



**IMPROVING THE STUDENTS' CRITICAL THINKING IN READING
COMPREHENSION THROUGH HIGH ORDER THINKING SKILLS
STRATEGY AT TWELVE GRADE OF SMA AHMAD YANI BINJAI IN
ACADEMIC YEAR 2019/2020**

A SKRIPSI

**Submitted to the Faculty of Tarbiya and Teachers Training, State Islamic
University of North Sumatera Medan as a Partial Fulfillment of the
Requirements for the Degree of *Sarjana Pendidikan***

By:

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**DEPARTEMENT OF ENGLISH EDUCATION
FACULTY OF TARBIYA AND TEACHERS TRAINING
STATE ISLAMIC UNIVERSITY OF NORTH SUMATERA MEDAN**

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a.n **Andini Aprilia**

Medan, 23 Januari 2020
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Assalamualaikum Wr. Wb

Dengan Hormat

Setelah membaca, meneliti, dan memberi saran-saran perbaikan seperlunya terhadap skripsi mahasiswa a.n **Andini Aprilia** yang berjudul **“Improving The Students’ Critical Thinking in Reading Comprehension Through High Order Thinking Skills Strategy at Twelve Grade of SMA Ahmad Yani Binjai Academic Year 2019/2020”**, maka kami berpendapat bahwa skripsi ini sudah dapat diterima dan dimunaqasyahkan pada sidang Munaqasyah Fakultas Ilmu Tarbiyah dan Keguruan UIN Sumatera Utara Medan.

Demikianlah kami sampaikan, atas perhatian saudara kami ucapkan terima kasih.

Wassalam,

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STRATEGY AT TWELVE GRADE OF SMA
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2019/2020”**

Menyatakan dengan sebenarnya bahwa skripsi yang saya serahkan ini benar-benar merupakan hasil karya sendiri, kecuali kutipan-kutipan dari ringkasan-ringkasan yang semuanya telah saya jelaskan sumbernya.

Apabila di kemudian hari terbukti atau dapat dibuktikan skripsi ini hasil plagiasi, maka gelar dan ijazah yang diberikan oleh universitas batal saya terima.

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ABSTRACT

IMPROVING THE STUDENTS' CRITICAL THINKING IN READING COMPREHENSION THROUGH HIGH ORDER THINKING SKILLS STRATEGY AT TWELVE GRADE OF SMA AHMAD YANI BINJAI ACADEMIC YEAR 2019/2020

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Keyword: High Order Thinking Skill, Students' Critical Thinking

The research aimed to improved the students' critical thinking in reading comprehension through High Order Thinking Skill (HOTS) Strategy. This research was conducted by using Classroom Action Research (CAR). The subject of this research was XII-MIA 1 grade of SMA Ahmad Yani Binjai 2019/2020 academic year which consist of 34 students. The objective of this research was to improve students' critical thinking in reading comprehension by using HOTS at Twelve Grade of SMA Ahmad Yani Binjai. This research was conducted in one cycle which consist of planning, acting, observing, and reflecting. The data were gathered through quantitative and qualitative data.

The result of this research showed that there was increasing of students' skill in critical thinking. The mean of pre-test was 70,5 and the mean of post-test was 83,2. It indicated that the scores after CAR was better than scores before CAR. In the pre-test, he percentage of students who got point ≥ 80 up were 16 students (47,05%) and in the post-test students who got point ≥ 80 were 30 students (88, 23%). In other words, the students' skill in thinking critically improved and became well in the first meeting to the next meeting.

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In the name of Allah, the beneficent, and the merciful. Praise and gratitude be to Allah for giving the strength and guidance for the writer, so that this skripsi can be finished accordingly. Peace and blessing be upon prophet Muhammad SAW, his family, his relatives and all his followers.

The written of this skripsi entitled “Improving Students’ Critical Thinking in Reading Comprehension Through High Order Thinking Skills Strategy at Twelve Grade of SMA Ahmad Yani Binjai in Academic Year 2019/2020”. This skripsi is written to fulfill one of requirement to obtain the *sarjana degree* at Departement of English Education of Faculty Tarbiyah Science and Teachers Training State Islamic University of North Sumatera.

Finishing of writing this skripsi is actually a miracle for me because actually this is hard for me to do. However, it has now been denied since this skripsi has finally been writen. Then, I would like to thank to Allah SWT for The Blessing given to me so that the writing of this skripsi has been finished. Additionlly, the writer is grateful to the following for their support and helps.

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Finally it is obviously that this skripsi is not perfect yet either in content or grammar, etc. So that suggestion or critical from the reader for the better skripsi is hoped. I hope this research can be useful for people in future.

Medan, Juli 2020

Andini Aprilia

TABLE OF CONTENT

ABSTRACT.....	i
ACKNOWLEDGEMENT.....	ii
TABLE OF CONTENT.....	v
LIST OF TABLE.....	viii
LIST OF FIGURE.....	ix
LIST OF APPENDIXES.....	x
 CHAPTER I : INTRODUCTION	
A. The Background of the Problem.....	1
B. The Identification of the Study.....	4
C. The Limitation of the Study.....	4
D. The Research Problem.....	5
E. The Objective of the Study.....	5
F. The Significances of the Study.....	5
 CHAPTER II : LITERATURE REVIEW	
A. Theoretical Review.....	7
A.1 Critical Thinking in Reading Comprehension.....	7
A.1.1 Critical Thinking.....	7
A.1.2 Reading Comprehension.....	12
A.1.3 Conclusion.....	14
A.2 High Order Thinking Skill (HOTS)	
A.2.1 Definition of High Order Thinking Skill.....	15
A.2.2 Principle of High Order Thinking Skill.....	16
A.2.3 Design of High Orer Thinking Skill.....	17

A.2.4 Procedure of High Order Thinking Skill.....	19
A.2.5 Advantages & Disadvantages of High Order Thinking Skill....	22
B. Related Study.....	25
C. Conceptual Framework.....	26
D. Actional Hypothesis.....	26

CHAPTER III : RESEARCH METHODOLOGY

A. Research Setting.....	27
B. Data and Data Source.....	27
C. Research Method.....	27
D. Procedure of Colecting Data.....	31
E. Technique of Collecting Data.....	32
F. Technique of Analyzing Data.....	33
G. Trustworthiness of The Study.....	34

CHAPTER IV : RESEARCH FINDING AND DISCUSSION

A. Research Finding.....	37
A.1. The Preliminary Study.....	37
A.2. The Full Cycle.....	41
B. Data Analysis.....	45
C. Discussion.....	47

CHAPTER V : CONCLUSION AND SUGGESSTION

A. Conclusion.....	56
B. Suggestion.....	57

BIBLIOGRAPHY

APPENDIXES

LIST OF TABLE

Table	Title	Page
3.1	Procedure of Collecting Data.....	31

LIST OF FIGURE

Figure	Title	Page
3.1	Action Research Model.....	30

LIST OF APPENDIXES

Appendix	Title
1	Lesson Plan
2	Critical Thinking Assessment Test
3	Answer of Test
4	Interview Sheet Report
5	Observation Sheet
6	Documentation
7	Research's Note
8	Table of Data Test

CHAPTER I

INTRODUCTION

A. The Background of the Problem

English lesson is quite important lesson to be taught in school for the future of students, because English is one of skills needed in this globalization era. English learning is divided into four skills; including writing, speaking, listening and reading. These skills is needed to be mastered by students in order to have capable and reliable English language skills to face competition in future. One of the abilities that will be discussed in this study is ability to read, especially reading comprehension.

Based on the 2013 curriculum, students are required not only to be able to read English text correctly and in accordance with the rules of pronunciation, but also can be expected to be able to understand, analyze, conclude and gain new knowledge about the world they love in through reading activities. This is applied to highlight the fact that reading activities not only improve reading skills, but also help students to find out the actual social and cultural issues in society. 2013 curriculum has purpose to develop passive learning into critical learning, including in reading activity. ¹This reading activity is targeted to help students to be more sensitive and more concerned with social problem around them, so that they are moved to think further to deal with and react to them. Furthermore, reading comprehension is expected to improve the competence of students in processing, analyzing, interpreting, integrating with the facts in the existing, and

¹Ajeng MeidinaFadhillah, *Embedding Critical Thinking through Critical Reading Teaching Narrative Text in Junior High School*, Journal of English Education, Vol. 5 No. 2, October 2017. Bandung: UPI, P. 92.

explaining the information they get through text reading straightforwardly. This competency is not only useful for learning English, but also useful for other sciences. So, reading comprehension skills are expected to make students think thoroughly, continuously, and integrated with other sciences. In the end, this increased ability can be useful in other fields especially that have a relationship with their live, not just in English. In short, this ability is trained with critical thinking as the goal.

Critical thinking is one of the important skills expected to be obtained through reading comprehension learning. In reading comprehension, critical thinking skill involve analyzing, synthesizing, recognizing, concluding, and evaluating or assessing.²

On the other hand, this skill can be trained through reading. The reading comprehension sessions undertaken by students always involve critical thinking, where students need it to analyze and infer the text being studied. In addition, critical thinking can be obtained and honed with exercises to analyze and conclude text that is usually done during the reading comprehension session. That is, critical thinking is considered important and becomes part of the skills and intelligence criteria needed by students. Critical thinking has a close relationship and is inseparable from reading comprehension and implicitly also becomes a part of national education goals. This is reflected in Article 1 of Law No. 20 of 2003 concerning the national education system, namely:

“Pendidikan adalah usaha sadar dan terencana untuk mewujudkan suasana belajar dan proses pembelajaran agar peserta didik secara aktif mengembangkan potensi dirinya untuk memiliki kekuatan spiritual keagamaan,

²T. A. Angelo, 2003, *Beginning The Dialogue: Thoughts on Promoting Critical Thinking*, Teaching of Psychology, Vol. 22 No. 1, p. 6-7.

pengendalian diri, kepribadian, kecerdasan, akhlak mulia, serta keterampilan yang diperlukan dirinya, masyarakat, bangsa dan negara" (Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills that needed himself, society, nation and state) .³

But in reality, students in Indonesia is lack of this skill. Based on researched that have done by Victon Medina-Conesa, around 69% of students in Indonesia wanted to start their own business after finishing their studies, and 62% from that wanted to be entrepreneur in technology. But in reality, students in Indonesia is characterized by a low level of critical thinking. Even though, critical thinking, creativity and innovation is the main drive for entrepreneurship.⁴

Program for International Student Assessment (PISA) 2015 has results of test which is used to monitor the ability of 15-year-old students to extrapolate what they have learned in the context of inside and outside of school. In the field of science, more than 50% of students are categorized at level 1 from 6 levels. It is means that more than half of 15-year-old children in Indonesia cannot draw conclusions from simple data sets using basic general knowledge. Whereas in the field of mathematics, 2/3 is considered unable to extract the essence from one source and make a literal interpretation of these results. In term of reading, 55% cannot recognize the main idea of a reading, understand links and links, or interpret the meaning of a reading if the meaning is not prominent. It is mean that more than half of 15-year-old students in Indonesia do not have the basic ability to think critically.⁵

³www.kelembagaan.ristekdikti.go.id, accessed on 12 August 2019.

⁴www.techinasia.com, *Indonesian Students Want to be Entrepreneurs, but Lack plenty of Skills* by Victon Medina-Conesa. Accessed on 20 October 2019, 20.20 WIB.

⁵www.oecd.org/pisa, accessed on 20 October 2019, 20.30 WIB.

There are many factors that can cause the low level of the students' critical thinking skill in reading comprehension: the students' IQ, the students' interest in reading, and the learning strategy used by the teacher, and so on. The low level of critical thinking also actually has an effect on the lack of students' reading interest, because critical thinking can be improved through reading. Indonesia ranks 60th out of 61 countries in terms of reading interest. Based on study by Central Connecticut State University from US, Indonesia below Thailand in 59th and above bostwana in 61st position.⁶ The students have low reading interest because they often feel bored in reading session or reading learning and that is because of the strategy in learning reading.

Therefore, the authors try to provide a solution to overcome the above problems, namely through the High Order Thinking Skills strategy that can be applied in reading comprehension in English learning. High Order Thinking Skills (HOTS) is an educational strategy that has aim to prepare students in facing industrial revolution 4.0. Adapted from Bloom Taxonomy, HOTS is concepted to educate students to have 21st century skills; communication, collaboration, critical thinking, problem solving, creativity and innovation.⁷ This skill has even been explored through the question of National Examination. HOTS involves the ability of critical thinking in solving the questions given.⁸ This can make students accustomed to sharpening critical thinking so that critical thinking in students will

⁶www.thejakartapost.com, *Indonesia ranks second-last in reading interest: Study*, August 29, 2016. Access on 20 October 2019, 21.00 WIB.

⁷www.beritasatu.com, *HOTS dan Cita-cita Bangsa* by Indra Charismiadji (Educational researcher), accessed on 18 October 2018, 16.43 WIB.

⁸www.antaraneews.com, *Sepuluh persen soal UN tahun ini berkategori HOTS*, accessed on 18 Oktober 2019, 16.27 WIB.

increase. In addition, HOTS also provides alternative strategies to improve students' critical thinking skills, especially in reading comprehension.

Through this study, researcher try to use the class action research with implementing HOTS method to increase students' critical thinking skill in reading comprehension. Based on the description above, the title of research study conducted was **“Improving the Students’ Critical Thinking in Reading Comprehension through High Order Thinking Skills Strategy at Twelve Grade of SMA Ahmad Yani Binjai in Academic Year 2019/2020”**.

B. Identification of the Study

Based on the background of study, there are many factors that can cause the low level of the students' critical thinking skill in reading comprehension: the students' IQ, the students' interest in reading, and the learning strategy used by the teacher, and so on. From the explanation above, many problems can influence the students' critical thinking skill. Therefore, it needs to do the limitation of the problem in order to do the research well.

C. Limitation of the Study

Based on the identification of study above, many factors can influence the students' critical thinking skill. In this case, researcher will focus on the strategy of learning reading comprehension, especially using HOTS strategy. There are many media can be used to support HOTS, but researcher will use reading text and questions. The researcher limits the study on the students' critical thinking skill in reading comprehension by using text and question with high order standart.

D. Research Problem

Based on the limitation of the problem above, the research problem of this study is “How can high order thinking skill improve the students’ critical thinking skill in reading comprehension at SMA Ahmad Yani Binjai?”.

E. The Objective of the Study

The objective of this study is to know whether high order thinking skill strategy can improve the students’ critical thinking in reading comprehension as teaching strategy at SMA Ahmad Yani Binjai or not.

F. The Significances of the Study

The researcher expects this study can motivate teachers in their attempt to develop their students’ critical thinking skill especially in reading comprehension. This study is expected to give some benefits as follows:

1. Theoretical Significance

This research can be useful to enrich knowledge in learning reading comprehension especially related to critical thinking.

2. Practical Significances

- a. For teacher, the result of this research can be useful for teachers to improve the quality of teaching reading comprehension.
- b. For students, the result of this research can help the students to improve critical thinking skill in reading comprehension and make the students be active in the learning process.
- c. For other researcher, the result of this research can be used to conduct the same research with the various variables.

- d. For the principal, the result of this research as a contribution to improve teachers' competence in teaching English.

CHAPTER II

LITERATURE REVIEW

A. Theoretical Review

This chapter provides literature review which covers the general concepts of critical thinking, critical thinking in reading, the general concept of High Order Thinking Skill, related study and actional hypothesis.

A.1 Critical Thinking in Reading Comprehension

A.1.1 Critical Thinking

Critical Thinking can be defined in many ways. Schafersman⁹ defines critical thinking as:

"The practice of processing information in the most skillful, accurate, and rigorous manner is possible, so that it is most reliable, logical, and trustworthy conclusions, which can make decisions about one's life, behavior, and actions with full knowledge of assumptions and consequences of decisions."

From the definition above, we can find out that the critical thinking is the practice of digesting information accurately and in accordance with possibilities that are in accordance with logic. Critical thinking means correct thinking in the pursuit of relevant and reliable knowledge about the world. Another way to describe it is reasonable, reflective, responsible, and skillful thinking that is focused on deciding what to believe or do. A person who thinks critically can ask appropriate questions, gather relevant information, efficiently and creatively sort through this information, reason logically from this information, and come to

⁹Steven D. Schafersman, 2010, *An Introduction to Critical Thinking*, www.smartcollegeplanning.org. Accessed on 19 August 2019.

reliable and trustworthy conclusions about the world that enable one to live and act successfully in it.

Related to appropriate questions as an indicator of critical thinking based on Schafersman's theory, it is important to teach students how to ask good questions, to think critically, in order to continue the advancement of the fields we are teaching. There is a quote in Bernard Marr's¹⁰ book. The quote is, "Judge of a man by his questions rather than by his answers". It is meant that critical and smart thinkers can be seen by questions in their head. This theory is supported by one of Quran's verse, Q.S. Yusuf : 07:

"Actually in (the story) of Yusuf and his brothers, there are signs (of God's power) for those who ask."

In many ways Allah SWT often rewards those who fear Allah, people who always do good deeds, or people always remember Him. In Surah Yusuf verse 7, Allah does not give award to those who are often called by Him, but for those who ask, and asking question is one of the earliest indicators of critical thinking based on Schafersman's theory.

In addition, the importance of reflecting on yourself as an act of critical thinking was also justified by the Prophet in a hadith and considered an indicator of human intelligence. As for the hadith regarding critical thinking, as follows:

From Abu Ya'la namely Syaddad Ibn Aus, Rasulullah SAW said as follows: "An intelligent person is someone who is able to introspect himself & likes to do charity for his life after death. Whereas weak people are people who always follow the passions & hope in God with empty expectations "[HR. At-Tirmizi and he said: Hasan's Hadith].

¹⁰Bernard Marr, 2012, *Key Performance Indicators*, New Jersey: FT Press, p. 33.

Ennis¹¹ defines critical thinking as a "reasonable reflective thinking that focus on deciding what to believe and do". Reasonable is understood as a way of thinking with using multiple chains to arrive at conclusion – some rational/logical from brain, some emotional, some data based, some intuitive, some internally derived, some from external source. Thus, reasonableness may not be as sharp and efficient, but it's more secure and less likely to lead to monstrous mistakes. It means that reasonable is the way of think with considering rational fact, and evidences to decide on something. Reflective thinking generally refers to the process of reviewing something that has happened. This process emphasize the process of reviewing something that has happened or has been done. In the end, this process related to how students can analyzing question or statement, asking question from what happened before, and deducing the result.

Ennis¹² categorizes activity indicators into five categories after previously describing them into thirteen indicators. The five categories include: (1) giving a simple explanation of: focusing questions, analyzing questions, asking questions, observing and answering questions about an explanation or statement, (2) building basic skills consisting of consideration of whether resources are reliable or not and observe and consider the observation report, (3) conclude that consists of deducing activities or considering the results of deduction, inducing or considering the results of induction, and making and determining the value of consideration, (4) providing further explanations consisting of identifying terms, definitions of consideration and dimensions, and identifying assumptions, and (5)

¹¹Robert Ennis, *Critical Thinking Across The Curriculum: A Vision*, Social and Political Philosophy Value Theory, Vol. 37 No. 1, March 2018, p. 165.

¹²*Ibid.*

regulating strategies and techniques that consist of determining actions and interacting with others.

Critical thinking according to Wade¹³ is a process full of purposeful and self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanations of the considerations on which that judgment is based. It is also a skill of asking, defining, testing, and analyzing assumption. Critical thinking has several indicators, one of the references is the eight characteristics of critical thinking put forward by Wade including: (1) the activity of formulating questions, (2) limiting problems, (3) examining data, (4) analyzing various opinions and bias, (5) avoiding emotional considerations, (6) avoiding oversimplification, (7) considering various interpretations, and (8) tolerating ambiguity.

Angelo¹⁴ defines critical thinking as the intentional application of rational, higher order thinking skills, such as analysis, synthesis, problem recognition and problem solving, inference, and evaluation. Angelo identifies five behaviors that are closely related to critical thinking, namely:

- a. Analytical skills, is a skill that characterizes something that aims to understand a concept by describing the big concept into smaller and detailed details. The analysis process is also often followed by more detailed questions to facilitate the analysis process. The actions that are often carried out in analyzing are

¹³C. Wade, 2012, *Using Writing to Develop and Assess Critical Thinking*, Teaching of Psychology, Vol. 22 No. 1, USA: American Psychological Association, Society for The Teaching of Psychology, p. 28.

¹⁴T. A. Angelo, 2003, *Beginning The Dialogue: Thoughts on Promoting Critical Thinking*, Teaching of Psychology, Vol. 22 No. 1, p. 6-7.

describing, making diagram, identifying, describing, connecting, detailing and so on.

- b. The skill of synthesizing, is a skill that combines the smallest parts described in the analysis phase into a new conclusion or arrangement. This skill is contrary to analytical skills. Synthesis questions invite the reader to unify all the information obtained from the reading, so as to create new ideas or ideas that are explicitly stated in the reading. These skills encourage readers to think freely but in a controlled manner.
- c. The skills to recognize and solve problems are skills that require the reader to understand the reading critically, so that the reader will be able to find the main ideas of the reading that have been read and then be able to process the concept. The purpose of this skill is so that the reader can understand the concept and apply it when facing a particular problem or condition in real life.
- d. Concluding skills are skills that contain the activities of the human mind based on the knowledge of the truth that they have and can achieve a calm knowledge of other new truths. This skill requires the reader to be able to describe and understand the reading aspects in stages to arrive at a conclusion.
- e. Evaluating or assessing skills is a skill that requires mature thinking in determining something value with existing criteria. This skill aims to provide an assessment and evaluation of a reading in accordance with established standards. According to Bloom, the skills to evaluate or judge are the highest stages of cognitive thinking. At this stage, readers are required to be able to combine and synergize other cognitive aspects in assessing a fact or concept.

Based on the above definition, it can be concluded that critical thinking is an ability to analyze, synthesize, recognize, conclude, and evaluate an occasion or problem. This indicator is adapted by Angelo's Theory.

A.1.2 Reading Comprehension

According to RAND Reading Study Group¹⁵, comprehension is the process of eliciting and making meaning through interaction and involvement with written language. It means that reading comprehension is happened with process of finding meaning with written language as the media. In this case, reading text.

Duke¹⁶ stated that comprehension is a process in which readers make meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text, and the views of readers related to the text. The purpose is to get an understanding of the text rather than to acquire meaning from individual words or sentences.

Anderson and Pearson¹⁷ defined reading comprehension as the skill of making meaning from written text intensively and effectively. Research on text comprehension has helped establish the importance of integrating information, of constructing a model on the basis of what is given in relation to what is known, of generating inferences to fill parts of the model that are missing, and of being

¹⁵RAND Reading Study Group. (2002). *Reading for understanding: Toward a research and development program in reading comprehension*. Santa Monica, CA: Office of Education Research and Improvement, p. 5.

¹⁶Duke. 2003. *Comprehension instruction for informational text*. Presentation at the annual meeting of the Michigan Reading Association, Grand Rapids, MI, p. 20.

¹⁷Anderson, R.C., & Pearson, P.D., 2005, *A Schemateoretic View of Basic Processes in Reading*. In P. D. Pearson (Ed.), *Handbook of Reading Research*, New York: Longman, p. 255.

flexible to adjust and modify newly constructed hypotheses as needed in order to arrive at a coherent interpretation of the text.

However, Anderson and Pearson agree that 'comprehension' in the phrase "reading comprehension" itself has been seen as a process of critical thinking. Based on the scheme described above, "comprehension" can be conceptualized as an act of critical thinking. However, looking at reading as an act of critical thinking becomes more in going when some components of the reading process are accepted as something automatic (such as word identification, source of meaning for most words, and position) and important, but not enough to construct reading comprehension. Reading supposed to be constant and repeated process to search, predict, crosscheck and correct belief and assumption picked up from reading text.¹⁸ In this research, researcher realize it and try to make it happen.

Based on definitions above, it can be understand that reading comprehension is the process of constructing meaning and understand words through interaction and involvement with written text.

In Islam, Allah also asks human to read as a basic command from Allah. Reading is important in religion especially Islam, because to comprehend act of devotion and command ordered in the religion, we need to read Quran and also have to have comprehension about it. There is a command to read in Quran Surah Al-Alaq verse 1-5:

¹⁸ Idris Sadri, Rahmah Fithrian, Saidurrahman, Mariyati Salmiah and Sholihatul Hamidah, 2019, Suggesting Critical Thinking and Problem Solving Method into Teaching English Reading to EFL Students in Indonesia, in *The Second Annual International Conference on Language and Literature*, KnE Social Science, p. 301.

“(1) Read! In the Name of your Lord, Who has created (all that exists) (2) Has created man from a clot (a piece of thick coagulated blood). (3) Read! And your Lord is the Most Generous, (4) Who has taught (the writing) by the pen [the first person to write was Prophet Idrees (Enoch)], (5) Has taught man that which he knew not.” (Q.S. 19:1-5).

In addition, Rasulullah also said about the importance of studying, one of which was through reading comprehension. This was mentioned through the hadith :

"Demanding knowledge is required for every Muslim" (History of Ibn Majah, Al-Baihaqi, Ibn Abdil Barr, and Ibnu Adi, from Anas bin Malik).

In conclusion, critical thinking in reading comprehension can be defined as the act of reading which contains the act of analyzing, synthesizing, recognizing, concluding, and evaluating or assessing an occasion or problem, especially a text when a person start to read the text.

A.2 High Order Thinking Skill (HOTS)

A.2.1 Definition of High Order Thinking Skill

According to Saputra¹⁹, high order thinking skill (HOTS) is the process of thinking of students at a higher cognitive level that is developed from various concepts and cognitive methods and taxonomies of learning, teaching and assessment. HOTS includes problem solving skills, creative thinking skills, critical thinking, the ability to express arguments and the ability to make decisions.

¹⁹Hatta Saputra, 2016, *Pengembangan Mutu Pendidikan Menuju Era Global: Penguatan Mutu Pembelajaran dengan Penerapan HOTS (High Order Thinking Skills)*, Bandung: SMILE's Publishing, p. 10.

Newman and Wehlage²⁰ give explanation that HOTS is the process of thinking that will form students as students who are able to clearly distinguish ideas or ideas, provide arguments well, solve problems, construct explanations, hypothesize and be able to understand complex things more clear. According to Vui (based on Kurniati, 2014)²¹, HOTS in the process when students can associate new information with information that has been stored in his memory and associate it and / or rearrange and develop information to achieve a goal or find a solution from a situation that is difficult to solve.

From explanation above, it can be understood that HOTS is also considered a thought process that requires students to manipulate existing information and ideas in a certain way that gives them new insights and implications. These methods can be in the form of an act of combining facts and ideas in the process of synthesizing, generalizing, explaining, doing hypotheses, until students arrive at a conclusion.

HOTS is an educational concept and strategy that began in the early of 21st century. The aim is to prepare human resources in facing the industrial revolution 4.0. In this era, human resources are not just workers who follow orders, but also must have skill in communication, collaboration, critical thinking and problem solving, and also creativity and innovation. HOTS have objective/goals

²⁰FM. Newman, GG. Wehlage., 2003, (<http://mathdepartement.wiki.farmington.k12-mi.us>) access on 19th August 2019.

²¹Dian Kurniati, 2016, *Kemampuan Berpikir Tingkat Tinggi Siswa SMP di Kabupaten Jember dalam Menyelesaikan Soal Berstandar PISA*. Jurnal Penelitian dan Evaluasi Pendidikan, Vol. 20 No. 2, p. 142.

in their implementation, like to achieve cognitive, affective, and psychomotor-based knowledge.²²

HOTS is based on the learning taxonomy that was coined by an educational psychologist from the United States (US), Benjamin S. Bloom, in 1956. The taxonomy was revised by Bloom's students, Lorin Anderson in 2001 who grouped the thinking skills or cognitive abilities of humans from the lowest to the highest. There are six levels of the ability to think, starting from the lowest, namely remembering/memorizing, understanding, applying, analyzing, evaluating, and creating as the highest level. The ability to think with memorizing, understanding, and applying is called as low-level thinking skills. The ability to analyze, evaluate, and create are in high-level thinking skills.²³ In this case, HOTS is used to improve high-level thinking skills.

A.2.2 Principle of High Order Thinking Skill

In learning oriented to higher order thinking skills or HOTS, the principal is teacher stimulates questions to encourage students' original thoughts²⁴, these questions include: (a) Questions to focus attention or study to make it deeper, (b) questions to encourage students to think about finding reasons or taking positions of opinion, (c) questions to clarify a concept with direction can formulate clear definitions through comparing, linking and looking for differences over existing concepts, (d) questions to encourage the emergence of creative and alternative ideas through imagination, (e) questions to encourage students to find data and

²²Yoki Ariyana, dkk., 2018, *Buku Pegangan Pembelajaran Berorientasi pada . . .*, p. 6.

²³*Ibid.*

²⁴Yoki Ariyana, dkk., 2018, *Buku Pegangan Pembelajaran Berorientasi pada Keterampilan Berpikir Tingkat Tinggi*, Jakarta: Direktorat Jenderal Guru dan Tenaga Kependidikan, Kementerian Pendidikan dan Kebudayaan, p. 37.

supporting facts and evidence to make decisions or positions, (f) questions to encourage students to develop the mind further and more deeply, by trying to apply something information in a variety of different cases and conditions, so that it has more arguments, and (g) questions to develop the ability to apply more general rules or theories to the case being studied.

A.2.3 Design of High Order Thinking Skill

To implement high order thinking skill strategy, this research use content-based approach syllabus as supporting syllabus. Krahnke²⁵ stated that this type of syllabus is not really a language teaching syllabus at all. The primary purpose of this type is to teach some extent content or information using the language that the students are learning. In a content-based approach, the activities of the teaching HOTS are spesific to the subject matter being taught, and are geared to stimulate students to think and learn through the use of the target language. Such an approach lends itself quite naturally to the integrated teaching of the four traditional language skills. For example, it employs authentic reading materials which require students not only to understand information but to interpret and evaluate it as well. It provides a forum in which students can respond orally to reading and lecture materials. In this approach, students are exposed to study skills and learn a variety of language skills which prepare them for the range of academic tasks they will encounter. Content-based language teaching is

²⁵Karl Krahnke, 2017, *Approaches to Syllabus Design for Foreign Language Teaching*, New York: Prentice Hall, p. 66.

also concerned with information, while task-based language teaching is concerned with communicative and cognitive processes.²⁶

In this case, The teacher has an important role in the continuity of the learning process. The teachers are expected to be able to prepare themselves and things that support learning, such as having to master techniques and plan ways to encourage the students to participate in learning, compile learning scenarios, make sure that the learning remains focused on objectives, prepare supporting material, and prepare materials to stimulate the students' mind.²⁷ In addition, the teacher acts as a facilitator. It means that the teacher has a task to facilitate during the activity, such as providing guidelines in accordance with the strategies and material being studied, creating a comfortable classroom atmosphere for thinking activities, asking questions to encourage the students to think as a means of delivering the students in the learning process, observing behavior patterns the students, and appreciate and encourage the emergence of responses if there are inappropriate responses or misconceptions.

Unlike the teacher, students have a role as a learner. That is, students work closely with the teacher to receive lessons and be the target of implementing this strategy. Students are expected to be the main actors in this learning, by showing enthusiasm and high curiosity, showing interest in the material provided, eager to review and discuss it with friends and teachers, follow learning

²⁶Stoller. 2002. *Project work: A means to promote language and content*. In J. Richards & W. Renandya (Eds), *Methodology in language teaching: An anthology of current practice* (pp. 107-119). Also available at English Teaching Forum, 35, 4, (1997). Retrieved December 17, 2004 from <http://exchanges.state.gov/forum/vols/vol35/no4/p2.htm>, accessed on 24 August 2019.

²⁷Yoki Ariyana, dkk., 2018, *Buku Pegangan Pembelajaran Berorientasi pada . . .*, p. 29.

procedures, and play a role in evaluation and active sessions provide criticism and suggestions relating to the material and learning process.

This learning process uses text reading as learning material. This reading text has a role as material to facilitate communication between fellow students and teachers. The material used will be useful as a stimulus to raise questions, questions and critical thinking from students during the HOTS strategy implemented in this learning and teaching session.

A.2.4 Procedure of High Order Thinking Skill

The procedure of high order thinking skill based on this three concepts in the basis for high order thinking skills, refers to analyzing activities, evaluate, create knowledge adapted to conceptual, procedural and metacognitive. According to Krathwohl²⁸ in a revision of Bloom's Taxonomy²⁹, states that indicators to measure high-level thinking skills includes analyzing , namely the ability to separate concepts into several components and connect to each other to gain an understanding of the concept as a whole, evaluating, and the ability to determine the degree of something based on certain norms, criteria or standards, and creates, that is ability integrating elements into something new and intact, or make something original.

Although there are many strategies of HOTS, following is a brief discussion about four of these procedure³⁰:

²⁸Krathwohl, D., Bloom, B., & Masia, B. 2006. *Taxonomy of educational objectives. Handbook II: Affective domain*. New York: David McKay, p. 165-166.

²⁹ Bloom, B., Englehart, M. Furst, E., Hill, W., & Krathwohl, D. 2006. *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green, p. 103-105.

³⁰ Hillocks, G. Jr. 2006. *Research on Written composition*. Urban IL: ERIC Clearing House on reading and communication skills. University of Chicago: NCRE Publication, p. 74-78.

First is Questioning in reading activities. It can be a strategy that can develop levels of thinking skills for deeper learning and more understanding. It helps students to prepare for reading and to understand while reading (Hendrickset al.).³¹ Questioning can be facilitated with the directed reading – thinking activities approach described by Haggard (1985, as cited in Hendricks et al., 1996), whereby the teacher reads a text with students, stop at intervals, and ask the question. Students discuss their answer in a whole – class activity in order to have a better understanding of what they are reading. A question – answerrelationship technique proposed by Raphael³² has been linked to improved students’ reading comprehension after reading. Thus, by using the student generated questioning strategy, text segments are intergrated and thereby improve reading comprehension.

The second is Infering. Based on Serafini³³, Infering can be strategy to some extent related to reading between lines. Students need to use their own knowledge along with information from the text to draw their own conclusions. Through it, students will be able to draw conclusion, make predictions, identify underlying themes, use information to create meaning from the text and use pictures to create meaning. Besides, students can be taught to use illustration,graphs, and titles from the text to make inferences.

³¹ Hendricks, K., Newman, L., & Stropnik, D. 2016. *Using higher order thinking skills to improve reading comprehension* (Master’s thesis). Saint Xavier University. P. 26.

³² Raphael, T.E., Wonnacott, C.A., & Pearson, P.D. 2006. *Increasing students’ sensitivity to sources of information: An instructional study in question-answer*. Urbana, IL: University of Illinois, Center for the Study of Reading, P. 30.

³³Serafini, F. 2004. *Lessons in comprehension explicit instruction in the reading workshop*. Portsmouth, NH: Heinemann. P. 21.

Third is Summarizing . It can be process requires from students awareness of what is important to be paraphrased and summarized. Alder (from Abu Nejme'h's writing)³⁴states that the process of summarization requires the reader to determine what is important while reading and to paraphrase the information in the readers own words. Accordingly, teacher modeling and student practice of the summarization as well. Students can be taught to identify main ideas, connect the main ideas, eliminate redundant and unnecessary information, and remember what they read with the summarization strategy

The last is Prediction. Mcknown and Barnett³⁵told that prediction can be a strategy for improving comprehension “helps the reader set a purpose for their reading”. Additionally, prediction before reading can activate prior knowledge, set a purpose for reading, and engage the reader from the outset. Based on Mcknown and Barnet³⁶, introducing the title of the reading, picture associated with its content, and key words can prompt prediction. During reading, prediction can help students monitor their comprehension and continued interest. Good reader use their experiences and knowledge to make prediction and formulated ideas as they read. Further, students can compare their predictions with information in the actual text. Teacher who read aloud in class can guide students’ predictions with questions. The strategy also allows for more students interaction, which increases student interest and improves their understanding of the text. Pesa and

³⁴Nejme'h Abu S, 2011. *HOTS (Skills Thinking Order Higher Integrating); Achievement's learners improve Comprehension Reading in District Jenin*, Thesis's Master Unpublished. Palestine: An-Najah National University, P. 9.

³⁵ McKown, B. A., & Barnett, C. L. 2007. *Improving reading comprehension through higher order thinking skills* (Master's thesis, Saint Xavier University). Retrieved from <http://www.eric.ed.gov>. P. 17. Accessed on 20 August 2019.

³⁶*Ibid.*

Somers³⁷ explain more that after reading, this strategy can help students to interpret, analyze, and deepen their understanding.

A.2.5 Advantages & Disadvantages of High Order Thinking Skill

The advantages of using HOTS based on Saputra³⁸ are students can improve their ability to think at a higher level, especially those related with the ability to think critically in accepting various types information, creative thinking in solving problems using knowledge possessed and make decisions in situations that are complex. A project involving several American schools on various approaches to synthesise theories related to HOTS revealed that HOTS had positive long term learning impact on students rather than the conventional rote learning. It was also found that teachers had to used the following teaching approaches to get the desired results: build background knowledge, classify things into categories, arrange items along some dimension, make hypotheses, draw inferences, analyse things into their components, solve problems and encourage students to think using thinking strategies.

Yee et al.³⁹ argues that students should be taught to acquire HOTS so that they will be able to answer questions in the exam that requires thinking skills. In explaining pedagogical practices of HOTS, Fangenheim's model, which is an adaptation of Bloom's Taxonomy, stresses the importance of teachers' application of creative and innovative strategies to engage their students to learning via their

³⁷Pesa, N., & Somers, S. 2007. *Improving reading comprehension through application and transfer of reading strategies* (Master's thesis, Saint Xavier University). Retrieved from <http://www.eric.ed.gov>, P. 32. Accessed on 20 August 2019.

³⁸Hatta Saputra, 2016, *Pengembangan Mutu Pendidikan Menuju Era Global: Penguatan Mutu Pembelajaran dengan Penerapan HOTS (High Order Thinking Skills)*, Bandung: SMILE's Publishingp. 91-92.

³⁹ Frangenheim, E. 2005. *Reflection on Classroom Think Strategies; Practical Strategies to Encourage Thinking Your Classroom*. 6rd. California: Sage Publications, p. 50.

thinking abilities through various activities. In doing so, the classroom environment is impacted with positive learning and high motivation in pursuing challenging tasks.

However, HOTS also has disadvantages. Although the concept of HOTS was introduced as far back as the 1980s, it has not been executed fully in the school system. Hillocks⁴⁰ asserts that the success of HOTS implementation depends on the level of students autonomy and interaction. Teachers' lack of pedagogical knowledge in innovating their practices by integrating HOTS in their lessons has also been found to be problematic. Then, if we want to adopt high order thinking skill to increase ability of students, we have to understand first about the concept of the HOTS. In addition, not all students can take lessons in this way, because the abilities of students are different. In the field, some students are still accustomed and easily to understand the lecture model and taught directly without a deep thought process. It needs long time and good focus from many side to accustom this strategy to students with different abilities. HOTS is not only instrument to increase critical thinking of students, but also a strategy that we have to apply in learning and teaching process. Therefore, to improve the quality of education, we are not only increase the level of difficulty in examination using the HOTS concept, but as whole starting from the curriculum.

⁴⁰ Yee, M. H., Md Yunus, J., Othman, W., Hassan, R., Tee, T. K., & Mohamad, M. M. (2012). *The needs analysis of learning higher order thinking skills for generating ideas*. Paper presented at the UKM Teaching and Learning Congress 2011. Retrieved from <http://ac.elcdn.com>. Accessed on 19 August 2019.

B. Related Study

1. Samelian⁴¹ on her thesis title “How High Order Questioning and Critical Thinking Affects Reading Comprehension” . shows that activity of reading comprehension using High Order Thinking Skills questions related to critical thinking bring the positiveness in students’ style in study especially in reading. After research, students now have focused to respond to the literature they are reading and more engage in meaningful tasks with literature they are reading. Rather than answer questions, they are more notice important things, analyze and interpret information. They also complete their reading notebook with their thought about reading text. They change their habit in reading being not only just read and know information, but also can think critically and analyze the text.
2. Yulianto⁴² on his thesis title “Teacher’s Strategy for Developing Higher Order Thinking Skills in Teaching Reading to The Eleventh Grade Students of SMK Muhammadiyah 1 Sukoharjo in 2018/2019 Academic Year” shows that at least there are 60% of the students thought that the strategy was effective for learning and could increase teamwork ability. This strategy also can make students participate actively, more confident, more careful in reading, think deeply in reading, and there are increase of students’ motivation in reading lesson.

C. Conceptual Framework

Critical thinking is important to be improved because can be demonstrated in a person's daily activities, such as deciding something, resolving a problem in

⁴¹ Lindsay A. Samelian, 2017, *How Higher Order Questioning and Critical Thinking Affects Reading Comprehension*, Minnesota: Hamline University, p. 97.

⁴² Dwi Bagas Yulianto, 2019, *Teacher’s Strategy for Developing Higher Order Thinking Skills in Teaching Reading to The Eleventh Grade Students of SMK Muhammadiyah 1 Sukoharjo in 2018/2019 Academic Year*, Surakarta: Universitas Muhammadiyah Surakarta.

an urgent situation, sorting out a good or bad thing in life to evaluate something, such as giving criticism and suggestions for what other people do . For sure, such skills are carried out based on the results of observation, experience, learning, communication and consideration which will eventually bring the person to determine attitudes towards something. That is, critical thinking skills are very important in human life so that it will be very necessary to learn in the education process especially in analyzing and observing text in reading comprehension.

Based on observation, most students have low critical thinking especially in implementation in reading comprehension. Students still difficult to understand, analyse and explore more about the text. Hence, a solution is needed to overcome the problem. Because of that, the researcher choose to use High Order Thinking Skill (HOTS) question strategy with referenced on Bloom's Taxonomy as part of method. In some research, applying HOTS can improve critical thinking of students. Beside it, application of HOTS can improve critical thinking and teaching skills of teachers, because teachers need to improve their skill first in applying HOTS questions.

D. Actional Hypothesis

In this research, the researcher has hypothesis as temporary answer toward some problems that consist in this research ' critical thinking in reading comprehension can be improved by High Order Thinking Skills (HOTS) strategy.

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the research method, consists of research design, the subject of the research, the setting of the research, the procedure of research, the technique of collecting data, and the technique of analyzing data.

A. Research Setting

This research will focus on the improving students' critical thinking in reading comprehension through High Order Thinking Skill (HOTS) strategy at twelve grade in SMA Ahmad Yani Binjai. It will conduct at Jalan Ade Irma Suryani No 38A, Binjai. This school was chosen because in this school, the students have problem in critical thinking in teaching and learning english. This research will be conducted for a week started from October 2019.

B. Data and Data Source

In this research, the data that will be used are quantitative data and qualitative data. Data in this research will be obtain from seeing the result of the test that have been done by students which is supported by High Order Thinking Skill (HOTS) questions. Beside that, the data will be gotten from observing participants along the action/implementation of strategy and interview from english teacher.

C. Research Method

This research will be conducted by using Classroom Action Research. It consists of three words: Research (examine the activity of an object), Action (some activities that are deliberately made with spesific purpose), and Class (a

group of students who are in the same time receive the same lesson from teacher).⁴³ Classroom action research contended that the action research referred to class room investigation initiate by researcher, perhaps teacher, who looked critical at their own practice with the purpose of understanding and improving their teaching and the quality of education.⁴⁴

Based on the above explanation, the research conclude that classroom action research is a research in the classroom to identify and solve problem during teaching and learning process.

The classroom action research is combination between qualitative and quantitative research. In CAR, the data collected qualitatively and analyzed quantitatively. Action research is different from formal research, which aim to test hypothesis and build theory as general. Action research aims to as further improve performance, and contextual nature not to generalize the result. However, the result of action research can be applied by others who have asimiliar background to the researches process.⁴⁵

In CAR, there are form cycle stages. Each of the cycle are consisted of four steps: planning, action, observing and reflective⁴⁶:

1. Planning, is useful to develop an action plan critically to improve what had happened. CAR shoud be composed and the term of the definition must be perspective in action. In this step, the researcher will prepare everything that will be needed in teaching and learning process. Some of activities which will

⁴³Suharsimi Arikunto, 2010, *Penelitian Tindakan Kelas*, Jakarta: Bumi Aksara, p. 59.

⁴⁴M. K. Wallace, 1998, *Action Research for Language Teacher*, Cambridge: Cambridge University Press.

⁴⁵Zainal Aqib, 2006, *Langkah Mudah Penelitian Tindakan Kelas*, Jakarta: Raja wali pers, p. 42.

⁴⁶Kunandar, 2008, *Langkah Mudah Penelitian Tindakan Kelas*, Jakarta: Raja Wali Pers, p. 41.

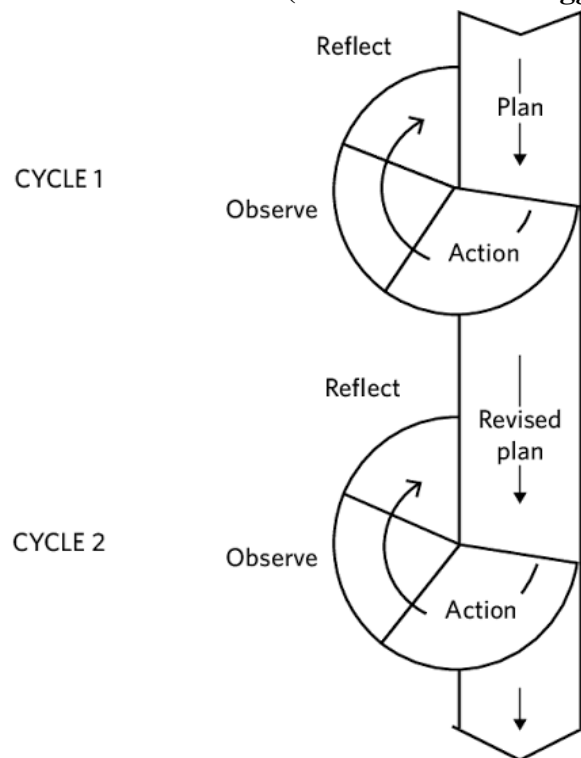
be done in planning are preparing lesson plan for 3 meetings, preparing the question for test as media that will be used, preparing text/essay and some supporting pictures as the media of learning, preparing the instrument of collecting data: Interview sheet, observation sheet and sheet test, and repairing phone for record the actions and taking pictures during conducting research.

2. Action, is a conscious action and control, which is a variation of a careful and prudent practices. Practices is recognized as the idea into action and action was used as the basis as the development of subsequent actions, action by intention to improve the situation. In this step, the researcher will carry out everything that has been planned. In this research, the researcher do in three meetings. In this action, the students are supported and developed in their responses and changed-behavior.
3. Observation, is a cycle that has function to document that the effect of the action concerned. Object of observation is the whole process of action, effects, circumstances and constraints of action planned and their effects, as well as other issues that arise in the context concerned. In this step, observation is proposed to find out the information action by collaborator in the classroom during the teaching learning process. In this step, there will be some activities observed by the collaborator are:
 - a. Observing the steps of the research during the teaching-learning process.
 - b. Observing the students' activities during teaching-learning process.
 - c. Taking notes on all activities during teaching-learning process.
4. Reflection, here is feedback process from the action which is has been done before. Reflection is used to help the teacher make desicion. It has evaluative

aspect to evaluate the effect of specious issues and suggest the way to handle it. In this step, the result of actions and observations are reflected by researcher. The researcher will revise the cycle one and should be maintained in the next cycle.

The research decided to conduct this research by using classroom action research (CAR) based on Kemmis and McTaggart’s model. The stages of Kemmis and McTaggart’s⁴⁷ model in action research can be seen as the following figure:

Figure 3.1
Action Research Model (Kemmis and McTaggart)



The researcher will conduct this research in two cycles. There are four phases in every cycle. The researcher will do some steps in each cycle.

⁴⁷Anne Burns, 2009, *Doing Action Research in English Language Teaching*, UK: Routledge, p. 9.

D. Procedure of Collecting Data

The procedures of collecting data for this study was conducted by implementing two cycles where in each cycle applied four steps, namely:

1. Plan,
2. Action
3. Observation,
4. Reflection.

Table 3.1
Procedure of Collecting Data

FIRST CYCLE	I. Planning a. Making lesson plan (RPP) b. Choosing a class for object study c. Preparing questionnaire for first cycle
	II. Acting a. Giving learning material and media b. Discussing about the text & give questions related to text c. Giving the questionnaire to students
	III. Observating a. Researcher and collaborator observe students learning process b. Researcher and collaborator observe students activities during learning process c. Document students activities
	IV. Reflecting

	Deciding streng and weakness from acting of first cycle and the result will be used as reference for the next cycle.
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SECOND CYCLE	I. Planning a. Making lesson plan (RPP) b. Still in the same class where first cycle was conducted c. Preparing the questionnaire for second cycle
	II. Acting a. Giving the learning material and media b. Discussing about the text& give questions about the text c. Giving the questionnaire to students
	III. Observating a. Researcher and collaborator observe students learning process b. Researcher and collaborator observe students activities during learning process c. Document students activities
	IV. Reflecting Deciding strength and weakness from action of second cycle.

The second cycle with the same steps maybe can be happened if the result of first cycle cannot achieve the target of research.

E. Technique of Collecting Data

In this research, the researcher collected the data by using quantitative and qualitative data. In collecting the quantitative data, the researcher gave questionnaire to observe critical thinking of the students in reading. They were asked to fill the questionnaire that have been given by researcher.

The qualitative data is used to the situation in the teaching process. The qualitative data got by using interview, observation, and documentation. The researcher interviewed the teacher to know the improvement of students' ability in the learning process and the researcher interviewed the the english teacher and student to know their problem in facing HOTS questions and how they feel when they were given the treatment. Observation is used to see the situation, the development in the teaching process and to know students' reaction when they were taught.

1. Interview

Before implementing the research, the researcher interviewed the teacher about students' activity during reading comprehension, their condition to know more about their action reflected to critical thinking, and the strategy usually adopted by the teacher in teaching reading comprehension. The reseracher also did interview to students to find out their competence in critical thinking before research.

2. Critical Thinking Test

Critical thinking test is test to determines ability of students in critical thinking after studying using HOTS strategy in reading activity. This test is designed to assess capacity and to know how far the ability of students in

analyzing, synthesizing, recognizing, concluding, and evaluating or assessing an occasion or problem.

3. Observation

Observation is used to observe directly what happens in the learning process. The researcher employs observation sheet to find out the data about HOTS questions as media of teaching critical thinking. The teacher and the researcher will observe by watching the teaching and learning activities in the classroom during the class. How teachers taught and how student's response are the objects of the observation.

4. Documentation

A documents study is anything written that contains information serving as proof. Document study includes some media, such as photo, video which related to research focusing. In this research, the researcher only use photo as the documentation.

5. Research Note

Research note is note contains report that happen during observation and research. Research note is also made to show description during teaching treatment. This instrument useful to be analyzed for evaluation, advantages and disadvantages of strategy.

F. Technique of Analyzing Data

The data of this research will be analyzed by using t-test for quantitative data and Miles and Huberman technique for qualitative data.

1. Technique of Analyzing Quantitative Data

T-test is used to compare the two means from primarily study from cycle one to cycle two. The formula of the t-test is as follow:

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

\bar{D} = Mean of difference of posttest 1 and posttest 2

D = Difference

N = Subject of the students

2. Technique of Analyzing Qualitative Data

Miles and Huberman technique is used to analyze the qualitative data, the process of the analysis is starting from: data reduction, data display, and conclusion drawing/verification.

Data reduction, is the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written-up field notes or transcriptions Miles and Huberman. It means that the researcher had been reducing the data before, during and after collecting the data as well as analyzing the data. The data reduced in this study were found in the interview transcript. After that, it is continued with data display, it is an organized, compressed assembly of information that permits conclusion drawing and action. By displaying the data, the researcher was easy to understand and analyze what was happening with the data presented. The last step is conclusion drawing and verification. From the start of the data collection, the qualitative analysis is begun to decide what are the regulations, patterns, explanation, possible configurations, causal flows and preposition. The conclusion in qualitative research is the discovery that can be an answer of the research problem. The conclusion is in

the form of description of the object of this study. Finally, in this step the researcher will get the result and the conclusion of the research.

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

A. RESEARCH FINDING

The data was analyzed by quantitative and qualitative data. The quantitative data were taken from mean of the students' score in taking critical thinking in reading test. The qualitative data were taken from observation sheet, interview, and photography evidence. This research was conducted in one class with 34 students. This research was accomplished in one cycle. The cycle consisted of four steps of action research (planning, acting, observing, and reflecting). There was pre-test in the beginning of meeting and post test in the end of meeting.

1. The Preliminary Study

The quantitative data were taken from the result of the test given to the students. The test that given still relevant to the topic taught and discussed in the classroom in every cycle. There was a cycle consisted of four meeting in this research and the test was given in the last of cycle. From pre-test, researcher got the result shows that students' critical thinking still low.

From the pre-test, the total score of students was 2400 and the number of the students completed took the test from pre-test and post-test was 34 students. To know the result of students' critical thinking test, the researcher needs to calculate the mean score. The mean score derived from the following formula:

$$M_x = \frac{\sum x}{N}$$

Where M_x : The mean of students' test

Σx : The total score

N : The numbers of students

So, the mean of students was: $M_x = \frac{2400}{34} = \mathbf{70.58}$

Next, to know the class percentage of students who got up to 80 that is using the following formula:

$$P = \frac{R}{T} \times 100\%$$

P : The percentage of students who get the point (≥ 80)

R : The number of students who get the point up (≥ 80)

T : The total number of students who do the test.

$$P1 = \frac{16}{34} \times 100\% = 47.05\%$$

$$P2 = \frac{18}{34} \times 100\% = 52.94\%$$

The median of pre-test can be found from this pattern:

$$Me = \frac{1}{2} (N+1)$$

$$= \frac{1}{2} (34+1)$$

$$= \frac{1}{2} \times 35$$

$$= \frac{35}{2} = 17,5$$

17,5's number is **70**

$$\mathbf{Me = 70}$$

The lowest score of the test is: **50**

The highest score of the test is: **90**

The score that appear oftenly (mode) is : **80 with 12 numbers.**

Range of the the test can be found in this pattern:

$$\begin{aligned}\text{Range} &= Ma-Mi \\ &= 90-50 \\ &= \mathbf{40}\end{aligned}$$

Standart deviation of the test = **7, 26273**

From the result of data, we can see that the students' critical thinking was still low. Based on minimun mastery criteria of the research, they didn't pass it. From 8 indicator of critical thinking, at least they just mastering 4 or 5 indicator.

The result of quantitative data is strengthen by qualitative data that has collected. In this case, reserarcher got qualitative data from interview with students and teacher.

This interview was held 11 th November 2019 and 16 rd November 2019, before and after the class action. The researcher asks several questions to students about their habits in reading comprehension of students. The questions asked are related to indicators of critical thinking skills that they must have in reading. This interview was held to know their critical thinking level in reading comprehension. Some of the questions are: "Do you often have questions in your head when reading a text?", "Can you identify information points that you can read?", "Can you explain the information you get in the text? what do you read? ", " can you distinguish between facts and opinions in the reading? ", " do you often look for sources of information other than the text you read? ", " how often do you apply the values you get in the text to life? real? ", etc.

based on interviews with 3 students as a sample before the action class, researchers can conclude that students still have the ability of critical thinking that is medium to low. These students are able to identify the information they get in the text, are able to distinguish between facts and opinions, and are able to retell the information they get with their own sentences. Unfortunately they rarely had questions in their heads when reading texts, searching for information through other sources to prove the truth of information, and applying information and values that they can when reading into their real lives.

In addition, they rarely and even almost never try to analyze the text of the reading consciously and have never even thought of having assumptions based on the data they get in the reading text. This might be the reason why they have not been able to answer question number 5 correctly during the pre-test, because question number 5 requires them to analyze data and make new assumptions.

based on interviews with their English teachers, it could be seen that so far they have not been trained to hone critical thinking especially in reading comprehension.

While learning comprehension reading, they were able to read with the correct pronunciation, but were less able to understand the concepts and details of the text well. Instead, they always reread the text when there were questions they must answer. In addition, they rarely raised questions in their heads when reading a text.

therefore, researchers can conclude that students still need High Order Thinking Skills to strengthen their critical thinking. This is certainly useful for

their learning, especially when facing reading comprehension in national examinations.

2. Full Cycle

a. Planning

There are several activities in this stage. First, to see the students' initial abilities in critical thinking, the researcher conducted a pre-test conducted on November 9, 2019. Next, the researcher designed a lesson plan for two meetings and selected suitable teaching materials. The author also prepares the required media and some questions for student practice. In this case, the researcher prepares a reading text to be read and analyzed by students.

b. Acting

Action class was carried out on 13 and 16 November 2019. Researchers implemented strategies in the learning process based on lesson plans that had been prepared previously. There are several things done by researchers, namely:

1. Questioning. In this stage, the researcher asked students as a group to read the text that has been given, determine the title based on the contents of the text, find information points contained in the text, and write down questions that arise in their heads when reading the given text. Students was confronted with texts that contain information about the advantages of the E-Reader as a forum for reading e-books compared to printed books. Some questions that arised include; 1) "This text only explains about the advantages of e-readers, then what about the weaknesses?", 2) "If the e-reader

can be used practically on smartphones, will it also be useful for people who don't use smartphones?", 3) "If the e-reader is really that good, why not use it in learning now?", 4) "If the author really favored the e-reader in this text, why doesn't he directly invite us to use e-reader?", and 5) "What is *War and Peace*, *Anna Karenina*, and *Les Misérables*?" In addition to discussing any questions that arise in their minds, they also collected information points and data contained in the text.

2. **Infering.** In this stage, the researcher together with students discussed to understand the purpose and purpose of the existence of the text based on information that has been collected from the text. In addition, students were invited to look for answers to their questions based on the knowledge they have had so far. Some things that they had formulated based on the questions are; the aim of the writer is to influence the reader because the writer only lists his strengths, weaknesses of e-readers, and other answers.
3. **Summarizing.** In this stage, students were asked to identify data and information points. In this study, students made a comparison table between the advantages of e-readers (those found in the text) and their shortcomings (based on the students' knowledge they already had), and discuss whether printed books was still needed even though e-readers already exist.
4. **Prediction.** In this stage, students made the final prediction based on the discussion that has been done. The teacher provoked

predictions with questions. In this study, the question was, "In the text it is stated that e-readers are replacing the books. In your opinion, will the e-reader really replace books in the future? ". Each group discussed with its members, and each group conveyed its prediction based on the information, data and facts they had analyzed previously. In the end, this will help them to decide after reading the text, whether e-readers are worth buying for them or not.

c. Observing

Researchers made observations by observing the behavior of students during the learning process. Researchers saw that students could be directed to carry out the learning process easily. Some instructions given could be done well. Unfortunately, they were still shy and afraid to talk, despite having opinions and ideas. On several occasions, they were still confused and need to be given examples in the instructions.

Therefore, researchers provided examples and directions more clearly for students, and they could understand them better. In addition, the students followed the discussion well and enjoyed it. They actively asked questions and gave opinions even though they were still a bit embarrassed and afraid if they are wrong. The learning process seems to open their horizons about how to analyze reading and be critical of reading. Unlike the pre-test, they began to apply the process to answer the questions provided during the post-test. That caused their value to increase. At the pre-test, only 16 people were able to reach score of 80,

but at the post-test there were 30 people who were able to reach score of 80. This is a good and significant improvement.

The result of post-test shows that the percentage of the students who got point up 80 also grew up. In pre-test, students who got up 80 were only 16 of 34 students or 47%, and in the post-test, there were 30 of 34 students or 88%. The t-test between pre-test and post test was 0,66289416, and T-table 1% = 0,4357. From the data, we can see that the mean of the value from pre-test and post test that increase. Based on T-test, researcher found that $t\text{-test} > t\text{-table}$. It means that pre-test was really affected to the result of post-test. The corelation was having the same aim, means that if the pre-test results increase, the post-test results also increase.

Also based on interviews after the action class, students begin to understand how good reading habits are and show increased critical thinking. They began to be aware for questioning, analyzing, understanding the concept of reading well, being skeptical in reading comprehension, being critical in responding to information, and being aware of evaluating their reading. Although not in depth, they slowly begin to understand the process they must carry out in order to remain critical in reading comprehension. The process can certainly be understood based on the actions carried out in learning process.

d. Reflecting

After checking students 'critical thinking abilities by giving a post-test in the form of reading comprehension based on critical thinking indicators, it was found that students' grades showed an increase significantly. Based on their observations and test results, the researchers concluded that students were able to improve their

critical thinking skills with the HOTS strategy used by the teacher. Student scores increased significantly in the post-test compared to the pre-test scores. This makes researchers think that the cycle can be stopped because students have begun to master the ability of critical thinking when reading comprehension.

B. DATA ANALYSIS

The result was indicated there was an improvement on the students' critical thinking skill in reading comprehension. It could be seen by the fact of mean that the students' score in post-test increased. The mean score in post-test was 83,2.

The percentage of the students who got point up 80 also grew up. In pre-test, students who got up 80 were only 16 of 34 students or 47%, and in the post-test, there were 30 of 34 students or 88%.

The researcher organized all the quantitative data from each meeting. In the cycle, researcher conducted writing test. From the first test, it was found that students' critical thinking skill was still middle to low. There didn't know yet behavior of critical thinking in reading comprehension to make them more understand to analyze a text and could make critical for a text.

In the cycle especially in action class, students were able to follow learning well and understand instructions, such as questioning, making predictions based on their questions, analyzing texts by utilizing information, data, and knowledge they already have. at first, they were confused by the learning strategy, because before they had never done learning in reading comprehension until they had to analyze the text and write questions that came into their heads when reading. But in the midst of learning and teaching they could follow the flow well.

The discussion could flow well and students didn't even hesitate to convey their ideas and ideas to make predictions and draw conclusions related to the text being discussed. However, to express ideas and ideas, they needed to be provoked in advance with simple questions, such as "if there is no shortage of e-readers described here, what do you think are the shortcomings?", "Have you ever tried to read e- book through your smartphone? If so, how's your experience using it? ", "do you think, in the future e-readers will be able to replace ordinary printed books? ", and others. The advantage is, these questions will help them not only to be able to think critically, but also to be able to think in coherent logic, tolerate ambiguity, be able to analyze opinions and predictions, and test data. These things are part of the indicators and characteristics of critical thinking.

But based on the results of the pre-test, their weakness was making predictions based on data. This was proven because in the pre-test, there was one question that indirectly asked them to make analyzes and predictions based on data, but no one answered correctly. In this case, researcher tried to teach and improve their abilities in this case by providing analogies and comparisons with similar types of conditions. This needs to be done so they can understand the concept. Students will better understand and be able to apply it in other conditions if they already understand the basic concept.

Overall, it can be seen that the HOTS strategy applied is able to improve students' critical thinking skills in reading comprehension. This is evidenced by the increase in post-test scores compared to the scores they got during the pre-test. In the pre-test, there were only 16 out of 34 people who reached score of 80. In the post-test, the number of students who reached the score of 80 increased to 30

people. At least the number of students who reached the value of 80 increased by 14 students.

The researcher also analyzed the qualitative data which taken from interview, observation sheet, and documentation. The interview showed that the implementation of HOTS can helped them in reading comprehension activity especially in exam. Observation sheet showed that the students gave good responses and attitude during the teaching and learning process. The last documentation showed the activity in the class. These all qualitative data supported the research finding which is based on the qualitative data. Based on the quantitative data, it found that the implementation of high order thinking skill (HOTS) strategy had successfully improved the students' critical thinking skill in reading comprehension.

C. DISCUSSION

The research was conducted to find out the improving of the students' critical thinking skill by using HOTS. HOTS was one of technique that could help the students to be easier in facing reading comprehension and facing questions related to HOTS questions.

This research has proved the effectiveness of implementation of HOTS. This research has proven that HOTS is able to improve students' critical thinking skills in understanding reading comprehension, because teachers used the teaching approaches to get the desired results: build background knowledge, classify things into categories, arrange items along some dimension, make hypotheses, draw inferences, analyse things into their components, solve problems and

encourage students to think using thinking strategies.⁴⁸ This aim is appropriate with indicator of critical thinking basically.

The research results show the same results as some of the research that has been done, one of which is research entitled "How High Order Questioning and Critical Thinking Affect Reading Comprehension" by Samelian⁴⁹. In the research, Samelian said that reading activities with HOTS questions related to critical thinking will have a positive impact on how to learn students, especially in reading activities.

In the research, the researcher shows that students can focus more on paying attention to important details, analyzing information and knowing the intent of the text's writer rather than simply answering questions. This also happened to the students studied in this research. They are not only more focused on paying attention to important details, analyzing the text or knowing the intent of the author, but also at a level where they were able to decide what reactions and actions they took based on the text they read. While being able to decide on the actions taken and take an action based on reading comprehension is the highest achievement of critical thinking.⁵⁰ This has been seen from the learning process in the research which lasted for 3 meetings.

⁴⁸ Hatta Saputra, 2016, *Pengembangan Mutu Pendidikan Menuju Era Global: Penguatan Mutu Pembelajaran dengan Penerapan HOTS (High Order Thinking Skills)*, Bandung: SMILE's Publishingp. 91-92.

⁴⁹ Lindsay A. Samelian, 2017, *How Higher Order Questioning and Critical Thinking Affects Reading Comprehension*, Minnesota: Hamline University, p. 97.

⁵⁰ T. A. Angelo, 2003, *Beginning The Dialogue: Thoughts on Promoting Critical Thinking*, Teaching of Psychology, Vol. 22 No. 1, p. 6-7.

In addition, this study is also in line with the results of research conducted by Yulianto⁵¹ under the title "Teacher's Strategy for Developing Higher Order Thinking Skills in Teaching Reading to The Eleventh Grade Students of SMK Muhammadiyah 1 Sukoharjo". In that research, it can be found that the strategy is effective for learning and can improve teamwork skills. In addition, the strategy is able to make students interested to participate actively, learn to be more confident, be more careful in reading, think deeper, and increase students' interest in reading. This also happened in this study. The strategy applied was able to make students interested in reading, be more careful in reading, and make them more interested in being active in discussions, although some of the students were still shy to answer and express their opinions.

⁵¹ Dwi Bagas Yulianto, 2019, *Teacher's Strategy for Developing Higher Order Thinking Skills in Teaching Reading to The Eleventh Grade Students of SMK Muhammadiyah 1 Sukoharjo in 2018/2019 Academic Year*, Surakarta: Universitas Muhammadiyah Surakarta.

CHAPTER V

CONCLUSSION AND SUGGESTION

A. Conclusions

From the preliminary study, quantitatively, The mean score of pre-test was 70,5. The percentage of the students who got point up 80 in post-test was 47,05. There is improvement of students' critical thinking in reading comprehension by using HOTS strategy in teaching process.

In the cycle I, It was proved the mean score of pre-test (70,58 or 47,65%) was increase in post-test (83,2 or 88,23%). It means that there was an improvement students' critical thinking in reading comprehension using HOTS strategy. It is found that the score get improved from the pre-test to post-test continuously.

Qualitatively, the observation and interview conducted by the writer during the action showed that the students were motivated and interest to participate and actively give many feedbacks in discussion during teaching and learning process. The teacher's response about the implementation of gallery walk technique was positive and it would be an alternative technique in teaching reading comprehension. Therefore, HOTS strategy could improve the students' critical thinking.

B. Suggestion

Based on the result of this research which positively indicates that the use of HOTS strategy could improve the students' critical thinking in reading comprehension. Some suggestion for the teaching and learning English are proposed as follows:

1. For the English teachers, it is useful to apply HOTS strategy as one of alternative teaching and do variation of teaching-learning process so the students will be interested.
2. For the students, the using of HOTS strategy can improve ability of students' critical thinking. It is suggested for other researchers to use gallery walk technique as one of the references in teaching reading comprehension.

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APPENDIX 1

LESSON PLAN (RPP)

School name : SMA Ahmad Yani Binjai
Subjects : English
Class / Semester : XII / 1
Subject matter : Persuasive Text
Time Allocation : 2 x 2 JP (160min)

A. Core Competencies

- KI 1 : Living with and practice the teachings of religion.
- KI 2 : Appreciate and practice the honest behavior, discipline, responsibility, caring (teamwork, cooperation, tolerance, peace), polite, responsive and pro-active and displayed as part of the solution to various problems in interacting effectively with the social and natural environment as well as in placing itself as a reflection of the nation in the association world.
- KI 3 : Understand, implement, analyze factual knowledge, conceptual, procedural by curiosity about science, technology, art, culture, and humanities with insights into humanity, nation, state, and civilization-related causes of phenomena and events, and apply procedural knowledge in the field of study specific according to their talents and interests to solve the problem.
- KI 4 : Processing, and reasoning in the realm of the concrete and the development of the abstract sphere related to learned in school independently, and able to use the method according to the rules of science.

B. Basic competencies

- KD 3:10 Analyzing social function, the structure of the text, and linguistic elements of persuasive text about the hot topic discussed generally, according to the user context.

KD 4:14 Grasp the meaning of the text of the persuasive of general hot topic discussed.

C. Indicator

- 3.10.1 Identifying the structure of the text, and linguistic elements of text persuasive.
- 3.10.2 Explaining the social function of persuasive of the text.
- 4.14.1 Report the results of the persuasive text read.
- 4.14.2 Presenting the results of the persuasive text reading reports.

D. Purpose of Learning

At the end of the lesson, students can:

1. identify the structure of the text and the language of the text element analytical exposition
2. describes the social function of analytical exposition of the text.
3. report the results of the analytical exposition text reading .
4. presented the results of the analytical exposition text reading reports.
5. Increase students' skill in critical thinking related to reading.

E. Learning materials

1. The structure of the text:
 - a. Big Idea (Introduction)

The author introduces the topic or main idea will be discussed. Usually located in the first paragraph. Statement of the importance of what it is about.
 - b. The views / Opinions (Content)

The author presents arguments or opinions expressed support of the idea of the text and reasons that support the thesis usually located in second paragraph and etc . Unbiased reviews very important, must be able to convince to reader thesis why it needs to be stated by the author.
 - c. Conclusion

Although it is optional but a conclusion from the above discussion should be given . This is mean to reemphasize how important above thesis.

2. Elements of language:
 - a. Using the vocabulary associated
 - b. Using the Simple Present Tense.
3. Social functions:

Convince the reader that the topics are important.

F. Approaches, Models and Methods

1. Approach : Scientific (Scientific)
 The application of the scientific method:
 - a. Observe
 - b. questioning
 - c. exploring
 - d. associate
 - e. Communicating
2. Model : *Cooperative and Inquiry Learning*
3. Strategy : High Order Thinking Skills (HOTS)

G. Learning steps

- 1) Preliminary activities

Teacher	Student	Time
- greeting to students	- returned the greeting teachers	15 '
- invites students to pray	- pray together with teachers	
- check student attendance	- states in attendance by saying, "I am here."	

- 2) Core activities

Teacher	student	Time

a. Viewing (Observing)		
- Asking students to observe the text given by the teacher.	- Observe and understand the text given by the teacher	25'
- ask students to identify the informations from the text.	- identifying informations from text given by the teacher	
- ask the students who reported the findings	- report findings	
- give feedback on students' report findings	- listening to feedback from teachers	

Teacher	student	Time
b. Questioning (Questioning)		
- ask students to make an inquiry in accordance with the previous text	- make an inquiry in accordance with the previous texts.	20'
- discussed with students to answer the questions that appear from their mind.	- Discussed to answered questions from their mind.	

Teacher	Student	Time
c. Explore (Exploring)		
- assigning students to identify informations that they get with knowledge that they have before.	- Identify informations that they get with knowledge that they have before.	30'
- ask for some students to explain the results of the report	- asked to explain the results of the report	
- give feedback on the results of student reports	- listen to feedback on students' reports of	

	teachers	
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Teacher	student	Time
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d. Associate (associating)		
- ask students to analyze the informations from the text, make a concept like mind mapping or table to explain and analyze informations well.	- analyze the informations from the text, make a concept to explain and analyze informations well.	20'
- ask students a question to make them making prediction.	- answer question from teacher with prediction based on analyzed informations.	

Teacher	student	Time
e. Communicating (Communicating)		
- Provide questions that provoke students to analyze and evaluate texts	- Analyze and evaluate the text based on questions from the teacher.	30'
- Provide opportunities for students to express their knowledge and discovery in accordance with the text reading.	- express knowledge and discovery in accordance with the text reading.	

3) Closing activities

Teacher	student	Time
- asks the students to express opinions or feelings on learning undertaken	- express opinions or feelings on learning undertaken	10'

H. Media / Tools and Sumer Learning

1. Media / Tool
 - a. Whiteboard
 - b. markers Boardmarker
 - c. Markers in different colors
2. Learning Resources
 - a. English Books Kemendikbud Class XII
 - b. Text of persuasive from www.readtheory.org

I. Evaluation

1. Rate spiritual and social attitudes
 - a. Spiritual attitude assessment instruments (observation sheet attached)
 - b. Social attitude assessment instruments (observation sheet attached)
2. Assessment of knowledge is done by: Written Test (questions attached)
3. Assessment ability analyzing, synthesizing, recognizing, concluding, and evaluating which is an indicator of the ability of critical thinking.

J. Assessment Rubric

No	INDICATORS	ASPECTS	SCORE	TOTAL
1.	Analyzis Questions number 2 & 8	Be able to describe, make diagram, identify, connect, and detail.	10 Point for every questions.	20
2.	Synthesizing Questions number 6 & 9	Be able to unify all the information obtained from the reading, so as to create new ideas or ideas that are explicitly stated in the reading. Readers have to think freely but in a controlled manner.	10 Point for every questions.	20
3.	Recognizing Questions number 1 & 5	Be able to understand the concept and	10 Point for every	20

		applying it when facing a particular problem or condition in real life	questions.	
4.	Concluding Questions number 4 & 10	Be able to describe and understand the reading aspects in stages to arrive at a conclusion	10 Point for every questions.	20
5.	Evaluating Questions number 3 & 7	be able to combine and synergize other cognitive aspects in assessing a fact or concep	10 Point for every questions.	20
Total Score				100

The text for discussing the materials:

Right now, I am looking at a shelf full of relics, a collection of has-beens, old-timers, antiques, fossils. Right now I am looking at a shelf full of books. Yes, that's right. If you have some spare cash (the going rate is about \$89) and are looking to enhance your reading experience, then I highly suggest you consider purchasing an e-reader. E-readers are replacing the books of old, and I welcome them with open arms (as you should).

If you haven't heard of an e-reader and don't know what it is, then please permit the following explanation. An e-reader is a device that allows you to read e-books. An e-book is a book-length publication in digital form, consisting of text, images, or both, and produced on, published through, and readable on computers or other electronic devices. Sometimes the equivalent of a conventional printed book, e-books can also be born digital. The Oxford Dictionary of English defines the e-book as "an electronic version of a printed book," but e-books can and do exist without any printed equivalent.

So now you know what an e-reader is. But you still may be wondering why they put printed books to shame. E-readers are superior to printed books because they save space, are environmentally friendly, and provide helpful reading tips and tools that printed books do not.

E-readers are superior to printed books because they save space. The average e-reader can store thousands of digital books, providing a veritable library at your fingertips. What is more, being the size and weight of a thin hardback, the e-reader itself is relatively petite. It is easy to hold and can fit in a pocketbook or briefcase easily. This makes handling ponderous behemoths such as *War and Peace*, *Anna Karenina*, and *Les Misérables* a breeze. Perhaps the only drawback to the space-saving aspect of an e-reader is that it requires you to find new things to put on your shelves.

In addition, e-readers are superior to books because they are environmentally friendly. The average novel is about 300 pages long. So, if a novel is printed 1000 times, it will use 300,000 pieces of paper. That's a lot of paper! If there are about 80,000 pieces of paper in a tree, this means it takes almost 4 trees to make these 1000 books. Now, we know that the average bestseller sells about 20,000 copies per week. That means that it takes over 300 trees each month to sustain this rate. And for the super bestsellers, these figures increase dramatically. For example, the Harry Potter book series has sold over 450 million copies. That's about 2 million trees! Upon viewing these figures, it is not hard to grasp the several impact of printed books on the environment. Since e-readers use no trees, they represent a significant amount of preservation in terms of the environment and its resources.

Finally, e-readers are superior to books because they provide helpful reading tips and tools that printed books do not. The typical e-reader allows its user to customize letter size, font, and line spacing. It also allows highlighting and electronic bookmarking. Furthermore, it grants users the ability to get an overview of a book and then jump to a specific location based on that overview. While these are all nice features, perhaps the most helpful of all is the ability to get dictionary definitions at the touch of a finger. On even the most basic e-reader, users can conjure instant definitions without having to hunt through a physical dictionary.

It can be seen that e-readers are superior to printed books. They save space, are environmentally friendly, and provide helpful reading tips and tools that printed books do not. So what good are printed books? Well, they certainly make nice decorations.

Knowing
Principal

Binjai, November 2019
Researcher

Willy, M. Pd.

Andini Aprilia
NIM 34153102

APPENDIX 2

CRITICAL THINKING TEST ASSESSMENT

Name :
Class :
Time : 30 minutes

Direction: In this test, you will read a text below. The text is followed by a number of questions about it. You are to choose the correct answer, (A), (B), (C), or (D), to each question. Cross (×) the answer that you choose.

When we are young, we learn that tigers and sharks are dangerous animals. We might be scared of them because they are big and powerful. As we get older, however, we learn that sometimes the most dangerous animals are also the smallest animals. In fact, the animal that kills the most people every year is one that you have probably killed yourself many times: the mosquito.

While it may seem that all mosquitoes are biters, this is not actually the case. Male mosquitoes eat plant nectar. On the other hand, female mosquitoes feed on animal blood. They need this blood to live and produce eggs. When a female mosquito bites a human being, it transmits a small amount of saliva into the blood. This saliva may or may not contain a deadly disease. The result of the bite can be as minor as an itchy bump or as serious as death.

Because a mosquito can bite many people in the course of its life, it can carry diseases from one person to another very easily. Two of the most deadly diseases carried by mosquitoes are malaria and yellow fever. More than 700 million people become sick from these diseases every year. At least 2 million of these people will die from these diseases.

Many scientists are working on safer and better ways to kill mosquitoes, but so far, there is no sure way to protect everyone in the world from their deadly bites. Mosquito nets can be placed over beds to protect people against being bitten. These nets help people stay safe at night, but they do not kill any mosquitoes. Mosquitoes have many natural enemies like bats, birds, dragonflies, and certain kinds of fish. Bringing more of these animals into places where mosquitoes live might help to cut down the amount of mosquitoes in that area. This is a natural solution, but it does not always work very well. Mosquitoes can also be killed with poisons or sprays. Even though these sprays kill mosquitoes, they may also harm other plants or animals.

Although mosquitoes may not seem as scary as larger, more powerful animals, they are far more dangerous to human beings. But things are changing. It is highly likely that one day scientists will find a way to keep everyone safe from mosquitoes and the diseases they carry.

Questions

- 1) According to the author, some people are more afraid of tigers and sharks than mosquitoes because tigers and sharks
 - A. kill more people than mosquitoes
 - B. are big and powerful
 - C. are found all over the world
 - D. have no natural enemies

- 2) Based on the information in paragraph 2, we can understand that
 - I. male mosquitoes and female mosquitoes have different eating habits
 - II. male mosquitoes are harmless to humans
 - III. female mosquitoes are responsible for transmitting diseases to humans
 - A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III

- 3) In paragraph 2 the author writes, "This saliva may or may not contain a deadly disease." The purpose of this statement is to
 - A. oppose a previous argument
 - B. question an upcoming conclusion
 - C. confirm a hypothesis
 - D. support a later statement

- 4) As used in paragraph 2, minor most nearly means
 - A. insignificant
 - B. deadly

- C. frustrating
 - D. dangerous
- 5) Based on information in paragraph 3, it can be understood that if you get sick with malaria or yellow fever, your chances of survival are
- A. terrible
 - B. mediocre
 - C. good
 - D. excellent
- 6) It can be understood that the introduction of dragonflies might reduce the number of flies in a given area because dragonflies
- A. work together with mosquitoes
 - B. kill mosquitoes
 - C. cannot be killed by poisons or sprays
 - D. attract bats
- 7) Which of the following best summarizes the information in paragraph 4?
- A. Mosquito nets provide adequate protection from deadly mosquitoes.
 - B. Poisons and sprays provide adequate protection from deadly mosquitoes.
 - C. The introduction of the mosquito's natural enemies provides adequate protection from deadly mosquitoes.
 - D. There is no perfect solution to the mosquito problem.
- 8) Which of the following words best describes the author's overall attitude towards the prospect of solving the mosquito problem?
- A. despondent, meaning hopeless or dejected
 - B. exasperated, meaning extremely irritated or annoyed
 - C. equivocal, meaning doubtful or uncertain
 - D. optimistic, meaning hopeful or taking a favorable view
- 9) Based on paragraph 3, mosquito can carry diseases from one person to another. Two of diseases caused by mosquito are malaria and yellow fever. What new idea that you can take from the passage?
- A. Malaria and yellow fever are deadly disease.
 - B. Mosquito can cause malaria.
 - C. Yellow fever can experienced by everyone who bited by mosquito
 - D. Malaria and yellow fever are contagious diseases.
- 10) With the development of technology nowadays, do you think there is already an effective way to protect human from mosquito and diseases thay carry?
- A. Yes, There are poisons to kill mosquito
 - B. No, poisons to kill mosquito is not enough because some mosquitos are too strong
 - C. Yes, there are many electronic machine to kill mosquito and medicine to treat people from diseases caused by mosquito

D. No, mosquito can still appears in every corner of our houses.

APPENDIX 3

ANSWER:

1. B

2. D

3. D

4. A

5. D

6. B

7. D

8. D

9. D

10. D

APPENDIX 4

INTERVIEW SHEET REPORT

First Session

Interview with the teacher

The researcher : Sudah berapa lama bapak menjadi guru bahasa Inggris di sini?

The Teacher : Saya sudah mengajar sebagai guru bahasa Inggris selama 17 tahun di sini

The researcher: Bagaimana karakter siswa saat pembelajaran bahasa Inggris selama ini?

The teacher : Mereka cukup baik dan tertib. Setiap pelajaran berlangsung, mereka memperhatikan dengan baik, walau terkadang ada keributan, namun masih bisa terkontrol dengan baik.

The researcher : Bagaimana anda mengontrol siswa selama pembelajaran Berlangsung?

The teacher : Mereka adalah siswa yang penurut dan mudah diatur, sehingga mudah saja untuk mengontrolnya. Jika dalam situasi yang kurang kondusif, guru-guru hanya perlu mengingatkan mereka. Saya pun melakukan hal yang sama. Mengingat untuk tetap kondusif pun dibantu dengan ketua kelas juga yang selalu sadar untuk memperhatikan teman-temannya.

The researcher : Saat pelajaran yang diajarkan berkaitan *dengan reading comprehension*, bagaimana cara anda mengajarkannya?

The teacher : Untuk reading comprehension, saya biasanya mengajar dengan meminta siswa untuk membaca bergantian dengan suara kuat, lalu mengartikannya bersama-sama dengan mereka dan meminta mereka untuk mengerjakan soal yang berhubungan dengan teks.

The researcher : Berdasarkan pembelajaran bahasa Inggris yang selama ini dilakukan, apakah kemampuan mereka dalam menyelesaikan soal yang berhubungan dengan reading comprehension sudah baik?

The teacher : Berdasarkan yang selama ini dialami, mereka mampu membaca dengan *pronunciation* yang baik. Namun untuk menjawab pertanyaan-pertanyaan berdasarkan teks, mereka masih perlu

membaca ulang teksnya agar mendapat jawaban. Selain itu, mereka masih membutuhkan waktu yang cukup lama untuk menjawab soal-soal tersebut.

The researcher : Apakah mereka sering berikap kritis seperti sering mengajukan pertanyaan dan menyampaikan opini saat pembelajaran?

The teacher : Selama ini mereka bertanya hanya ketika mereka kurang paham dengan maksud teks dan bertanya ketika ada yang mereka belum tahu, seperti arti suatu kata, atau maksud dari pertanyaan yang ada. Jadi menurut saya, mereka belum bersikap kritis.

Second Session

Interview with students

1. The researcher : Apakah kamu sering bertanya-tanya tentang isi suatu teks ketika melihat judul teks tersebut?

Student 1 : Tidak.

Student 2 : Terkadang iya, jika judulnya menarik.

Student 3 : Terkadang iya, karena itu biasanya saya tertarik untuk membaca teksnya.

2. The researcher : Bisakah kamu menceritakan detail-detail informasi dari suatu teks yang kamu baca dengan kalimatmu sendiri?

Student 1 : Bisa, namun mungkin tidak sedetail di teks.

Student 2 : Jika dengan kata-kata dan kalimat sendiri, saya bisa.

Student 3 : Bisa, namun jika informasinya terlalu sulit dihapal mungkin tidak bisa

3. The researcher : Ketika membaca suatu teks, apakah kamu biasanya menghubungkan informasi yang ada dengan sesuatu yang terjadi pada dirimu?

Student 1 : Terkadang iya, jika kejadian yang ada di dalam teks pernah saya alami atau informasinya sedang saya butuhkan.

Student 2 : Tidak. Saya membaca hanya untuk tahu saja.

- Student 3 : Terkadang iya. Jika berhubungan dengan apa yang saya alami sekarang, biasanya saya akan teringat.
4. The researcher : Apakah kamu selalu memikirkan tentang kebenaran informasi dalam suatu teks bacaan yang kamu baca?
- Student 1 : Tidak juga. Jika informasi yang ada terlihat baik, saya tidak pernah mempertanyakan kebenarannya.
- Student 2 : Terkadang iya, jika informasinya berhubungan dengan apa yang membuat saya penasaran. Contohnya tentang kandidat presiden kemarin.
- Student 3 : Iya, namun tidak berpikir untuk mencari tahu lebih banyak. Hanya tidak memikirkannya setelah membaca jika saya bingung.
5. The researcher : Apakah kamu terbiasa mengadaptasi nilai-nilai yang kamu dapat dalam suatu bacaan ke dalam kehidupan sehari-hari?
- Student 1 : Kadang-kadang. Informasi akan saya laksanakan jika saya butuh.
- Student 2 : Tidak terlalu sih. Saya membaca untuk memenuhi rasa ingin tahu saja
- Student 3 : Tergantung situasi dan kondisi. Jika informasinya jelas, biasanya saya lakukan.

APPENDIX 5**OBSERVATION SHEET****Students : SMA Ahmad Yani Binjai****Class : XII-IPA 1****Subject : English**

NO	OBSERVATION ITEM	OBSERVATION SCORE					
		0	1	2	3	4	5
A.	Pre-Teaching						
	The teacher greets the students						
	The students respond to greeting						
	The teacher ask the students' condition						
	The students tell their condition to the teacher						
	The teacher check the attendance list						
	The teacher outlines the material						
	The teacher explain the goal of teaching and learning						
	The teacher warms up to the students, such as giving the students some questions about the material that will be discussed to the students in the class						
B.	While Teaching						
	The students are ready to learn the material						
	The teacher gives the explanation of the material						
	The teacher gives the students a chance to express their opinion and to						

	give a question that related to lesson						
	The students give opinion and question						
	The teacher checks that students' understanding						
	The teacher gives the test to the students						
	The students use dictionary						
	The teacher moves around the class during the the learning process to see the students' activities and gives a helps when needed.						
C.	Post-Teaching						
	The teacher summarizes the lesson						
	The teacher gives reward and motivates the students to participate more in next meeting.						
D.	Class Situation						
	The students' enthusiasm/motivation						
	The students' involvement						
	Time allocation						
	The use of series picture as media						
	The teacher's instruction						

Description:

5 : Perfect

4 : Excellent

3 : Above average

2 : Average

1 : Unsatisfactory

0 : No Applicable

The Teacher

(Marsidi)

The Researcher

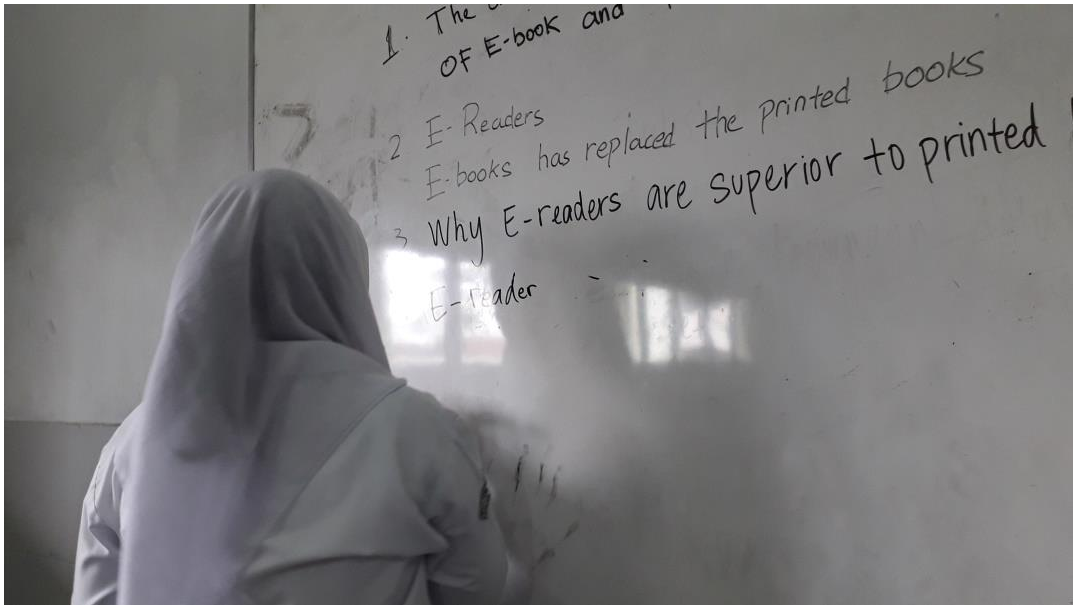
(Andini Aprilia)

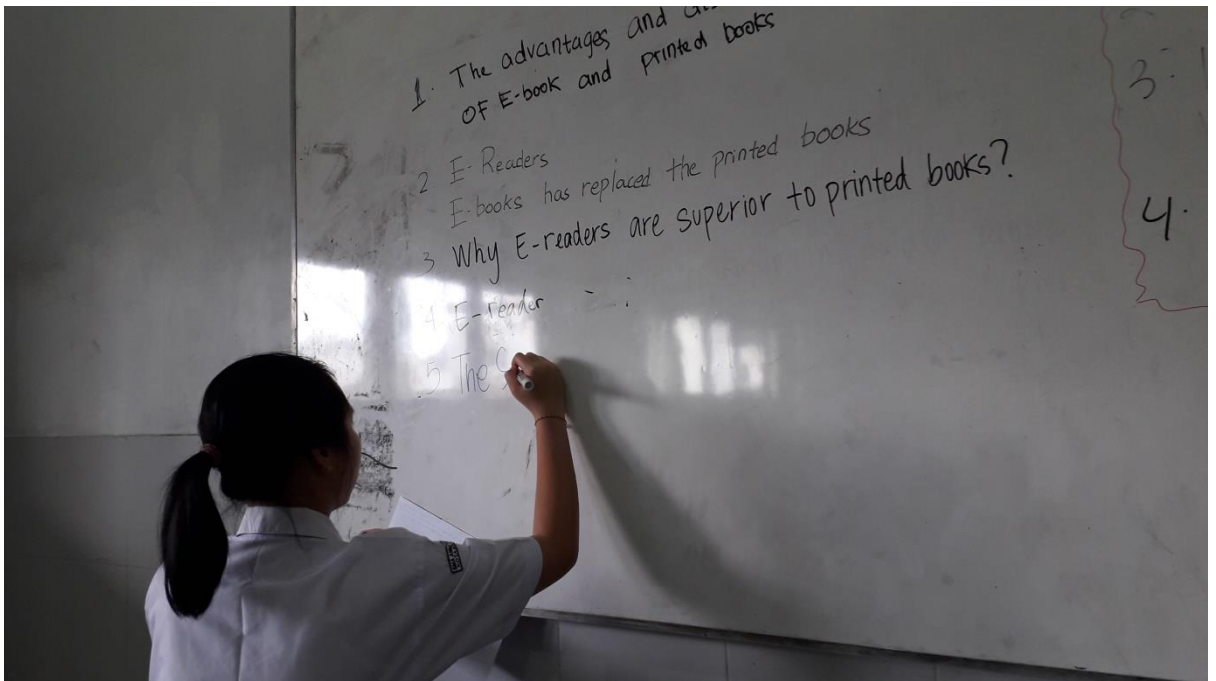
APPENDIX 6

DOCUMENTATION









APPENDIX 7

RESEARCH'S NOTE

First Meeting (Monday, 11 November 2019)

The first meeting of the research was the pre-test. The researcher gave the student the pre-test to know how far their capability in critical thinking especially about reading comprehension in English. The researcher gave them text and questions and they had to answer in 20 minutes. The students seemed difficult to answer the questions and often asked many things related to questions. After test, researcher discussed with students and asked them how difficult the test. Based on the discussion, they said that number 3, 5, 7, 8, 9 and 10 are difficult questions for them. They confused in answering questions because there were biases in the questions and words that they didn't know before. Besides that, they also got difficulties in making assumption and summarizing. Researcher also did some interview to some students about their habit in reading comprehension and how they think during reading process.

Second Meeting (Wednesday, 13 November 2019)

In second meeting, the researcher explain the material using HOTS. It started with the researcher asked students as a group to read the text that has been given, determine the title based on the contents of the text, find information points contained in the text, and write down questions that arise in their heads when reading the given text. Students was confronted with texts that contain information about the advantages of the E-Reader as a forum for reading e-

books compared to printed books. Some questions that arised include; 1) "This text only explains about the advantages of e-readers, then what about the weaknesses?", 2) "If the e-reader can be used practically on smartphones, will it also be useful for people who don't use smartphones?", 3) "If the e-reader is really that good, why not use it in learning now?", 4) "If the author really favored the e-reader in this text, why doesn't he directly invite us to use e-reader? ", and 5)" What is *War and Peace*, *Anna Karenina*, and *Les Miserables*? " In addition to discussing any questions that arise in their minds, they also collected information points and data contained in the text.

After that, the researcher together with students discussed to understand the purpose and purpose of the existence of the text based on information that has been collected from the text. In addition, students were invited to look for answers to their questions based on the knowledge they have had so far. Some things that they had formulated based on the questions are; the aim of the writer is to influence the reader because the writer only lists his strengths, weaknesses of e-readers, and other answers.

Next, students were asked to identify data and information points. In this study, students made a comparison table between the advantages of e-readers (those found in the text) and their shortcomings (based on the students' knowledge they already had), and discuss whether printed books was still needed even though e-readers already exist.

During the process, students could be directed to carry out the learning process easily. Some instructions given could be done well. Unfortunately, they

were still shy and afraid to talk, despite having opinions and ideas. On several occasions, they were still confused and need to be given examples in the instructions. Therefore, researchers provided examples and directions more clearly for students, and they could understand them better.

Third Meeting (Thursday, 14 November 2019)

In third meeting, researcher and students continued discussion like identify data and information based on discussion in the second meeting. Students made the final prediction based on the discussion that has been done. The researcher provoked predictions with questions. In this study, the question was, "In the text it is stated that e-readers are replacing the books. In your opinion, will the e-reader really replace books in the future?". Each group discussed with its members, and each group conveyed its prediction based on the information, data and facts they had analyzed previously. In the end, this will help them to summarize what they got from the learning or specifically, decide after reading the text, whether e-readers are worth buying for them or not. The students followed the discussion well and enjoyed it. They actively asked questions and gave opinions even though they were still a bit embarrassed and afraid if they are wrong.

Fourth Meeting (Saturday, 16 November 2019)

In fourth meeting, researcher asked students to do reflection about what they have studied in the meeting before and summarize the process being a new comprehension in reading process. After that, students did post-test with the same material with pre-test, to see the increasing of students' critical thinking in reading comprehension. Based on the post-test, students' critical thinking in

reading comprehension is increased using HOTS and the research could be stopped because students' ability had been increased.

APPENDIX 8

TABLE OF DATA TEST

No	Students' Initial Name	Pre-Test	Note	Post Test	Note
1.	AMP	50	Failed	70	Failed
2	ADS	50	Failed	70	Failed
3.	CA	90	Passed	90	Passed
4.	CC	60	Failed	80	Passed
5.	CWS	80	Passed	90	Passed
6.	DAP	70	Failed	90	Passed
7.	DSH	70	Failed	80	Passed
8.	EL	80	Passed	80	Passed
9.	EC	80	Passed	80	Passed
10.	EJ	80	Passed	90	Passed
11.	FBP	50	Failed	80	Passed
12.	FW	60	Failed	70	Failed
13.	HS	90	Passed	100	Passed
14.	IA	80	Passed	80	Passed
15.	JEH	80	Passed	90	Passed
16.	JS	70	Failed	80	Passed
17.	JK	50	Failed	80	Passed
18.	MVS	60	Failed	70	Failed

19.	MSK	80	Passed	80	Passed
20.	MS	80	Passed	90	Passed
21.	NF	60	Failed	90	Passed
22.	OH	50	Failed	80	Passed
23.	RA	50	Failed	70	Passed
24.	RPR	60	Failed	80	Passed
25.	RI	90	Passed	100	Passed
26.	RT	80	Passed	80	Passed
27.	SAG	80	Passed	90	Passed
28.	SY	90	Passed	90	Passed
29.	SG	70	Failed	90	Passed
30.	SA	70	Failed	80	Passed
31.	ST	70	Failed	80	Passed
32.	VH	60	Failed	90	Passed
33.	VA	80	Passed	80	Passed
34.	VW	80	Passed	90	Passed
	Total ($\sum x$)	2400		2830	
	Mean (\bar{x})	70.5		83.2	