

# THE USE OF JIGSAW II TO TEACH SPEAKING TO STMIK STUDENTS

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## Abstract

*The purposes of this research are to encourage the students at STMIK Pontianak to actively engage in the classroom discussion and to help the students overcome their speaking problems in reporting the result of discussion. A Classroom Action Research is applied to overcome problems arise in the classroom. Jigsaw II is one type of cooperative learning which is implemented in this study. The technique focuses on students' interaction in groups, then it may give better achievement of their speaking skill. The observation, documentary study, recording, interview, and field notes become the data collecting technique used. This action research found out that Jigsaw II is effective and useful to teach speaking to the second semester students of STMIK Pontianak, Technique Informatics Program, through improvement of teaching process in the classroom.*

**Keywords :** *Jigsaw II, Cooperative Learning, Speaking*

In background it discusses that language teaching methods contribute to make English teaching class success. Language teaching methods dynamically change from time to time. The old and new teaching methods are adjusted and introduced to vary the teaching learning activities in the classroom to make the students always interested and motivated

Language teachers and language teaching designers always improve the quality of language teaching for students. Some popular teaching methods already applied in the classrooms are Grammar Translation Method, Direct Method, TPR, The Silent Way, and so forth. Recently, the common teaching method used in classroom is based on the individual ones. The cooperation among the students in small groups of learning is believed to be efficient and effective in learning. In small groups students may discuss, share ideas, opinion to topic then to find solution to problems encountered, such as problems in speaking dealing with students' attitude toward lesson,

and problems dealing with the aspects of speaking performances.

Cooperative learning means working together in groups or teams to discuss the problems confronted, with respects to other group members, besides social interaction among the students and also affects students' achievement in learning. Nowadays research findings show that the social interaction contributes the successful achievement of the learners in learning. Furthermore cooperative learning is suitable for all levels of education, with the goal to handle big sized classes and students' opportunities in the classroom.

The above background leads to the questions : (1) How does Jigsaw II encourage learners to actively engage in the classroom discussion ? (2) How can Jigsaw II develop students speaking skill in the term of reporting or performing the topic ?

Speaking is a productive skill that can be directly and empirically observed. Those observations are invariably colored by the accuracy and effectiveness of a test taken listening skill, which is necessary to

compromise the reliability and validity of an oral production test (Brown, 2003, p.140).

The primary intention of spoken language is to maintain social relationship, whereas the later is to convey information and ideas (Kang Shumin cited in Richard & Renandya (2002, p.208). Good communication skills are needed for everyday life, study at college or university, and work in office (Barrass, 2006, p.1). Yet, after more than twelve years at school many students entering higher education is still fail to express their thoughts clearly and effectively in their own language.

Luoma (2004, p.20) says that speaking as a technical term to refer to one of the various skills that language learners should develop. Next, in speaking assessment speaking scores gained express how well the examinees can speak the language being tested. They usually take the form of numbers, but they may also be verbal such as, excellent or fair (Luoma, 2004, p.59).

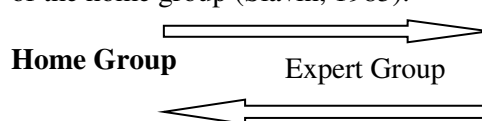
Cooperative learning methods are among the most extensively evaluated alternatives to traditional instruction in use today. Outcome evaluations include academic achievement, intergroup relations, mainstreaming, self-esteem, attitudes toward schools, and acceptance of children with special educational need (Slavin, 1991, p. 13-17).

An extensively researched and widely used set of cooperative learning is called Student Team learning. It consists of Student Team Learning Division (STAD), Team-Games-Tournament (TGT), and Jigsaw II (Slavin, 1985, P.7).

Jigsaw was introduced by Aronson (1971). It was adapted and modified by Robert Slavin as Jigsaw II. Slavin described it as learning and participating in groups, especially in speaking, so they may learn to be responsible for taking the knowledge gained from other groups, then repeating it to new listeners of original group or Jigsaw groups.

Jigsaw II is Robert Slavin's variation of jigsaw, in which members of the home group are designed the same material, but focus on separate portions of the material. Each member must become an "Expert" on his/her

assigned portion and teach the other members of the home group (Slavin, 1985).



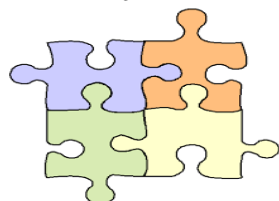
**Figure 1 : Home Group and Expert Group of Jigsaw II**

Jigsaw II (Slavin, 1985, p.7) is designed to integrate original Jigsaw with other Student Team Learning Methods and to simplify the teacher preparations required to use the method. In Jigsaw II, students are assigned to four to five member teams. The students discuss their topics in "Expert Group", then return to teach their classmates what they have learned. Finally, the students take a quiz on the material which contributes to individual team scores (Slavin, 1991, p.47).

The Jigsaw technique is effective to reduce hateful behavior, increase cooperation in the classroom, to clearly extend beyond more positive students interaction, to have students to directly engage with the materials, and to provide the student with a chance to contribute meaningfully to a discussion, something that is more difficult to achieve in large group discussion. Just as in a Jigsaw puzzle, each piece each student part is essential for the completion and full understanding of the final products (Mengduo, 2010, p.2).

A number of studies have documented effective use of Jigsaw in a variety of classes. Kam-Wing (2004, p.96) states that various overseas studies reported that Jigsaw II is effective and can be applied to most subjects and levels. It not only enhances students' motivation to study, but also to increase the social interaction among students. From his experience in a research, Jigsaw II was successfully employed to teach curriculum studies, a brand new subject and to the local in-service teachers of diversified backgrounds. Huseyin and Omer (2012, p.1656) reported the finding of the studying academic achievement in English Preparatory Grade show the result expresses that Jigsaw II affected meaningfully the students

academic achievement in Abant Izzet Baysal University Preparatory Classes. Next, in their journal, Tran & Lewis(2012,p.13), An analysis showed the effects of Jigsaw learning on students' attitude in a Vietnamese Higher Education classroom, who learned in cooperative learning groups, which perceived their instruction as more cooperative and more student-centered, had higher overall improvement in adjusted scores on the tests



**Figure 2 : Puzzle of Jigsaw II**

Steps in Jigsaw II. They are as follows (Slavin, 2006, p.259)

The steps of teaching using Jigsaw II are :

- a. Students work in four-five member teams.
- b. Each student being assigned a unique section.
- c. All students read a common text, a chapter, a short story or a biography.
- d. Each student receives the same topic, but different portions.
- e. Each receives a topic on which to become an expert.
- f. Students with the same topic meet in expert groups to discuss the part.
- g. After the discussion, they return to their own group, then teach the group member about what they have learned in expert group.
- h. Then, students take individual quizzes, which result in team scores.

Joyce, Weil, & Calhoun(2009, p.12) refer the current theories about students and environment to Constructivism, Meta cognition, Scaffolding, and Optimal Mismatches / Zone of Proximal.

Constructivism is teaching the students to improve their capacity both to generate knowledge and to work together with their peers to create productive social and intellectual relationship constructing knowledge in the academia, social and personal domains simultaneously (Joyce, et

al., 2009, p.12).Vygotsky (1978) himself recognized the value of peer interaction in moving children forward in their thinking (Slavin, 2006).The goal of education is to assist all children in becoming competent and well-adjusted individuals, now and in the future, by creating an atmosphere that support learning (Taylor & Mackeney, 2008, p.1).

The principle of Optional Mismatches/Zone of Proximal Development is quite simple on its surface but complex in implementation (Joyce, et al., 2009), such as the variation of students degree in educational backgrounds, which work effectively in groups of different sizes.Vygotsky (1978, p.87) added more that in the Zone of Proximal permit us to delineate the child's immediate future and his dynamic developmental state, allowing not only for what already has been achieved developmentally but also for what is in the course of maturing.

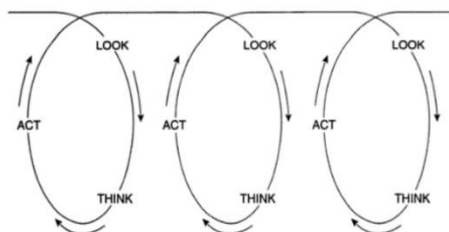
Scaffolding refers to a variety of ways that a teacher can help students acquire increasing Meta Cognition Control. Within all models a teacher does this by studying students; performance as learners and their development of learning strategy. It is sufficient to note that communicative language teaching has been influenced by Chomsky's view of language as cognitive faculty that allows humans to develop an internalised model through exposure to it and interaction with other speakers (Corbett, 2003, p.6).

## RESEARCH METHODOLOGY

The method of this research is Classroom Action research (CAR). This method may help learners and teachers be professional to improve their learning achievement. Of all of the research designs, action research is the most applied, practical design, which explores a practical problem with an aim developing a solution to a problem (Creswell, 2012, p.576-577).

The basic action research routine(Stringer, 2007, p.8) provides a simple yet powerful framework – look, think, act,

that enables people to commence their inquiries in a straightforward manner and build greater detailed into procedures as he phases of routine relate to traditional research practices.



**Figure 3 : Action Research interacting Spriral (Stringer, 2007)**

The primary objective of the “Look” stage of the process is to gather information that will enable researchers to extend their understanding of the experiences and perspectives of the various stakeholders – those mainly affected by or having an influence on the issue investigated. The next stage is “Think” stage, in which the data (information) be analyzed of the aspects of the information that will assist people in clarifying and understanding the nature of the activities and events they are investigating. The “Act” stage is the next stage of action research interacting spiral. In this phase, participants work creatively to formulate actions that lead to a resolution of the problems. Participants then work creatively to identify what they will do to gain a more positive outcomes.

The participants are the students of Technique Informatics Progrmm class 2C2 consist of 32 students of 28 boys and 4 girls, studying at STMIK Pontianak. Then there are some instruments used in collectiong data, such as through the discussion, observation checklist, fieldnotes, and recording. The data be analyzed into qualitative and quantitative aspects.

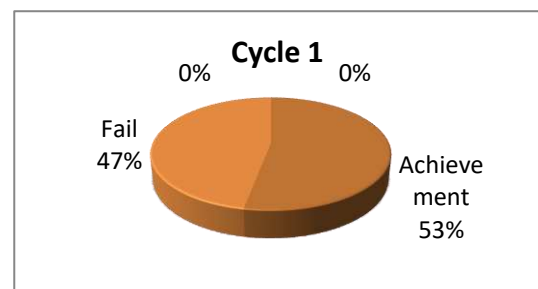
## RESEARCH FINDING AND DISCUSSION

This chapter covers the presentation of data obtained from the classroom action

research at Advanced School for Informatics and Computer Management (STMIK) Pontianak. The data which covers students’ activities while having discussion in expert and jigsaw group in Cycle 1, Cycle 2, and Cycle 3 through look, think, and act stage of ways in which action research is envisaged.

### Cycles

The sources of data in Cycle 1 are gained from the observation checklist, fieldnotes, records. Next, in “Think” stage, the data obtained are identified and analyzed. Analysis is the process of distilling large quantities of information to uncover significant features and elements as a process of reflection. The data obtained from fieldnotes and observational aspects are delineated into a pie diagram, which accumulated and envisaged with total “53” category of students’ involvement in learning. ( see Diagram 1 and Appendix 4a : Fieldnotes)



**Diagram1 : Students’ involvement**

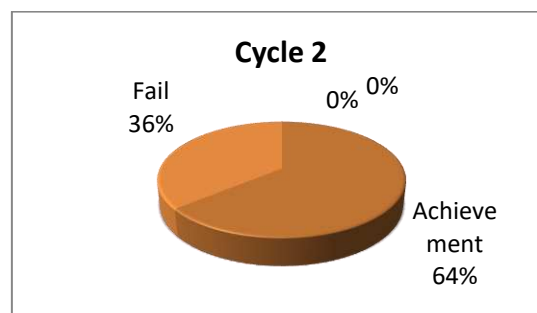
**Table 1 : Observational Aspects**

| no    | Observational aspects   | Max | Min | Interpretation |
|-------|---|-----|-----|----------------|
| 1     | Students show their curiosity of learning in Jigsaw and Expert group.                         | 4   | 3   | Good           |
| 2     | Students respect and respond positively to their group members.                               | 4   | 3   | Good           |
| 3     | Students are actively discussing and sharing ideas in expert group.                           | 4   | 2   | Fair           |
| 4     | Students help each other and work cooperatively in expert group.                              | 4   | 2   | Fair           |
| 5     | All students perform presentation/reporting of different subtopics well in Jigsaw group.      | 4   | 1   | Poor           |
| 6     | There is a great competition among students for high achievement scores in the quiz sections. | 4   | 2   | Fair           |
| 7     | The class is well organized and jigsaw II technique is effective.                             | 4   | 2   | Fair           |
| Total |   | 28  | 15  |                |

Unfortunately, this activity in the Cycle 1 conducted on 13rd June 2016 cannot perform the Rubric of Speaking Performance accurately hence of some hindrance, then it led the researcher to conduct another cycles of inquiry in this research. Therefore, here are the actions of reflection based on the preceding observation : The teacher/lecturer needs to be more active in controlling students in small groups; The teacher/lecturer needs to explain the objective of the lesson; Teacher/lecturer needs to give all instruction in English; Teacher needs to speak in English very often to students; and Teacher needs to prepare more times with students or more cycles.

In the Cycle 2 of inquiry process, researcher continue the ongoing observation of data collection for precisely problems encountered especially in speaking performance as in Cycle 1 assisted by a collaborator. The data gained from observational aspects and fieldnotes then envisaged into the Diagram below which reveals the progressing of students' involvement toward learning.

Overall, the obtained total scale for students's involvement in learning in Cycle2 was 18, then divided by the maximum score, then times by 100%, and the result is 64%, as presented in the Diagram 2.

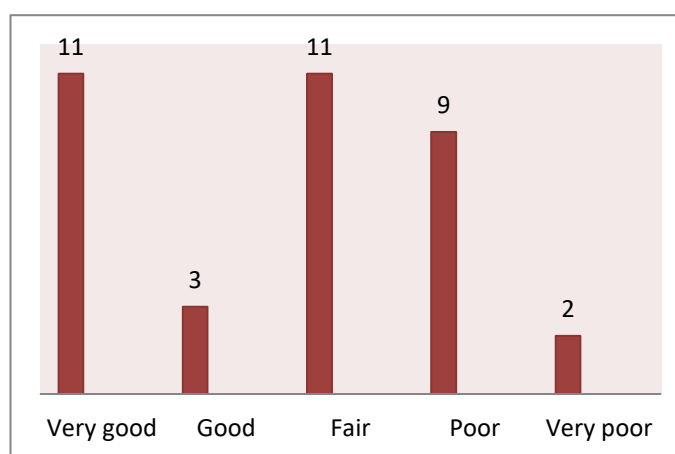


**Diagram 2 : Students' involvement**

**Table 2 : Observational Aspects**

| no    | Observational aspects   | Max | Min | Interpretation |
|-------|---|-----|-----|----------------|
| 1     | Students show their curiosity of learning in Jigsaw and Expect group.                         | 4   | 3   | Good           |
| 2     | Students respect and respond positively to their group members.                               | 4   | 3   | Good           |
| 3     | Students are actively discussing and sharing ideas in expert group.                           | 4   | 3   | Good           |
| 4     | Students help each other and work cooperatively in expert group.                              | 4   | 3   | Good           |
| 5     | All students perform presentation/reporting of different subtopics well in Jigsaw group.      | 4   | 2   | Fair           |
| 6     | There is a great competition among students for high achievement scores in the quiz sections. | 4   | 2   | Fair           |
| 7     | The class is well organized and jigsaw II technique is effective.                             | 4   | 2   | Fair           |
| Total |   | 28  | 18  |                |

Furthermore, students' speaking performance rubric showed significant progress or positive improvement of speaking aspects, such as, grammar, vocabulary, comprehension, fluency, pronunciation, and task. The result of students' oral proficiency rubric shown in Diagram 3 and Appendix 2a.

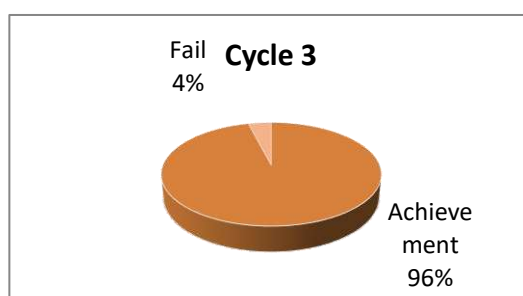


**Diagram 3 : Oral Proficiency Rubric Achievement (Cycle 2)**

Researcher also do a quiz, as the respond of low vocabulary mastery to the participants (see Appendix 6a, 6b, 6c). In conclusion, researcher convinced that he needs to conduct another Cycles in her inquiry.

This 3rd cycle section discusses the data obtained on the 27th of June 2016. The data

are from the observation checklist, fieldnotes, interview, and records. In this Cycle, students showed their significant improvement of involvement in learning and speaking aspects performance (see Diagram 4 and table 3). The students' involvement are in 96% from 100%.



**Diagram 4 : Student' involvement**

**Table 3 : Observational Checklist**

| no    | Observational aspects   | Max | Min | Interpretation |
|-------|---|-----|-----|----------------|
| 1     | Students show their curiosity of learning in Jigsaw and Expert group.                         | 4   | 4   | Very Good      |
| 2     | Students respect and respond positively to their group members.                               | 4   | 4   | Very Good      |
| 3     | Students are actively discussing and sharing ideas in expert group.                           | 4   | 3   | Good           |
| 4     | Students help each other and work cooperatively in expert group.                              | 4   | 4   | Very Good      |
| 5     | All students perform presentation/reporting of different subtopics well in Jigsaw group.      | 4   | 3   | Good           |
| 6     | There is a great competition among students for high achievement scores in the quiz sections. | 4   | 4   | Very Good      |
| 7     | The class is well organized and jigsaw II technique is effective.                             | 4   | 4   | Very good      |
| Total |   | 28  | 26  |                |



**Diagram 5 : Oral Proficiency Rubric Achievemnt (Cycle 3)**

## DISCUSSION AND CONCLUSION

### Discussion

To sum up this research, researcher concludes that, the students interaction within group members may effect significantly to students achievement in line with Jhonson and Jhonson (Rusman, 2011, p. 219). Moreover, the data gained from the observation and fieldnotes from 1st to 3rd Cycles show the increasing of positive students learning involvement, those are the qualitative data gained, as envisaged in Diagram 1, Diagram 2, and Diagram 4 above. Next, students speaking performance or oral proficiency rubric scores is illustrated in Diagram 3 and Diagram 5 above, those are the quantitative data obtained. The rubric shows some aspects of speaking assessment, such as Grammar, Vocabulary, Comprehension, Fluency, and Task. The results of the oral proficiency rubric in 1st Cycle cannot be presented well because of some unexpected hindrances occur in learning situation, such as students and lecturers still cannot adapt with the Jigsaw II technique well applied, students read the text, not speaking, and some others obstacles. However, the results of oral proficiency rubric in the 2nd and 3rd Cycles show the increasing of students speaking achievement with some aspects assessed. Furthermore, the result of Jigsaw of Cooperative technique show good effect of members interaction and effect positive children growth as in the improvement in learning, the increasing of learning motivation, positive toward school, respect to teacher and friends, and increasing of help each others in learning.

### Conclusion

Jigsaw II technique is effective and flexible teaching approach for learners to learn English, especially speaking skill. It is not only students' attitude that had improved, but also students' speaking achievement in English had improved. For next research, it is suggested to add more Cycles to obtained maximum results.

## REFERENCES

- Barrass, R. (2006). *Speaking for Yourself : A Guide for Students*. USA. Routledge : Taylor & Francis Group.
- Browns, H. D. (2003). *Language Assessment : Principles and Classroom Practices*. San Francisco. Longman.
- Corbett, J., (2003). *An Intercultural Approach to English Language Teaching*. Sydney. Multilingual Matters, LTD.
- Creswell, J. W. (2012). *Educational Research :Planning, Conducting, and Evaluating Quantitative andQualitative Research* (Vol. Fourth Edition). Boston: Pearson Education.
- Evcm, H., & Ipek, O. F. (2012). *Effects of Jigsaw II on Academic achievement in English Prep Classess*. Journal Article(Abant Izzet Baysal University, Turkey).
- Joyce, B., Weil, M., & Calhoun, E. (2009). *Models of Teaching* (Vol. Eight edition). USA. Pearson.
- Kam-Wing, C. (2004). *Using Jigsaw II in Teacher Education Programmes Journal Article*, Vol.3 (Hongkong Teachers' Centre Journal).
- Luoma, S. (2004). *Assessing Speaking*. United Kingdom. Cambridge University Press.
- Mengduo, Q., & Xiaoling, J. (2010). *Jigsaw strategy As a Cooperative Learning technique : Focusing on the language Learners*. Journal Article(Harbin Institute of Technology).
- Richards, J. C., & Renandya, W. A. (2002). *Methodology in Language Teaching : An Anthology of Current Practice*.USA. Cambridge University Press.
- Rusman. (2011). *Model-model pembelajaran : Mengembangkan Professionalism Guru*. Jakarta. Raja Wali Press.
- Slavin, R.E., (1985). *Learning to Coooperate, Cooperating to Learn*. New York. Springer Science + Business, LLC.
- Slavin, R. E. (1991). *Student Team Learning:A Practical Guide to Cooperative Learning*. Washington, D.C: ERIC.



Slavin, R. E. (2006). ***Educational Psychology : Theory and Practice*** (Vol. Eight edition). USA. Pearson.

Stringer, E. T. (2007). ***Action Research*** (Vol. Third Edition). Curtin University of Technology. Australia. SAGE Publications.

Taylor, G. R., & Mackenney, L. (2008). ***Improving Human Learning in the Classroom : Theories and Teaching Practices***. USA. Rowman and Littlefield Education.

Tran, V. D., & Lewis, R. (2012). ***The Effects of Jigsaw Learning on Students' Attitudes sin A Vietnamese Higher Education Classroom***. International Journal of Higher Education, 1.no.2;2012 (Sciendu Press).

Vygotsky, L. S. (1978). ***Mind in Society : The Development of Higher Psychological Processes***. London. Harvard University Press Cambridge, Massachusetts.