

# ***The Effect of Using Jigsaw Strategy And Round Robin Brainstorming Strategy On Students' speaking Ability***

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## **Abstract**

The objective of this research is to find out whether jigsaw strategy and Round Robin Brainstorming strategy are significant on students' speaking skill?. Quantitative research finds the effect JS and RRBS method. The population of this study was all the students grade xii social and science program of SMA Advent Air Bersih Medan. The sample was divided into three groups, the first group was conventional class (15 students) the second group was RR Brainstorming (15 students) and the third group jigsaw (15 students) the number of the students were taken 4-5 persons. The instrument of collecting the data was giving student' work and record the students of describing their parents and himself or herself , the writer used Anova formula to analyze the data. The result indicated that there is an improvement of the students speaking ability through jigsaw and RR Brainstorming strategy. it means that the mean score of pre-test and post-test in jigsaw and RR Brainstorming. The mean score in pre-test was 63,6 increased to the mean of the post-test was 89,00 in jigsaw strategy and the mean score in pre-test was 64,6 increase to the mean score of post-test was 69,3 in RR Brainstorming strategy. Therefore ,the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted.

Keyword: Jigsaw, Round Robin Brainstorming, speaking

## **1. The Background of the Study**

In learning English, there are four major skills which should be achieved by learning, namely speaking, listening, writing, and reading. One of these four skills which are very important in communication is speaking.

Speaking is an interaction between the speaker and listener. In speaking there is a process of communicative, which conveys the message from a speaker to listener. A speaker has to decode the message and the listener has to decode or interpret the message, which contain the information given by a speaker. Therefore, in the communication in process of encoding exist between the speaker and listener. According to Brown (1999:267) speaking is an interact process of constructing meaning that involves receiving and processing information. Speaking is the process of transmitting ideas and information orally in a variety of situations. Effective oral communication involves generating messages and delivering them with attention to vocal variety, articulation, and nonverbal signals. In order to be competent speaker a person must be able to compose a message and provide ideas and information suitable to the topic, purpose, and audience.

The researcher was interested in conducting a research in teaching speaking. The ability of learning English is commonly measured by the ability of speaking. Furthermore, in terms of exchanging the information speaking is more used then writing. Considering the important of speaking ability in language competence, it is needed to help the English language learners to master speaking comprehensively. Besides that, the ability students of speaking is still low. The average of speaking score is lower than

writing score. They are able to write but they are difficult to speak. In this case a cooperative learning strategy can be applied as a strategy to solve the problem. The reason is that cooperative learning is more natural and active. When they learn individually the weakness of students will be evitable and it will make them give up and feel bored. Instead, when working cooperatively they will be encouraged to learn more.

Kagan (1994:120) in his book explained cooperative learning is an effective method in teaching-learning. Cooperative Learning (CL) is a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning was taught but also for helping teammates learn, thus creating an atmosphere of achievement. Students work through the assignment until all group members successfully understand and complete it.

According to Slavin (2005:175) there are nine types of cooperative learning strategies, They are : Jigsaw, Think-Pair-Share, Step interview, Round Robin Brainstorming, Minute review, Numbered Heads Together, Team Pair Solo, Circle the Sage, Partners. The researcher use only two strategies Think-Pair-Share and Round Robin Brainstorming.

The Jigsaw Strategy is a method of organizing classroom activity that makes students dependent on each other to success. It has been central to ‘interaction’ theory of foreign language learning since 1980s. Rivers (1987:130) defined the interactive perspective in language education; “students achieve facility in using a language when their attention is focused on conveying and receiving authentic message (Richards & Rodgers,2001:21). Jigsaw advocates draw heavily on the theoretical work of developmental psychologists Jean Piaget (1965:176) and Vygotsky (1962:120), both of whom stress the central role of social interaction in learning (ibid:194).

Roundrobin Brainstorming is a group structure for sharing and recording responses. In this technique the students take turns in their teams responding responses. In this technique the students take turns in their teams responding orally then each student shares in turn for specified time. According to Kagan (2010:122) Roundrobin Strategy is an arrangement of choosing all elements in a group equally in some relational order, usually from the top to the bottom of a list and then starting again at the list and so on. A simple way to think Round Robin Brainstorming is about “talking turns”. The Writer states that if we ask the student to think and then the student has turn to speak, it will make the student focus to the subject. The use of strategy and media also influence the student competence in speaking. So, it is appropriate to use Think Pair Share Strategy and Round Robin Brainstorming Strategy in improving the students’ competence in speaking. In this case Cooperative learning strategy can be applied as a strategy to solve the problem. The reason is Cooperative learning is more natural and active. When they learn individually the weakness of the students will be evitable and it will make them give up and get bored. Instead, when working cooperatively they will be encouraged to learn more.

Based on the background above, the problem of the study is formulated as ‘Do Jigsaw Strategy and Round Robin Brainstorming Strategy effect students’ability in speaking achievement compare with conventional teaching Strategy?’

According to Slavin (2005:176) There are nine models of cooperative learning strategy in teaching speaking namely: Jigsaw, Think-Pair-Share, Step Interview, Round Robin Brainstorming, three minute review, Numbered Head Together, Team Pair Solo,

Circle the Sage, Partners, but in this case the Writer will focus on the two strategies Jigsaw Strategy and Round Robin Brainstorming Strategy and the writer will focus on descriptive text as teaching method in teaching speaking at the third grade of 2017/2018 Academic Year of SMA Advent Air Bersih Medan. There will be a pre-test, treatment and post test of each class.

The result of the study can give contributions in theoretically and practically:

1. Theoretically

1. The result of this study is expected to be one of new perspectives in teaching speaking strategies.
2. To enrich the new model of research related to English teaching strategy at Senior High School.
3. To enlarge the alternative in the research of teaching strategies in speaking.

2. Practically

1. The result of this research is useful to enrich models of learning used in teaching speaking, to give ideas of considering the students skill in speaking.
2. To provide a solution to the problem that faced by the students in speaking ability during the speaking process.
3. To improve the students' ability on speaking skill to the higher level of speaking.

In conducting a research, theories are needed to explain some concepts or terms applied in the research concerned. The terms must be clarified to avoid confusion. So, the researcher and the reader may have same perception of them.

The term 'speaking', according to Brown (1999:67), is an interactive process of constructing meaning that involves producing and receiving and processing information. Its form and meaning are dependent on the context in which it occurs. We generally use speaking as a means of communication in daily interaction. The presence of speaker and listener is a must to build up a mutual communication in speaking activity. Thus, speaking is considered to be inseparable to something we call communication. Communication is the way individual can show the feelings, tell the thoughts, ask questions, ask for help, argue, persuade, explain, and give order each other.

According to Mulgrave in Tarigan (1981:15) speaking is a tool to communicate thoughts and ideas which is constructed base on listeners need. Speaking is an instrument that express to the listeners almost directly whether the speaker understand or not both the speaking material and the listener; whether he/she is calmly and able to adapt themselves or not when they are expressing their ideas; an whether she/he is aware of and enthusiastic or not.

Speaking is an interaction between the speaker and listener. In speaking there is a process of communicative, which conveys the message form a speaker to listener. A speaker has to decode the message and the listener has to decode or interpret the message, which contain the information given by a speaker. Therefore, in the communication the process of encoding existbetween the speaker and listen, this is line Johnson (1998) says: "encoding means translating idea, feeling, and mental into message appropriate for transmission, while decoding means talking about the stimulate that have been received and interpreting their meaning or response to perceive message"

Based on Johnson's statement, it can be said that in speaking there must be encoding and decoding processes between a speaker and listener. However, in order to interact, the speaker and listener need to understand each other. Otherwise there will be no communication. Therefore, understanding it is very important in spoken language.

**Definition of Speaking** According to Bygate, speaking is the oral interactions that can be characterized in terms of routines conventional ways of presenting information which can either focus on information or interaction in Nunan (1991:40). Speaking skill is very important because language is primarily speech. Oral communication is seen as a basic skill, so it is needed. Not only serious treatment is needed in teaching but also a great effort in order to be able to master the skill. The most people, mastering the art of speaking is the single most important aspect of learning a second or a foreign language, and success is measured in terms of the ability to carry out conversation in the language. According to Brown (2004:141) there are three basic types of speaking as follow: a. Imitative The ability to simply parrot back a word, phrase or possibly a sentence. b. Intensive The production of short stretches of oral language designed to demonstrate competence in a narrow band of grammatical, phrasal, lexical, or phonological relationship. c. Responsive Interaction and test comprehension but at the somewhat limited level of very short conversation, standard greetings and small talk, simple request and comments, and the like. In speaking a foreign language as a foreign language, learner should be consistent in the process in mastering the language (in this case English); as Hutchin and Waters (1987:76) point out that language learning is a process. They later state that: it is not enough for the learner just to have necessary knowledge (about the related language) to make things meaningful but they must also use that knowledge. However, it is important to understand what we mean by the terms active. From the definitions above, the writer concludes that speaking is the way of human to communicate and to express their thought to the listeners in many aspects of life.

Speaking ability means the ability to use the language appropriately in social interaction. The interaction involves not only verbal communication but also elements of speaking ability such as grammar, vocabulary, pronunciation and fluency. How students can use their English knowledge in their daily conversation in order to be good at speaking is discussed under the aspect of speaking. In other words, it can be said that speaking ability is the ability or communicative ability to express a sequence of ideas to the other listener fluently.

Competence means an ability to do something well. One is called competence person, if s/he has necessary ability, authority, skill, knowledge, etc. According to Chomsky (1965:106) "competence" is what the speakers knows about the structure of language in other words, the word competence refers to a grammar. By using grammar, speakers are allowed to understand and produces utterance which s/he actually never found the opportunity to understand rules used in language production.

Generally, competence is a state or quality of being adequately or well qualified and having an ability to perform a specific role. It is used to work with more general description of the requirement of the human being in organization and communities, for examples educational institutions and other organization that want to have a general language in order to be considered competent.

Dobson (1987:89) says that there are some effective technique for teaching speaking can be applied in classroom such as:

1. *Dialogues*. A short conversation between two people presented as a language model-the dialogue-often receive top billing in the manipulative phase of language learning. In repeating dialogue, the students practice pronunciation and memorization and it can help the students develop fluency in English.
2. *Small*
3. *l-group discussion*. Small-group discussion is excellent way to give students opportunities to speak English.
4. *Debate*. Debate helps students speak more fluently and during a debate they can represent their feelings on an issue.
5. *Song*. Singing is a popular activity throughout world and the students often delight in learning English songs. In teaching an English songs, it can help students to improving aural comprehension, group spirit is fostered though singing, singing allows the students a chance
6. to relax from the pressure of conversation, reinforce the students' interest in learning English.
7. *Games*. Language games can add fun and variety to conversation sessions if the participants are fond of games. Games are especially refreshing after demanding conversational activities such as debates or speeches. A game can help the students to stimulus in additional conversation.

This refers to theories about the nature of language and language learning that serves as the source of the practices and principals in language teaching (Richards and Rodgers, 1986:16). An approach describes how language is used and how its constituent parts interlock. It offers a model of language ability and makes statements about the condition which will promote successful language learning.

These three models they are the **behavioralist** approach, the **cognitivist** approach, and the **constructivist** approach (Brewer & Murke 1999:10-11).

1. **Behavioralist Approach:** This approach is concerned with changes in an individual's behavior that occur as a result of learning. Therefore, the behavior list focuses primarily on the development of skills and abilities, as opposed to knowledge.
2. **Cognitivist Approach:** Cognitive theorists are concerned with the changes in an individual's knowledge that result from experience with a stimulus environment. The cognitive approach is based upon the concept of schemata, or mental models, by which individuals organize their perceived environment.
3. **Constructivist Approach:** A more recent development is the constructivist approach, based on the belief that learning is a self-assembly process. Constructivists suggest that individuals "construct" their understanding of a topic area through two processes: conflict resolution and reflection.

In order to teach speaking successfully and enable students to speak well in communication, teacher should be able to apply a suitable approach. In achieving those goals, teachers need to draw on more than one approach and use a variety of instructional tools, such as audiotapes, videos, and multimedia computer technology, to meet different students' needs in teaching speaking skills.

This table below shows the explanation of each approach in teaching speaking skills (Pacoe:2003-98).

**Table 2.1 Overview of Treatment Speaking in Second Language Teaching Methods**

<b>Approach</b>	<b>Treatment of Speaking</b>
Grammar Translation	No speaking or listening is required of students
Audio-Lingual Method (ALM)	Focus on speech with heavy reliance on repetition and oral drills
Direct Method and Situational Language Teaching	Teacher does much of the talking; students engage in many controlled speaking activities centered on specific topics of situations
Silent Way	Teacher rarely speaks while students engage in speaking activities centered on grammatically sequenced forms
Suggestopedia	Students Listen to reading of dialogs or “concerts” by the teacher and later engage in controlled or guided speaking activities
Community Language Learning	Teacher acts as “human computer” to translate what the learner wishes to say in the target language
Comprehension Approach	Emphasize development of listening and reading skills; little attention to speaking and writing
Natural Approach	Early emphasis on listening comprehension with delayed guided speaking activities
Total Physical Response (TPR)	Students rarely speak but use physical actions to demonstrate listening comprehension
Communicative Language Teaching (CLT)	Focus on speech for communication; use of variety of authentic speaking activities
Task Based	Speech centers around authentic tasks needed to accomplish real-world tasks.

### **Teaching Strategies**

Strategy is an action selected deliberately to achieve particular goals. An emergin skill can become a strategy when it is use intentionally. Likewise, a strategy can go underground and become a skill. Indeed strategies are moreefficient and developmentally advance when they become generate and applied automatically as skills. Thus, strategies are skills under consideration.

Dobson (1987:92) says that there are some effective strategies for teaching speaking can be applied in classroom such as:

1. *Dialogues*. A short conversation between two peoples presented as a language model-the dialogue-often receive top billing in the manipulative phase of language learning. In

repeating dialogue, the students practice pronunciation and memorization and it can help the students develop fluency in English.

2. *Small-Group discussion.* Small-group discussion is excellent way to give students opportunities to speak English.
3. *Debate.* Debate helps students speak more fluently and during a debate they can represent their feelings on an issue.
4. *Song.* Singing is a popular activity throughout world and the students often delight in learning English songs. In teaching an English songs, it can help students to improving aural comprehension, group spirit is fostered through singing, singing allows student a chance to relax from the pressure of conversation, reinforce the students' interest in learning English.
5. *Games.* Language games can add fun and variety to conversation sessions if the participants are fond of games. Games are especially refreshing after demanding conversational activities such as debates or speeches. A game can help the students to stimulus in additional conversation.

### **Cooperative Learning Strategy**

Students' learning goals may be structured to promote cooperative, competitive, or individualistic efforts. In every classroom, instructional activities are aimed at accomplishing goals and are concluded under a goal structure. A learning goal is a desired future state of demonstrating competence or mastery in the subject area being studied. The goal structure specifies the ways in which students will interact with each other and the teacher during the instructional session. Each goal structure has its place (*Johnson & Johnson, 1989,1999*). In the ideal classroom, all students would learn how to work cooperatively with others, compete for fun and enjoyment, and work autonomously on their own. The teacher decides which goal structure to implement within each lesson. The most important goal structure, and the one, should be used the majority of the time in learning situations, is cooperation.

Cooperation is working together to accomplish shared goals. Within cooperative situations, individuals seek outcomes that are beneficial to themselves and beneficial to all other group members. Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. It may be contrasted with competitive (students work against each other to achieve an academic goal such as a grade of "A" that only one or a few students can attain) and individualistic (students work by themselves to accomplish learning goals unrelated to those of other students) learning. In cooperative and individualistic learning appropriately, you may structure any learning task in any subject area with any curriculum cooperatively.

Students' learning goals may be structured to promote cooperative, competitive, or individualistic efforts. In contrast to cooperate situations, competitive situations are ones in which students work against each other to goal that only one or a few can attain. In competition there is a negative interdependence among goal achievements, students perceive that they can obtain their goals if and only if the other students in the class fail to obtain their goals. The result is that students either work hard to do better than their classmates, or they take it easy because they do not believe they have a chance to win. In individualistic learning situations students work alone to accomplish goals unrelated to those of classmates and are evaluated on a criterion referenced basis. Students' goal

achievements are independent; students perceive that they can obtain their goals is unrelated to what other students do. The result is to focus on self-interest and personal success and ignore as irrelevant the successes and failures of others.

Placing students in groups and telling them to work together does not result the cooperative process. Not all groups are cooperative. To structure lessons so students do in fact work cooperatively with each other requires an understanding of the components that make cooperation work. Mastering the essential components of cooperation allows teachers to:

1. Take existing lesson, curricula, and courses and structure them cooperatively.
2. Tailor cooperative learning lessons to meet the unique instructional circumstances and needs of the curricula, subject area, and students.
3. Diagnose the problem some students may have in working together and intervene to increase the effectiveness of the student learning groups.

Although those three patterns are not equally effective in helping students learn concepts and skills, but it is important that students learn to interact effectively. Students will face situations in which all interaction patterns are operating. They also should be able to select the appropriate interaction pattern suited to the situation. An interpersonal, competitive situation is characterized by negative goal interdependence where when one person wins, the other lose. In a cooperative learning situation, interaction is characterized by positive goal interdependence with individual accountability. Positive goal interdependence requires acceptance by a group that they sink or swim together. A cooperative spelling class is one where students are working together in small groups to help each other learn the words in order to take the spelling test individually on other day. In a cooperative learning situation, students' needs to be concerned with how he or she spells and how well the other students in his or her group spell.

There are some principles Cooperative Learning strategies that must be pursued by the teacher. These principles will be used in the conceptual foundation of cooperative learning strategy. The main concepts of Cooperative learning strategy by Slavin (2005:10) are:

- 1) Multiple Award (Team)  
The award is obtained when the group reached a score above certain criteria that have been set. The success of the group is based on individual performance as a member of the group in achieving inter personal support each other, help each other and care about each other. Influence the award is based on Cooperative Learning will motivate students to be directly involved in a particular behavior.
- 2) Individual Responsibility  
The success of the group depends on the individual learning of all group members' help each other in learning and ensuring that each individual in the group is ready to face the tests and tasks more independently without the help of a team.
- 3) Equal Opportunities for Success. Each student has an equal chance either achievement of low, medium, high, or all equally challenged to do the best.

### **Characteristics of Cooperative Learning Strategy**

Characteristics of Cooperative learning strategy they are:

1. Positive Interdependence: You'll know when you've succeeded in structuring positive interdependence when students perceive that they "sink or swim together." This can be



achieved through mutual goals, division of labor, dividing materials, roles, and by making part of each student's grade dependent on the performance of the rest of the group. Group members must believe that each person's efforts benefit not only him or herself, but all group members as well.

2. **Individual Accountability:** The sense of individual accountability in cooperative learning is "students learn together, but perform alone." This ensures that no one can "hitch-hike" on the work of others. A lesson's goals must be clear enough that students are able to measure whether (a) the group is successful in achieving them, and (b) individual members are successful in achieving them as well.
3. **Face-to-face interaction:** Important cognitive activities and interpersonal dynamics only occur when students promote each other's learning. This includes oral explanation of how to solve problems, discussing the nature of the concepts being learned, and connecting present learning with past knowledge. It is through face-to-face, interaction that members become personally committed to each other as well as to their mutual goals.
4. **Interpersonal and Small Group Social Skills:** In cooperative learning groups, students learn academic subject matter (task work) and also interpersonal and small group skills (teamwork). Thus, a group must know how to provide effective leadership, decision-making, trust-building, communication, and conflict management. Given the complexity of these skills, teachers can encourage much higher performance by teaching cooperative skill components within cooperative lessons. As students develop these skills, later group projects will probably run more smoothly and efficiently than early ones.
5. **Group Processing:** After completing their task, students must be given time and procedures for analyzing how well their learning groups are functioning and how well their learning groups are functioning and how well social skills are being employed. Group processing involves both task work and teamwork, with an eye to improving it on the next project.

### **Strength and Weakness of cooperative learning Strategy**

The strengths of Cooperative learning strategy are:

1. Can involve students actively in developing the knowledge, attitudes and skills in the teaching and learning environment that is open and democratic.
2. Can develop a variety of potential self-actualization that has been owned by the student.
3. Can develop and train a variety of attitudes, values, and social skills to be applied in the life of society.
4. Students not only as an object of study but also as a subject of study because students can become peer tutors for other students.
5. Students are trained to work with, because not only learned the material but also the demands to develop their potential optimally to the success of the group.
6. Provide an opportunity for students to learn and acquire the knowledge needed to understand directly, so that what is learned is more meaningful for her/him.

Weakness of Cooperative Learning Strategy are:

1. It could be a place to chat or gossip  
The weakness that always occur in the study group is to be a talking shop./ This occurs when group members do not have the discipline to learn, such as arriving late, talking or gossiping makes the time pass so that the goal to learn to be in vain.
2. Multiple errors can occur  
If there is one member of the group to explain the concept and others believe fully the concept, and it turns out the concept is wrong, then all members of the group do wrong. To avoid this, each member of the group must have prior review. When speaking of new

things and the other group members do not know, find confirmation in the book for the deepening.

### **Types of Cooperative Learning Strategy**

According to Slavin (2005:37) there are nine types of Cooperative Learning:

1. **Jigsaw**  
Groups with five students are set up. Each group member is assigned some unique material to learn and then to teach to his group members. To help in learning students across the class working the same sub-section get together to decide what is important and how to teach it. After practice in these “expert” groups the original groups’ reform and students teach each other.
2. **Think-Pair-Share**  
There are involves a three steps. During the first step individuals think silently about a question posed by the instructor. Individuals pair up during the second step and exchange thoughts. In the third step, the pairs share their responses with other pairs, other teams, or the entire group.
3. **Three-Step Interview**  
Each member of a team chooses another member to be a partner. During the first step individuals interview their partners by asking clarifying questions. During the second step partners reverse the roles. For the final step, members share their partner’s reasons with the team.
4. **Round Robin Brainstorming**  
Class is divided into small groups (4 to 6) with one person appointed as the recorder. A question is posed with many answers and students are given time to think about answers, After the “think time,” members of the team share responses with one another round robin style. The recorder writes down the answers of the group members. The person next to the recorder starts and each person in the group in order give an answer until time is called.
5. **Three-minute review**  
Teachers stop any time during a lecture or discussion and give teams three minutes to review what has been said, ask clarifying questions or answer questions.
6. **Numbered Heads Together**  
A team of four is established. Each member is given numbers of 1, 2, 3, 4. Questions are asked of the group. Groups work together to answer the question so that all can verbally answer the question. Teacher calls out a number (two) and each two is asked to give the answer.
7. **Team Pair Solo**  
Students do problems first as a team, then with a partner, and finally on their own. It is designed to motivate students to tackle and succeed at problems which initially are beyond their ability. It is based on a simple notion of mediated learning. Students can do more things with help than they can do alone. By allowing them to work on problems they could not do alone, first as a team and then with a partner, they progress to a point they can do alone that which at first they could do only with help.
8. **Circle the Sage**  
First the teacher polls the class to see which students have a special knowledge to share. For example the teacher may ask who in the class was able to solve a difficult math homework question, who had visited Mexico, who knows the chemical reactions involved in how salting the streets help dissipate snow. Those students (the sages) stand and spread out in the room. The teacher then has the rest of the classmates each surround the sage, with no two members of the same team going to the same sage. The sage explains what they know while the classmates listen, ask questions, and take notes. All students then return to their teams. Each in turn, explains what they learned. Because each one has gone

to a different sage, they compare notes. If there is disagreement, they stand up as a team. Finally, the disagreements are aired and resolved.

9. **Partners**

The class is divided into teams of four. Partner move to one side of the room. Half of each team is given an assignment to master to be able to teach the other half. Partners work to learn and can consult with other partners working on the same material. Teams go back together with each set of partners teaching the other set. Partner quiz and tutor teammates. Team reviews how well they learned and taught and how they might improve the process.

### **Cooperative Learning Jigsaw Strategy**

Jigsaw as a strategy used in cooperative language learning approach. The Jigsaw Strategy is a method of organizing classroom activity that makes students dependent on each other to success. It has been central to 'interaction' theory of foreign language learning since 1980's. Rivers (1987:170) defined the interactive perspective in language education; "students achieve facility in using a language when their attention is focused on conveying and receiving authentic message (Richards & Rodgers, 2001:21) Jigsaw advocates draw heavily on the theoretical work of developmental psychologists Jean Piaget (1965:67) and Vygotsky (1962:98) both of whom stress the central role of social interaction in learning.

Susan Ledlow (1996:46) in CLTS (Center of Learning and teaching Excellent) says that Jigsaw was originally developed by Elliot Aronson (1978). It has since been adapted by a number of teachers at all levels in a variety of ways. Essentially, it is a cooperative learning lesson design that takes the place of lecture. Each student within a team has a piece of the information to be learned by all students, and each student is responsible for teaching their section to the other students on the team. When all the pieces are put together the students should have the whole picture hence the name Jigsaw. Can these same strategies be turned into learning and teaching strategies?

Elliot Aronson said yes. Aronson used them to develop a teaching concept built on cooperative learning exercises aimed at actively engaging all students. "Designing an effective Jigsaw requires different, but overlapping, team assignments and a meaningful group task, plus attention both to how students will prepare effectively for peer teaching and how the instructor will evaluate what individual students have learned.

According to Eggin (2004:45) says that, 'jigsaw' is the name of a collection of teaching strategies that use by the students to help each other to learn. Related to above statement, Slavin (1991:65) says that: 'jigsaw strategy refers to instructional methods in which students work together in a small groups to help each other learn.'" Proponent to above theory, Johnson & Johnson says that, "jigsaw is the instructional use of small groups so that students work together to maximize their own and each other's learning."

Kagan (1994:59) said that Jigsaw is an effective strategy to use when you want to increase student's mastery or a topic at a hand, boost their concept development, enhance targeted discussion among students, and foster group project participation and learning.

Clark J in his book "Cooperative Learning: The Jigsaw Strategy (1985)" said that Jigsaw is one method which makes the independence of group members possible, promotes interaction and cognitive elaboration, takes into consideration, the principle of the multiple perspective and context as well as the construction of common knowledge.

Furthermore Aronson defines that “Jigsaw learning is a group learning process based on the understanding had people learn better when they are together. It provides an alternative to the traditional classroom in which teachers is up front teaching the class as a whole or supervising individualized seat work. It also provides an alternative to compete among students for attention, approval and achievement. Jigsaw strategy is used to develop the skills and expertise needed to participate effectively in group activities.

Based on opinion above, it can conclude jigsaw Strategy is a learning strategy of cooperative learning, with students learn in small group consist of four or six persons, diverse inter gender ethnicity, race and ability, cooperative in positive interdependence and responsible to present the task for each member.

### **History of Jigsaw Strategy**

The jigsaw teaching strategy was invented and named in 1971 in Austin, Texas by a graduate professor named Elliot Aronson. Recent desegregation had forced a racial mix on the students of Austin, and many teachers were unable to cope with the turmoil and hostility of the situation. After studying the problem at the request of the school superintendent, Aronson decided that inter-school competition was leading students to study too much on their own, and was interfering with the idea of a cooperative classroom.

By arranging the students in culturally and racially diverse groups, Aronson and his team of graduate students were able to reduce the divisions between students. In fact, when one Hispanic boy named Carlos was tormented by his peers for his difficulty with the language, the bullying students were not admonished for their behavior. Instead, they were reminded that the exam was in fifteen minutes, and their sole source of information on the subject was Carlos, the boy they had been harassing. Behavior improved notably and immediately.

Elliot Aronson and his graduate students invented the technique in order to defuse an explosive situation created by the desegregation of the city schools. Due to desegregation, African-American, Caucasian, and Hispanic students were placed in the same classroom for the first time. In just a short time, there was an atmosphere of turmoil and hostility brought on by long-standing suspicion, distrust, and fear between groups.

The superintendent of schools called Aronson and asked for his help. Aronson agreed only if he was allowed to look at the entire problem and give long-range solutions and not just temporary solutions that acted as a Band-Aid. Time was relied on extensive literature reviews. Systematic observations were done. Observation of the classrooms indicated that inter-group hostility was being fueled by the competitive environment of the classroom.

It was speculated that competition for teacher attention was important because for students in elementary school the teacher is one of the most important people in their life. Because of this, it was important for students to be called on so the teacher could see they knew the right answer. Students may harbor hope that their classmates would fail so they could have an opportunity to show that they were smarter than their classmate. If the classmate was successful, the student would feel disappointed. For students that were deemed “losers” they would grow feelings of envy and jealousy towards students that were successful and in term ridicule successful students. Successful students may then in term deem the ‘loser’ students as unintelligent and uninteresting.

It was decided a shift needed to take place from classroom that fostered competition to class rooms that fostered cooperation. The first step was to change the structure of the classroom. A shift needed to be made from a competitive situation to a situation that fostered trust, empathy, and understanding.

The success of the jigsaw classroom strategy was obvious to Aronson and his colleagues after a few weeks. Teachers were spontaneously stating they were greatly satisfied with the technique and that the atmosphere in their classroom was transforming. Other significant individuals in the schools such as support staff also indicated a change in the atmosphere. The jigsaw classroom strategy held up to experimental procedures. The jigsaw strategy was randomly introduced into some classrooms and not introduced into other classrooms. This allowed for comparisons between students in jigsaw classes and those not in jigsaw classes. Students in the jigsaw classes and those not in jigsaw classes. Student in the jigsaw classes expressed significantly less prejudice and negative stereotyping, more self-confident, and liked school better when tested objectively. Behavioral data supported these self-report measures. Student in jigsaw classes were absent less frequently, they intermingled more in the cafeteria and in the school yard, and they performed better on objective exams of curricular material this was especially true for minority students Aronson, (1971:45)

### **Procedure of Jigsaw Strategy**

Each learning strategy has a certain steps or procedure. The teachers who want to apply a special learning strategy must understand the whole steps and procedures. Aronson, E, &Patneo, S (1997:76) especially propose 10 steps or procedures in using Jigsaw learning to teach any subject, including teaching speaking skill:

1. Divide students into 4 or 5persons jigsaw groups. The groups should be diverted in terms of gender, ethnicity, race, and ability.
2. Appoint one student from each group as the leader. Initially, this person should be the most mature student in the group.
3. Divide the day's lesson into 4-5 segments. For example, if you want history learners to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on:
  - 1) Her childhood,
  - 2) Her family life with Franklin and their children,
  - 3) Her life after Franklin contracted polio
  - 4) Her work in the white house as first lady, and
  - 5) Her life and work after Franklin's death.
4. Assign each learner to learn one segment, making sure learners have direct access only to their own segment.
5. Give learners time to read over their segment at least twice and become familiar with it. There is no need for them to memorize it.
6. Form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment. Give learners in these expert groups time to discuss the main points of their segment and to rehearse the presentation they will make to their jigsaw group.
7. Bring the learners back into their jigsaw groups.
8. Ask each learner to present her or his segment to the group. Encourage others in the group to ask questions for clarification.

9. Float from group to group, observing the process. If any group is having trouble (e.g. a member is dominating or disruptive), make an appropriate intervention. Eventually, it's best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it.
10. At the end of the session, give a quiz on the material so that learners quickly come to realize that these sessions are not just fun and games but really count.

### **Process of Designing Expert Group in Jigsaw**

According to Aronson (1976:130) there are 6 steps to design expert group in Jigsaw strategy:

- 1) Assign Topics  
The learning unit is divided into four topics and each learner on the team is assigned one topic. For teams of five, two students are assigned one topic and instructed to work together. For three member teams, only three topics are assigned and the members learn the fourth from another team.
- 2) Expert Groups Meet  
All the topic 1 learners meet in one area, Topic 2 learners in other area, Topic 3 learners and Topic 4 learners. If eight teams exist in the classroom, two groups of each topic may be formed to reduce the size of the expert groups. A balance of achievement levels may have advantages for topic groups.
- 3) Expert Consult  
Experts consult and discuss their topic, making certain each group member understands the information. A variety of strategies for checking for understanding can be used. For example, work sheets, cross group interviews, dialogue etc.
- 4) Experts create and practice a teaching plan  
Expert groups design and practice a plan for teaching their expertise to team members
- 5) Experts return to teams to share and tutor  
Experts take turns sharing their individual topic expertise with team members.
- 6) Demonstrating knowledge  
The culminating activity allows individual team members to demonstrate their knowledge of all topics identified in the unit.

### **Advantages and Disadvantages of Jigsaw Strategy**

There are some advantages of using Jigsaw Strategy:

1. Students have the opportunity to teach themselves, instead of having material presented to them. The technique fosters depth of understanding.
2. Each student has practiced it in self-teaching, which is the most valuable
3. of the entire skill teacher can help them learn.
4. Students have can practice in peer teaching, which requires that they understand the material at deeper level than student typically do when simply asked to produce an exam
5. Students become more fluent in use of English
6. Each student has a chance to contribute meaningfully to discussion, something that is difficult to achieve in large group discussion. Each student develops an expertise and has something important to contribute.
7. Asking each group to discuss a follow-up question after individual presentation fosters real discussion.

Implementation of jigsaw strategy in class not only has the advantages but also disadvantages, such as follow:

1. It takes much time to organize the group. The teacher should make groups that combine the students who have different intelligences

2. If students don't get into their group quickly enough or read their initial texts quickly enough, it will run out of time.
3. If one or two obstinate students don't participate a whole group or two will lose out on a piece of the text.
4. The class situation become noisy, so the teachers needs to control the students
5. A Teacher cannot monitor all groups at once.

According to Johnson & Holube collaborate the advantages and disadvantages of jigsaw strategy:

**Table 2.2 Advantage and disadvantage of jigsaw.**

<b>Advantages</b>	<b>Disadvantages</b>
It is and efficient way to learn the material	Uneven time in expert groups
Build a depth of knowledge	Students must be trained in this method of learning
Disclose a student's own understanding and resolves misunderstanding	Requires an equal number of groups
Build on conceptual understanding	Classroom management can become a problem
Develop teamwork and cooperative working skill	

### **Round – Robin – Brainstorming Strategy**

According to Kagan (2010 : 22) Round Robin Brainstorming Strategy is arrangement of choosing elements in a group equally in some relational order, usually from the top to the bottom of a list and then starting again at the list and so on. A simple way to think of round robin is about "taking turn". Round Robin is a group structure for sharing and recording responses. In this strategy the students take turn in their team responding orally each student shares in turn for a specified time.

Round Robin Brainstorming story is one that is started by one person and continued successfully by others in turn. Whether an author can get additional turns, how many lines each person can contribute, and how the story can be ended depend on the rules. In the Round Robin strategy the class divided into small group 4 to 6 students per group with one person appointed as a recorder. A question is posed by teacher with many possible answer and students are given time to think about answer. After the "think time", member of the team share responses with one another round robin style. The recorder written down all the answer of the group. The person next to (clock wise) the recorder gives their answer and the recorder writes it done then each person in group in order gives an answer until time is called.

According to Lewis states that Round Robin is a strategy for generating and developing ideas in a group brainstorming setting. It relies on an contribution by each participants, conducted in ether written or verbal variation. This strategy is very similar to round table. The main difference is that in Round Robin one student do as the recording for all members of his/her group. Example : A teacher showed the video after that the student answered the questions from the teacher. The student is given on time to think. One students is recorder and writes all of the groups answer on a peace of paper. This strategy continues until the teacher stop the activity the group run the answer. Round Robin Brainstorming has the distinct advantage of encouraging contribution from all participant, including those who typically silent. It also provides each participant an equal opportunity to voice their taught, and a space to present their ideas without undue influence by potentially overly assertive or vocal individuals. Omzen in Ali Z(2012 : 4) states that this strategy helps the students how understand how ideas connect with each other and recognized how

information is obtained. From the keyword given, the students make their own information is obtained to the keyword According to Kagan (2010 :4) there are purpose of Round Robin Strategy, They are :

1. A powerful tool for capturing, representing and achieve knowledge of individuals, but also powerful tool to create new ledge.
2. Graphical tools for organizing and representing knowlwdge
3. Develops students' ability to perceive relationship among ideas, concepts or events.
4. Increases student's knowledge and vocabulary in all subject.

Based on the information above, the writer concludes that Round robin Brainstorming Strategy is a way to help the student to think more creative to associate idea or words more easily.

### **The Procedure Round Robin Brainstorming Strategy**

1. All team members sit around a table. Each has an index card to record recorder of the member answer.
2. The lecturer explains about Round robin Brainstorming strategy accurately as possible, and the lecturer give the clue for the student by showing the picture to the students. The goal of his step is that members should think of solution by themselves, write as many solution as possible on their index card.
3. the teams discussed their answer and the recording. The students answer by using handphone after all the team give answer until the time is called.
4. the fourth step, all the recorder share their answer other team. and other recorder record all the answer of each team.

The students self confidence and this strategy ask them to think and to speak one each other, if the student have practice a lot it make the student have competence in speaking and the writer think his strategy will improve the student competence in speaking.

### **Advantages of Round Robin Brainstorming Strategy**

1. Students confidence improves and all student are given a way to participate in class rather than the few who usually volunteer
2. Students are actively engaged in thinking
3. More of the critical thinking retained after a lesson if a student have an opportunity to discuss and reflect on the topic
4. Many students find it safer or easier to enter a discussion with another class mate rather than with a large group
5. Student and teacher alike again much clearer understanding of the expectation for attention and participation in classroom discussion.
6. The Teacher showed the recording to the students so that the students can correct their mistake and the other mistake

### **Disadvantages of Round Robin Brainstorming Strategy**

1. The class can be noisy because it's group discussion
2. Time consuming. This strategy may be time consuming if the class is big and the teacher can not create an amusing classroom atmosphere.
3. There is no equal participation, although each student within group has an equal opportunity to share. It is possible one students may try to dominate.
4. Some of the students didn't focus to the material because it's group discussion.

### **Conceptual Framework**

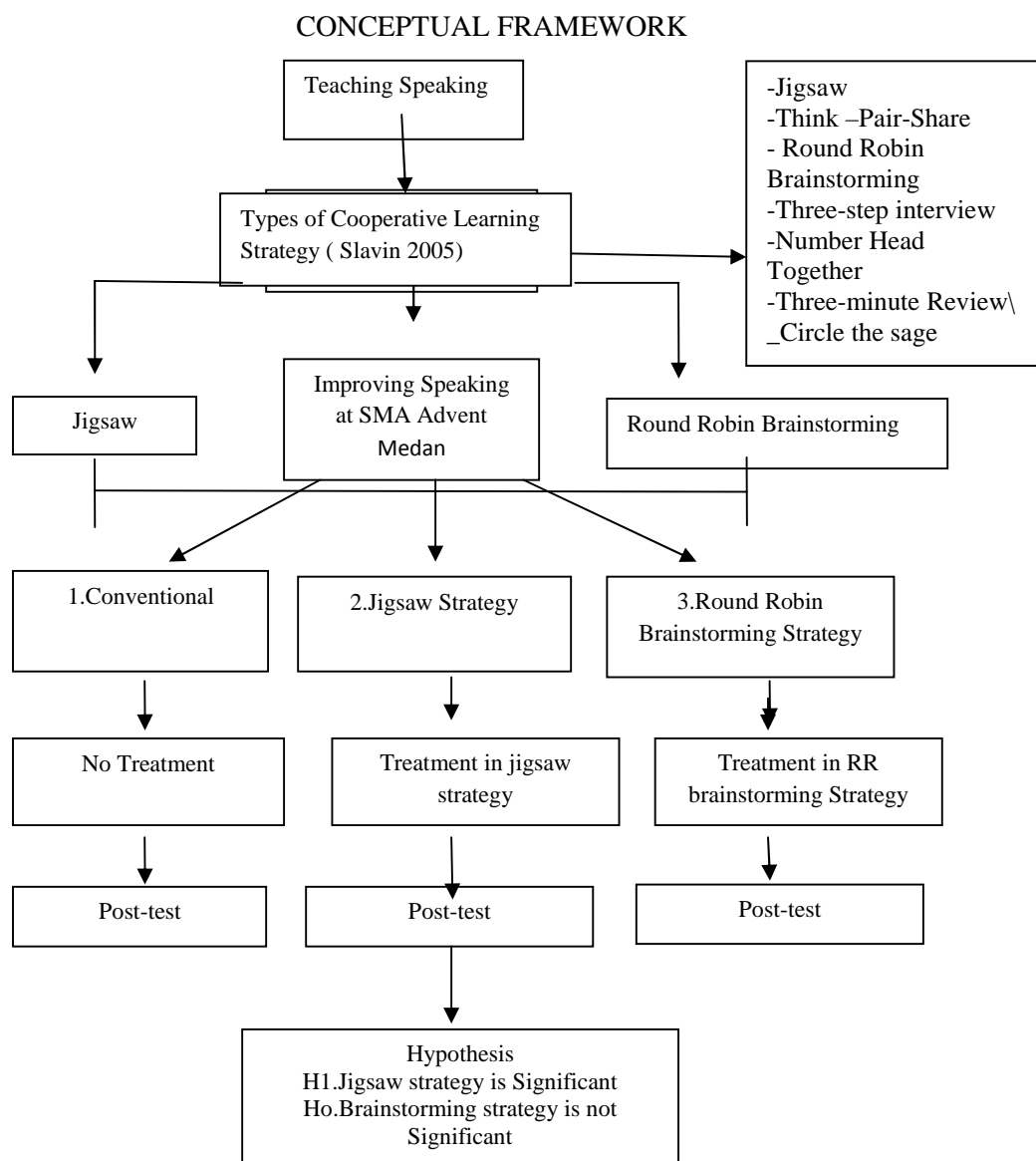
This research aim to improve the students competence in Speaking by using Cooperative Learning Strategy in teaching speaking, the strategy is one important part in



process of learning. Good strategy can improve the student speaking competence. According to the writer Cooperative Learning Strategy are suitable for the student in learning speaking and this strategy make the student enjoy to study.

Since in the classroom interaction is rarely active, the lecturer is the dominant person in speaking role during the teaching learning process, that doesn't bring the student to interact. Here the lecturer should invite the student to take their role in classroom interaction.

The problem need to be solve, one of the ways to handle this problem is to apply jigsaw Strategy and Round-Robin-Brainstorming Strategy. In this strategy the writer use a video and picture as media. Through these strategy the student will active in the teaching learning process since each of the student have turn to speak, this strategy will force the student to think what they want to share.



**Figure 2.1. Conceptual framework of Lumbanraja L. 2017 .improving students speaking ability by using cooperative learning strategy at the third class of SMA Advent Jl. Air Bersih Medan**

**The Hypothesis**

Ha : Jigsaw Strategy and Round Robin Brainstorming Strategy are more significant than conventional teaching strategy on student speaking ability at SMA Advent Medan.

Ho : Jigsaw Strategy and Round Robin Brainstorming Strategy are not more significant than conventional teaching strategy on student speaking ability at SMA Advent Medan.

**2. Research Design**

The design of this research is quantitative by doing an experimental which is to find the effect of the independent variable on the dependent variable they are cooperative learning strategy and speaking ability. Ary (1979:225) states the experiment is the event planned and carried out by the researcher to gather evidence relevant to the hypotheses. In the experimental, there are two variables of major, namely:

1. The *independent variable* is the variable which can be manipulated or changed by the experimenter.
2. The *dependent variable* is the variable upon which the effects of the changes are observed, but not manipulated by the experimenter.

The research classified into two variables, independent variable (cooperative learning strategy) and dependent variable (speaking ability). In doing this, the researcher attempts to determine or predict what may occur. In this study, the writer prepared or set up Cooperative Learning strategy toward speaking ability, for the students who were answer speaking test.

This study was conducted at SMA Advent Medan. This school is located at Jl. Air Bersih no 98A Medan. This research was conducted in Grade XII on the first semester in the Academic Year of 2017/2018 for about a month Begins from 24<sup>th</sup> July up to 22 August 2017.

Population and sample can be defined as a group to whom the research would like to generalize the result of the study.

Gay (1987: 107) says that population is a group to which the researcher would like the result of the study to be generalized and sampling is the processes of selecting a number of represent one the large group from which they selected.

The population of the study was taken the student grade XII the first semester SMA Advent Medan, the total number student are 45 students

Sample is portion of population. Sample is the small group that is observed (Ary 1979: 129). The samples of this study are the students of (45 students) Grade XII the first semester SMA Advent Medan. The sample for the Jigsaw Strategy is 15 students and the sample for Round Robin Brainstorming is 15 students and then the sample for conventional is 15 students.

**Instrument of Data Collection**

The data of this research was collected by using :

1. The lecturer plan

2. Video recorder  
The writer tested the fluency, pronunciation, accuracy of students through the video recorder
3. Answer sheet  
The writer tested vocabulary and grammar through the answer sheet.

The scoring system was taken from two assessors. The assessors were the writer and the English teacher. In this study the media was used to collect the data , video and recorder. The researcher asked the students to speak and the researcher was record by using video. The researcher analyzed the speaking of the students competence.

### **The Research Procedure**

The research procedure was started by giving pre-test to the student. the score of the student in pre-test is a measurement of their competence in speaking. The pre-test was applied before giving treatment.

After getting the score of the student in pre-test, the writer gave treatment to the student in order to improve the score in pre-test. The procedure of giving treatment was started by giving motivation and brainstorming about the material. after that, students were given explanation about speaking. Then, students were divided in some groups and ask to give arguments relating to the motions given. After discussing and fixing the motion, the student practiced their speaking.

After the writer was sure that the students have understood about how to speak well, finally the students were given a post-test. The student came to the real speak, during the speaking process the two assessors took the score of each student. And the score of the two assessors were taken from the average score. The result of the post-test have used to see the student' competence by using cooperative learning strategy.

#### **1. Pre-test**

The pre-test was administrated before the treatment. The pre-test was given to both experimental group and control group. The aim of the pre-test is to find out the homogeneity in the mean score of experimental and control group. In doing the pre-test, the student had asked to answer some questions based on their understanding about speaking, and the students' scores was calculated according to the criteria of assessment.

#### **2. Treatment**

The treatment was conducted to the experimental group. The experimental group was taught by using Jigsaw and Round Robin Brainstorming Strategy.

#### **Activities in class (treatment)**

**Table 3.1 activities in Jigsaw Strategy**

<b>No</b>	<b>Activities</b>	<b>Time Allotment</b>
1.	1. The Teacher regards the students 2. The teacher explains about Jigsaw strategy and Speech function 3.The Teacher asks the students respond about Jigsaw strategy 4. The Teacher and students make the conclusion about Jigsaw strategy	2 x 45 minutes
2.	1. The Teacher reminds students about the Jigsaw Strategy 2. The Teacher shows video about Speech function 3. The Teacher asks the students to watch about the video	2 x 45 minutes

3.	1. The Teacher divides students in group 2. The Teacher gives each group the material 3. The Teacher asks every group to tell and share based on material. The situation is like doing presentation.	2 x 45 minutes
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**There are some activities in Round Robin Brainstorming class**

**Table 3.2 Activities in Round Robin Brainstorming Strategy**

No	Activities	Time Allotment
1.	1. Teacher introduces students to the Round Robin Brainstorming Strategy 2. Teacher asks the students to respond about Round Robin Brainstorming Strategy 3. Teacher and Students makes conclusion about Round Robin Brainstorming Strategy	2 x 45 minutes
2.	1. Teacher makes review about the last lesson 2. Teacher asks students opinion about the Round Robin Brainstorming Strategy 3. The Teacher chooses one as a recorder and write the group answered	2 x 45 minutes
3.	1. The Teacher asked each group to share about the topic 2. The Teacher asks the students to do it in group 3. The Teacher gives conclusion and suggestion	2 x 45 minutes

**3. Post-test**

After giving the treatment, the writer gave the post test to control and experimental group then collected their scores. And data was analyzed using the ANOVA two variables by comparing the score in Jigsaw. The two groups were compared applying Jigsaw and Round Robin Brainstorming Strategy on teaching speaking.

**Scoring the Test**

In scoring the test, the assessors gave assessment, pronunciation, vocabulary, accuracy and grammar of the students. According to the Foreign Services Institute (FSI) Analytic Rating Scale In Scoring the rest in Sullivan (2008:22), the writer had used score ranging from 0-100 by counting the correct answer and applying this formula:

**Table 3.5. Criteria of Scoring Test**

Assessment	Criteria	Score
Fluency	Excellent to very Good	30-27
	Good To Average	26-22
	Fair to Poor	21-17
	Very Poor	16-13
Accuracy	Excellent to very Good	20-18
	Good To Average	17-14
	Fair to Poor	13-10
	Very Poor	9-7

Vocabulary	Excellent to very Good	25-22
	Good To Average	21-18
	Fair to Poor	17-11
	Very Poor	10-5
Grammar	Excellent to very Good	5
	Good to Average	4
	Fair to Poor	3
	Very Poor	2
Pronunciation	Good to Average	4
	Fair to Poor	3
	Very Poor	2
		100

Note:

- 1)**Excellent to Every Good:** Knowledgeable, substantive development of thesis, relevant to assigned topic.
- 2)**Good To Average:** Some Knowledge of subject, adequate range, limited development of the topic sentence, mostly relevant to topic, but lack of detail.
- 3)**Fair to Poor :**Limited Knowledge Of Subject, little substance, inadequate development of the topic.
- 4)**Very Poor:** Does not show knowledge of subject, on substantive, not pertinent, or not enough to evaluate.

In the scoring system, the students' scores was taken from the average scores from both assessors. For instance, the writer gave seventy (70) while the teacher gave seventy three (73). Since the assessors gave different score, the average score was taken from both assessors. The student's final score is sixty five (65).

#### **Technique of Analyzing Data**

In this Research, there are both qualitative and qualitative data, The qualitative data is form observation and interview. They were classified and synthesized descriptively.

Meanwhile, the quantitative data from the result of pre test and post test to know the means of the students score.

The technique of calculation was as follows

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

$\bar{x}$ :Mean of Student's Score

$\sum x$ :Total of Studen's Score

N:Number of Student

In order get the score of each student, the formula below was applied:

$$\bar{x} = \frac{X1+X2}{2}$$

Where: $\bar{x}$ =the score of student

$X1$ =the score of student from first assessor

$X2$ =the score of student from second assessor

To get the result of the student score in Jigsaw Strategy and Round-Robin-Brainstorming Strategy to know which strategy is better the writer applied the formula f-Test ANOVA one way.

$$\frac{M1 - M2}{\sqrt{MS, \left(\frac{1}{n}\right)}}$$

$$\sqrt{MS, \left(\frac{1}{n}\right)}$$

M1= The mean of Jigsaw Strategy

M2=The mean of Round Robin Brainstorming Strategy

MS=Mean Square within

N=Number of students per group.

### 3.Data Analysis

The data of this research was taken from the result of the students answer sheet which were used by the writer and the teacher to record students' score during speaking. In pre-test, the students were asked to answer several questions based on the material. The students' answer and the teacher marked their score one by one. The data were obtained from pre-test and post-test scores of experimental and the control groups. Here is the result of the speaking that did in pre-test and post-test

**Table 4.2**

**The Score of Pre-test and Post-test of Conventional Class**

No	Student's initial	Pre-test (T1)	Post-test (T2)	T2-T1 (d)
1	NTI	60	60	0
2	MTG	50	50	0
3	DNI	60	65	5
4	RKA	50	60	10
5	WTI	60	60	0
6	ATR	60	60	0
7	SRT	65	68	3
8	YSK	65	65	0
9	RNA	55	55	0
10	PRT	60	63	3
11	YSU	60	60	0
12	PTW	62	62	0
13	RST	50	55	5
14	MSS	50	50	0
15	ELD	50	50	0
<b>TOTAL</b>		<b>857</b>	<b>883</b>	26
<b>MEAN</b>		<b>57,13</b>	<b>58,86</b>	

$$Df=58,86-57,13= 1,73$$

The data above showed that there wasn't the different score of pre-test and post-test. The means score of pre-test was 57,13 and the means of score in post-test was 58,86. The gap between the means score of pre-test and post-test was 1,73. The range of this data indicated that didn't give effect on student speaking ability.

**Table 4.3**

**The Score of Pre-test and Post-test of Jigsaw Strategy**

No	Student's initial	Pre-test (T1)	Post-test (T2)	T2-T1 (d)
1	PRLN	60	90	25
2	MNSN	60	90	30
3	BRM	65	85	20

4	ANG	70	90	20
5	RJA	60	90	30
6	EGA	60	95	35
7	ANNE	60	95	35
8	YSI	65	90	25
9	YOSFT	70	95	25
10	GOWN	60	90	30
11	SIND	70	90	20
12	AYU	65	85	20
13	LNA	70	85	15
14	PRI	55	75	20
15	ELD	60	90	30
<b>TOTAL</b>		<b>955</b>	<b>1335</b>	<b>380</b>
<b>MEAN</b>		<b>63,6</b>	<b>89</b>	

$$\frac{M1 - M2}{\sqrt{M1 \cdot (\frac{1}{n1}) + M2 \cdot (\frac{1}{n2})}}$$

$$= \frac{63,6 - 89}{\sqrt{63,6 \cdot (\frac{1}{15}) + 89 \cdot (\frac{1}{15})}}$$

$$= 21,16$$

From the data above showed that there was different score of pre-test and post-test. The means score of pre-test was 63,6 and the means score in post-test was 89 the gap between the means score of pre-test and post-test was 25,4. The range of this data indicated that there was significant progress during teaching and learning using Jigsaw Strategy

**Table 4.4**

**The Score of Pre-test and Post-test of Round Robin Brainstorming Strategy**

No	Student's initial	Pre-test (T1)	Post-test (T2)	T2-T1 (d)
1	LLS	60	62	2
2	HRA	65	67	2
3	WRD	60	60	-
4	KSN	65	70	5
5	RFK	60	65	5
6	FRS	65	70	5
7	GBL	70	75	5
8	PTW	65	70	5
9	IRN	70	75	5
10	ELD	65	70	5
11	RIO	70	78	8
12	LNA	65	70	5
13	MTS	60	66	6
14	NDS	70	72	2
15	MLS	60	70	10
<b>TOTAL</b>		<b>970</b>	<b>1040</b>	<b>64</b>
<b>MEAN</b>		<b>64,6</b>	<b>69,3</b>	

$$\frac{M1 - M2}{\sqrt{M1 \cdot (\frac{1}{n1}) + M2 \cdot (\frac{1}{n2})}}$$

$$\frac{69,3 - 64,6}{\sqrt{0,25 \cdot \frac{0}{000}}}$$

= 9,4

From the data above showed that there was different score of pre-test and post-test. The means score of pre-test was 64,6 and the means score in post-test was 69,3 the gap between the means score of pre-test and post-test was 4,7. The range of this data indicated that there was significant progress during teaching and learning using Round Robin Brainstorming Strategy.

### Testing Hypothesis

Based on the research result of XII social and science students, after they got treatment in teaching speaking in descriptive text by using Jigsaw Strategy and Round Robin Brainstorming Strategy. They reached the maximum score 95 and minimum score 60. From the computation of frequency distribution, it was found the total score of conventional teaching (CT)=883, so the average score (XII) was 60 and total score of Jigsaw (JS)=1335 so, the average score (XII) was 90 and the total score of RR Brainstorming Strategy (BS)=1040, so the average score (XII) was 70,5. It means that there is an improvement of students score after they got treatment.

From the score of the test, a calculation was made to find out whether the Jigsaw Strategy and RR Brainstorming Strategy significantly affects students speaking ability.

**Table 4.4 one way anova tukey's formula**

Source of Variation	Sum of squares	Df	Mean square	F
Between Groups	6040	3	2013,33	12,71
Within Groups	2375	15	158,33	
Total	8415	18		

$$MS_{\text{Bet}} = N \frac{S}{S} = 15 \times 2375 = 35625$$

$$MS_{\text{With}} = \frac{s_1^2 + s_2^2}{2} = \frac{000^2 + 69,3^2}{2} = \frac{0000 + 4792,49}{2} = 2396,245$$

$$F_{\text{obs}} = \frac{2013,33}{158,33} = 12,71$$

From the criteria of the hypothesis,  $H_a$  is accepted if  $F_{\text{test}} > F_{\text{table}}$ . From the calculation above, it is found the  $F_{\text{Test}}$  is higher than  $F_{\text{table}}$  or can be seen as follows :

$$F_{\text{test JS}} > F_{\text{test BS}} > F_{\text{test CT}} > F_{\text{table}}$$

$$F_{89} > F_{69} > F_{58} > F_{58}$$

### Research Finding

1. Base on the data analysis above the writer found that jigsaw strategy and RR Brainstorming Strategy gave significant the students' achievement in speaking. Jigsaw strategy is more significant than RR Brainstorming, from the result of this research both strategy can be used to improve student's speaking ability. The prove of the statement see (Appendix) it also motivates and encourages them to deliver their arguments and idea for what they should say and bravery to speak, because of that they are afraid for doing mistakes, so they need friends to express their idea.



2. Jigsaw strategy and RR Brainstorming strategies let the students to develop their competence and practice with other students, since this strategy provide a way of creating a rich communicative environment where the students actively become a part of some real work system and function to determined roles as members of that group and the students paid attention to the teacher's explanation. The students were interested with Jigsaw strategy and RR Brainstorming strategy. In teaching learning process the writer uses the video as a media, it made the students enthusiast in speaking English.

The mean score in pre-test is 63,6 and post-test is 89,00 in Jigsaw strategy and the mean score of pre-test is 64,6 and post-test is 69,3 in RR Brainstorming. Therefore the null hypothesis(Ho) is rejected and the alternative hypothesis(Ho) is accepted.

#### **4. Conclusion**

After doing research in SMA Advent Air bersih Medan the writer can see the improvements of students. Based on the previous discussion the writer gets conclusion of this research as follow.

1. From the data analysis that the writer found from the answer sheet of the students and the recording of the students, Jigsaw strategy is more significant strategy that can be used to improve student's speaking ability in teaching and learning process. . As the prove of the statement see (Appendix 1) it also motivates and encourages them to deliver their arguments and idea for what they should say and bravery to speak, because of that they are afraid for doing mistakes, so they need friend to express their idea.
2. Jigsaw and RR Brainstorming strategy significantly improve students achievement in speaking at grade XII of SMA Advent Medan. Jigsaw and RR Brainstorming strategy encourages the students to actively participate in teaching learning process such as share and motivate one each other. This strategy lead the students developed their thinking and practice with other students and it made them to be creative students, since this strategy provide a way of creating a rich communicative environment where the students actively become a part of some real work system and function to predetermined roles as members of that group. In teaching process the writer used the video as a media, it made the students enthusiast in studying, after the writer showed the video the students practice with other students and then the writer record their conversation. From the recording result the writer found the progress in every meeting, and the result of the post-test also progress from the explanation above the writer concluded that both of strategy can improve the students competence in speaking.

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