

**THE IMPLEMENTATION OF HIGH ORDER THINKING
SKILL (HOTS) WITH MIND MAPPING METHOD ON
STUDENT'S SPEAKING ABILITY**

THESIS

**Submitted as a Partial Requirements for the Degree of *Sarjana Pendidikan*
(*S.Pd*) in English Education Study Program**



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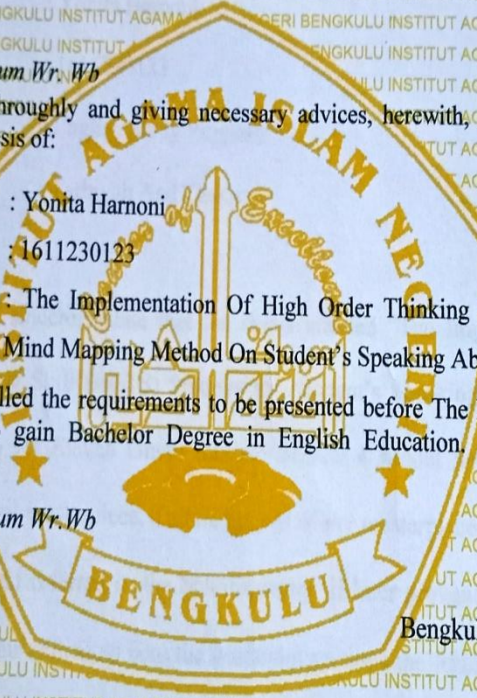
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DEDICATION

This thesis is dedicated to:

- My beloved parents, Ayahanda (Alm Hamzah) and Ibunda (Almh Popi) who always pray me and could reach the succesful. I do love you.
- My lovely brother Ade Erwansah and my lovely sister Hapioza, thanks for everything.
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- All my friends that helped me.

MOTTO

JUST START EVERYTHING YOU DO BY RECITING BASMALLAH

Ikhtiar, Tawakal, Ikhlas

Do'a dan Ridho Orang Tua

NEVER GIVE UP

(Yonita Harnoni)

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The researcher realizes that this thesis is still far from being perfect. The researcher hopes that this thesis is useful for the researcher in particular and the readers in general.

Bengkulu, 2020
The researcher

Yonita Harnoni

ABSTRACT

Harnoni, Yonita November 2020, The Implementation Of High Order Thinking Skill (HOTS) With Mind Mapping Method On Student's Speaking Ability (Quasy Exsperimental Study At Eleven Grade of SMA Negeri 4 Model Seluma Academic Year 2020).

Advisor : 1. Dr. Syamsul Rizal, M.Pd 2. Dedi Efrizal, M.Pd

Keywords : *High Order Thinking Skill, Speaking Ability, Mind Mapping*

The problem of this research is that the students of class XI SMA 4 Model Seluma still have poor speaking skills. The purpose of this study was to look for significant differences in the speaking ability of students who were taught using High Order Thinking. The method used in this research is a quasi experimental research. The sample of this study is class XI Mia1 and Mia2, totaling 60 students, selected using purposive sampling method and divided into two classes. 30 students as an experimental class who were taught using High Order Thinking Skill Strategy and 30 others as a control class that did not use Question Answer Relationship Strategy. In data collection, the researcher gave the test twice, namely pre-test and post-test. Before conducting the post-test, the researcher gave treatment four times to the experimental class and the control class with different teaching. The instrument used in this study is a dialogue about asking and giving opinions that have been declared valid. The results of the pre-test showed that the average value in the experimental class was 52.33 and the control class was 51.17. The results of the post-test showed that the mean value of the experimental class was 63.50 and the control class was 55.50. In addition, the results of the free T-Test (2,558) and sig (2-tailed) were less than 0.05 (0.012 <0.05). As a result, (H0) is rejected and (Hi) is accepted. In other words, High Order Thinking Skill is effective in teaching speaking to class XI Mia1 and Mia2 SMA Negeri 4 Model Seluma.

ABSTRAK

Harnoni, Yonita November 2020. Penerapan *High Order Thinking Skill (HOTS)* dengan metode peta berpikir dalam mengajar kemampuan berbicara siswa (Penelitian quasi experimental pada siswa kelas XI di SMA Negeri 4 Model Seluma tahun akademik 2020)

Pembimbing : 1. Dr. Syamsul Rizal, M.Pd 2. Dedi Efrizal, M.Pd

Kata kunci : *Strategy High Order Thiking Skill, Kemampuan Berbicara, Peta Berpikir*

Masalah dari penelitian ini adalah siswa kelas XI SMA 4 Model Seluma masih memiliki kemampuan berbicara yang masih kurang. Tujuan dari penelitian ini adalah untuk mencari perbedaan yang signifikan dalam kemampuan berbicara siswa yang diajar menggunakan *High Order Thinking*. Metode yang digunakan dalam penelitian ini adalah penelitian quasi experiment. Sample dari penelitian ini adalah kelas XI Mia1 dan Mia2 yang berjumlah 60 siswa, dipilih dengan menggunakan metode *purposive sampling* dan dibagi menjadi dua kelas. 30 siswa sebagai kelas experiment yang diajar dengan *menggunakan High Order Thinking Skill* dan 30 lainnya sebagai kelas control yang tidak menggunakan Question Answer Relationship Strategy. Di dalam pengumpulan data, peneliti memberikan tes sebanyak dua kali yaitu pre-test dan post-test. Sebelum melakukan post-test peneliti memberikan perlakuan sebanyak empat kali pada kelas eksperimen dan kelas kontrol dengan pengajaran yang berbeda. Instrument yang digunakan dalam penelitian ini adalah dialog tentang asking and givinf opinion yang telah dinyatakan valid. Hasil dari pre-test menunjukkan nilai rata-rata pada kelas eksperimen adalah 52,33 dan kelas control 51,17. Hasil dari post-test menunjukkan nilai rata-rata pada kelas eksperimen 63,50 dan kelas control 55,50. Selain itu, hasil dari T-Test bebas (2.558) dan sig (2-tailed) lebih kecil dari 0,05 (0,012 < 0,05). Hasilnya, (H0) ditolak dan (Hi) diterima. Dengan kata lain, *High Order Thinking Skill* efektif didalam mengajar berbicara pada kelas XI Mia1 dan Mia2 SMA Negeri 4 Model Seluma.

TABLE OF CONTENT

TITLE
EDVISOR SHEET
RATIFICATION.....
PRONUNCEMENT	i
DEDICATION.....	ii
MOTTO	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vi
TABLE OF CONTENT	vii
LIST OF FIGURE	viii
LIST OF TABLE	ix
LIST OF APPENDICES	x
 CHAPTER 1: INTRODUCTION	
A. Background of the Problem.....	1
B. Identification of The Problem	4
C. Limitation of The Problem.....	4
D. Research Question.....	5
E. Research Objective.....	5
F. Significance of The Research.....	5
G. Devfinition of Key Terms	6
 CHAPTER II: LITERATURE REVIEW	
A. Speaking.....	8
1. Definition of Speaking	8
2. The Role of Speaking.....	9
3. Type of Speaking	10
4. The Characteristic of Speaking	12

5. Component of Speaking.....	13
B. High Order Thinking Skill (Hots).....	14
1. Definition of Hots	14
2. HOTS Definition Category	16
C. Mind Mapping	20
D. Conventional (Initial Method)	22
E. Previous Study	23
F. Hypothesis.....	30

CHAPTER III: RESEARCH METHOD

A. Research Design.....	31
B. Place And Time of Research.....	33
C. Population And Sample	33
D. Instrument of the Research.....	34
E. Technique of the Data Collection	37
F. Technique of the Data Analysis	37
G. Procedures of the Research	39

CHAPTER IV: RESULT AND DISCUSSION

A. Results	43
1. Description of Classroom Circumstances	43
2. The Result of Teaching-Learning Speaking	45
3. The Result of Normality and Homogeneity of the Data	52
4. The Statistically Analysis Result	56
B. Discussion	60

CHAPTER V: CONCLUSION AND SUGGESTION

A. Conclusion	62
B. Suggestion.....	63

REFERENCES

APPENDICES

LIST OF FIGURE

Figure 4.1

Student's Pre-Test And Post-Test In Experimental Class..... 48

Figure 4.2

Student's Pre-Test And Post-Test In Control Class..... 51

LIST OF TABLE

Table 2.1 : Differences and Similarities Previous Studies	28
Table 3.1 : Research Desigh of Quasi Experimental Study	32
Table 3.2 : Distribution of Population.....	33
Table 3.3 : Sample of the Study	34
Table 3.4 : Creteria of Speaking Test.....	36
Table 4.1 : Descriptive Statistics experimental class	46
Table 4.2 : Distrubution of Pre and Post Test score Experimental Class.....	49
Table 4.3 : Descriptive Statistics control class.....	50
Table 4.4 : Distrubution of Pre-Test and Post-Test score control class	51
Table 4.5 : Test Normality Of Pre-Test Score in the experimental Class.....	53
Table 4.6 : Test Normality Of Pre-Test in the Control Class.....	53
Table 4.7 : Test Normality Of Post-Test Scrore in the Experimental Class ..	54
Table 4.8 : Test Normality Of Post-Test Score Of Control Class.....	55
Table 4.9 : Test Homogeneity of Variances.....	55
Table 4.10 : Paired sample statistic experimental class	56
Table 4.11 : Paired Sample Test xperimental class.....	57
Table 4.12 : Paired sample statistic control class	57
Table 4.13 : Paired Samples Test control class	58
Table 4.14 : Independent Sample T-Test	59

LIST OF APPENDICES

- Appendix 1** : The Validity Of Instrument (Pre-Test And Post-Test)
- Appendix 2** : Attendance List Of Experiment Class
- Appendix 3** : Attendance List Of Control Class
- Appendix 4** : The Students Pre-Test And Post-Test In Experiment Class
- Appendix 5** : The Student Pre-Test And Post-Test In Control Class
- Appendix 6** : Syllabus Of Experiment Class
- Appendix 7** : Syllabus Of Control Class
- Appendix 8** : Lesson Plan Of Experiment Class
- Appendix 9** : Lesson Plan Of Control Class
- Appendix 10** : Pre-Test Dialog
- Appendix 11** : Post-Test Dialog
- Appendix 12** : Documentation

CHAPTER I

INTRODUCTION

A. Background Of The Problem

In this era of globalization, science and technology are increasingly developed, so it requires humans to think critically and innovatively, and humans need skills to do it. According to Algeo, a language is a system of conventional vocal signs using which human beings are communicating¹. According to Fred C. C Peng, language is behavior that utilizes the body part; the vocal apparatus and the auditory system for sign language such as body parts are controlled by none other than the brain for their functions². Educational institutions must be able to coordinate these developments by always endeavoring a program in accordance with the development of children.

English is an international language that is used most of the countries in the world and become the leading means of communication worldwide. In Indonesia, English as a foreign language that is taught at the beginning of elementary school. As a foreign language English has four skills; these are listening, reading, speaking, and writing. All of the skills must be mastered by students because all of them are important. However, from the four skills, speaking seems intuitively the most important and the most difficult to be mastered.

¹ Algeo John. 2005. *The Origins And Development Og The English Language : Six Edition*. Wadsworth, Cengage Learning

² Fred C.C. Peng 2005. *Language In The Brain:Critical Assessment*. Continuum

According to Gillian brown and George Yule, speaking is the tool of communication to understand and convey information, ideas, and feeling³. Thus speaking is a tool communicating that used to express someone's ideas, opinions, or feelings to get information and knowledge. Speaking has some aspect of language skills, they are pronunciation, listening, grammar, and vocabularies enhanced as a means of effective communication. In this case, the students must study hard to be mastered speaking skills so that students can express something using English. In education, students must be able to use speaking skills so they can introduce themselves to others, they can dialogue with friends, and they can speeches in front of the class.

Furthermore, in Indonesia now the 2013 national curriculum (K-13) has been applied in most schools, one of them is in high school. Here, students have to talk actively, especially to talk with classmates. Researcher through the main interview at SMAN 4 Seluma Model on December 30, 2019. Researcher through an interview with an English teacher, Her name is Cecen S, Pd. There are some problems in mastering speaking skills such as limited vocabulary, and students who are not confident because students have the ability to speak that makes students unable to speak properly.

Based on the problem above, the researcher wants to observe and investigate whether there is an effect of using HOTS as a method or strategy for teaching speaking in class, especially in conversation.

³ Gillian Brown and George Yule, *Teaching the Spoken Language : Approach Based on the Analysis of Conversational English* (Australia : Cambridge University Press, 1999) .p.14

Students' skills in conversation are a core aspect of teaching speaking, it becomes a very important aspect in the success of language teaching and learning if the language functions as a system for meaning of expression, Nunan states that success in speaking is measured through someone who can have a conversation in language.

According to Heong, high order thinking skill is using broad thinking to find new challenges. This technique requires someone to apply new information or knowledge needed and manipulate information to obtain answers in new situations.⁴ Higher-order thinking skills are thinking skills that involve complex thinking processes such as critical, analytical, evaluative, creative, and reflective in solve problems in new situations and they cannot be separated from daily life –day. So that student have important aspect of HOTS, the role of teachers is very important in having effective and efficient learning method in accordance with the characteristics of education. Method that can improve high order thinking skills in speaking ability is Mind Mapping. Is e creative note-taking methode that makes it easy for students to be able to remember a lot of information, because with Mind Mapping students only need to remember te main idea or idea to be able to stimulate memory easily.⁵

The previous study which has been done by Nur Pratiwi in 2014 for Pathway to English Textbook for High School Class XI Students at Syarif Hidayatullah State Islamic University Jakarta with the title of

⁴ Heong (2017). The Development of Higher Order Thinking Skill (HOTS) Instrument Assessment In Physics Study. *Journal of Research & Method in Education (IOSR-JRME)*, 7, 26-32

⁵ Buzan, Tony. 2007 *Mind Map untuk Meningkatkan Kreativitas*. Jakarta: PT Gramedia Pustaka Utama.

research "The Skill Of More Ordering In Reading Exercise", and the results of the study are the distribution of high order thinking skill essay reading questions are not the same because the total score range and the ratio are too far from the distribution of low-level thinking skills. Finally, endorsed high order thinking skill cannot be applied and practiced by students in essay reading exercises in the Pathway to English textbooks, specifically making skills that are not in the essay reading practice.⁶

Based on the explanation above, this experiment is conducted to see the results of whether there is a difference in the ability to learn to speak between groups that are applied to the High Order Thinking order technique and groups that do not use the technique. Besides that, is the high order thinking skill (HOTS) strategy effective in speaking learning for class XI students. So, the title of this research is "The Implementation of High Order Thinking Skill (HOTS) In Teaching English Speaking Skill"

B. Identification Of The Problem

It can be concluded that there are some problems, as follows:

1. Speaking activities is not an easy thing for every student.
2. Students have limited vocabularies
3. Students who are not confident

⁶ Pratiwi Nur, (2014). Higher Order Thinking Skill (Hots) In Reading Exercise, *Jurnal Of English Education Study Program, Teacher Training Education Faculty Of Syarif Hidayatullah State Islamic University Jakarta*

C. Limitation of The Problem

This study focuses on implementing students' speaking skills using high order thinking strategies. In addition, the subject of the research will be class XI students of SMAN 4 Model Seluma on academic year 2020.

D. Research Question

Based on the background and limitation of the research, the research question can be formulated as follow:

1. Is there any significant effect of using High Order Thinking Skill (HOTS) strategy in learning speaking skills for class XI students of SMAN 4 Model Seluma?

E. Research Objective

Based on statements in the background, this study is aimed to investigate the effectiveness of HOTS between students who are taught and those who are not taught using the HOTS strategy in speaking skills at SMAN 4 Model Seluma on academic years 2020.

F. Significance Of The Research

The results of this study are expected to provide theoretical and practical benefits. Especially for researchers themselves, the second for English teachers at SMAN 4 Model Seluma by using strategies is expected to increase their knowledge in becoming a teaching staff should be more creative in teaching speaking skills in the classroom. Third, to provide additional knowledge or information to the teacher to improve teaching

English, especially in speaking. Fourth, this research also benefits students and motivates students in learning to improve their speaking skills. And finally, the results of this study can be useful for further research or as a reference for other studies.

G. Definition Of Key Terms

1. Speaking

Basically in English has four main aspects namely writing, reading, listening and speaking. Speaking is defined in the Big Indonesian Dictionary as an activity of saying, speaking, speaking, giving birth to opinions with words or writing and so on. Speaking is a language skill that develops in a child's life that is only preceded by listening skills, and it is in the child that the ability to speak or speak is learned⁷.

There is a little additional explanation about speaking which is often referred to as verbal communication. "Speaking is an activity that includes most members of the human body. Speaking or called verbal communication is an individual activity to convey a message orally to the listener.

2. High Order Thinking Skill

There are many definitions about HOTS. One of them is in a book "how to assess High Order Thinking Skills in your class room". This book has three categories of definitions about HOTS; one of them is "TQhose That Defined It In Terms Of Problem Solving". If you

⁷ H. G. Tarigan, 2008. *Speaking as a Language Skill*: Angkasa Bandung) Pg.3

consider high level thinking as problem solving, meaning that it equips students to be able to identify and solve problems in their academic work and life. This includes solving problems that are set for them (the type of problem solving that we usually think of at school) and solving new problems that they define themselves, creating something new as a solution. In this case, "being able to think" means students can solve problems and work creatively⁸. Students also often measure their ability to succeed in learning a foreign language through how much they find problems in improving their speaking skills.

⁸ Brookhart, S.M. (2010). *How to assess higher order thinking skills in your classroom*. Alexandria: ASCD

CHAPTER II

LITERATURE REVIEW

A. Speaking

This section discusses several essential points, including definitions of speaking skill, the role of speaking, component of speaking, characteristic speaking,

1. Definition of Speaking

Speaking means that some people have language skills that involve themselves or more people in speaking who use language to interact. According to penny, Speaking is a constructing meaning that involves producing, receiving and processing information. Often students measure their ability to learn a foreign language in their own way by how much they master the speaking skills that they feel have improved⁹.

Speaking is the first mode that children get in language; this is proven by the real situation which is where talking is the biggest involvement in their daily lives. Speaking is one form of communication that involves people's oral interactions; this is the ability of people to perform oral instruments or word of mouth in communicating with others.

According to Bueno N. A, Speaking is a common problem among nonnatives, Speaking is one of the skills students must face in

⁹ Ur,Penny.(1996).*A Course of Language Teaching*. New York: Cambridge: University Press

language learners.¹⁰ It is believed that speaking is the most important of the four language skills, because many students say they have spent years learning English speaking skills at school but cannot also speak English correctly. This is include with Taiqin said about non- language factors, which confirmed that ninety five percentage of students stated that they had difficulty speaking due to the fact they were fearful of making errors in class, they had no concept what to mention, they had been no longer confident and comfortable if they made mistakes, and they were no longer fascinated with the topics which might be given with the aid of the lecturers.¹¹

2. The Role of Speaking

Teachers has role behind the successfulness of the students speaking skill. Before he or she begins a teaching process, they should be ask the student to say some word in good pronunciation. Future more, it continues with their should production whether it is correct or not. And then he or she encourages student speaking some sounds, repeating, and imitating. Finally, students are required to practice more in speaking skills. At this point teachers no longer primary correct the students speaking, but she or he in supposed to encourage them to practice speaking in the target language.

¹⁰ Bueno, N. A (2017). *Difficulties Of Speaking That Are Encountered By English Language Students At Al Margeb University*, Mohamed Dalem Lecturer in Faculty of Arts Al Margeb University Libya. *Premise Journal*. 6

¹¹ Hendra Heriansyah (2012), “*Speaking problem faced by the English Department students of Syiah Kuala University*”, Syiah Kuala University. P. 38

According to Jeremy Harmer, there are three roles of teacher to get the student to speak fluently, they are:¹²

Promoter students sometimes get lost think to say anything or some other ways lose the fluency the teacher expects of them. However, teacher may be able to help them and the activity is to progress by offering discrete suggestion. And the teacher should be give them motivation so that they can be good speakers.

Participant teachers should be a good animator when asking the student to produce language. Sometimes this can be achieved by setting up activity clearly and enthusiastically. However, the teacher may want to participate in discussion. That way can prompt covertly, introduce new information to help activity along, ensure continuing student engagement, and generally maintain a creative atmosphere.

Feedback provider how to give feedback speaking skill are answered by considering carefully. In speaking teacher should not only give correction to students but also give suggestion and approach to student the teachers roles are very important order to make speaking class run well and that they play roles behind the successfulness of students speaking.

3. Type of Speaking Skill

Type of Speaking According to brown there are five types of speaking, those are:¹³

¹² Jeremy Harmer (2007). *How To Teach English England:Person Education Litted .P 11*

¹³ Douglas Brown, *Language Assessment (principles and classroom practices)*, (America: San Fransisco State University, 2004), p. 141-142

a. Imitative

This is the ability to imitate a word or a phrase or possibly sentence. While this is a purely phonetic level of oral production, a number of prosodic, lexical, and grammatical properties of language may be included in the criterion performance.

b. Intensive

Second type of speaking used in assessment contexts is the production of short stretches of oral language designed to demonstrate competence in a narrow band of grammatical, phrasal, lexical or phonological relationships (such as prosodic elements-intonation, stress, rhythm, juncture). Examples of intensive includes directed response tasks, reading aloud, sentence and dialogue completion, limited picture-cued tasks including simple sequences and translation up to the simple sentence level.

c. Responsive

Responsive assessment tasks include interaction and test comprehension but the level is very limited to short conversations, standard greeting and small talk, simple requests and comments, and other.

d. Interactive

The difference between responsive and interactive speaking is in the length and complexity of the interaction which sometimes includes multiple exchanges or multiple participants. Interaction can take two forms of transactional language which has the purpose of

exchanging specific information, or interpersonal exchanges which have the purpose of maintaining social relationships.

e. Extensive

Extensive oral production task includes speeches, oral production, and storytelling during which the opportunity for oral interaction to listener either highly limited (perhaps to nonverbal responses) or ruled out altogether.

4. The Characteristic of Speaking

The characteristic of good speaking activities according Harmer, there are three characters those are:

Language processing a good speaker is able to process a language in their head and improve on real fact, for example creating good communication in their area. Interacting with other it means that the good speaker has ability to comprehend what she or he has heard, and understands how the other speaker has left.

On-the-spot is a good speaker has to be a good communicator. She or he ability to tell information from the other persons. Besides, Murray and Christon. Explain some characteristic of successful speaking activities such as learner talk a lot, participant in event, motivation is high, and language is of an acceptable level. Each characteristic is explained as follow.

Learner talk a lot as much as possible of the period of time all located to the activity is in fact occupied by learner talk. This may be oblivious, but often most time is taken up with teachers talk or pauses.

Participant in event classroom discussion is not dominated by a majority of active talking participant. It means that all students get a chance to speak and their contribution are fairly even. Motivation is high students have eager to speak if they interested in the topic and have something new to say about it.

5. Component of Student Speaking

There are five components of language that influence speaking skill, they are: ¹⁴

a. Pronunciation

All words are made up of sounds and speakers of language need to know these sounds. They understand what they said to someone and to be understood in their turn. pronunciation is also the most important aspect of foreign language learning, and if there are students with incorrect pronunciation it will be very difficult to understand it for the listener, on the other hand it will also have an impact if the pronunciation student does not make mistakes while speaking then it can be seen that the pronunciation is good will be easily understood by the listener.

b. Vocabulary

Students need to learn lexis of the language. They need to learn what words mean and they use. It means that the students need to have plenty of vocabularies. Vocabulary is really needed

¹⁴ Dini Deswarni (2017). *The Use Of Skit Technique To Increase Students' Self-Confidence In Speaking, STAI Hubbulwathan Duri*. Al-Ishlah: Jurnal Pendidikan. Vol. 9, 2.

in communicating verbally or in writing if the lack of vocabulary mastered will make someone difficult to communicate and nothing that can be conveyed without vocabulary. Communication does not occur if there are no words. Vocabulary is central to English language teaching because without sufficient vocabulary, students will not understand or cannot express their own ideas.¹⁵

c. Grammar

Grammar or structure is important in speaking. If we do not know the appropriate grammar in the sentences, the listener will be doubt for what we have said. Grammar has its own rules, it cannot be broken carelessly. This grammar plays a big role in speaking and writing, that is because what humans want to say has its grammar, and grammar influences the meaning, and meaning of a sentence delivered.

d. Fluency

Speaking is an activity of reproducing word orally. It indicates that there is a process exchanging ideas between speaker and listener. Therefore, it is important to have fluency as having the cap skill of other components of speaking. Fluency of the speaker can make the listener understand what they mean.

B. High Order Thinking Skill (HOTS)

1. Definition of HOTS

¹⁵ Morafaeh Alqahtani, *The important of vocabulary in language learning and how to be taught*, International journal of teaching and education. 2015. P.25.

Thinking skills are the union of two words that have intentions such as intonation of words, it means: Thinking is a cognitive system, that is knowing, remembering, and expressing opinions, while the meaning of skills (skill), namely the activity of gathering and filtering information, researching, concluding discussions, ideas, problem solving, assessing choices, and determining decisions and reflecting.¹⁶ The expertise of these human beings makes them able to develop and design, especially in the world of education.

Thinking skills in taxonomy Blooms are divided into two, first low order thinking skills (LOTS), and the second high order thinking skills (HOTS).¹⁷ Between the two skills that are often examined and wanted to be applied by educators or socialized by the government, namely high order thinking skills. This is because, it can be seen in the current era that many students do not master the learning provided by the teacher due to the lack of emphasis from the teacher to think more hard and be more active.

According to Gilligan that Bloom's revised taxonomy is so useful for teachers who aim to improve higher order thinking skills (HOTS) in teaching and learning.¹⁸

¹⁶ fanami Moh. Zainal (2018). *Strategi Pengembangan Higher Order Thinking Skill (HOTS) dalam Kurikulum 2013. Jurnal Of Education, IAIN Kediri.* 2, p.60

¹⁷ Khan, W.B. & Inamullah, H.M. (2011). *A Study of Lower-order and Higher-order Questions at Secondary Level.* Canadian Center of Science and Education Asian Social Science, (7), 9.

¹⁸ Gilligan, M.E. (2007). *Traditional versus alternative assessments: which type do high school teachers perceive as most effective in the assessment of higherorder thinking skills.* A Dissertation. Presented to the Faculty of the Graduate School of Saint Louis University in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy. ProQuest LLC

High Order Thinking Skill (HOTS) is a thought process that requires students to be able to change or expect words and ideas to use certain processes that generate new understanding and implications for them¹⁹. According Istiyono Higher Order Thinking Skills (HOTS) are thinking skills that involve complex thinking processes such as critical, analytical, evaluative, creative, and reflective in solve problems in new situations and they cannot be separated from daily life –day.²⁰

According to Hutchinson In developing HOTS the teacher's ability is needed to plan and manage effective learning in teaching students both logical thinking, attitudes, and skills²¹. Effective teachers are teachers who have systematic preparation and implementation of learning. So, the learning process will be more evasive and conducive if the teacher and students already have their respective readiness.

2. HOTS definition category

Many books, journals that express their opinions on the definition of HOTS, the following definitions of HOTS are found divided into three categories:²² (1) definitions that define higher level thinking in terms of transfer, (2) definitions that define it in terms of

¹⁹ fanami Moh. Zainal (2018). *Strategi Pengembangan Higher Order Thinking Skill (HOTS) dalam Kurikulum 2013. Jurnal Of Education, IAIN Kediri.* 2, p.60

²⁰ Novita Sari, Dkk (2019). *Efektivitas Buku Ajar Berbasis Higher Order Thinking Skills (Hots) Pada Materi Elastisitas Dan Hukum Hooke Siswa. Alumni Program Studi Pendidikan Fisika STKIP PGRI Lubuklinggau. Jurnal Pendidikan Ilmu Fisika (JPIF).*1

²¹ Susanto Edi, Dkk (2016). *Perangkat Pembelajaran Matematika Bercirikan Pbl Untuk Mengembangkan HOTS Siswa SMA, 2 Program Studi Pendidikan Matematika, Program Pascasarjana, Universitas Negeri Yogyakarta. Jurnal Riset Pendidikan Matematika.* 3, 189-197.

²² M. Brookhart (2010). *How To Asses High Order Thinking Skills In Your Class.* ASCD Member Book. P. 3

critical thinking, and (3) the definition that defines it in terms of problem solving.

a. Higher-Order Thinking as Transfer

Learning to remember certainly requires this type of thinking, but learning to transfer is meant by Anderson, and their colleagues consider that learning to transfer is the same as "meaningful learning".²³ This opinion has been concluded on the development of the cognitive dimension of the revised taxonomy Bloom's.

For some teachers, who teach with state standards and curriculum regulations, high order thinking is the "top end" or Analyzing, Evaluating, and Creating. And in older languages, Analysis, Synthesis, and Evaluation. The teaching objective behind cognitive taxonomy is to equip students to be able to transfer. "Being able to give or put forward ideas for motivating other students" means students can apply the knowledge and skills they develop during their learning to new contexts. "New" here means an atmosphere that has not been thought of by students before, not necessarily something that is universally new.

High order thinking is understood as connecting students' learning with other elements beyond what they are learning to relate to what they have mastered. There is a feeling that teaching for transfer is a general goal of education. Many teachers use the

²³ M. Brookhart. P. 4-5

phrase "What will you do when I'm not here?" This reflects teachers' appreciation of the fact that their work is preparing students to go to the world ready to do their own work. Think, in various contexts, without relying on the teacher to give them assignments to do. Life outside of school is better marked as a series of transfer opportunities rather than as a series of withdrawal tasks that must be performed.

b. High order thinking as critical thinking

Critical thinking, in the sense of reasoning, reflective thinking is focused on deciding what to do. According Norris Critical thinking is a general ability that is sometimes interpreted as a teaching goal²⁴. In this case, "being able to think" means students can apply wise understanding or produce reasonable criticism. An educated citizen is someone who can be relied on to understand citizenship, personal, and professional issues and exercise discretion in deciding what to do about what they do.

The purpose of teaching here is seen as equipping students to be able to reason, reflect, and make the right decisions. One of the characteristics of "educated" people is that they are reasonable, reflect, and make their own decisions without teacher encouragement or assignment. As schools and communities become more diverse, it is unlikely that everyone's opinions will be the same. Managing the opinions behind the point of view of

²⁴ M. Brookhart. P. 5-6

what students call "seeing where you come from" is a real life skill.

Examples of the importance of critical assessment occur in all classes of learning. For example in Literary Criticism, literary criticism involves analyzing literary works and evaluating the extent to which this paper succeeded in achieving the goals the writer wanted. Estimating the effect of advertising as an introductory strategy on different audiences, and students predict the impact of various arguments that will have on advertising from their perspective. All of this involves a critical assessment of objectives and assumptions and about the relative effectiveness of the various strategies used to meet these goals.

c. High order thinking as problem solving

Problems are goals that are difficult to fulfill with memorized solutions. Problem solving has a broad definition that is as a no automatic strategy needed to achieve goals according to Nitko & Brookhart, (2007).²⁵ Every academic has a problem. Some problems are closed, but more problems are open, this trait usually has many correct solutions or many solutions with the same goal. Like Economists, mathematicians, scientists, historians, engineers and all are looking for effective or efficient solutions to existing problems. Educators too. The teacher proposes a strategy to be a solution to complex problems, such as

²⁵ M. Brookhart. P.7

how to teach effectively to pursue certain learning targets for certain students in a certain amount of time and with available material each time they write lesson plans (RPP). People solve problems in various ways, depending on the values and assumptions they bring to the task.

Note that problem solving is widely understood in the context of what they call IDEAL problem solvers.²⁶ This is a position similar to the discussion of "meaningful learning." Bransford and Stein also show that problem solving is a normal process in a thought, even a memory. To remember something, students must identify it as a problem for example "I need to memorize the capitals of all 50 states. How can I do that?") And that's where the solutions are appropriate for their questions.

C. Mind Mapping

Mind mapping or mind map is a method of studying concepts invented by Tony Buzan, the head of the Brain Foundation in 1970. This concept is based on how our brains store information or can be called a note-taking technique based on research on how the brain actually works. Mind mapping are alternative solutions that are expected to make it easier for students to understand learning material.²⁷

According to Alamsya, mind mapping is in tune with the nature of the workings of the brain, because mind mapping involves both hemispheres

²⁶ M. Brookhart (2010). P.7

²⁷ A.A.I.N Marhaeni, Dkk (2013). *Pengaruh Metode Mind Mapping Terhadap Keterampilan Berpikir Kreatif*. E-Journal Program Pascasarjana Universitas Pendidikan Ganesha Jurusan Pendidikan Dasar Vol.3

of the brain, a person dies by involving symbols or pictures that likes using colors for ramifications that indicate certain meanings and it can involve one is emotions, fun, creative in taking notes.²⁸ With mind mapping students are free to describe the devlopment with picture or colored lines they like so that lessons will be more fun. Because mind mapping can help memory, it means that mind mapping can help develop the subject matter their material results.

Each Mind Mapping has the following elements:

1. The center of the mind map or central topic, is the main idea.
2. The main branch or basic ordering ideas (BON, the firs level branch that directly emanetes from the center of the mind map).
3. The branch, which is the emission of the main brach.
4. Word, use keywords only.
5. Pictures, can use pictures he likes color.
6. Use intersting colors in mind maps.

According to Rose, pleasure is one of the important elements in the learning process, if someone involves the limbic system (involving positif emotion) in the learning or teaching process, then that person will use graet power wich make the learning process much more effective and can create a strong memory, student can more easly enter, store and extract

²⁸ Alamsyah, M. (2009). *Kiat Jitu Meningkatkan Prestasi Belajar dengan Mind Mapping*. Yogyakarta: Mitra Pelajar.

data from their brain, so that learning achievement can be more optimal.²⁹ This is in line with Alamsyah's opinion about some of benefits of using the Mind Mapping method.³⁰

D. Conventional (Initial Method)

According to Djmarah onventional learning methods are traditional learning methods or also called lecture methods, because these methods have always been used as an oral communication tool between teachers and students in the learning and learning process³¹. In learning history the conventional method is marked by lectures accompanied by explanations and division of tasks and exercises.

Learning on the conventional method, students listen more to the teacher's explanation in front of the class and carry out assignments if the teacher gives exercises to students. Frequently used in conventional learning include lecture methods, question and answer methods, discussion methods, assignment methods.

In general Djamarah, mentions the characteristics of conventional learning as follows:³²

7. Students are passive recipients of information, where students receive knowledge from the teacher and the knowledge is assumed to be the body of information and skills possessed according to standards
8. Study individually.
9. Very abstract and theoretical learning.

²⁹ Rose, C. & Nicholl, M.J. (2002). *Accelerated Learning*. Bandung: Yayasan Nuansa Cendekia.

³⁰ Alamsyah, M. (2009). *Kiat Jitu Meningkatkan Prestasi Belajar dengan Mind Mapping*. Yogyakarta: Mitra Pelajar.

³¹ Bahri Djamarah, Dkk. 2013. *Strategi Belajar Mengajar*. Jakarta: Rineka Cipta P.111

³² Bahri Djamarah (2013). P. 114

10. Behavior is built on habits.
11. Truth is absolute and knowledge is final.
12. The teacher is the determinant of the learning process.
13. Good behavior based on extrinsic motivation.
14. Interaction among students is lacking.
15. Teachers often act to pay attention to group processes that occur in study groups.

E. Previous study

After the researcher do this research of course there are many researcher do the research about implementation high order thinking skill. Here are some proven research about HOTS: First, Logeswari Arumugam M. *The Implementation of Higher Order Thinking Skills for Teaching and Learning*.³³ This research stated that concerns about implementation of high order thinking to learning can be classified into three categories. They are teachers' lack of knowledge, insufficient materials and resources and finally teaching approaches and strategies. The importance of teaching higher order thinking skills effectively as a matter of fulfilling a national aspiration in education is upon the shoulders of teachers.

However, findings showed that two-thirds majority of the teachers are still low-level users of HOTS for teaching and learning in their classrooms. Studies indicated that teachers lack knowledge on what is HOTS and skills on how to teach HOTS. Teachers are unaware on

³³ Logeswari Arumugam M. Pillay (2019), *The Implementation of Higher Order Thinking Skills for Teaching and Learning*. Curriculum Development Division, Ministry of Education Malaysia, Wilayah Persekutuan Putrajaya, Malaysia. *The Journal of Social Sciences Research*. 5, 4.

promoting metacognitive thinking among their students. The teaching of Higher-order Thinking (HOT) has its own concerns and these concerns warrant attention. In the 21st century, one critical aspect in discussing effective teaching and learning is examining the effectiveness of teachers in developing students' capability to think while ensuring content mastery at the same time.

The aim to develop and enhance students' HOTS has been a major educational goal. Teachers need to realize that the effectiveness of teaching HOTS will materialize only when the traditional view of transmitting information becomes secondary to a more constructivist view which affords students active learning that harnesses meaning-making in the learning process. One of the major advantages of acquiring high order thinking skills is the fact that it helps an individual to enhance their self-assessment skills as well as develop their ability to think critically and creatively.

Second, Kurniawan Ahmad (2018) that research title, *The Implementation of Teaching LOTS and HOTS in English Teaching-Learning Process in Senior High School*³⁴. This study is meant to describe how teacher implements higher-order thinking skills based on lesson plan grade XI. There will be an overview how higher order thinking skills implemented in the classroom. It can be 1) there is higher-order thinking skills activities in lesson plan, but no implementation, 2) there is High

³⁴ Kurniawan Ahmad (2018). *The Implementation Of Teaching LOTS And HOTS In English Teaching-Learning Process In Senior High School*, Pendidikan Bahasa Inggris, Fakultas Bahasa Dan Seni. 6, 121-128

order Thinking Skills activities in lesson plan and there is an implementation, 3) there is no higher-order thinking skills activities in lesson plan and no implementation.

Moreover, this study will obviously give a description and explanation of overview how teacher use the steps in implementing higher-order thinking skills in teaching learning class. In fact, this study would give an evaluation of teaching higher-order thinking skills. The scope of this study is the observation of the way teacher teach higher order thinking skills based on lesson plan that has been made. The teacher becomes the only aspect that is focused. It focuses on the English class in senior high school grade XI. This research is aimed at class IX students where there are 40 students from 2 classes and classified as qualitative research. The subject of this research is focus on English teacher of Senior High School in Sidoarjo.

Third, Rosidah (2015) the title of research about, *Pengaruh Penerapan Strategi Higher Order Thinking (HoT) Dengan Metode Collaborative Learning Terhadap Kemampuan Pemecahan Masalah Matematika Siswa Smp Negeri 1 Tambang*.³⁵ The study aims to determine whether or not there are differences in mathematical problem solving abilities of students of SMP Negeri I Tambang, Kampar Regency through the application of the Higher Order Thinking Strategy (HOT) with the Collaborative Learning Method in Mathematics learning. This research is a Quasi Experiment with Nonequivalent Control Group Design. The

³⁵ Rosidah (2015). *Pengaruh Penerapan Strategi Higher Order Thinking (Hot) Dengan Metode Collaborative Learning Terhadap Kemampuan Pemecahan Masalah Matematika Siswa Smp Negeri 1 Tamban*. Fakultas Tarbiyah Dan Kegurua, UIN Suska Riau.

population in this study were all students of SMP Negeri I Tambang in the 2014/2015 academic years, totaling 181 students. The sample in this study was grade VIII students, sampling using purposive sampling.

In this case, class VIII 2 as a control class and class VIII 1 as an experimental class applying the Higher Order Thinking strategy with the Collaborative Learning. Based on the results of data analysis, it can be concluded that there are differences in the ability to solve mathematical problems between students who learn through the application of the Higher Order Thinking strategy with the Collaborative Learning method and students who learn to use conventional learning. Because of the difference in the ability to solve mathematical problem solving control class students with experimental class students, it can be concluded that there is an influence of the application of the Higher Order Thinking strategy with the Collaborative Learning method on the students' mathematical problem solving.

Last, Siti Rohmi Yuliati & Ika Lestari (2017).³⁶ This study aims to explain students' high order thinking skills in solving HOTS oriented questions in the Instructional Evaluation course. This study uses qualitative research methods with data collection techniques using cognitive test instruments in the form of description, data analysis techniques using simple descriptive statistics. In this study, researchers provide HOTS-oriented question tests. The results of the study are presented by dividing student answers into three categories, namely

³⁶ Siti Rohmi Yuliati, Ika (2018). *Higher-Order Thinking Skills (Hots) Analysis Of Students In Solving Hots Question In Higher Education*. Program Studi Pgsd, Fip UNJ. Perspektif

students who have the ability to learn or the power of high thinking, medium, and low.

Students are given a description of the practice questions in answering HOTS-oriented questions that train expressing opinions, make conclusions, and make HOTS-oriented questions for elementary students of Elementary School Teacher Education programs, Quantitative research because it uses test instruments in the form of descriptions that produce mastery scores material. This study was conducted on 9 students who took the Learning Evaluation course in August - December 2017. In this study the researchers got their results and conclusions, and the results of the study showed the level of thinking ability of students in answering HOTS practice questions still needed to be improved. Students who have high learning ability are better at answering HOTS-oriented questions compared to students in the medium and low categories. Recommendations for future research require learning modules that can facilitate learning activities that lead to HOTS so that students are skilled in answering and making HOTS-oriented practice questions for elementary school students when they become teachers.

Broadly, a researcher specifically in the field of education only wants to improve the abilities of students by implementing strategies that are felt to improve students' abilities. Therefore, from several previous studies, differences and similarities of previous studies. described in **table**

2.1

F. Hypothesis

Hypothesis, some assume in this case only explain the estimates or mistaken results of a research that can be seen from the evidence of the results of data management.

Fraenkel and Wallen say, the hypothesis is simply a prediction of the probabilities of the results of the study.³⁷ In this case also the

³⁷ Ilmu Pendidikan. 32. 181

researcher will determine the right or wrong hypothesis that the researcher states as follows:

(H₀): there was no significant change in the speaking skills between students who applied learning using HOTS techniques and students who did not.

(H₁): there is a significant difference between students who are learning to speak speaking skills with HOTS techniques and those who are not.

CHAPTER III

RESEARCH METHOD

A. Research Design

In conducting the research, the researcher used experimental research design. According to Ary et al, experimental research is a general plan to carry out a study with an active independent variable. The design is important because it determines the study's internal validity, which is the ability to reach valid conclusions about the effect of the experimental treatment on the dependent variable.³⁸ It means that experimental design is a research design that is used to find the influence of one variable to another

The method of research in the study would use Quasi-Experimental. Quasi experimental are defined as experiments that have treatments, impact measurements, experiment units but do not use random assignments to create comparisons in order to deduce changes caused by the treatment.³⁹ According to Mackey, a typical experimental study usually uses experimental group to investigate research question.⁴⁰ This comparison would make in one of ways: two or more groups with different treatment, or two groups, one of which the control group would receive no treatment.

³⁸ Donald Ary, Lucy Cheser Jacobs, and Chris Sorensen, *Introduction to Research in Education*, (Canada: Wadsworth, 2002), p.301

³⁹ Kerlinger (1970). *Research Method And Education*. Fifth Edition. London And New York. P.214

⁴⁰ Mackey, Allison Susan, M. Gass (2005). *Second Language Research Methodology And Design*, New: LawrenceErbaum Associates. P.146

Hach and Farhady stated that Quasi Experimental and the nature of human language behavior which we use investigate.⁴¹ This research would conduct through Quasi-Experimental research design. This design is often used in classroom when experimental and control groups are such naturally assembled group as intact classes, which may be similar.⁴² Intact classes mean that the first grade students in the experimental groups and the control group have the same competence, and the same English teachers. The research design is called pretest-posttest nonequivalent-groups design because two groups experimental and control are involved in this study as presented in the following:⁴³

Table 3.1 : Research Design of Quasi Experimental Study

Nonequivalent	Class	Pre-Test	Treatment	Post-Test
Group Pre-test	Mia1	O1	X	O2
Posttest-Design	Mia2	O3		O4

Where: Mia1 : The Experimental Class

Mia2 : The Control Class

O1 : Pre-Test for Experimental Class

O2 : Post-Test for Experimental Class

O3 :Pre-Test for Control Class

O4 : Post-Test for Control Class

X : The Treatment

⁴¹ Hach And Farhady (1982). *Research Design And Statistik And Applied Linguistics*. Massacuttes: Newbury House Publisher.

⁴² Jhon W Best, And James V. Kahn (2006). *Research In Education*. Tenht Edition. USA: Person Education Inc. P.183

⁴³ Louis Cohen at al (2007). *Designing And Evaluating Quantitativ Research Education*. USA: Routledge. P. 283

B. Place and Time of Research

The research was conducted in SMAN 4 Model Seluma. The place is located at Jl. Raya Sendawar-Pajar Bulan, Seluma-Bengkulu. The research took place after the research schedule was determined. The reason of choosing this school was because the researcher observed the English teacher of eleventh grade students never use the High Order Thinking Skill strategy. Moreover, this school is also one of the best schools in Kabupaten Seluma because it has good accreditation (Accreditation A)

C. Population And Sample

1. Population

Population is an object or subject obtained in an area that has certain characteristics related to the research problem.⁴⁴ In this research, the population would include all individuals in the school, and the population of this study would be the students of class XI SMAN 4 Model Seluma, and the total population is 168 students in the academic year 2020. The researcher chose all classes as a population based on the characteristic of population referring to the condition that they are in the same age, level, and ability. What is explained in the following the table:

Table 3.2 Distribution of Population

No	Class	Number
1	XI Mia1	30
2	XI Mia2	30

⁴⁴ Ridwan (2013). *Dasar-Dasar Statistika*. Bandung: Alfabeta. P.8

3	XI Mia3	24
4	XI Ips1	24
5	XI Ips2	30
6	XI Ips3	33
Total		168

Source: SMAN 4 Model Seluma (2020)

2. Sample

Samples taken from the participation taken represent all invited participants. In order to take a sample for this study, the researcher used purposive sampling. The researcher handpicked the cases to be included in the sample on the basis of their judgment of their typicality. In this way, they build up a sample that is satisfactory to their specific needs.⁴⁵ The sample of this study would take class of XI Mia1 dan Mia2 SMAN 4 Model Seluma 2020 where the number class is 60 students.

Table 3.3 Sample of the Study

No	Group	Class	Male	Female
1	The Experiment Class	Xi Mia1	14	16
2	The Control Class	Xi Mia2	17	13
Total			31	29

Source: SMAN 4 Model Seluma (2020)

D. Instrument of The Research

1. Speaking test

Instrument is a general term for measuring ability, a researched instrument used by researchers⁴⁶. Instrument is the process of developing a research that aims to develop, test and use the device to be

⁴⁵ Louis Cohen, Lawrence Manion, and Keith Morrison, *Research Methods in Education* (5th Ed), (London: RoutledgeFalmer, 2005), p. 103.

⁴⁶ Sugioni (2008). *Metode Penelitian Kuantitatif Dan R & D*, Bandung: Alfabeta, 102

used. The researcher uses the test as an instructor. The test is a set of questions or exercises carried out in various ways aimed at measuring the abilities, skills of individuals or groups of students.⁴⁷

The instrument in this study used the speaking test. It would use a conversation speaking test. Speaking test material is asking, giving, for opinions. Tests are given twice, there are pre-test and post-test. Pre-tests are intended to determine the initial speaking skills of the sample and post-tests are intended to test whether using High Order Thinking has an effect or not on students' conversational speaking skills. To achieve instrument reliability, there are several aspects that need to be considered as follows: pronunciation, grammar, vocabulary, fluency, comprehension.

Instrument data in this research is speaking test. Researchers use the rubric of grading to provide scores or grades for students to determine students' speaking scores in pre-test and post-test. Assess and mark students' abilities by using the following rubric adapted from Brown (2004):⁴⁸

⁴⁷ Arikunto (2010), *Prosedur Penelitian: Suatu Pendekatan Praktik (Edisi Revisi)*. Jakarta: Rineka, 193

⁴⁸ Brown, Douglass (2004). *Language Assesment : Principle And Classroom Practice*. New York: San Francisco State University

Table 3.4 : Creteria of Speaking Test

Criteria	Score	Component in scoring test
Pronunciation	5	The student can pronounce the words very well.
	4	The student can pronounce the words well
	3	The student can pronounce the words adequate enough.
	2	The student can pronounce the words frequently unintelligible.
	1	The student can pronounce the words poorly.
Grammar	5	The student has very good grammar.
	4	The student error in grammar is quite rate.
	3	The student grammar is good enough, able to aspect of the language with sufficient structure.
	2	The student construction of grammar is quite accurately but does not have enough or confidence control.
	1	The student error is frequent but the content still understood.
Vocabulary	5	The student has board vocabulary.
	4	The students have adequate vocabulary.
	3	The student has good enough vocabulary.
	2	The student has limited vocabulary.
	1	The student has very limited vocabulary
Comprehension	5	Ideas highly organized, covers all of the elements of speaking.
	4	Ideas well organized, covers almost all of the element of speaking
	3	Ideas less organized, some missing parts of the element of speaking in practicing conversation.
	2	Ideas organized covers only the main element of the speaking problem in practicing conversation.
	1	Unorganized ideas, a lot of missing parts of the element.
Fluency	5	Speech is following style, mostly, easy to understand.
	4	Speech of seems to be slightly affected by language problem.
	3	Speech and fluency is father strongly affected by language limitation.
	2	Usually resistant, often force to silence by language limitation.
	1	Speech is as halting and fragmentary as to make conversation virtual impossible.

E. Technique Of The Data Collection

This research would conduct pre-test and post-test for samples. While pre-test would be given for control and experimental class, data is collected by giving test to students.

1. Pre-test would held to determine the ability and initial achievements of students before the HOTS technique is applied.
2. Treatment would apply or teach to students in the experimental class using the HOTS technique and in the control class will used conventional techniques
3. Post-test would held to determine student achievement or ability after the implementation of HOTS techniques.

F. Technique for Analysis Data

Sample would be divided into two groups, the first is the class that gets the treatment called experimental class and another group is called the control class. They would compare between students taught using HOTS and those not.

The researcher would give a pre-test to each group before giving them a treatment. Next, the researcher would evaluate the pre-test results to find out the extent of students' speaking skills in each group. Researcher would compare the pre-test results of the two groups after getting different treatments.

To find out the difference in results from the speaking skills of students who are taught by HOTS techniques and those who are not. The

researcher would use two independent sample T-tests if the data is normal and homogeneous, the researcher would use the statistical package (SPSS) Version 22 for windows to analyze data. This is an affordable professional program for students based on the professional program version.⁴⁹ Test data analysis requirements:

1. Test of normality

Normality testing is a basic requirement that should be fulfilled in parametric analysis. Before the researcher use T-test, the normality of data should be tested first using statistical Kolmogorov smirnov. The result of the test would be compared with alpha level, 0,05. If the sig, (2 tailed) is more than 0.05 it means the data is normal.

2. Test of homogeneity

Test of homogeneity applied to know whether the data is homogenous or not. If the data from both classes, experimental and control class are homogenous. So, the treatment could be applied. According to arikunto homogeneity is a condition in which all the variables in a sequence have the same finite or limited, and have a variant.⁵⁰ To find out the homogeneity of data, if the F value $< F$ table, it can be concluded that the data of test is homogeneity

3. Independent Sample T-test

The last, in independent T-test, the researcher would be compare or find out the difference mean score in unrelated of two samples. According to Halvanes and Caputi also use to know whether

⁴⁹ Op. Cit. Jhon W Creswell. P. 179

⁵⁰ Arikunto, Suharsimi. *Prosedur penelitian suatu pendekatan praktik*, jakarta: rineka cipta, 2006. P. 320

there are effects or not. The post-test conducted by give a question and the students give their answer with focus.

Then the result of the students score in pre test and post test would be classification based on scale interval categories.

G. Procedures Of The Research

1. Pre-test

Students are given an initial test to find out the students' English conversation before treatment. It would be given at the beginning of the lesson. At this stage, the researchers conducted initial tests in the form of tests of the ability to communicate in English in the experimental and control groups. The form of pre-test was organized into speaking test format which included the material fields as: describing people, Describing narrative text because based on the syllabus, one of the materials for second grade at first semester students was referred to speaking .

2. Treatment

This treatment would carry out after pre-test to both classes; the treatment would carry out for four meetings. For the experimental class, the researcher would apply the HOTS technique. Whereas for the classroom only use conventional techniques as usual. And after conducting a pre-test in the experimental class, the researcher would give treatment based on the lesson plan by using the HOTS technique.

a. Experiment group

Implementation of the 2013 curriculum according to Permendikbud No. 22 of 2016 concerning Process Standards using 3 (three) learning models that are expected to shape scientific, social behavior and develop a sense of curiosity. In this study the process of learning methods using the Mind Mapping model. in this study the process of learning methods using the Mind Mapping model:⁵¹

Introduction (10 minutes)

1. The teacher greets
2. The teacher invites students to start the activity by praying
3. The teacher checks the presence of students
4. The teacher provides motivation for students
5. The teacher gives questions related to the learning material delivered

Activity

1. The teacher conveys the competencies to be achieved
2. The teacher suggests a concept or problem that will be responded to by students and preferative answers.
3. Form groups of 2-3 members

⁵¹ D. A Made Manu Okta Priantini, Dkk, (2013). *Pengaruh Metode Mind Mapping Terhadap Keterampilan Berpikir Kreatif Dan Prestasi Belajar Ips*. E-Journal Program Pascasarjana Universitas Pendidikan Ganesha Jurusan Pendidikan Dasar Vol.3

4. Each group identifies alternative answers in the form of mind map or diagram.
5. Each group given the opportunity to explain their concept mapping idea.
6. From the data the discussion, student are asked to m map that has been provided as a comparison.
7. At the and of the meeting, the teacher gave the students a task of memorizing vocabulary.

Closing

1. The teacher tells the remaining time
2. The teacher invites students to end the activity by praying
3. The teacher greets (closing)

b. Control group

In the control class, the researcher made the same topic without using the HOTS strategy. In the control class, teaching and learning with contextual learning are commonly used by teachers. with the following steps:

Introduction (10 minutes)

1. The teacher greets
2. The teacher invites students to start the activity by praying
3. The teacher checks the presence of students
4. The teacher provides motivation for students

Activity

1. The teacher explains the material about asking and giving for opinio
2. Students ask the teacher about the material
3. The teacher asks students to make examples of conversations using
4. The teacher gives evaluations to students, such as practice

Closing

1. The teacher tells the remaining time
2. The teacher invites students to end the activity by praying
3. The teacher greets (closing)

3. Post-test

This is the last procedure in this study. The test would be given to students after treatment. A post-test will conduct to determine students' achievement or ability , but not only to find out the results of treatment, this is also would use to determine whether there is an effect or not on the HOTS technique. In this procedure the researcher would give questions and students answer quickly.

CHAPTER IV

RESULTS AND DISCUSSION

A. Results

This chapter discussion about the results of the students' test in teaching learning speaking at eleven grade student of SMA Negeri 4 Model Seluma Academic Year 2020, the finding of the study were obtained on data analysis as presented in chapter III. The finding was as follow,

1. Description of Classroom Circumstances

Before the researcher conducts an experiment, researcher should know how the situation in the classroom is the focus of the research. Thus the researcher would find it easier to control students according to the design for research.

Creating a class atmosphere that is always peaceful and conducive is an important factor affecting the focus of student learning. A calm and peaceful classroom atmosphere can come from the teacher's understanding of the student's social situation, a teacher needs to show genuine and unconditional interest in guiding students. Of course, patience is needed to manage students.

Every student would benefit if the teacher in the class can create a calm atmosphere with the following tips. Provide direction with respect and empathy, communication with students, involve in making

rules in class, understand student behavior and The importance of support for students.

In this study, it was found that some students were difficult to manage. This caused an adjustment from the start to control the class, the researcher used 2 classes, namely the experimental class (Mia1) and the control class (Mia2) which had different circumstances or atmosphere. Where for the experiment class, this class is known to be very active in the class for positive and negative things. This is where the context of “understand student behavior” applies, a teacher who wants to change student behavior must first understand that the student is doing something because he has a reason behind it. A teacher needs to set boundaries to keep all students within reach, when boundaries are set, the classroom atmosphere is safe and focused. This is what makes it a challenge for a researcher, to change the situation in the classroom more conducive. Thus the researchers applied some of the tips above.

For general conditions in this class it is quite adequate, the existing facilities are quite complete. Equipped with chairs and benches in good condition, equipped with sculptures for practice and computers for students to study.

As for the control class, this class is more conducive to learning. It's just that researchers should pay more attention, because some students are still not confident in their abilities. This classroom is also equipped with the needs of students such as computers and sculptures for practice.

2. The Result of Teaching-Learning Speaking

This section describes and analyzes the test before and after treatment. The pre-test and post-test were given to the students in the experimental group and control group. The pre-test and post-test was given at the end of experiment.

a. The Description of Process Pre-Test and Post-Test

The description pre-test condition, the researcher conducted observation again to ensure that the process of teaching English was still the same as the pre-observation at the eleven grade of Mia program of SMSN 4 Model Seluma in academic year 2020. *Pre-test* is a test that is done before the teacher starts learning. The purpose of this pre-test is to find out the initial abilities of students related to the material to be delivered. *The post-test* is the final evaluation when the material taught on that day has been given where a teacher gives a post test with the intention of whether the student already understands and understands the material that was just given that days.

The process carried out by researchers is: The pre-test process was not carried out simultaneously between the experimental class and the control class, because the hours and days of their English lessons were different. *First*, the researcher introduces the students in the class, so that they can get to know the researcher and create an initial approach for the next meeting.

Second, the researcher explains the purpose of a study in general, so that students are not confused about what they are used as the object of research and explain the steps they must take when working on the pre-test questions that are given. After that, it's finished. The *third process*, the researcher distributes pre-test questions to all students in the experimental class and control class. And explain the grace period used during the pre-test.

When students work on pre-test questions, the researcher must pay attention to the condition of the class in a conducive way. Observing student behavior whether there is cheating while doing the test.

For the last process, the researcher told all students that the time for doing the pre-test had run out. And instruct students to collect all the questions they worked on earlier on the teacher's table in front. Next, the researcher would check how many correct and incorrect answers for the two classes.

Unlike the post-test process, this process only distributes post-test questions to the experimental class and control class on different days, when the test is being carried out students are allowed to ask questions if there are questions they do not understand. The final process, all students collect the post-test questions that they do on the teacher's table.

b. The Description of Pre-Test and Post Test Score in The Experiment Class.

Before the researchers did SPSS data processing. Pre-test treatment and post-test have been carried out, where this is done to see the final result of HOTS application in speaking which has a significant impact. Which has been described in the following table and figure about the pre-test and post-test results in the experimental class

Table 4.1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Experiment	30	35	75	52.33	11.502
Post-Test Experiment	30	40	85	63.50	13.271
Valid N (Listwise)	30				

In the experimental class (Mia1) the lowest score of pre-test was 35, then the highest score was 75, and then, in the post-test score, the lowest score was 40 and the highest score 85. These can be seen in the from the descriptive statistic of the pre-test and post-test score show in table 4.1 was found that the average of pre-test was 52.33 and average score of post-test was 63.50

Graphically the total score of students pre-test and post-test in the experimental class can be seen of figure 4.1

Figure 4.1
(Student Pre-Test And Post-Test In Experimental Class)



Based on figure 4.1, the post-test score was higher than pre-test score. Its mean teaching-learning speaking ability by high order thinking skill strategy could increase the students' speaking ability score.

c. The Distribution of Pre-Test and Post-Test score in the Experimental Class can be seen on the table 4.2

Below is the percentage of student scores in percentages (%) with categories is excellent, very good, good, poor and very poor, with a predetermined score interval

Table 4.2

Score Interval	Category	Pre-Test		Post-Test	
		Frequency (students)	Percentage (%)	Frequency (student)	Percentage (%)
85-100	Excellent	0	0%	2	6,6%
76-84	Very Good	0	0%	3	10%
56-75	Good	11	36,6%	13	43,3%
30-55	Poor	19	63,3%	12	40%
0-29	Very Poor	0	0%	0	0%

Based on the table 4.2, the pre-test n experimental group, there was 0 (0%) students in excellent category, 0 (0%) students were in very good category, 11 (36,6%) student were good category, 19 (63,3%) students were poor category, and 0 (0%) were very poor category. While, in post-test, there was 2 (6,6%) students in excellent category, 3 (10%) students were in very good category, 13 (43,3%) student were in good category, 12 (40%) student were in poor category and 0 (0%) students were very poor category.

d. The Discription of Pre-Test and Post Test Score in Control Class.

Same thing was before the researchers did SPSS data processing. Pre-test, treatment and post-test have been carried out, where this is done to see the final result whether the application of HOTS in speaking has a significant impact. Which has been

described in the following table and figure about the pre-test and post-test results in the control class

Table 4.3

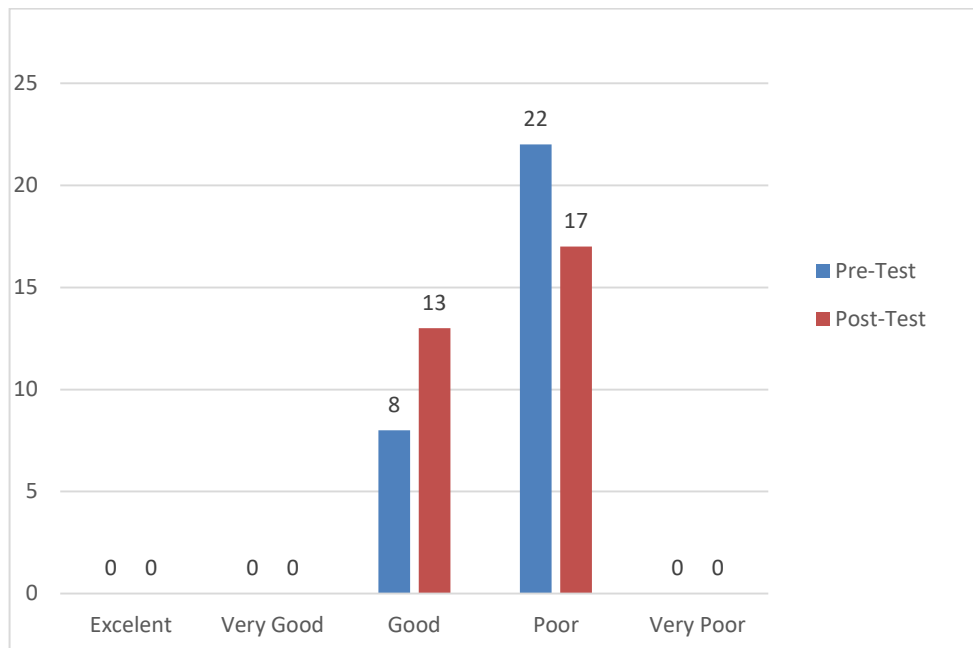
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Control	30	30	70	51.17	11.423
Post-Test Control	30	35	75	55.50	11.988
Valid N (listwise)	30				

In the control class (Mia2) the lowest score of pre-test was 30, then the highest score was 70. And then, in post-test score the lowest score was 35 and the highest score was 75. These can be seen in the from the descriptive statistic of the pre-test and post-test score show in table 4.2 was found that average of pre-test was 51.17 and average score post-test was 55.50.

Graphically the total score of student pre-test and post test in the control class. Can be seen on figure 4.

Figure 4.2
(Students Pre-Test And Post-Test In Control Class)



Students' pre-test and post-test in control class based on figure 4.2, it was showed that the pre-test score and the post-test were relatively same. It means the score of students Speaking ability mastery increased gradually.

The distrubution of pre-test and post-test score in the control class can be seen on table 4.4

e. The distribution of Pre-Test and Post Test in Control Class

Table 4.4

Score Interval	Category	Pre-Test		Post-Test	
		Frequency (students)	Percentage (%)	Frequency (student)	Percentage (%)

85-100	Excellent	0	0%	0	0%
76-84	Very Good	0	0%	0	0%
56-75	Good	8	26,6%	13	43,3%
30-55	Poor	22	73,3%	17	56,6%
0-29	Very Poor	0	0%	0	0%

Based on the table 4.4, the pre-test in control class there ws 0 (0%) students in excelent category, 0 (0%) students were in very good category , 8 (26,6%) students in good category, 22 (73,3%) students were in poor category, and 0 (0%) students were in very poor category. While in post-test there was 0 (0%) student were in excellent category, 0 (0%) students were in very good category, 13 (43,3%) students were in good category, 17 (56,6%) students were in poor category, and 0 (0%) students were in very poor category.

3. The Result of Normality And Homogeneity Of The Data

Before analyzing the data, homogeneity and normality of the data shoul be measured in determining homogenety and normality of the data kolmograv- smirnov test used.

a. The result of Normality data of Pre-Test

In analyzing the normality of the data test of pre-Test score, so one sample of Lilliefors test had been applied since the data in each group was less than 200 data. The test of normality pre-test score of the experimental class can be seen in the table 4.5

Table 4.5
Test Normality Of Pre-Test Score in the Experimental Class

	Tests of Normality			Tests of Normality		
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Experiment	.125	30	.200 [*]	.948	30	.147

Based on the table above, it could be seen on the Kolmogrov Smirnov pre-test of the experimental class showed the significance was 0,200 since (0,05) value was higher than 0,05 and from the Shapiro Wilk test of the pre-test experimental class showed the significance was 0,147 value was higher than 0,05. So, that it could be concluded that the data which had been obtained in this class was considered pznormal.

Table 4.6
Test Normality Of Pre-Test in the Control Class

	Tests of Normality			Tests of Normality		
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Control	.107	30	.200 [*]	.954	30	.211

Based on the table above, it could be seen on the Kolmogrov Smirnov pre-test of the control class showed the significance was 0,200 since (0,05) value was higher than 0,05. And from the Shapiro Wilk test of the pre-test experimental class showed the significance

was 0,211 value was higher than 0,05. So, that it could be concluded that the data which had been obtained in this class was considered normal.

b. The Ruslt Of Normality Data of Post-Test Score

In analyzing data the normality of the data post-test scores, one sample Komogorov-smirnov test used since the data of each group less than 60 data. The test of normality and histogram of post test scores on Experimental Class and Control Class .

Table 4.7
Test Normality Of Post-Test Score in the Experimental Class

	Tests of Normality					
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post- Test Experimental	.131	30	.200*	.949	30	.156

Based on the table above, it could can be seen Kolmogrove Smirniv post-test of the experimental class showed the significance was 0,200 value was higher than 0,05, and from the Shapiro Wilk test of the post-test in experimental class showed the significance was 0,156 value was hogher than 0,05. So, that it could be concluded that the data which had been obtainde in this class considered normal.

Table 4.8
Test Normality of Post-Test Score Of Control Class

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Post-Test Control	.110	30	.200*	.943	30	.107

Based on the table above, it could can be seen Kolmogrove Smirnov post-test of the control class showed the significance was 0,200 value was higher than 0,05. And from the Shapiro Wilk test of the post-test in control class showed the significance was 0,107 value was hogher than 0,05. So, that it could be concluded that the data which had been obtainde in this class considered normal.

c. The Result of Homogeneity Data of Variances Test

The result of Homogeneity of fariences tes can be seen on thr table 4.9.

Table 4.9
Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
,761	1	58	,387

The test Homogeneity of Variances that the *Levene Statistic* shows 0,761 with the significance o,387. The results of

hegeneneity test was higher than 0,05 ($0,387 > 0,05$). Its means the sample in experimental class and control class were homogenous.

4. The Statistically Analysis Result

In order to verify the hypothesis proposal, the statistical analyses were applied. The T-test and independent sample, t-test in which paired t-test was used to find out whether there are significant differences in students' speaking ability before and after the treatment in the experiment class and control class, meanwhile independent sample T-Test using (SPSS) 22 program for window was applied in order to find out whether or not there was significance in students' speaking ability between the experimental class and control class.

a. Paired sample T-test

1) Statistical analysis on the result of pre-test and post-test experiment class

Table 4.10

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test experiment	52.33	30	11.502	2.100
	Post-test experiment	63.50	30	13.271	2.423

sed on the paired sample statistic the mean of Speaking Ability Pre-Test in the experimental class was 52,33 and the standard deviation was 11,502 The mean of Speaking Ability Post-Test in

the experimental class was 63,50 and the standard deviation was 13,271

Table 4.11

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test experiment - Post-test experiment	-11.167	8.477	1.548	-14.332	-8.001	-7.215	29	.000

The result of the Paired Sample T-Test, paired sample difference in mean between pre-test of Speaking Ability in the experimental class was -11.167 with standard deviation of 8,477 with standard and t-obtained was -7.215 at the significant level of 0,05 and the degree of freedom 29 .

2) Statistical Analysis on the Result of Pre-Test and Post-Test Control Class

Table 4.12

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
--	--	------	---	----------------	-----------------

Pair	Pre-test control	51.17	30	11.423	2.086
1	Post-test control	55.50	30	11.988	2.189

Based on the paired statistic, the mean of Speaking ability pre-test in control class was 51.17 and the standar deviation was 11,423 the mean of Speaking Ability post-test in control class was 55.50 and the standart devition wa 11,988

Table 4.13
Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test control Post-test control	-4.333	9.803	1.790	-7.994	-.673	-2.421	29	.022

The result of the paired sample t-test, paired sample difference in mean between pre-test of Speaking in the control clas was -4.333 with standart deviation of 9.803 with standart and t-obtained was -2.421 at the significant level of 0,05 .

It was showed that variables of this research. There were two variables of the research, which were dependent and independent

variable. From the table above, dependent was teaching-learning Speaking and independent variable was High Order Thinking Skill (HOTS) Strategy.

Table 4.14
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
hasil speaking test	Equal variances assumed	.002	.963	2.588	58	.012	9.50000	3.67150	2.15070	16.84930
	Equal variances not assumed			2.588	57.051	.012	9.50000	3.67150	2.14810	16.85190

After doing homogeneity data processing. Until the final stage of data processing, knowing the level of significance. Based on the table above, the level of significance was 0.012, where if the significance is greater than 0.05, the application of HOTS cannot be said to be successful and if the significance is less than 0.05 then the research is considered successful or the HOTS strategy can be applied,

the value t-obtained was 2.588 at the significant level 0,05 in two tailed testing with df was 58.

B. Discussion

From the description of the research results above, there are several discussions what the researchers gave in this research were some of the high order thinking skills students' speaking strategies. The experimental and control classes are the same at the initial level of their vocabulary mastery. This was also proven by researchers by shows the initial level of vocabulary mastery by doing the pre-test given before treatment. The mean value of the pre-test in the experimental class was 52.05 and the pre-test mean score in the control class was 51, 16 statistical analysis revealed this there is no significant effect on the score of student speaking ability.

Based on the research results, the following interpretations are presented streng then the value of research. First, after doing the post-test, the results are visible statistically significant effect of HOTS strategy on students' speaking mastery. The post-test mean score in the experimental class was 63.05 which was higher compared to the average value of the control class post test, namely 55.05. It shows that the high order thinking strategy has a significant effect on students' speaking ability.

Second, the HOTS strategy provides opportunities for students to develop through a deeper understanding of conceptual knowledge, and they can. This finding is in line with previous study of Logeswari

Arumugam (2019), high order thinking skills is the fact that it helps an individual to enhance their self-assessment skills as well as develop their ability to think critically and creatively. This research is different from the one of previous study, Siti Rohani Yulianti, in this study it is dominated by students' skills in working on HOTS standard questions. not about implementing the HOTS strategy to see the effect on students speaking ability.

It is known that the HOTS strategy provides a significant difference in students' speaking ability between students who were taught using the HOTS strategy and those who were not taught. with this strategy, students will not feel bored in learning because it does not get a monotonous process the teaching and learning process in the classroom, especially in the considered speaking learning them as difficult and boring lessons.

From the results of data analysis, students' ability to speak is influenced by the high order thinking skill (HOTS) strategy. Students are interested in discussing the topic of learning material because the strategy can guide them to find answers to the text by using questions related to the material. The use of HOTS strategies in speaking skills makes students work cooperatively, think hard, become strategic readers, think creatively. Students consider the information from the text and their own knowledge and then combine it. So that it helps them to be more proficient in knowing the main ideas and supporting details of the material provided.

CHAPTER V

CONCLUSION AND SUGGESTION

A. Conclusion

Based on the result and discussion in the previous chapter, some conclusions are arisen, After doing the research, collecting the data, and the analyzing them, the researcher found that the result of this study showed a statistically significant effect of HOTS on students' speaking ability 0,012.

There are several reasons why higher order thinking skills strategies have a significant effect improve the speaking ability of students in the experimental class. First, the students at the experimental class was given a situation where they did discovery activities who are then actively involved in the analysis and application. Second, during treatment HOTS which was carried out succeeded in helping students to explore themselves vocabulary through deeper understanding of conceptual knowledge with the meaning of words through finding out. Through this strategy, students are asked to exchange ideas and do find out as much information they want to reveal related to the material at hand. Hence, it can help students to enrich vocabulary and memorize words easily. Especially the students be active participation both individually and in groups while learning to speak.

While the student in control class that only got conventional strategy which was usually used by the teacher were not significantly

improved. Hey the student in control class got lower post-test scores that post-test score of experimental class.

So it can be concluded that the high order thinking skill strategy can be applied to improving students' speaking ability. Most of the eleventh graders in the experimental class had already better progression and post-test scores than their scores in the pre-test. As a student at the control class scored lower on the post-test. The results showed that using the high order thinking strategy provides a significant difference to the students' speaking, mastery of what they find, and contribute.

B. Suggestion

After completing this researcher would like to give suggestions for english teachers, for students, and for future researchers. The suggestions given are following. *For English teachers*, they should vary different strategy to avoid the students' boredom in teaching learning process. They should find out appropriate strategy for teaching speaking. Moreover, they should be able to create teaching and learning process more interestingly, enjoyably, and educative in the classroom. Hence, it is highly recommended for teachers to use high order thinking strategy at teaching speaking, because of it is effectiveness in helping student to improve it mastery of speaking ability.

For the students, they should be active, and good work team on the study. And then, they should ask the teacher if they find some difficulties in learning teaching, dare to answer questions, and pointing their friend.

For the researcher, the result of this study can be used as reference or basic information to do further investifatin, and can be apply this strategy on learning teaching in the class.

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