Reciprocal teaching provides the higher education instructor with a useful tool for engaging students, individually and socially, in the exploration and critical evaluation of texts. In addition, the use of reciprocal teaching also satisfies the criteria for promoting effective strategy use. In higher school education, it is a strategy that encompasses each of these effective strategy instruction criteria. In addition, the case examples previously discussed provide a broad range of text-based models of effective strategy use. Reciprocal teaching is a reading comprehension strategy that has withstood the tests of time, usage, and empirical research. Ultimately, reciprocal teaching provides a theoretically sound avenue for fostering the deeper understanding of texts within the higher education academic environment.

Fifth, Cooper and Greive (2009: 9) state that the study indicates that Reciprocal Teaching strategies, which are intended to develop the skills of reading comprehension, can be extended to readings in subjects such as HSIE. As such, it process can be extended to all other subject areas that include subject-specific text, such as Science, Technology, History and so on. It must be remembered that it is not a short-term process, but one that can be and should be continued throughout the years of primary and secondary education. Its use over time will also permit students to master the skills of summarization and prediction. Most importantly, this method process becomes a means of making literacy skills a major focus of education.
Sixth, Makhzoomi (2012: 8-13) states that Reciprocal Teaching Procedure (RTP) enhances EFL Jordanian university students' reading comprehension behavior. The importance of reading in English or the importance of developing good English reading skills, they were positive towards the Reciprocal Teaching Procedure (RTP) as an invaluable and effective technique or tool to improve such skills, despite their unfamiliarity with it. The present study revealed that the (RTP) represented a challenge for the study subjects, i.e., it made great demands or expectations upon them of approaching reading texts by predicting, questioning, clarifying and summarizing, very often in a group context working with peers without the immediate direction of a teacher. Such a teaching and learning environment is not part of the classroom culture of Jordanian schools and universities.

The structural framework of the present study involved the Reciprocal Teaching Procedure (RTP) using small groups for the sake of developing, once again, the strategies of predicting, questioning, clarifying and summarizing. Such an approach represented a departure from the whole class teacher – directed or teacher – centered structure of traditional EFL Jordanian classroom contexts to the application of the students' skills to the readings texts in a group context.

G. Rationale

1. The differences between Reciprocal Teaching and Direct Method.

Direct Method is a direct model of teaching in which the teacher teaches the materials to the students by using English directly. English here is as prime conductor language which is used for all activities and explanations in the
classroom and the teacher doesn’t use mother tongue to explain the difficult words. If in teaching the materials, the students do not understand the teacher’s explanation of using English or some difficult words; the teacher can use some tools, demonstrate or draw on the board for giving more explanation and understanding.

In the direct method, the teacher has important role in teaching learning process. The teacher is the primary source of comprehensible input and as the creator of classroom atmosphere. It means that the teacher is as decision maker of the teaching learning process. This method uses teacher centered. By using this method, the students lose their opportunities in the classroom. They just become the follower and their activities in the classroom depend on the teacher’s explanation. Students become passive and have limited ways for expressing their ideas and opinions in the classroom.

On the contrary, reciprocal teaching model requires different way in teaching learning process especially in reading process. It makes the students work cooperatively which will develop their ability in their social and human relation. Reciprocal teaching is a cooperative learning method of improving reading comprehension that can also be used in individual teaching. In reciprocal teaching a teacher and a group of students take turns leading discussions about specific segments of text using reading strategies of questioning, clarifying, summarizing and predicting. Instructional techniques involved are demonstrating or modeling and explaining, practicing with feedback, dialogue or "simple
conversation with a purpose”. Every student is expected to participate in discussions.

The teacher provides assistance as needed to support students’ participation. The students are actively engaged in learning and reading strategies are used in an integrated, coordinated way in a meaningful context. In reciprocal teaching, the students enjoy working together and being “teacher” and they are also able to learn with the benefit of repeated tutor modeling and learn to take responsibility for their own and each other’s learning.

The process of this method is discussion leader. The teacher models and explains coordinated use of the four reading strategies: predicting, clarifying, questioning and summarizing. The teacher directly instructs students on the four strategies and their coordinated use. Students get guided practice and feedback from the teacher. The student who becomes the leader leads dialogues about text in small groups, repeatedly to model the strategies. The leader of the students take turns leading dialogues, getting feedback from the teacher. The leader of the students take turns leading dialogues using the four strategies in small groups with other students. Students give each other feedback on strategy use. The teacher moves from group to group observing progress and provides assistance as needed. The teacher phases out. Students competently use the four reading comprehension strategies on theirselves and provide their own feedback. The students have to be more active in joining the learning process. In short, reciprocal teaching is supposed to be more effective than direct method to teach reading.
2. The differences between students who have high intelligence and the students who have low intelligence

The students who have high level of intelligence have better attitudes in joining the teaching and learning process. They are not bored and more creative in joining the class because they are interested to take part in the discussion. They pay much attention to the teacher’s explanation and feedback and all the activities which are done in the classroom. That is why they do the task well and correctly.

On the other side, the students who have low level of intelligence usually are not interested in joining teaching learning process in the classroom. They are more passive and do not want to take part in the discussion. They have little attention to the teacher’s feedback and explanation and they also bored quickly to the materials and explanation which are given by the teacher. The students like to be the listeners and followers of the discussion rather than to be more active. They are also slower to do tasks which are given to them and depend on the teacher’s explanation or feedback.

Thus, it can be supposed that the students who have high level of intelligence have better reading skill than the students who have low level of intelligence.

3. Interaction between teaching methods and students’ intelligence.

Teaching method is important in teaching learning process. Method which is used by the teacher in the class has a big influence for making the teaching learning process run well and successful. In teaching reading, the teacher has to
use the appropriate and suitable method to make the students more interested and have motivation to learn and join the teaching learning process.

Direct method can’t make the students more interested in teaching learning process because they are only as the listeners and followers of the teacher. This method can’t also motivate the students because it just focuses on the academic content. This method is appropriate to be applied for the students who have low level of intelligence because by applying this method, the students who have low level of intelligence have not to be active in teaching learning process. They only listen to the teacher’s explanation, become followers and they will be passive to answer the questions and take a part in the discussion. Direct Method is supposed to be more effective for the students who have low level of intelligence.

Reciprocal teaching is more effective to be applied in teaching learning process in the class for the students who have high level of intelligence because by using this method, the teacher make the students more creative in answering the questions which are given by their friends or the teacher and they also like to work independently in translating the difficult words. They will try to find the meaning or message from the text by themselves. The teacher not only teaches academic content but also makes the students develop their social relation with the other students. It makes them more creative and easily makes cooperation with their friends in the class. This method is supposed to be more effective for the students who have high level of intelligence.
Meanwhile, intelligence has a big influence to the students in improving their reading skill. For the students who have low level of intelligence, direct method seems satisfy them in joining reading class. They just become the followers or listeners and depend on the teacher’s explanation to read and do something. They don’t need to be more active and creative because they only wait the teacher’s translation and explanation for understanding the meaning or message of the text. They tend to be more passive and slower in doing the tasks and answer the questions which are given by the teacher.

For the students who have high level of intelligence, they have high ability in reading many texts. They can translate the meaning or message of the text which are given by the teacher and understand these texts easily. They will be more active and creative in the teaching learning process especially in learning reading because they have high level of intelligence.

Thus, it can be assumed that there is an interaction between teaching methods and the students’ intelligence in teaching reading.

**H. Hypothesis**

Based on the theoretical description and the rationale above, the hypotheses can be formulated as follows:

1. Reciprocal Teaching is more effective than Direct Method to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.
2. The students who have high intelligence have better reading skill than those who have low intelligence of the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.

3. There is an interaction between methods and intelligence to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2010/2012.
CHAPTER III

RESEARCH METHODOLOGY

A. Research Method

The design of this research is experimental research with a quantitative approach. Experimental research is chosen in conducting this research. Johnson and Christensen (2000: 23) state that through experimentations, cause and effect relationship can be identified. Because of this ability to identify caution, the experimental approach has come to represent the prototype of scientific method for solving problems. It means that the purpose of experimental research is to determine the cause and effect relationship. In this research, the researcher choosen the experimental research because this research was related to the effect of teaching methods as the independent variable and intelligence as the attribute variable in teaching reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012. A quantitative approach is a kind of research that gives a pressure in systematic analysis, using statistic analysis toward the quantitative data that include correlation study and experiment.

This research consisted of three kinds of variables, namely independent variable, dependent variable, and attributive variable. The independent variable in experimental research is commonly called as experimental variable or treatment variable. The independent variable of this research is teaching methods (X). The
teaching methods are the factors of this research which are manipulated to know the effect and the relationship to the phenomenon that is investigated. The teaching methods which are used in this research are Direct Method and Reciprocal Teaching. These two different methods were applied differently for the groups of the students. In this case, the reciprocal teaching group of the students was used as experimental group and direct method group of students was used as control group.

Based on the elaboration, it was a quasi experimental research because random assignment was not applied and it was impossible for the researcher to change the existing class arrangement for the experiment. The quasi experimental design did not use proper random assignment and typically they recruited people in a way that can cause bias such as using “people on the street”. In compensation for this, other methods are used to increase the readability and validity of the experiment, for example by using control group.

Furthermore, the independent variables were teaching methods (X). The dependent variable which was known as the outcome variable was the reading skill (Y). The attribute variable in this research was the intelligence (Z). The researcher supposed that the relationship between (X) and (Y) was changed by the level of the third factor (Z).

The most appropriate experimental design for this research was factorial design. The research design allowed a researcher to study the interaction of an
independent variable with one or more variables. This design was possible to assess the effect or interaction (Tuckman, 1978: 135).

The factorial design was illustrated as follows:

Table 3.1. The Table of for Each Cell in Factorial Design

<table>
<thead>
<tr>
<th>Main Effect</th>
<th>$X_1$</th>
<th>$X_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Effect</td>
<td>$Y_1$</td>
<td>$X_1Y_1$</td>
</tr>
<tr>
<td>$Y_2$</td>
<td>$X_1Y_2$</td>
<td>$X_2Y_2$</td>
</tr>
<tr>
<td>$X_1$</td>
<td>$X_2$</td>
<td></td>
</tr>
</tbody>
</table>

B. Time and Place of the Study

This research had been carried out in SMP Negeri 6 Sragen which was located on Jl. Mayor Soeharto No.1 Sragen 57213, phone (0271) 891913. This school had 24 classes and each class consisted of 32 students. This research had been conducted on February to March 2012.

C. Population, Sample, and Sampling.

1. Population

The target population of this research was SMP Negeri 6 Sragen in the academic year of 2011/2012. It consisted of 768 students. The population of this study was the second grade students at SMP Negeri 6.
Sragen. It had 256 students who were divided into eight classes namely class A, B, C, D, E, F, G, and H. Each class consisted of 32 students.

2. Sample

A subset of individuals from a given population is a sample (Nunan, 1992: 27). Sample must represent the population, as it is part of population from which generalization is taken. The sample of this research was two classes consisting 64 students in each class. One class was used as experimental group which was taught using Reciprocal Teaching and the other class was used as control group which was taught by using Direct Method.

They were two classes in the second grade students of SMP Negeri 6 Sragen that became sample of the research, namely class E and class F where in general both of them had the same characteristics and the numbers of them were same. Total number from both classes was 64 students. The researcher decided to choose the class F as the experimental class and class G as the control class. Then, the sample was given the test. Generally, the researcher took the sample in class F and G because the characteristics of them were equal and they had the same ability in reading. They had a developed sense of fairness about what happens in the classroom and began to ask to the teacher’s decisions. They were able to work with others and learned from others so the treatments from the researcher could be received by them.
3. Sampling

Sampling is the process of drawing sample from a population (Johnson and Christensen, 2000: 156). It means that when we took samples, we studied the characteristics of sample selected from the large group (population) in order to understand the characteristic of population.

The sampling technique which was used in this research was cluster random sampling. The random assignment was not applied in distributing the sample into experiment and control groups because it was impossible to change the classroom arrangement. Cluster random sampling was a form of sampling in which cluster (a collective type of unit that includes multiple elements) rather than single unit elements are randomly selected (Johnson and Christensen, 2000: 172). So among the eight classes, the researcher decided to take only two classes, namely VIII F and VIII G as the sample of the research which consisted of 64 students. In this case, 32 students were taken from class VIII F and 32 students were taken from class VIII G. Each class was divided into two groups, students who had high level of intelligence and students who had low level of intelligence. Class VIII F was taught by using reciprocal teaching and class VIII G was taught by using direct method. So, there were four groups: (1) students with high intelligence who were taught by using reciprocal teaching; (2) students with high intelligence who were taught by using direct method; (3) students with low intelligence who were taught by
using reciprocal teaching; and (4) students with low intelligence who were taught by using direct method.

D. Technique of Collecting Data

The data collection technique was very crucial in a research because it was related to the way how the researcher collected the data and what kinds of data were collected. In obtaining the data, the writer used tests. Brown (2003: 3) states that test is a method of measuring a person’s ability, knowledge, or performance in a given domain. Test is as a set of questions, exercises of other instrument which are used to measure skill, knowledge, intelligence, and aptitude of an individual or group (Arikunto, 2002: 127).

The researcher used tests to obtain the data of the students’ intelligence and the students’ skill in reading. The researcher used objective test in the form of multiple choices test to know the students’ ability in reading and intelligence quotient (IQ) test to know the students’ intelligence. IQ test was determined by dividing the students’ mental age (MA) – the total number of month credit earned on the test – by chronological age (CA) in month and then multiplying the resulting quotient by 100. In symbol, this ratio IQ was computed as:

$$IQ = \frac{MA}{CA} \times 100$$

Binet in Aiken (1997: 140)

For the IQ test, the students were already tested at the second semester when they were in the first grade class by “Duta Amanah” institution. The
intelligence test was usually done by SMP Negeri 6 Sragen every year for the new students to know their intelligence.

The reading test was in multiple choice forms. This test must be valid and reliable. Therefore, the test was tried out before treatment to know the validity and reliability. Validity refers to the degree to which a test measures what is supposed to be measured (Gay, 1992: 155). To determine the validity of test, the researcher applied the following formula:

\[
\frac{\bar{x}_i}{\bar{x}} t_i = \frac{S_t}{\sqrt{\sum \bar{x}_i}}
\]

Note:

- \( \bar{x}_i \): the mean of correct answer for item i
- \( \bar{x} \): the mean of total score
- \( S_t \): the standard deviation
- \( t_i \): the proportion of student who responds correctly for the item i
- \( i \): the proportion of student who responds incorrectly for the item i

In which,

\[
S_t \sqrt{\sum \bar{x}_i}
\]
Note:

\[ \sum \] : total variance of item

\[ N \] : the number of subjects in all groups

If the \[ \sum \] is higher than \( t \), the item is valid

(Ngadiso, 2009: 1)

Furthermore, to know the test which was used was good or not was reliability. Reliability refers to the consistency or stability of the scores we get from our tests and assessment procedures (Johnson and Christensen, 2000: 100). To know the reliability of the test, the researcher used the formula below:

\[ kk = \frac{k}{k} 1 \sum \]

Note:

\[ kk \] : the estimate reliability or coefficient of reliability

\[ k \] : the number of valid items on the test

\[ p \] : the proportion of student who responds correctly of each item

\[ q \] : the proportion of student who responds incorrectly of each item

\[ S_t \] : observed score variance

In which,
\[ q = 1 - p \]

If the \( q \) is higher than \( t \), the item is reliable

(Ngadiso, 2009: 2-3)

In reading test, the researcher needed to relate the construct of reading theory for making indicators, the blueprint, and the test instruments. The reading construct that had been extended before was “Reading is a thinking process of determining its gist or main idea of the text, determining the writer’s or the text’s purpose, mentioning the explicit and implicit information of the text, finding the reference in the text, and understanding vocabulary of the text.”

From these construct, the researcher made six indicators and for each indicator she made 10 items. These 60 items would be tried out to the students before the treatment for 90 minutes. After conducting try out test, the researcher analyzed the data for finding the validity and reliability. If she found the valid items, she would use these valid items to be tested to the students of experimental and control sample after the treatment.

E. Technique of Analyzing Data

For analyzing the data, the researcher used a descriptive analysis and inferential analysis. To know the mean, median, mode and standard deviation of the score of reading test, the researcher used descriptive analysis. The inferential analysis was used to test the hypothesis. Meanwhile, before testing the hypothesis, she used normality and homogeneity test.
For testing normality, the researcher used the following formula.

\[ L_o = |F(z_i) - s(z_i)| \]

In which,

\[ \left( \frac{1}{1} \right) = \frac{\sum_{i}^{} (\sum 2)}{\sum_{i}^{} 1} \]

If \( L_o \) is lower than \( L_t \) or \( L_o < L_t \), it could be concluded that the sample was in normal distribution.

For testing homogeneity, the researcher used the following formula:

\[ B = (\log s^2) \sum_i^{} 1 \]

In which,

\[ B = (\log s^2) \sum_i^{} 1 \]

If \( B \) is lower than \( t \), it could be concluded that the data were homogeneous.

By using multifactor analysis of variance 2X2, the researcher analyzed the data. \( F \) was rejected if \( F > t \). If \( F \) was rejected, the analysis was continued by using Tukey test. Tukey test was used to know the mean difference of each cell so
we would know the difference between the two teaching methods while the mean score result was for knowing which method is more effective.

The design of multifactor analysis of variance was as follows:

Table 3.2. The Research Design of 2 x 2 ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Teaching Method</th>
<th>Reciprocal Teaching (A₁)</th>
<th>Direct Method (A₂)</th>
<th>Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (B₁)</td>
<td>A₁B₁</td>
<td>A₂B₁</td>
<td>B₁</td>
<td></td>
</tr>
<tr>
<td>Low (B₂)</td>
<td>A₁B₂</td>
<td>A₂B₂</td>
<td>B₂</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A₁</td>
<td>A₂</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:

A₁ : The mean score of reading test of experimental class which was taught by using reciprocal teaching

A₂ : The mean score of reading test of control class which was taught by using direct method

B₁ : The mean score of reading test of students having high intelligence
B₂ : The mean score of reading test of students having low Intelligence

A₁B₁ : The mean score of reading test of students having high intelligence who were taught by using reciprocal teaching

A₂B₁ : The mean score of reading test of students having high intelligence who were taught by using direct method

A₁B₂ : The mean score of reading test of students having low intelligence who were taught by using reciprocal teaching

A₂B₂ : The mean score of reading test of students having low intelligence who were taught by using direct method

The data are analyzed by using the following ways:

1. The total sum of squares:

\[ \sum t = \sum t \tag{Σ} \]

2. The sum of squares between group:

\[ \sum = (Σ) (Σ) (Σ) (Σ) (Σ) \]

3. The sum of squares of within groups:

\[ \sum = \sum t \tag{commit to user} \]
4. The between columns sum of squares:

\[ \sum c = \frac{\sum}{\sum} \]

5. The between rows sum of squares:

\[ \sum = \frac{\sum}{\sum} \]

6. The sum of squares of interaction:

\[ \sum i = \sum (\sum c) \]

The number of degrees of freedom associated with each source of variation:

1. \( df \) for between columns sum of squares = \( C - 1 \)
2. \( df \) for between row sum of squares = \( R - 1 \)
3. \( df \) for between groups sum of squares = \( G - 1 \)
4. \( df \) for within group sum of squares = \( \sum(1) \)
5. \( df \) for interaction = \( (C-1)(R-1) \)
6. \( df \) for total sum of squares = \( N - 1 \)

Note:

\( C \) = the number of columns

\( R \) = the number of rows

\( G \) = the number of groups

\( n \) = the number of subjects in one group
N = the number of subjects in all group

After analyzing the data by ANOVA test, the researcher used Tukey test to know the level of mean differences. The finding of q was found by dividing the difference between the means by the square root of the ratio of the within group variation and the sample size. The formula were as follows:

1. The difference between Reciprocal Teaching and Direct Method:

\[
q = \frac{X_{r \text{ct} 1} - X_{d \text{ct} 1}}{\sqrt{\text{Error Variance} / n}}
\]

2. The difference between the students who have high intelligence and the students who have low intelligence:

\[
q = \frac{X_{h \text{in}} - X_{l \text{in}}}{\sqrt{\text{Error Variance} / n}}
\]

3. The difference between Reciprocal Teaching and Direct Method for the students who have high intelligence:

\[
q_{(HI)} = \frac{X_{r \text{in} 1} - X_{d \text{in} 1}}{\sqrt{\text{Error Variance} / n}}
\]

4. The difference between Reciprocal Teaching and Direct Method for the students who have low intelligence:

\[
q_{(LI)} = \frac{X_{r \text{in} 2} - X_{d \text{in} 2}}{\sqrt{\text{Error Variance} / n}} \quad \text{or} \quad q_{(LI)} = \frac{X_{r \text{in} 2} - X_{d \text{in} 2}}{\sqrt{\text{Error Variance} / n}}
\]
\[ ST : \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{s^2_{\text{within}}/n}} \]

The statistic test was obtained by dividing the difference between the means by square root of the ratio of the within group variation and the sample size.

**F. Statistical Hypotheses**

In this research, the researcher proposed three hypotheses. These hypotheses were based on the formulation of the problems. They were:

1. The differences between Reciprocal Teaching (\(A_1\)) and Direct Method (\(A_2\)) to teach reading for the students.

   : \( \mu_{A_1} \neq \mu_{A_2} \)

2. The differences between the students who have high intelligence (\(B_1\)) and those who have low intelligence (\(B_2\)).

   : \( \mu_{B_1} \neq \mu_{B_2} \)

3. Interaction between the methods used (Reciprocal Teaching and Direct Method) (\(A\)) and intelligence (\(B\)) in teaching reading for the students.

   : \( A \neq 0 \)

   : \( A_1 \neq B \neq 0 \)
CHAPTER IV
RESEARCH FINDING

This chapter presents the data which were analyzed gained from a research to get the clear conclusion. The steps that are taken can be classified as the following steps, they are: (A) data description; (B) normality and homogeneity test; (C) testing hypothesis; and (D) discussion of findings. These four steps can be classified and explained clearly as follows:

A. Data Description

In this research, there are two classes, class VIII F and class VIII G. Students of class VIII F are taught by using reciprocal teaching while the students of class VIII G are taught by using direct method. Each class consists of 32 students which are separated with their level of intelligence into high and low.

The data which are described in this chapter are the reading test results. The descriptions of it are mean, mode, median, standard deviation, and frequency distribution which are followed by histogram and polygon. Based on the group analyzed, there are eight groups of data description, they are as follows:

1. The data of the students who are taught using Reciprocal Teaching (A₁).
2. The data of the students who are taught using Direct Method (A₂).
3. The data of the students having high Intelligence (B₁).
4. The data of the students having low Intelligence (B₂).
5. The data of the students having high Intelligence who are taught using Reciprocal Teaching (A₁B₁).
6. The data of the students having low Intelligence who are taught using Reciprocal Teaching (A_1B_2).

7. The data of the students having high Intelligence who are taught using Direct Method (A_2B_1).

8. The data of the students having low Intelligence who are taught using Direct Method (A_2B_2).

The data description, frequency distribution, histogram, and the polygon of the students’ scores are presented as follows:

1. The students who are taught using Reciprocal Teaching (A_1)

   The scores of the students are: 43, 48, 48, 50, 50, 53, 55, 55, 58, 60, 63, 63, 65, 68, 70, 70, 70, 73, 75, 75, 78, 78, 80, 83, 85, 85, 88, 90, 90, 90, 93, and 95. The mean is 70.34, the mode is 78.35, the median is 78.16, and the standard deviation is 15.48. From these, the range is 52 and the class is 6. The interval of these scores is 9. Then, the frequency distribution of the data A_1 is in the table 4.1.

   The histogram is presented in figure 4.1 while polygon is presented in figure 4.2.

Table 4.1. Frequency Distribution of Data A_1

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint (Xᵢ)</th>
<th>Tally</th>
<th>Frequency (fᵢ)</th>
<th>Percentage</th>
<th>fiXi</th>
<th>Xi²</th>
<th>fiXi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-51</td>
<td>42.5-51.5</td>
<td>47</td>
<td>III</td>
<td>5</td>
<td>15.63%</td>
<td>235</td>
<td>2209</td>
<td>11045</td>
</tr>
<tr>
<td>52-60</td>
<td>51.5-60.5</td>
<td>56</td>
<td>III</td>
<td>5</td>
<td>15.63%</td>
<td>280</td>
<td>3136</td>
<td>15680</td>
</tr>
<tr>
<td>61-69</td>
<td>60.5-69.5</td>
<td>65</td>
<td>IIII</td>
<td>4</td>
<td>12.50%</td>
<td>260</td>
<td>4225</td>
<td>16900</td>
</tr>
<tr>
<td>70-78</td>
<td>69.5-78.5</td>
<td>74</td>
<td>III-III</td>
<td>8</td>
<td>25.00%</td>
<td>592</td>
<td>5476</td>
<td>43808</td>
</tr>
<tr>
<td>79-87</td>
<td>78.5-87.5</td>
<td>83</td>
<td>IIII</td>
<td>4</td>
<td>12.50%</td>
<td>332</td>
<td>6889</td>
<td>27556</td>
</tr>
<tr>
<td>88-96</td>
<td>87.5-96.5</td>
<td>92</td>
<td>IIII</td>
<td>6</td>
<td>18.75%</td>
<td>552</td>
<td>8464</td>
<td>50784</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>100.00%</td>
<td>2251</td>
<td>30399</td>
<td>165773</td>
</tr>
</tbody>
</table>
Histogram

Figure 4.1. Histogram of Data A₁

Polygon

Figure 4.2. Polygon of Data A₁
2. The students who are taught using Direct Method ($A_2$)

The scores of the students are: 45, 48, 50, 53, 55, 58, 60, 60, 60, 63, 63, 63, 65, 65, 68, 68, 70, 73, 73, 73, 73, 75, 75, 78, 80, 80, 83, and 83. The mean is 66.59, the mode is 62.23, the median is 68.5, and the standard deviation is 10.46. From these, the range is 38 and the class is 6. The interval of these scores is 7. Then, the frequency distribution of the data $A_2$ is in the Table 4.2.

The histogram is presented in figure 4.3, while polygon is presented in figure 4.4.

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint $(X_i)$</th>
<th>Tally</th>
<th>Frequency $(f_i)$</th>
<th>Percentage</th>
<th>$fiX_i$</th>
<th>$Xi^2$</th>
<th>$fiX_i^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-51</td>
<td>44.5-51.5</td>
<td>48</td>
<td>III</td>
<td>3</td>
<td>9.38%</td>
<td>144</td>
<td>2304</td>
<td>6912</td>
</tr>
<tr>
<td>52-58</td>
<td>51.5-58.5</td>
<td>55</td>
<td>III</td>
<td>3</td>
<td>9.38%</td>
<td>165</td>
<td>3025</td>
<td>9075</td>
</tr>
<tr>
<td>59-65</td>
<td>58.5-65.5</td>
<td>62</td>
<td>IIII</td>
<td>11</td>
<td>34.38%</td>
<td>682</td>
<td>3844</td>
<td>42284</td>
</tr>
<tr>
<td>66-72</td>
<td>65.5-72.5</td>
<td>69</td>
<td>III</td>
<td>4</td>
<td>12.50%</td>
<td>276</td>
<td>4761</td>
<td>19044</td>
</tr>
<tr>
<td>73-79</td>
<td>72.5-79.5</td>
<td>76</td>
<td>III</td>
<td>7</td>
<td>21.88%</td>
<td>532</td>
<td>5776</td>
<td>40432</td>
</tr>
<tr>
<td>80-86</td>
<td>79.5-86.5</td>
<td>83</td>
<td>III</td>
<td>4</td>
<td>12.50%</td>
<td>332</td>
<td>6889</td>
<td>27556</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>100.00%</td>
<td>2131</td>
<td>26599</td>
<td>145303</td>
</tr>
</tbody>
</table>
Histogram

Figure 4.3. Histogram of Data $A_2$

Polynomial

Figure 4.4. Polygon of Data $A_2$
3. The students who have high intelligence (B₁)

The scores of the students are: 45, 48, 50, 53, 55, 58, 60, 60, 63, 63, 65, 65, 68, 68, 70, 73, 73, 75, 75, 78, 80, 83, 85, 85, 88, 90, 90, 90, 93 and 95. The mean is 72.06, the mode is 69.7, the median is 71.5, and the standard deviation is 14.26. From these, the range is 50 and the class is 6. The interval of these scores is 9. Then, the frequency distribution of the data B₁ is in the table 4.3. The histogram is presented in figure 4.5, while polygon is presented in figure 4.6.

Table 4.3. Frequency Distribution of Data B₁

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint (Xᵢ)</th>
<th>Tally</th>
<th>Frequency (fᵢ)</th>
<th>Percentage</th>
<th>fᵢXᵢ</th>
<th>Xᵢ²</th>
<th>fᵢXᵢ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-53</td>
<td>44.5-53.5</td>
<td>49</td>
<td>III</td>
<td>4</td>
<td>12.50%</td>
<td>196</td>
<td>2401</td>
<td>9604</td>
</tr>
<tr>
<td>54-62</td>
<td>53.5-62.5</td>
<td>58</td>
<td>III</td>
<td>4</td>
<td>12.50%</td>
<td>232</td>
<td>3364</td>
<td>13456</td>
</tr>
<tr>
<td>63-71</td>
<td>62.5-71.5</td>
<td>67</td>
<td>III III</td>
<td>8</td>
<td>25.00%</td>
<td>536</td>
<td>4489</td>
<td>35912</td>
</tr>
<tr>
<td>72-80</td>
<td>71.5-80.5</td>
<td>76</td>
<td>III II</td>
<td>7</td>
<td>21.88%</td>
<td>532</td>
<td>5776</td>
<td>40432</td>
</tr>
<tr>
<td>81-89</td>
<td>80.5-89.5</td>
<td>85</td>
<td>III III</td>
<td>4</td>
<td>12.50%</td>
<td>340</td>
<td>7225</td>
<td>28900</td>
</tr>
<tr>
<td>90-98</td>
<td>89.5-98.5</td>
<td>94</td>
<td>IIIIV</td>
<td>5</td>
<td>15.63%</td>
<td>470</td>
<td>8836</td>
<td>44180</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.00%</td>
<td>2306</td>
<td>32091</td>
<td>172484</td>
</tr>
</tbody>
</table>

Histogram

```
```

commit to user
Figure 4.5. Histogram of Data B₁

The students who have low intelligence (B₂)

The scores of the students are: 43, 48, 48, 50, 50, 53, 55, 55, 58, 60, 60, 60, 63, 63, 63, 63, 65, 68, 68, 70, 70, 70, 73, 73, 73, 75, 75, 78, 80, 80, 83, and 83. The mean is 64.81, the mode is 61.16, the median is 64.5, and the standard deviation is 11.02. From these, the range is 40 and the class is 6. The interval of these scores is 7. Then, the frequency distribution of the data B₂ is in the table 4.4. The histogram is presented in figure 4.7. while polygon is presented in figure 4.8.
Table 4.4. Frequency Distribution of Data B₂

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint (Xᵢ)</th>
<th>Tally</th>
<th>Frequency (fᵢ)</th>
<th>Percentage</th>
<th>fiXi</th>
<th>Xᵢ²</th>
<th>fiXi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-49</td>
<td>42.5-49.5</td>
<td>46</td>
<td>III</td>
<td>3</td>
<td>9.38%</td>
<td>138</td>
<td>2116</td>
<td>6348</td>
</tr>
<tr>
<td>50-56</td>
<td>49.5-56.5</td>
<td>53</td>
<td>IV</td>
<td>5</td>
<td>15.63%</td>
<td>265</td>
<td>2809</td>
<td>14045</td>
</tr>
<tr>
<td>57-63</td>
<td>56.5-63.5</td>
<td>60</td>
<td>III</td>
<td>7</td>
<td>21.88%</td>
<td>420</td>
<td>3600</td>
<td>25200</td>
</tr>
<tr>
<td>64-70</td>
<td>63.5-70.5</td>
<td>67</td>
<td>IV</td>
<td>6</td>
<td>18.75%</td>
<td>402</td>
<td>4489</td>
<td>26934</td>
</tr>
<tr>
<td>71-77</td>
<td>70.5-77.5</td>
<td>74</td>
<td>IIII</td>
<td>6</td>
<td>18.75%</td>
<td>444</td>
<td>5476</td>
<td>32856</td>
</tr>
<tr>
<td>78-84</td>
<td>77.5-84.5</td>
<td>81</td>
<td>IIII</td>
<td>5</td>
<td>15.63%</td>
<td>405</td>
<td>6561</td>
<td>32805</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>1.00%</td>
<td>2074</td>
<td>25051</td>
<td>138188</td>
</tr>
</tbody>
</table>

Figure 4.7. Histogram of Data B₂
5. The students having high intelligence who are taught using Reciprocal Teaching (A₁B₁)

The scores of the students are: 70, 73, 75, 75, 78, 78, 80, 83, 85, 85, 88, 90, 90, 90, 93, and 95. The mean is 83.00, the mode is 89.90, the median is 85.10, and the standard deviation is 8.05. From these, the range is 25 and the class is 5. The interval of these scores is 6. Then, the frequency distribution of the data A₁B₁ is in the table 4.5. The histogram is presented in figure 4.9. while polygon is presented in figure 4.10.
Table 4.5 Frequency Distribution of $A_1B_1$

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint $(X_i)$</th>
<th>Tally</th>
<th>Frequency $(f_i)$</th>
<th>Percentage</th>
<th>$fiX_i$</th>
<th>$X_i^2$</th>
<th>$fiX_i^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-75</td>
<td>69.5-75.5</td>
<td>72.5</td>
<td>III</td>
<td>4</td>
<td>25.00%</td>
<td>290</td>
<td>5256.25</td>
<td>21025</td>
</tr>
<tr>
<td>76-81</td>
<td>75.5-81.5</td>
<td>78.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>235.5</td>
<td>6162.25</td>
<td>18486.75</td>
</tr>
<tr>
<td>82-87</td>
<td>81.5-87.5</td>
<td>84.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>253.5</td>
<td>7140.25</td>
<td>21420.75</td>
</tr>
<tr>
<td>88-93</td>
<td>87.5-93.5</td>
<td>90.5</td>
<td>III</td>
<td>5</td>
<td>31.25%</td>
<td>452.5</td>
<td>8190.25</td>
<td>40951.25</td>
</tr>
<tr>
<td>94-99</td>
<td>93.5-99.5</td>
<td>96.5</td>
<td>I</td>
<td>1</td>
<td>6.25%</td>
<td>96.5</td>
<td>9312.25</td>
<td>9312.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>100.00%</td>
<td>1328</td>
<td>36061.25</td>
<td>111196</td>
</tr>
</tbody>
</table>

Figure 4.9. Histogram of Data $A_1B_1$
6. The students having low intelligence who are taught using Reciprocal Teaching (A₁B₂)

The scores of the students are: 43, 48, 48, 50, 50, 53, 55, 55, 58, 60, 63, 63, 65, 68, 70, and 70. The mean is 57.50, the mode is 57.50, the median is 57.50, and the standard deviation is 8.49. From these, the range is 27 and the class is 5. The interval of these scores is 6. Then, the frequency distribution of the data A₁B₂ is in the table 4.6. The histogram is presented in figure 4.11. while polygon is presented in figure 4.12.
Table 4.6 Frequency Distribution of Data A₁B₂

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint (Xᵢ)</th>
<th>Tally</th>
<th>Frequency (fᵢ)</th>
<th>Percentage</th>
<th>fiXi</th>
<th>Xi²</th>
<th>fiXi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-48</td>
<td>42.5-48.5</td>
<td>45.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>136.5</td>
<td>2070.25</td>
<td>6210.75</td>
</tr>
<tr>
<td>49-54</td>
<td>48.5-54.5</td>
<td>51.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>154.5</td>
<td>2652.25</td>
<td>7956.75</td>
</tr>
<tr>
<td>55-60</td>
<td>54.5-60.5</td>
<td>57.5</td>
<td>III</td>
<td>4</td>
<td>25.00%</td>
<td>230</td>
<td>3306.25</td>
<td>13225</td>
</tr>
<tr>
<td>61-66</td>
<td>60.5-66.5</td>
<td>63.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>190.5</td>
<td>4032.25</td>
<td>12096.75</td>
</tr>
<tr>
<td>67-72</td>
<td>66.5-72.5</td>
<td>69.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>208.5</td>
<td>4830.25</td>
<td>14490.75</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>100.00%</td>
<td>920</td>
<td>16891.25</td>
<td>53980</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Histogram

Figure 4.11. Histogram of Data A₁B₂
7. The students having high intelligence who are taught using Direct Method (A₂B₁)

The scores of the students are: 45, 48, 50, 53, 55, 58, 60, 60, 63, 63, 65, 65, 65, 68, 68, and 73. The mean is 59.88, the mode is 64.90, the median is 62.50, and the standard deviation is 7.74. From these, the range is 28 and the class is 5. The interval of these scores is 6. Then, the frequency distribution of the data A₂B₁ is in the table 4.7. The histogram is presented in figure 4.13, while polygon is presented in figure 4.14.
Table 4.7 Frequency Distribution of Data $A_2B_1$

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint ($X_i$)</th>
<th>Tally</th>
<th>Frequency ($f_i$)</th>
<th>Percentage</th>
<th>fiXi</th>
<th>Xi²</th>
<th>fiXi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-50</td>
<td>44.5-50.5</td>
<td>47.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>142.5</td>
<td>2256.25</td>
<td>6768.75</td>
</tr>
<tr>
<td>51-56</td>
<td>50.5-56.5</td>
<td>53.5</td>
<td>II</td>
<td>2</td>
<td>12.50%</td>
<td>107.0</td>
<td>2862.25</td>
<td>5724.5</td>
</tr>
<tr>
<td>57-62</td>
<td>56.5-62.5</td>
<td>59.5</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>178.5</td>
<td>3540.25</td>
<td>10620.75</td>
</tr>
<tr>
<td>63-68</td>
<td>62.5-68.5</td>
<td>65.5</td>
<td>II</td>
<td>7</td>
<td>43.75%</td>
<td>458.5</td>
<td>4290.25</td>
<td>30031.75</td>
</tr>
<tr>
<td>69-74</td>
<td>68.5-74.5</td>
<td>71.5</td>
<td>I</td>
<td>1</td>
<td>6.25%</td>
<td>71.5</td>
<td>5112.25</td>
<td>5112.25</td>
</tr>
</tbody>
</table>

|                |                  |                  |       | Total            | 100.00%    | 958  | 18061.25| 58258 |

Figure 4.13. Histogram of Data $A_2B_1$
8. The students having low intelligence who are taught using Direct Method (A₂B₂)

The scores of the students are 60, 60, 63, 63, 68, 70, 73, 73, 73, 75, 75, 78, 80, 80, 83 and 83. The mean is 72.63, the mode is 73.25, the median is 73.25, and the standard deviation is 7.72. From these, the range is 23 and the class is 5. The interval of these scores is 5. Then, the frequency distribution of the data A₂B₂ is in the table 4.8. The histogram is presented in figure 4.15. while polygon is presented in figure 4.16.
Table 4.8 Frequency Distribution of Data $A_2B_2$

<table>
<thead>
<tr>
<th>Class limits</th>
<th>Class Boundaries</th>
<th>Midpoint ($X$)</th>
<th>Tally</th>
<th>Frequency ($f$)</th>
<th>Percentage</th>
<th>$fi_X$</th>
<th>$X^2$</th>
<th>$fiX^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-64</td>
<td>59.5-64.5</td>
<td>62</td>
<td>III</td>
<td>4</td>
<td>25.00%</td>
<td>248</td>
<td>3844</td>
<td>15376</td>
</tr>
<tr>
<td>65-69</td>
<td>64.5-69.5</td>
<td>67</td>
<td>III</td>
<td>1</td>
<td>6.25%</td>
<td>67</td>
<td>4489</td>
<td>4489</td>
</tr>
<tr>
<td>70-74</td>
<td>69.5-74.5</td>
<td>72</td>
<td>III</td>
<td>4</td>
<td>25.00%</td>
<td>288</td>
<td>5184</td>
<td>20736</td>
</tr>
<tr>
<td>75-79</td>
<td>74.5-79.5</td>
<td>77</td>
<td>III</td>
<td>3</td>
<td>18.75%</td>
<td>231</td>
<td>5929</td>
<td>17787</td>
</tr>
<tr>
<td>80-84</td>
<td>79.5-84.5</td>
<td>82</td>
<td>IIII</td>
<td>4</td>
<td>25.00%</td>
<td>328</td>
<td>6724</td>
<td>26896</td>
</tr>
</tbody>
</table>

16 \ 100.00% \ 1162 \ 26170 \ 85284

Figure 4.15. Histogram of Data $A_2B_2$
B. Normality and Homogeneity

Normality and Homogeneity test have to be done before the researcher analyzes the data. The normality test is used to check whether the data are in normal distribution or not. On the other hand, the homogeneity test is applied to find out whether the data are homogeneous or not. It is crucial to know that the population is well formed.

1. Normality Test

The sample is in normal distribution when $L_0$ (L obtained) is lower than $L_4$ (L table) at the level of significance $\alpha = 0.05$ on Liliefors. The formula which is used in this testing is:
S = \sqrt{\sum_{i=1}^{n} X_i^2}

The result of normality test in the research is as follows:

<table>
<thead>
<tr>
<th>No.</th>
<th>Data</th>
<th>No of Sample</th>
<th>((L_o))</th>
<th>((L_t))</th>
<th>((\alpha))</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>A_1</td>
<td>32</td>
<td>0.0913</td>
<td>0.1566</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>2.</td>
<td>A_2</td>
<td>32</td>
<td>0.0751</td>
<td>0.1566</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>3.</td>
<td>B_1</td>
<td>32</td>
<td>0.0835</td>
<td>0.1566</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>4.</td>
<td>B_2</td>
<td>32</td>
<td>0.0675</td>
<td>0.1566</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>5.</td>
<td>A_1B_1</td>
<td>16</td>
<td>0.1172</td>
<td>0.2130</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>6.</td>
<td>A_1B_2</td>
<td>16</td>
<td>0.1231</td>
<td>0.2130</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>7.</td>
<td>A_2B_1</td>
<td>16</td>
<td>0.0914</td>
<td>0.2130</td>
<td>0.05</td>
<td>Normal</td>
</tr>
<tr>
<td>8.</td>
<td>A_2B_2</td>
<td>16</td>
<td>0.1369</td>
<td>0.2130</td>
<td>0.05</td>
<td>Normal</td>
</tr>
</tbody>
</table>

2. Homogeneity test

Homogeneity test is done to know the data whether homogeneous or not. This test is crucial because homogeneity of the data shows that the population is well formed. If \(\chi^2_o\) is lower than \(\chi^2_t\) at the level of significance \(\alpha = 0.05\), the data are homogeneous. The result of the analysis is as follows:

<table>
<thead>
<tr>
<th>Sample</th>
<th>df</th>
<th>(1/(df))</th>
<th>(s_i^2)</th>
<th>(\log s_i^2)</th>
<th>((df)log s_i^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>0.067</td>
<td>58.667</td>
<td>1.77</td>
<td>26.526</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>0.067</td>
<td>72.129</td>
<td>1.86</td>
<td>27.872</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>0.067</td>
<td>62.463</td>
<td>1.80</td>
<td>26.934</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>0.067</td>
<td>59.696</td>
<td>1.78</td>
<td>26.639</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>0.267</td>
<td></td>
<td></td>
<td>107.971</td>
</tr>
</tbody>
</table>
Based on the result of homogeneity test above, it can be seen that the score of $\chi^2_o$ is 0.2020. From the table of Chi-Square distribution with the significance level $\alpha = 0.05$, the score of $\chi^2_{0.95(3)}$ is 7.815. Because $\chi^2_o$ (0.2020) is lower than $\chi^2_{0.95(3)}$ (7.81) or $\chi^2_o < \chi^2_{0.95(3)}$ (0.2020 < 7.81), it can be concluded that the data are homogeneous.

C. Testing Hypothesis

Testing hypothesis can be done after the result of normality and homogeneity test are calculated and fulfilled. The calculation of hypothesis test is conducted by using Multifactor Analysis of Variance (ANOVA) 2 X 2. In ANOVA, $H_o$ is rejected if $F_o$ is higher than $F_t$ ($F_o > F_t$) which also means that there is a significant difference and an interaction. Furthermore, if $H_o$ is rejected, the
analysis is continued by using Tukey test. Tukey test is a statistical test generally used in conjunction with an ANOVA. This test is conducted to know the difference between the cells. The Multifactor Analyze of Variance (ANOVA) 2 X 2 and Tukey test are described as below.

1. Summary of 2 x 2 Multifactor Analysis of Variance

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>Fo</th>
<th>Ft(0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between columns (method)</td>
<td>268.14</td>
<td>1</td>
<td>268.140625</td>
<td>4.24</td>
<td>4.00</td>
</tr>
<tr>
<td>Between rows (intelligence)</td>
<td>695.640625</td>
<td>1</td>
<td>695.640625</td>
<td>11.00</td>
<td></td>
</tr>
<tr>
<td>Columns by rows (interaction)</td>
<td>5757.02</td>
<td>1</td>
<td>5757.015625</td>
<td>91.04</td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>6720.396875</td>
<td>3</td>
<td>2240.265625</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within groups</td>
<td>3794.31</td>
<td>60</td>
<td>63.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10515.10938</strong></td>
<td><strong>63</strong></td>
<td></td>
<td></td>
<td><strong>63.24</strong></td>
</tr>
</tbody>
</table>

Table 4.12 Mean of Scores

<table>
<thead>
<tr>
<th>(Reciprocal Teaching)</th>
<th>(Direct Method)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A$_1$</strong></td>
<td><strong>A$_2$</strong></td>
</tr>
<tr>
<td><strong>B$_1$</strong> (High Intelligence)</td>
<td>83.00</td>
</tr>
<tr>
<td><strong>B$_2$</strong> (Low Intelligence)</td>
<td>57.44</td>
</tr>
</tbody>
</table>

From the computation result of ANOVA test, it can be concluded that:

a. The score of $F_0$ between columns (methods) is 4.24 and the score of $F_t$ at the level of significance $\alpha = 0.05$ is 4.00. Because $F_0 > F_t$ or $F_0$ (4.24) is higher than $F_t$ (4.00), $H_0$ is rejected. It means that the difference between columns is
significant. It can be concluded that the methods used for teaching reading differs significantly from one another in their effect on their performance of the subjects in the experiment. The mean score of the students who are taught by using Reciprocal Teaching or C₁ (70.22) is higher than that of the students who are taught by using Direct Method or C₂ (66.13), so the students who are taught by using Reciprocal Teaching are better in reading skill than the students who are taught by using Direct Method. It means that Reciprocal Teaching is more effective than Direct Method in teaching reading.

b. The score of F₀ between rows (intelligence) is 11.00, while the score of F₁ at the level of significance α = 0.05 is 4.00. Because F₀ > F₁ (0.05) or F₀ (11.00) is higher than F₁ (4.00), H₀ is rejected. It means that the difference between rows is significant. Thus, it can be concluded that there is a significant difference on the student’s reading skill between the students who have high intelligence and the students who have low intelligence. Based on the calculation of the mean scores, the mean score of the students who have high intelligence or R₁ (71.47) is higher than that of the students who have low intelligence or R₂ (64.88). It can be concluded that the students who have high intelligence have better reading skill than the students who have low intelligence.

c. The score of F₀ columns by rows (interaction) is 91.04, and the score of F₁ at the level of significance α = 0.05 is 4.00. Because F₀ > F₁ (0.05) or F₀ (91.04) is higher than F₁ (4.00), H₀ is rejected. It means that there is an interaction between the two variables, teaching methods and student’s intelligence in
teaching reading. In other words, it can be said that the effect of teaching methods on the student’s reading skill depends on the student’s degree of intelligence.

2. Tukey Test.

$q$ is found by dividing the difference between the means by the square root of the ratio of the within group variation and the sample size.

<table>
<thead>
<tr>
<th>No</th>
<th>Data</th>
<th>Sample</th>
<th>$q_o$</th>
<th>$q_t$</th>
<th>$\alpha$</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>A$_1$ and A$_2$ (Between columns)</td>
<td>32</td>
<td>2.912094</td>
<td>2.86</td>
<td>0.05</td>
<td>significant</td>
</tr>
<tr>
<td>2.</td>
<td>B$_1$ and B$_2$ (Between rows)</td>
<td>32</td>
<td>4.6904719</td>
<td>2.86</td>
<td>0.05</td>
<td>significant</td>
</tr>
<tr>
<td>3.</td>
<td>A$_1$B$_1$ and A$_2$B$_1$ (Between cells)</td>
<td>16</td>
<td>11.600466</td>
<td>3.00</td>
<td>0.05</td>
<td>significant</td>
</tr>
<tr>
<td>4.</td>
<td>A$_1$B$_2$ and A$_2$B$_2$ (Between cells)</td>
<td>16</td>
<td>7.4821437</td>
<td>3.00</td>
<td>0.05</td>
<td>significant</td>
</tr>
</tbody>
</table>

Based on the table above, it can be known that:

1. Comparing two means between columns (A$_1$ and A$_2$). $q_o$ is 2.912094. The score of $q_t$ of Tukey’s table at the level of significance $\alpha = 0.05$ is 2.86. Because $q_o$ (2.912094) is higher than $q_t$ (2.86) or $q_o > q_t(0.05)$, $H_0$ is rejected. It can be concluded that there is significant difference on the student’s reading skill between the students who are taught by using Reciprocal Teaching and the students who are taught by using Direct Method. Moreover, the mean of
the students who are taught by using Reciprocal Teaching (70.22) is higher than the mean of students who are taught by using Direct Method (66.13). It can be concluded that Reciprocal Teaching is more effective than Direct Method.

2. Comparing two means between rows (B₁ and B₂). \( q_0 \) between rows is 4.6904719. The score of \( q_t \) of Tukey’s table at the level of significance \( \alpha = 0.05 \) is 2.86. Because \( q_o(4.6904719) \) is higher than \( q_t(2.86) \) or \( q_o > q_t(.05) \), \( H_o \) is rejected. It can be concluded that there is a significant difference on the student’s reading skill between the students who have high intelligence than the students who have low intelligence. Besides, the mean scores of the students who have high intelligence is (71.47) is higher than the students who have low intelligence is (64.88). It can be concluded that the students who have high intelligence have better reading skill than the students who have low intelligence.

3. Comparing two means between cells (A₁B₁ and A₂B₁). \( q_o \) is 11.600466. The score of \( q_t \) of Tukey’s table at the level of significance \( \alpha = 0.05 \) is 3.00. Because \( q_o(11.600466) \) is higher than \( q_t(3.00) \) or \( q_o > q_t(.05) \), \( H_o \) is rejected. It can be concluded that using Reciprocal Teaching is significantly different from Direct Method in teaching reading to the students who have high intelligence. Meanwhile, the mean score of A₁B₁ is (83.00) is higher than the mean scores of A₂B₁ is (59.94) so that it can be concluded that Reciprocal Teaching is more effective than Direct Method to teach reading to the students who have high intelligence.

4. Comparing two means between cells (A₁B₂ and A₂B₂). \( q_o \) is 7.4821437. The score of \( q_t \) of Tukey’s table at the level of significance \( \alpha = 0.05 \) is 3.00. Because \( q_o(7.4821437) \) is higher than \( q_t(3.00) \) or \( q_o > q_t(.05) \), \( H_o \) is rejected. It
can be concluded that using Reciprocal Teaching is significantly different from Direct Method in teaching reading to the students who have low intelligence. Meanwhile, the mean score of $A_1B_2$ (57.44) is lower than $A_2B_2$ (72.31), using Direct Method is more effective than Reciprocal Teaching to teach reading for the students who have low intelligence.

Based on point 3 and 4, it can be concluded that there is an interaction between teaching methods and students’ intelligence. Reciprocal teaching is more effective to teach reading to the students who have high intelligence while direct method is more effective to teach reading to the students who have low intelligence.

D. Discussion

Based on the research finding, it can be explained as follows:

1. **Reciprocal Teaching is more effective than Direct Method to teach reading.**

Reciprocal Teaching is better applied for teaching reading because this method permits the students to be more active in searching and overcoming the problem of a text. Reciprocal teaching consists of three main components: (a) the teaching and learning of specific reading comprehension strategies; (b) the dialogue between a instructor and students where the instructor, why, when, and where to use these reading comprehension strategies; and (c) the appropriating of the role of the instructor by the students, that is, students begin to model the reading comprehension strategies for other students (Palincsar & Brown, 1984: 166-167). This teaching method helps the students to build their cognitive aspects by generating and answering some questions.
cooperatively. The students work in a team to solve the problem of understanding a text.

Reciprocal Teaching is one of the interesting methods in teaching reading. Reciprocal Teaching helps students in discovering the materials and sources. In applying Reciprocal teaching, four steps should be done, they are: (1) questioning; (2) predicting; (3) clarifying; (4) summarizing. In Reciprocal teaching class, the teacher presents a certain text and the students must make some questions, predict what will be the next, summarize the text, and clarify the difficult words or grammar. Students are divided into some groups consisting of four students. Each student has each role. Each student reads a text then applies four steps. The “teacher” of the group asks questions. The “teacher” is the leader of the group who starts off questioning. Group members respond by using the text to support their answers. This model is designed as a group discussion and cooperative nature of learning to make the students have deeper comprehension in understanding the text through social interaction. Specifically, Reciprocal teaching consists of three main components: (a) the teaching and learning of specific reading comprehension strategies; (b) the dialogue between a instructor and students where the instructor, why, when, and where to use these reading comprehension strategies; and (c) the appropriating of the role of the instructor by the students, that is, students begin to model the reading comprehension strategies for other students (Palincsar & Brown, 1984). In this method, the teacher is only as a guide and motivator in encouraging the students to answers the
questions by themselves. This is one of the appropriate methods in teaching reading for the Junior High School students.

On the contrary, Direct Method is less effective in improving students’ reading skill since it less recommends students to involve in teaching learning process. Direct method is similar to traditional teaching. Generally speaking traditional teaching is directed toward teaching academic content. It is also characterized by teacher-centered and teacher-dominated classroom. We can say that it is teacher-centered method in which the lesson is taught by using English directly (Peterson, 1999: 231). In this method, the teacher uses English directly and as a decision maker in teaching learning process so the students are only as listeners to the teacher’s explanation.

Based on the elaboration above, the difference between Reciprocal Teaching and Direct Method can be seen from the learning activities and the process of getting understanding of the text. The teacher, in Reciprocal Teaching, is a facilitator while in Direct Method, she has the main role to give stimulus to the students in order to make the students more active in giving the response. Without the stimulus from the teacher, the students cannot do anything and they only want to be listeners. It can be concluded that Reciprocal Teaching is more effective than Direct Method to teach reading.
2. The students who have high intelligence have better reading skill than the students who have low intelligence.

The students who have high level of intelligence have better attitudes in joining the teaching and learning process. They are not bored and more creative in joining the class because they are interested to take part in the discussion. They pay much attention to the teacher’s explanation and feedback and all the activities which are done in the classroom. That is why they do the task well and correctly. There is a correlation between intelligence and reading skill. It is true that children who have high level of intelligence are easy enough to read simple materials. It means that the students who have high intelligence will have high ability in understanding a text (Deboer, 1966: 132).

On the other side, the students who have low level of intelligence usually are not interested in joining teaching learning process in the classroom. They are more passive and do not want to take part in the discussion. They have little attention to the teacher’s feedback and explanation and they also bored quickly to the materials and explanation which are given by the teacher. The students like to be the listeners and followers of the discussion rather than to be more active. They are also slower to do tasks which are given to them and depend on the teacher’s explanation or feedback. Deboer (1966: 132) states that the students who have low intelligence will have low ability in understanding a text.

From the explanation above, it can be concluded that the students who have high intelligence have better reading skill than the students who have low level of intelligence.
3. There is an interaction between teaching methods and students’ intelligence in teaching reading.

Teaching method is an important aspect in teaching learning process. Method which is used by the teacher in the class has a big influence for making the teaching learning process run well and successful. In teaching reading, the teacher has to use the appropriate and suitable method to make the students more interested and have motivation to learn and join the teaching learning process. Meanwhile, intelligence has a big influence to the students in improving their reading skill because the level of intelligence determines the level of the students’ understanding of a text.

In teaching reading, the fact shows that the students who have high intelligence will have high ability in reading and understanding many texts. Deboer (1966: 132) states that there is a correlation between intelligence and reading ability. It is true that a child who is intelligent enough to go to school is intelligent enough to learn to read simple materials. The students who have high intelligence will present very well in the classroom when they are taught by using Reciprocal Teaching. The students do not depend on the teacher’s translation and explanation. They will attempt to find the message and meaning from the text by themselves. They try to be active in every activity in the class and do the task better. This method is students-centered and it makes the students can develop their social relation with other students in the class. The students are involved in their learning to formulate questions, predict next part, summarize the text and clarify what they have been discussed. Borich (1966: 397) states that Reciprocal
Teaching provides opportunities to explore the content to be learned via classroom dialogue. The students can take part in the discussion actively and express their opinion freely. Meanwhile, the teacher’s tasks are only for facilitating and guiding the students to solve the problems in a text. The teacher is as facilitator so they do not always give instruction to their students and teach as if they are source of knowledge. In conclusion, Reciprocal teaching is more effective for the students who have high intelligence toward students’ reading skill.

On the contrary, according to Deboer (1966: 132) the students who have low intelligence will have low ability in reading and understanding texts. In fact, the students who have low intelligence don’t want to be active. They depend on the teacher’s explanation and guidance. They are also passive in joining reading class and slower in doing tasks. They also have less attention to the teacher’s explanation and need support in comprehending a text. The students are appropriately taught by using Direct Method in which they learn reading material in the classroom as usual. Direct Method as an instructional method works for only a small percentage of students, not for a great variety. The students who have other than verbal intelligence, or who come from different cultural world views will fail.

Person, Hinson, and Brown (2001: 11) state that in direct method, the teacher becomes decision maker. Teacher will engage in many planning decisions, such as deciding what he/she would like to teach, he/she wishes to teach, about and how he/she will go about the reading process. That’s why Direct Method is more effective to teach the students who have low intelligence because this
method is teacher-centered. The effect of teaching methods used depends on the level of students’ intelligence. It can be concluded that there is an interaction between teaching methods and students’ intelligence.
CHAPTER V

CONCLUSION, IMPLICATION, AND SUGGESTION

A. Conclusion

Based on the result of the hypotheses testing, the research findings are as follows:

1. Reciprocal Teaching is more effective than Direct Method to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.

2. The students who have high intelligence have better reading skill than the students who have low intelligence in the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.

3. There is an interaction between teaching methods and intelligence to teach reading to the second grade students of SMP Negeri 6 Sragen in the academic year of 2011/2012.

From ANOVA multifactor analysis of variance, it can be concluded that Reciprocal Teaching is an effective method for teaching reading to the second grade students of SMP Negeri 6 Sragen. Furthermore, for improving students’ reading skill, the teacher should choose and apply the appropriate teaching method based on the students’ intelligence in the class.

100
B. Implication

The research shows that the implementation of teaching methods has a strong influence on students’ reading mastery. The application of Reciprocal Teaching during classroom activities gives a greater effect than the application of Direct Method. It means that Reciprocal teaching is proved as an effective method to teach reading. It can be seen that the students are interested to take part in every activity in the class. The students can build their cognitive by generating questions, predicting something, summarizing the story or text and clarifying it. They are also encouraged to ask and answer some questions. It means that the students were not passive. So, the students were able to acquire the material more easily and comprehend the concepts and materials more deeply.

The research also shows that students’ intelligence contributes to the effectiveness of teaching method in reading skill in the class. By considering the psychological aspect, maximum result will be gotten. It can be seen that the students who have high intelligence had better scores than the students who have low intelligence. On contrary, the students who have low intelligence tend to be passive and less responsive in the class activities.
C. Suggestion

From the result of research findings, the researcher gives some suggestions as follows:

1. For teachers

In order to get maximum result and effect on students’ reading mastery, English teachers are suggested to apply suitable methods based on students’ characteristics on the level of intelligence. For students who have high intelligence, teachers can apply Reciprocal Teaching Method. Meanwhile, Direct Method can apply for students who have low intelligence. Besides, teachers are also suggested to mix both Reciprocal Teaching Method and also Direct Method in the class which consists of students who have high and low intelligence. The teachers are also suggested to find appropriate methods, materials, techniques for the students based on the students’ characteristics. Various methods, materials or techniques can give the students variation in learning reading so that the students can be more active, enthusiastic and interested in joining English class.

2. For students

Students are also suggested to be more active and creative in teaching learning process especially their reading skill. To the students who have low intelligence, they must know the importance of active response in the class. They have to encourage themselves to take part on every discussion and try to be more active in asking and answering questions.

3. For other researchers

For other researches who are interested to conduct the research in more detail to know the effect of Reciprocal Teaching in teaching reading, this research finding can be used as a starting point and also as a reference for the future researches. Furthermore, besides intelligence, other researchers may...
conduct other researches of the effectiveness of Reciprocal Teaching viewed from other psychological aspect like motivation, self esteem, locus of control, creativity, etc. It is hoped that the further result of the research make this research more completed.
BIBLIOGRAPHY


