CHAPTER 1

INTRODUCTION

1.1 The Background of The Study

In teaching English, there are four skills to be taught to master the aspect of lessons. They are writing, reading, listening, and speaking. Its skill has different meaning but has the same purpose, which is increasing the creativity of language. All of the skills are taught by the teacher to thestudents. They are needed by the students as the good skill in improving their knowledge in English.It is encouraged that the students are interested in doing exercise of speaking. Through speaking, the students can express their idea direcly. Then, the students can make exchange and share information to others. However, speaking is improving their ability of the language. The students can be interactive and communicative if they speak to the foreigners. It meets to Fulcher (2003:23-25) statement that speaking is the verbal use of language to communicate with others.Speaking isthe form of human communication. Students can communicate with others and they can express themselves and learn how to follow the social and cultural rules appropiate in communication circumstances. In fact, most students have low motivation to speak English in the class. They are not aware that speaking is important for them.Many things that can make the students could not respond the teachers questions. There are certain reasons why students feel difficult to speak up in front of the class or just answer the teachers question. They are so scare to speak up if they have some mistake and the teacher will under-estimate them. Beside, some students do not have sufficient number of vocabulary to express their idea and thought. Teacher just ask's about the students experience based on the topic discussion,

but the students are not able to answer that simple question.The studentswill beunderstand communicative in speaking . They must make their own experience. Although the students have competence to respond the teacher's question, the student's do not have any confidence to answer that question quickly. Then, student's are afraid in doing mistake. Of course, teacher does not give a much time for the student's to answer the question. Besides, the student's are so hectic and naughty as long as the lesson is running. It seems that they have no will to try to show their abilityoff. They just make the sounds and inspirit.Someway's to motivated the student's to improve speaking. The way of mental model to difficult overcome student's directly in speaking . Mental model is the instruction and motivation for the student'stobe brave in giving their opinion through speaking. For example, allthe material should be preparedby the teacher, whether the topic and the example,so that the student's can be easily understand what the teacher explain.Of course, with a good conversation, nice motivation, interesting explanation and also attractive classroom and perfomance will improve student's learning activity. Especially for improving student's speaking achievement and interact to other's. People interact with the environment, other people, they develop interpretive representation that drive their performance (Norman, 1983: Laird, 1983 and Gagne & Glaser,1987).

Based on researcher experience when doing the observation at SMA Negeri 4 Pematang Siantar, the researcher found that it was still difficult to make students master speaking skill well. This was observed when students were asked to answer some questions orally. They often tended to be afraid and shy to express their idea. In an oppurnity, the researcher held an interview with some students. Students mainly admitted that they disliked English. In their mind, English was a boring subject becouse their teacher always applied the monotonous way in teaching English. Some others said that English was too difficult to learn because it had a deep scope which needs

a wide comprehension. The other reason was, they lacked of vocabularies and did not have self confidence to interact in English. They also stated that they did know how to express their idea orally. Only some of them said that English was an interesting subject.

Considering the above situation, the researcher considered an easy and enjoyable model which could help students to communicate in English. The model was mental model. It aimed to foster mentalistic language acquisition in a classroom setting, emphasized communication, placed decreased importance on conscious grammar study and explicit correction of students errors. Based on the above situation and theory , the researcher was very interested in conducting a study which could improve the researchers writing as well as students ability in mastering speaking skill. It was expected that by applying the model, students could interact in English well which was not only as an academic subject that should be passed in National Examination but also as a real of means of communication. In addition to that, the researcher expected that by this teaching and learning method, students did not consider English as a scaring specter anymore but rather as an interesting subject to learn.

NO	Name Students	Point	Score
1.	Andi	11	36.67
2.	Antoni	12	40
3.	Affandi	12	40
4.	Arifin	13	43.33
5.	Calvin	13	43.33
6.	Chandra	13	43.33
7.	Cristin	13	43.33
8.	Erik	13	43.33
9.	Fuji	13	43.33
10.	Harianto	13	43.33
11.	Hendrik	14	46.67

12.	Irwan	14	46.67
13.	Megawati	14	46.67
14.	Nore	14	46.67
15.	Rafika	14	46.67
16.	Rawinren	14	46.67
17.	Said	14	46.67
18.	Safrizal	15	50
19.	Silvia	15	50
20.	Sindy	16	53.33
21.	Stevani	17	56.67
22.	Steven	18	60
23.	Sulianto	18	60
24.	Susan	19	63.33
25.	Susi	20	66.67
26.	Vincent	21	70
27.	Willy	21	70
28.	William	22	73.33
29.	Yansen	22	73.33
30.	Yudiah	23	76.67
	TOTAL		1570

So, based on the reasons and the explanation above from it is important to conduct the research under the title, " The Effect of Mental Model on The Students Speaking Achievement at The Eleventh Grade Students of SMA Negeri 4 Pematang Siantar.

1.2 The Problem of the Study

The problem of the study is formulated as the following

1."Does the use of Mental Modelsignificantly affect the students speaking

achievement?"

2. "Why Mental Model significantly affect the students speaking achievement?"

1.3 The Scope of the Study

The focus of the study is on the application of mental model on students speaking achievement. The essential rule is building the willingness of students to speak English well and make the good conversation in their daily activity. There are two kinds of motivation which is given to the students in clas, they are intrinsic motivation and extrinsic motivation.

Intrinsic motivation is the teacher who will motivate the students with full of support in achieving the best result in learning. Also, extrinsic motivation is the teacher who will give suggestion and point of view about the lesson patiently. Through speaking, the atmosphere of communication can be built interactively.

1.4 The Objective of the Study

In line with the problems of the study, the researcher is was intended :

1. To find out wheather mental model is significantly affect the students speaking achievement.

2. To find why wheather mental model is significantly affect the students speaking achievement.

1.5 The Significances of the Study

The findings of the study are hoped to be useful for empowering students in learning English. For the teacher, it would be useful in motivating the students to speak English well and make them to be more active.

1.6 The Hyphotesis

Based on theoritical and conceptual framework above, the hyphotesis can be formulated as follow :

Ha   : "Mental model gives significant effect on students speaking

achievement".

Ho   : " Mental Model does not significantly affect on students speaking

achievement ".

CHAPTER II

REVIEW OF LITERATURE

2.1 Theoretical Framework

This research is planned to investigate the effect of mental model on student's speaking achievement. To make clear, it is important to clarify the term in this studying order

missingterpretation among the readers in understanding the analysis that will be presented. Some terms clarification as follows :

2.1.1 Speaking

Fulcher (2003: 23-25) states the speaking is the verbal use of the language tocommunicate with others. Speaking is the language skill which has been developed since childhood and proceded by listening skill at the time of speaking ability was acquired. Speaking is language skill that can be performed by any speakers of language although the skills may be required natural.Omidvar (2014 : 9-13) states speaking is an essential tool for communicating. In the classroom, improving the speaking of students has always been a concern.

Speaking skill are the skills that give us the ability to communicate effectively. These skills allow the speaker, to convey his message in a passionate , thoughtful, and convincing manner. Speaking skills also help to asure that one wont be misunderstand by those who are listening. There are some speaking skills : First, be prepared and practice, the more you know what you want to say. Second, know your audience, the better you know your audience or listeners, the easier it will be to connect to them as you speak.

According to Walter (1967) states that speaking skills are :

1. The skills to convey a purpose a meaning intended by a speaker is also understood by others.

2. The skills use a language that from thought and feelings express trough words.

3. The skills to perform the language action that has to be attended by the listeners in order

4. To be able to understand what is informed by the speaker.

Although the students have learned English since primary school, they have not competence in speaking and almost have difficulties in pronounciation. So, the teacher generally tries to explain the subject to the subject after he/she has finished, he/she asked a question related to the lesson and choose the topic discussion with the students when the teacher and students speak., they try to understand each others, what is said and how they answer the question.Furthermore, the students speaking achievement if it is looked from the curriculum in Senior High School (KTSP), it must be given the direction to the students to improve their speaking achievement in every lesson in class. They must know how to respond the dialogue in every situation, mention things, time and date, describe things and also perform the speech in daily life etc.According to Greene (1963 : 91), there are some necessary qualities to be considered, they are abilities of : (1) Thinking early, (2) Uding English effectively, (3) Speaking to the point, (4) Discovering common interest and, (5) Describing should be good judgement, fact, conviction, a wide range of interest, originality, good memory and sincerity. It means that in doing speaking, it is very important to have some abilities to make a good quality in speaking.Therefore, in order to speak English fluently, the students need to practice the language. This conditiondoes not only improve the students speaking ability but also their pronunciation. In addition, they will be able to produce correct structure. Brown (` 2003 : 27) says that language experience on notion of correct response may enable the students to his pronunciation and improve his ability to produce short structure response.

2.1.2 Purpose of Speaking

The purpose of speaking is to uniform or to communicate what is in the speaker's mind to the listener. The speakers have to careful when the speaker wants to utter words or articulate sound with the ordinary voice so the speakers expressions, thought and feeling can be understood

by the listener. It is important to make the communication with other language user run well. Speaking is fundamentally an instrument act. Speaker talk in order to have some effect on their listener. Speaking ability dealing with these purpose, they are : the ability to understand English dealing with everyday subject and spoken at normal speed, the ability to ask questions which require short and extended answer, the ability to reproduce orally the substance of passage of English after having heard it several times and read it and the ability to conduct a simple conversation on everyday subject, for instance expressing preference, polite interchange, careers, travel, common experience, and so on. These differences reflect the different purpose for which spoken and written language are used. Jones, as quoted by Richard in Sipahutar(2012 : 7) stated in speaking and listening we tend to be getting something done, exploring ideas, working out some aspects of the world, or simply being together. Based on the definition above, the reseacher concludes that the purpose of speaking is to share what the speaker wants to communicate to the listener and to get information from the speaker.

2.1.3 Basic Types of Speaking

Speaking as a spoken language consists of some basic types. According to Brown (2003: 141), there are five basic types of speaking, namely :

1. Imitative Speaking

At one end of a continuum of types of speaking performance is the ability, so simply parrots back (imitate) a word or phrase or possibly a sentence. While this is a purely phonetic level of oral production, a member of prosodic, lexical and grammatical properties of language, may be included in the criterion performances. We are interested only in what is traditionally labeled " pronouncition " no references are made about the test ability understand or convey meaning or to participate in an interactive conversation. The only role of listening here is in the short-term

stroge of a prompt, just long enough to allow the speaker to retain the short strecth of language that must be imitated.

2. Intensive Speaking

A second type of speaking frequently employed 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 relationship. The speaker must be aware of semantic properties in order to be able to respond, but interaction with an interlocutor or test administrator is minimal at best. Example of intensive assessment tasks include directed response tasks, reading aloud sentence and dialogue completion; limited picture-cued tasks uncluding simple sequences; and translation up to the simple sentence level.

3. Responsive Speaking

Responsive speaking includes interaction and comprehension but at the some what limited level of very short conversation, standard greetings and small talk, simple requests and comments, and the like. The stimulus is almost always a spoken prompt, with perhaps only one or two follow-up questions or retorts.

4. Interpersonal Speaking (dialogue)

The other form of conversation mentioned in the previous chapter was into personal dialogue, carried out more for the porpose of maintaining social relationship than for the transmission of facts and information. These conversation are a limit trickier for leaners because they can involve some or all of the following factors :

a. A casual register

b. Colloquial language

c. Emotionally charged language

d. Slang

e. Ellipsis

f. Sarcasm

g. A covert " agenda "

For example :

Any   : Hi,Bob, how's it going?

Bob   : Oh, so-so

Amy   : Not a great weekend, huh ?

Bob   : Well, for be it from me to criticize, but i'm pretty miffed about

                lask week.

Amy   : What are you talking about ?

Bob   : I think you know perfectly well what i'm talking about.

Amy   : Oh, that…How come you get so bent out of shape over

               something like that ?

Bob   : Well, whose fault was it, huh ?

Amy   : Oh, wow, this is great. Wonderful.Back to square one. For

cryingout loud, Bob. I thought we'd settled this before.

Learners would need to learn how such features as the relationship between interlocutor, casual style and sarcasm are coded linguistically in this conversation.

5. Extensive (monologue)

Extensive oral production included speeches, oral presentations and story telling, during which the oppurtunity for oral interaction from listeners is eithrhighly limited or ruled out altogethr. Language style is frequently more deliberative and formal the extensive tasks, but we

cannot rule out certain informal monologuessuch as easually delivered speech. Extensive speaking tasks involve complex, relatively lengthy stretches of discourse. They are frequently variations on monologues, usually with minimal verbal interaction.

2.1.4Speaking Tips

Practice makes perfect is one of the sentence to motivate the students to improve their speaking achievement. According to Stephen.D.Boyd(2009) speaking is a process of speech communication at Northen Kentucky University in Highland Height, has some tips to build the confidence of speaking, also make a good communication to others , They are :

1. Be Brief

    Akey to succes in speaking is not just having something worthwhile to say, but also saying it briefly. One way to keep the speech is the point or the material that you will give to the listener is nice and interesting.

2. Begin with something to get the attention from the audience

    This might be your own story. Listeners will pay attention when a person begins with a current even. Whatever technique that you see, when you grab the attention of the listeners, you are on your way to successful speaking.

3. Be energetic in delivery

    Speak with variety in your voice. Slow down for the dramatic point and speed up to show excitement. Pause occasionally for effect. When you are encouraging the listeners, take a step toward them. Geasture to show how big or wide or tall or small an object is that you are describing. Demonstrate how something works or looks or moves as you tell about it. Show

facial expression as you speak. Smile when talking about something pleasent and let your faceshow other emotion as you tell about an even or activity.

4. Tell yout own story

To make a good speaking and communication, tell about the interesting story, especially about your experience. From that topic, you enjoy the speaking and it is not hard to build the conversation. Of course, it must connect to the listeners what you are talking about.

5. Touch of humor in speaking

Do not panic in this suggestion, you are not becoming a comedian but rather lightening up a serious speaking so that people will be more accepting and interested in your idea. Humour will help you to be perceived as an amiable person and it is hard for people to disagree or be bored if they are smilling at you.

6. Leave the listeners with something ti think about

People remember best what you say last. So, make the interesting statement for the listeners of your topic. Finally, this is one of the prove that your speech is well.

2.1.5 Students Achievement in Speaking

Speaking achievement is the achievement of the studnts to be able to speak and to communicate orally which can be determined by the scoring of speaking achievement. It is not only to apply the grammatically corrects sentences, but also to know when and where to use these sentences and to whom.Fisher and Frey in Sipahutar(2012 : 10) stated speaking is the uniquely human act or process of sharing and exchanging information, ideas and emotions using oral language. Whether in daily information interactions or in more formal settings, communicators are required to organize coherent messages, deliver them clearly and adapt them to their listeners. In additional, speaking is an interactive and according to accomplish

pragmatics goal through interactive discourse with other speaker of language. The goal of speaking is to achieve an communication between the speaker and listener.

2.1.6 Aspects of Speaking

In order to measure the speaking achievement, there are at least five components thatshould have got attention, they are :

1. Pronunciation

Pronountion is very important in speaking. An appropriate pronounciation can influence meaning of a certain word. According Hornby (1995 : 928) pronounciation is the way in which a language is spoken, the way in which a word is pronounced, the way a person speaks the words of language. Pronounciation is the way for students to produce clearer language when they speak. It deals with the phonological process that refers to the component of a grammar made up of the elements and principles that determine how sounds varyu and pattern in a language. There are two features of pronounciation ; phonemes and suprasegmental features. A speaker who constantly mispronounces a range of phonomes can be extremely difficult for a speaker from another language community to understand. Pronounciation is to say the sounds right, to use the words to express the appropriate meaning, or construct their sentences in a way that sounds acceptable to make the listener to what the speaker mean by oral speaking.

1. Vowel

Vowel is essensially a tone or a ' hum ', issuing from the glottis, with the vocal cords normally vibrating. They differ from one another in respect of quality, quantity or both. Therefore, what distinguishes one vowel from another, in respect of quality, is modification of

the tone resulting from modification in the shapes and sizes of the resonating chambers through which the tone passes, viz the pharyngeal cavity, the nasal cavity and the mouth.

2. Consonant

For a good description in such terms, we must speak about the nature of the airstream, the state of vocal cords, the position of the soft palate, the place of articulation and the manner of articulation. If the soft palate is raised, the nassal paasage gets shut off, and therefore the sound produced is oral, the nassal pasage remains open, and therefore the sound produced is either nassal or nasalized.

3. Intonation

Intonation is variation of high or low of the speaker say something of the language speaking.

2. Grammar

Grammar is the description of the structure of a language and the way in which linguistic units such as words and phrases and combined to produce sentence in the language. Most of foreign learners are afraid to speak up whenever they do not know about the grammar.

3. Vocabulary

Vocabulary is essential for successful second language use because without an extensive vocabulary, we will be unable to use the structure and fumction we may have learnt for comprehensible communicative. It can be said that one key the success in communicate, which is the power of words. Vocabulary means the appropriate diction or the most important thing in a language especially in speaking ; furthermore, knowing many vocabularies we will be easier to express oue ideas, feeling, and thoughts both in oral or written form.

4. Fluency

Fluency is defined as the ability to speak communicatively, fluently and accurately. Fluency usually refers to express oral language freely without interruption. In teaching and learning, process, if the teacher wants to check students fluency, the teacher allows students to express themselves freely without interruption. The aim is to help students speak fluently and with ease (Pollard, 2008 : 16).

5. Comprehension

Comprehension becomes an important factor in speaking. This measure the understanding of conversation. Comprehension is the power of understanding an exercised aimed at improving or testing ones understanding of a language in written or spoken. Comprehension can be defined as the ability to understand spoken English. Comprehension in speaking is the aim of many language learners.

2.1.7 Mental Model

When people interact with the environment, other people, they develop interpretive representation that drive their performance (Norman,1983: 7-14) ,Gagne & Glaser,1987 : 280). These representation are mental model, schenabased but also including perception of task demands and task perfomance. Norman (1983) made the following observation about mental model :

1. Mental model is incomplete.

2. People's ability to control their models is limited.

3. Mental model is ubstable.

4. Mental model do not have firm boundaries.

5. Mental model is unscientific.

Teacher's job is to make the students feel interesting, liveli and fun. There are some ways to make the teaching is comfortable, they are :

1. Children focus on the immediate here and now, activities should be designed to capture their immediate interest.

2. A lesson needs variety of activities to keep interest and attention for the students.

3. A teacher needs to be animated, lively and enthusiastic about the subject.

4. A sense of humor will go along way to keep the students laughing and learning.

5. The students have a lot of natural curiosity. Make sure that the teacher tap into the curiosity whenever possible.

On of the major obstacle learners have to overcome in learning to speak is the anxiety generated over the risk of blurting things out of the wrong, stupid or incomprehensible.Our job as the teacher is to provede the kind of warm, embracing climate that encourages students to speak, however halting or broken their attempts may be. Teachers need to help the students to overcome such potential barriers to learn, they are :

1. Help the students to laugh with each others at various mistakes that they all make.

2. Be patient and supportive to build self-esteem of the students.

3. Elicit as much oral participation as possible from students, especially the quiter ones, to give them plenty of opportunities for trying things out.

2.1.8 Mental Model in Teaching Speaking

What are the implications of mental model research for instruction? "As teachers, it is their duty to develop conceptual models that will aid the students to develop adequate and appropriate mental models"(Norman,1982 : 14). Before instruction takes place, teachers should identify the mental model that learners bring to the instructional situation (Gagne & Glaser. 1987).Teachers knowledge of students problem solving knowledge has also been assosiated with problem solving achievement. In a recent corelation study, Henderson(2002) concluded that more knowledge able appeared to pose the problems of the students, process of students solving problem and listen to the students solutions. Less knowledgeable teachers, by contract tended to explain problem solving processes to students, "thereby also doing the thingking of students" (Henderson,1989 : 568).How can teachers ascertain the mental models of their students? There are at least four possible ways to do it : (1) Observe them; (2) Ask them for an explanation; (3) Ask them to make predictions; (4) Ask them to teach another students (Reeves,1992 : 161).

By understanding what model learners are currently using to guide, their performance teacher can build upon them by specifying what Glaser (1984 : 93-104) called pedagicalmodelsplanned to get the best result from the students, they are :

1. The teacher given the material, explanation and example of a topic.

2. The teacher gives the interactive explanation, brain-storming and open

   students mind based on the topic discussion.

3. The teacher builds the students willingness in motivating them so that

    they can be able to speak.

4. To make the interesting learning, the teacher should be fun and enjoy as

   long as he/she teaches the students at class.

5. From that situation, the students are more active to show their opinion

   and also answer the teachers question directly.

Mental model may be explicitly taught to facilitate performance (Gagne and Glaser, 1987). These conceptual models provide an important supplement to teach strategies. "We have found that students make up their own conceptualizations anyway, and if we do not give them guidance, their models can be bizarre and difficult to overcome (Norman, 1982,p.108).

2.1.9 Properties of Mental Model

Glaser (1984 : 93-104) specify some properties as the concept of mental model, such as :

1. They consist of proposition, images, rules of procedures and statement

   as to when and how they are to be used.

2. They may contain contradictory elements.

3. They may be incomplete.

4. People may not know how to "run" the procedures present in their

   mental model.

5. Elements of mental model do not have firm boundaries.

6. Mental model tend to minimize expenditure of mental energy.

People will do often do extra physical activities, sometime consuming and difficult in order to avoid a little bit of serious thinking.This inferred structuring of mental model is distinctly different from what teacher usually assume when teaching the students. The teacher usually assume that the students either know something or they do not know anything. The view of

mental model that teacher learn from cognitive scholars sugged otherwise. It suggests that students may hold contradictory elements in the minds without being aware that they contradict.Part of the way that teacher should know is that the students are interested "in what students know". If they do not accesto the right information in an exam, the teacher gives them clues and hints in the wording to triggers access. But since an essential component of a mental model are the processes for accessthe information, the teacher is not testing the complete mental model. The students has the information, but it is inert and can not be used or recalled except in very narrow almost pre-programmed situation. To find out what the students really know, the teacher has to give them the opportunity to explain what they are thinking in words.

2.2 Relevant Research Study

The researcher is interested to conduct a research dealing with students speaking achievement. To support this research, the writer has considered and learnt some researches which deal with speaking. The foolowing description are some researches about mental model.

The first researcher was N. Khasanah(2016), as in jurnal **" Analysis of Mental Models of Students Using Isomorphic Problems in Dynamics of Rotation Motion Topic ".**

Based on N. Khasanah, mental model is a part of the identification of students thoughts on the concepts. Mental models can evolve where to diagnose the development of mental models. This research objective to analyze the development of students mental models on the topic rotation motion dynamics. Although, mental models are not easy to identify a persons mental models which represents a diffrent thought on everyone.

The second researcher was Gillan (2018), as in jurnal" **Mental Models : Structural Differences and The Role of Experience".**Based on Gillan, first mental model are representation that are both stored in long-term memory and accessible to working memory.
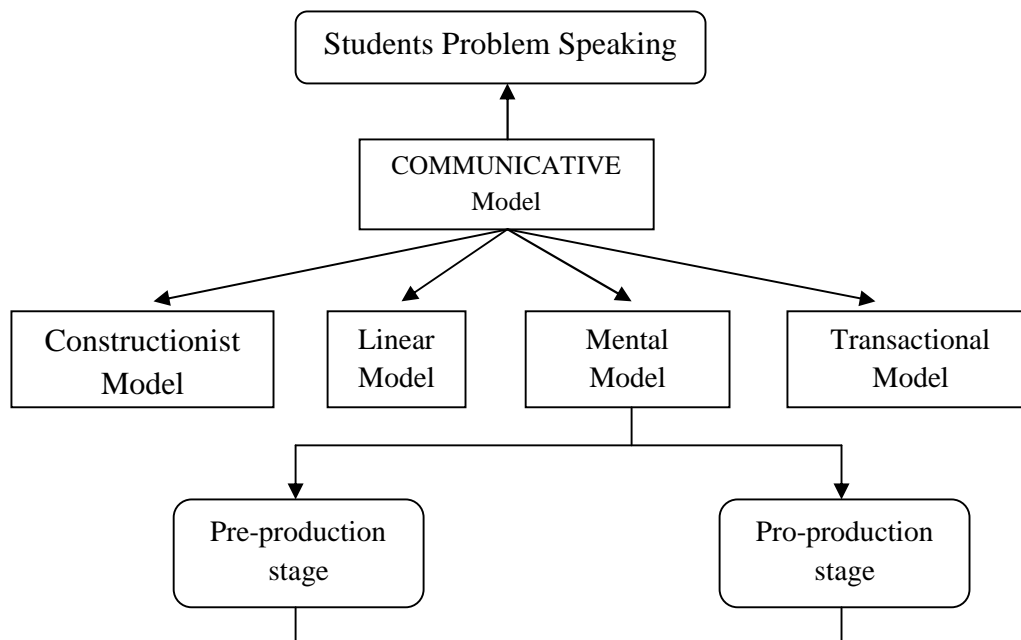
Second, they are memory representations of systems or situation. Finally, mental models help predict the future states as well as reason with those systems and situation.

2.3 Conceptual Framework

The purpose of teaching speaking is to enable the students to get the message of teacher's explanation in order to attain the objective of teaching speaking. Many experts assume that it is important for the teacher to know the strategy to teach the students in achieving the speaking well.

However, teacher has the duty to mistake the students feel interest in speaking. Unfortunately, may students feel bored and hate in speaking. In fact, they know how to read, how to write and listen to English program. But, they disable to speak. That is why, mental model as the strategy can give motivation and support them in achieving the speaking.

The framework can be seen as foolows :

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                    ┌─────────────────────────┐
                    │ Students Problem Speaking │
                    └─────────────────────────┘
                               ▲
                    ┌─────────────────────────┐
                    │      COMMUNICATIVE       │
                    │          Model           │
                    └─────────────────────────┘
          ┌──────────────┬──────────┬──────────────┐
          ▼              ▼          ▼              ▼
  ┌──────────────┐ ┌──────────┐ ┌──────────┐ ┌──────────────┐
  │ Constructionist│ │  Linear  │ │  Mental  │ │ Transactional │
  │     Model     │ │  Model   │ │  Model   │ │     Model     │
  └──────────────┘ └──────────┘ └──────────┘ └──────────────┘
                              ┌──────┴──────┐
                              ▼             ▼
                    ┌──────────────┐ ┌──────────────┐
                    │ Pre-production│ │ Pro-production│
                    │     stage     │ │     stage     │
                    └──────────────┘ └──────────────┘
```

| 1. Teachers knowledge of students problem solving knowledge has alsobeen assosiated with problem solving achievement

2. The teacher gives the interactive explanation, brain-storming and open | 1. The students are more active to show their opinionand also answer the teachers question directly.

2. The teacher were chosen to speak in front of the class directly and give a few information based on the topic discussion |

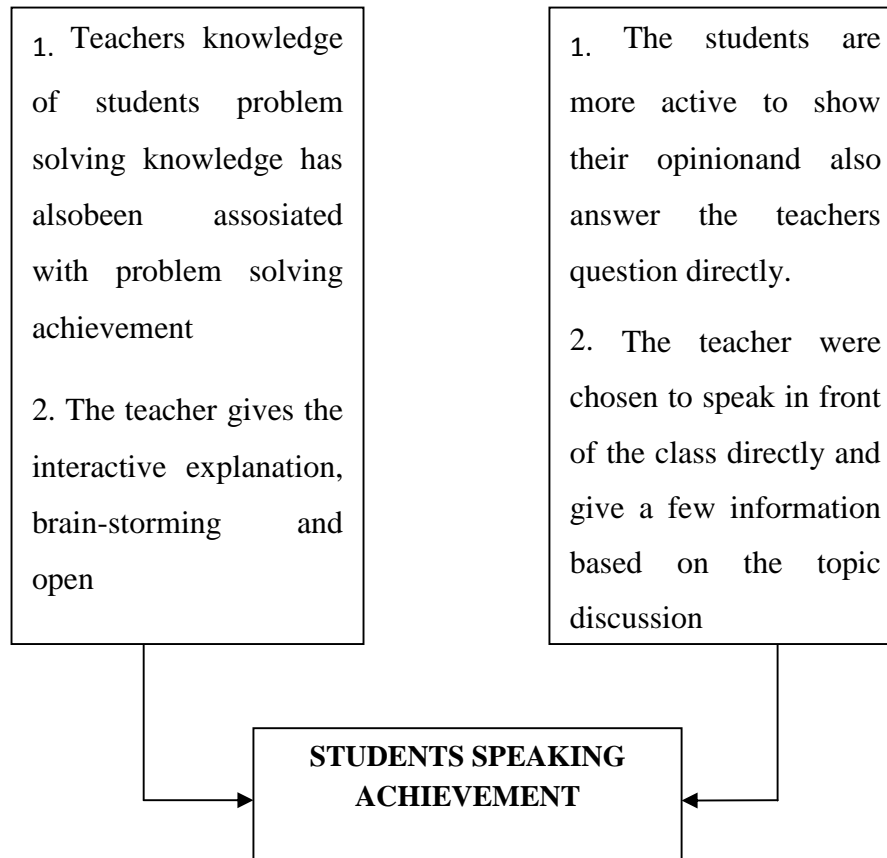**STUDENTS SPEAKING ACHIEVEMENT**

Figure 2.3 CONCEPTUAL FRAMEWORK

CHAPTER III

RESEARCH METHOD

3.1 Research Design

This research was conducted by using experimental quantitative design. In this experimental quantitative design, the samples are divided into two groups, which concists of the experimental group and control group. The experimental group and control group were given pre-test and post-test in order to know the effect of mental model on students speaking achievement. The following design was implemented :

Table 3.1

The Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental	Conversation	Mental Model	Conversation
Control	Conversation	-	Conversation

3.2 Sample and Population

A sample is the small proportion of population selected the observation and analysis. According to Sugiono (2013) the population is a generalization area consisting of object or subject having a particular characteristic and quality which is determined by the researcher to be learnt and concluded.

The population of this study wason SMA Negeri 4 students and they were in two paralel classes. Each class concisted of 30 students, the population were 60 students and these two classes was selected by using cluster sampling technique.

3.3 Instrument of Collecting the Data

The data is were collected by using speaking test. The students were ask to response a certain topic based on the teachers question given to the students in a conversation. Because this research use an speaking test, the components to evaluate the test were grammar, vocabulary, fluency, accurancy, and pronounciation.

3.4 Scoring the Test

In scoring the data of this research, oral test is given to the students in order to evaluate the students speaking achievement. Some criterions should be considered. As Lambordo(1984:5) states that " there are four components to evaluate the test ", they are :

A.   Vocabulary (1-5)

-      Very good   : Rarely trouble (5)

-      Good   : Sometimes uses inappropriate terms about

                                      language because inadequate (4)

-      Fair   : Frequent uses wrong words speech limited to

                                      simple vocabulary (3)

-      Unsatisfactory   : Very limited vocabulary and make the

                                        comprehension quite difficult (1- 2)

B.   Grammar (5)

-      Very good   : Few noticeable errors (5)

-      Good   : Occasional grammatical errors which do not

                                      obcure meaning (4)

-      Fair   : Errors of the basic structure, meaning occasionally

                                      obsure by grammatical errors (3)

-      Unsatisfactory   : Usage definitely unsatisfactory, frequently needs

                                      to rephrase construction or restrict himself to basic

                                      structure (1-2)

C.   Pronounciation (5)

-      Very good   : Understandable (5)

-      Good   : Few noticeable errors (4)

-      Fair   : Errors of basic pronounciation (3)

-      Unsatisfactory   : Hard to understand because of sound, accent,

                                      pitch, difficulties and incomprehensible (1-2)

D.   Fluency (5)

-    Very good   : Understandable (5)

-    Good   : Speech is generally natural (4)

-    Fair   : Some definite stumbing but manage to rephrase

                 and continue (3)

-    Unsatisfactory   : Speed of speech and length of utterances are far

             below normal, long pauses, uttarances left
             unfinished (1-2)

3.5 Procedures for Analyzing the Data

This study apply the quantitative data. The quantitative data is use to analyze the score of student. It is collected and analyze by computing the score of students speaking achivement during the oral text. The data iswere analyzed by using some steps, namely :

1. Collecting data forum the scoring of the experimental and control group

Students scores were gained by using the following formula :

$$\text{Scoring} = \frac{x}{N} \times 100$$

where :

             x   : the total point acquried by student

             N   : the maximum point

2. Find out the mean score of each group by using :

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

where :

M   : the mean of the students score

x   : the total score

N   : the number score

3. Comparing the score by testing the differences and deviation scores :

$$d^2 = \sum D^2 - \frac{(\sum D)^2}{N}$$

4. Testing the hypothesis by using t-test formula

   Arikunto (2010:354) states that to test the hypothesis, t-test formula will be used. This formula is to know the effect of mental method on student speaking achievement. It can be drawn as follows:

$$t = \frac{Mx - My}{\dfrac{dx^2 + dy^2}{Nx + Ny - 2} + (\dfrac{1}{Nx} + \dfrac{1}{Ny})}$$

where :

t   : the effect

Mx   : the mean score of experimental group

My   : the mean score of control group

dx^2 : thedeviaton square of experimental group

dy^2 : the deviation square of control group

Nx   : the sample of experimental group

3.6 Teaching Producers

In teaching speaking to the experimental group and control group, it was used the same material but different way. In the experimental group, the teacher were taught by using mental model, but in control group, the teacher were given the lesson without mental model

Table 3.7

Experimental Group	Control Group
Pre- Test 3. First of all, the students were given the topic to discuss. 4. The students were asked to explain the topic in front of the class.	**Pre- Test** 1. First of all, the students were given the topic to discuss. 2, The students were asked to explain the topic in front of the class.
Firstly, the teacher were given the topic and asked their attention so that the teaching program was running well.	Firstly, the teacherwere given the topic and asked their attention so that the teaching program was running well.
Treatment After giving the topic lesson, the teacher were given the brainstorming about the topic to open their mind to respond the topic discussion. And then, as long as the study was running, the teacher were given the instruction and motivation which was related into the topic and the teacher were asked to speak up in front of the class and told about their experience based on the topic discussion.	The teacher were asked to read the topic. And then, the teacher were asked to speak up in front of the class
Post- Test The teacher were chosen to speak in front of the class directly and give a few information based on the topic discussion.	**Post- Test** The teacher were chosen to speak in front of the class directly and give a few information based on the topic discussion.

3.7 The Validity and Reliability of the Test

3.7.1 Reliability of the Test

Reliability refers to whether or not a measuring technique is consistent. Reliability is important because it will make the decision about the students based on consistent data rather than on fleeting information which would change if simply took the time to collect the information in a second time. To obtain the reliability of the test by using Pearson Product

Moment.By having the calculation above, it was known that the reliability of the test. Based on the level of reliability of a test, the reliability of the test is high.

$$r = \frac{N(\sum xy) - (\sum x)(\sum y)}{N(\sum x^2) - \sum x^{\,2} \; N(\sum y^2) - \sum y^{\,2}}$$

Where :

r = reliability of the test

N = Number of students

  = Sum of rater I (R1)

  = Sum of rater II (R2)

3.7.2 Validity of the Test

Validity refers to the extended to which an instrument really measures what it is designed to measures. This is an extremely important concept, since it determines the confidence that take place on the decision and make regard the outcome variables which is trying to measures. According to Roberta(2015 : 243) states validity is defined as the extentto which a concept is accurately measured in a quantative study. There are three types of validity, namely : content validity, criterion related validity and construct validity. But, primarily concerned for oral test is construct validity. A construct is a psychological quality, such as self confidence, motivation, or intelligent which we assume exist to explain some observed behaviour. Construct validity refers to the extend to which a test can be interpreted i terms of underlying psychologi construct.

Test of Speaking

Intonation	Kinds of Test	Test Items	Score
Rising Tone	Oral	5	25
Falling Tone	Oral	5	25
Rising-Falling Tone	Oral	5	25

Falling-Rissing Tone	Oral	5	25
TOTAL		20	100

3.7.3 The Interpretation of The Findings

The result of scientific research are sometimes regarded as pure objective statements of absolute truth devoid of interpretation. But if research findings are to have even scientific meaning, they must be interpreted in terms of the conditions and aasumptions of the investigation of which they are the outcome. Merely because an interpretation is not expressly stated in a report does not mean that no inferences are drawn from the presentation results. Scientific findings must always be considered both in the framework of the particular research study and in retation to similiar studies in the same field of knowledge.