CHAPTER 3
PILOT STUDIES [2)]

3.1 Introduction

Indonesia has implemented five national curriculums – the curriculums of 1968, 1975, 1984, 1994 and 2004 – since it got its independence in 1945. Prior to these curriculums, two informal curriculums named *Rencana Pelajaran 1947* and *1952* (1947 and 1952 Lesson Plans) were employed (Sulaeman, 2004).

Initially the six-year basic education was introduced; however, starting the curriculum of 1994 the nine- instead of six-year basic education was compulsory and local content subjects were determined by individual institution (Dharma, 2008). Since the decentralization in 2006 or since the educational reform (Madya, 2007), the 2004 Curriculum has been a bit modified into a competency based school level curriculum which gives the opportunity to schools to pay attention to learners' potential, development stage, needs, interest, and local school environment. It is expected that the curriculum is implemented by employing various strategies and approaches, sufficient learning and technology sources, and by utilizing the immediate environment as a learning source (Dharma, 2008).

With regard to the curriculum of the English as a Foreign Language (EFL) instruction, the Curriculums of 1968, 1975, 1984, and 1994 are grammar-based. As a consequence, the English language instruction was carried out following the structure-based syllabuses. However, the latest 2004 Curriculum is oriented toward communicative language teaching. According to this approach, language instruction is supposed to be meaning-oriented. Based on the first three curriculums, EFL teaching in Indonesia starts in junior high schools, while based on the latest two curriculums, EFL instruction is implemented from the fourth grade of elementary schools.

The latest curriculum of 2004 named *Kurikulum Berbasis Kompetensi* or Competency-based Curriculum has been applied nation wide starting from the 2004/2005

[2)] The data and research instruments of the pilot studies appear in Appendix 14.
These pilot studies have appeared in different publications: Anggraiani (2006), Santoso (2008), Shendika (2008), Soeprapto (2008), Susanto (2006), Tamah (2007, 2008), and Widjaja (2006).

academic year. This competence-based curriculum officially becomes the substitute of the 1994 Curriculum which is based on *Pendekatan Kebermaknaan* [translation: meaningfulness approach] and which is behaviorism-oriented (Nurhadi, 2004). The two curriculums are therefore, to a certain extent, similar with regard to the period of the English language teaching – Indonesian students officially start to learn English when they are fourth graders of elementary schools. The two curriculums are, however, different to a certain extent with regard to the instruction focus. The 1994 Curriculum focuses more on form while the 2004 Curriculum focuses more on meaning. It is not until the implementation of the Competency-based Curriculum of 2004 that the Ministry of National Education enforces the new learning paradigm reflecting the current wave of education reform in Indonesia.

The whole-class teacher-directed instruction has been challenged since then. Reading instruction, for instance, which is commonly conducted by the teacher's conventionally leading the whole-class discussion by reading the text, and asking questions and calling on students to answer the questions, has to be modified. The Indonesian teachers are encouraged to transform their traditional class into a more interactive class. The teachers are, in other words, challenged to involve students in a more interactive, engaging classroom. Gradually the language class which is conventionally teacher-fronted has been 'coloured' with the 'new' class situation which is student-fronted. The students work more in groups. As depicted in Chapter 2, one of the cooperative learning techniques introduced is Jigsaw – which provides opportunities for students to learn with their peers.

Though a number of Jigsaw studies have been conducted, there are still many issues to probe when the Jigsaw technique is implemented. Therefore, the implementation of Jigsaw is further explored in the pilot studies reported in the following sections. These pilot studies are expected to provide different models of the implementation of Jigsaw. The models presented are in essence illustrative. It is expected to be persuasive to encourage classroom teachers to create their own student-fronted classrooms. It is also expected that the pilot studies will contribute to the belief that learning can be enhanced when the paradigm shift occurs – from the teacher-centered to learner-centered classroom instruction.

3.2 Pilot Study 1

In this study which is a group research by Tamah, Anggraiani, Susanto, and Widjaja, an investigation was performed to see whether the implementation of Jigsaw at two elementary schools labeled 'P' and 'Q' schools provided significant effects on young learners' reading achievement. Besides, two further investigations were carried out to find the elementary school students' perceptions on the implementation of Jigsaw, and to investigate more closely how young learners' interaction could be observed or how student group interaction could be examined in a more qualitative way, i.e., to explore the three-phase exchange of IRF (Initiation-Response-Feedback) functionally (see [2.4] and the subsequent Chapter 5 for further IRF framework).

3.2.1 Research Questions of Pilot Study 1

The following research questions are the focus of Pilot Study 1:

1. Is there a significant difference between the reading achievement of young learners taught by using the Jigsaw technique and the one of those taught by using the traditional technique?
2. What are the elementary school students' perceptions on the implementation of the Jigsaw technique in their reading class?
3. How do young learners interact in the expert team of a Jigsaw class?

3.2.2 Research Method for the First Research Question of Pilot Study 1

3.2.2.1 Research Design

A quasi-experiment applying a non-randomized pretest-posttest control group design was employed. The choice of this design was based on the consideration that it was not just possible to randomly assign subjects to group. Therefore the existing classrooms were used.

3.2.2.2 Variables

The independent variable referred to the Jigsaw technique used in the experimental group, and to the non-Jigsaw technique (the teacher-centered technique) in the control group. The dependent variable referred to the students' reading comprehension which was represented in the students' post-test scores.

3.2.2.3 Population and Sample

The population of this study were the fifth graders at 'P' and 'Q' schools, Surabaya, Indonesia in the 2006/2007 school year. The sample of this study consisted of two classes at each school. The two classes were randomly selected to be either the experimental or control group. At 'P' school, there were 84 students (43 and 41 students in the control group and the experimental group respectively). At 'Q' school, there were 96 students (48 students from each group). In total there were 180 students.

3.2.2.4 Treatments

The treatments taking place at 'P' and 'Q' schools were done three times in each of the experimental and control groups. Each treatment was carried out within the 40-minute time allocation. There was a pretest before the treatments and a posttest administered about a week after the treatments for both groups.

Treatment in the Experimental Group

First, the teacher performed the 3-minute pre-instructional activities. The teacher greeted the students, asked some pre-reading questions based on the pictures prepared on the white board and informed the lesson objective.

Second, the teacher carried out the next instructional activities allocated for about 34 minutes. The students were initially divided into three big groups: Apple, Banana and Cherry to make it easier for the grouping and to reduce confusion as the class was big. The grouping was based on the rows. Then each big group was divided into four small groups – forming the home teams. In the 46-student class at 'Q' school, for instance, 11 home teams were formed: Apple 1, Apple 2, Apple 3, Apple 4, Banana 1, Banana 2, Banana 3, Banana 4, Cherry 1, Cherry 2, and Cherry 3. Each home team consisted of 4 or 5 students. Then student's worksheets and cards with numbers 1, 2, 3 and 4 written on each were distributed for each home team. Put simply, each student in a home team got one student's worksheet containing a passage to discuss and one card containing a number. Next, the teacher asked them to read the whole passage silently. After that, the teacher grouped the students into their expert teams. The students who had card number 1 in the Apple group formed one group, those who had card number 2 in the Apple group formed one group, those having card number 3 in the Apple group formed one group, and those with card number 4 in the Apple group formed one group. This grouping resulted in 4 expert teams each of which consisted of 4 students. The students in the Banana group were grouped

similarly resulting in four 4-member-expert teams. In the Cherry group, 4 expert teams were also formed. Three expert teams consisted of 3 members each and 1 expert team had 5 members. Twelve expert teams were then formed. Afterwards the teacher asked them to discuss the passage by referring to some comprehension questions. The teacher floated from group to group, observed the discussion and helped the group which had problem. To ensure that the students discussed seriously, the teacher told them that there would be a quiz in the end of the lesson. After the students discussed in the expert teams, the teacher told them to go back to their home teams. In the home team, each student had to share what he or she had learned in the expert team. Each was given time to share. The teacher then discussed the answers to the comprehension questions as the feedback to their group work.

The last activity was the 3-minute post-instructional one. The students individually did the reading quiz consisting of 6 multiple-choice type items derived from the same reading text discussed in the respective sessions. The purpose of giving the quiz was to make the students aware of the fact that the group discussion was important. Therefore, it was expected that the students would perform the group task well and seriously in every Jigsaw class hence ensuring the data could be obtained for analysis related to the research questions. Table 3.1 shows the typical Jigsaw class.

Table 3.1 Treatment in the Experimental Group

Pre-Instructional Activities (3 minutes)	
Teacher	*Students*
- Greets the students. - Asks the triggering questions. - Informs the lesson objective.	- Respond to the teacher's greeting. - Answer the triggering questions. - Have the lesson objective informed.
Whilst-Instructional Activities (34 minutes)	
- Forms home teams. (In home team session) - Distributes the student's worksheets. - Asks the students to read the passage silently. - Forms expert teams. (In expert team session) - Asks the students to discuss and share the answers. - Asks the students to go back to their home teams. (In home team session) - Asks the students to share the expert teams' discussion. - Asks the students to discuss the answers.	- Form home teams. (In home team session) - Get the student's worksheets. - Read the passage silently. - Form expert teams. (In expert team session) - Discuss and share the answers. - Go back to their home teams. (In home team session) - Share the expert teams' discussion. - Discuss the answers.
Post-Instructional Activities (3 minutes)	
- Asks the students to do the reading quiz.	- Do the reading quiz individually.

Treatment in the Control Group

The students in the control group were taught using the traditional technique. The instructional materials for the control group were the same as the ones for the experimental group.

Like the pre-activities in the experimental group, the ones in the control group were greeting the students, asking some pre-reading questions based on the pictures put on the white board and informing the lesson objective.

The next activities were quite different from the ones in the experimental group. The class activities were teacher-fronted. After distributing the passage, the teacher asked the students to read it silently. Then she asked some students to read the passage per paragraph loudly. Next, she explained the difficult words asked by the students. After explaining, she asked the students to find the main idea of each paragraph. Then she asked the students to answer the reading comprehension questions. Next, some students were called on to answer the questions. At the same time, the teacher discussed the answers with the students.

The last activity, the post-instruction, was the same as the one in the experimental group. The students did the reading quiz individually. The purpose of administering the quiz in the control group was the same as the one in the experimental group – to make the students engage actively in the teaching-learning process. The summary of the treatment in the control group is shown in Table 3.2**.**

Table 3.2 Treatment in the Control Group

Pre–Instructional Activities (3 minutes)	
Teacher	*Students*
- Greets the students. - Asks the triggering questions. - Informs the lesson objective.	- Respond to the teacher's greeting. - Answer the triggering questions. - Have the lesson objective informed.
Whilst–Instructional Activities (34 minutes)	
- Distributes the student's worksheets. - Asks the students to read the passage silently. - Asks some students to read the passage per paragraph. - Gives the chance to the students to ask difficult words, and provides help (if any). - Asks the students to do the exercises. - Asks the students to discuss the answers.	- Get the student's worksheets. - Read the passage silently. - Read the passage per paragraph. - Ask difficult words (if any). - Do the exercises. - Discuss the answers.
Post–Instructional Activities (3 minutes)	
- Asks the students to do the reading quiz.	- Do the reading quiz individually.

3.2.2.5 Research Instrument

A reading comprehension test was developed for the pretest and posttest. Two of the three reading passages about daily activities were written by adjusting the ones from the textbook used in the school and the other was taken from a commercially published textbook for the fifth graders. The comprehension questions were then formulated. The test was a multiple-choice type having four options for each item with only one correct answer. Before it was used in the study, it was tried out in a fifth grade class which was not part of the study to know the reliability, the level of difficulty and the discrimination power of the test.

Validity of the Test

The type of test validity employed was the content validity since the test designed in this study was oriented on matching the test content with the reading instructional objective. The test content was matched with the objective of a reading class: measuring the students' achievement in answering factual, inference and main idea questions.

Level of Difficulty

The level of difficulty of each test item was analyzed by applying the formula of index difficulty as suggested by Gronlund (1982) and Heaton (1979). The analysis showed that no item was 'very difficult', 1 item was 'difficult', 22 items were 'acceptable', 3 items were 'easy' and 4 items were 'very easy'.

Discrimination Power

Based on the formula of Discrimination Index as proposed by Harris (1969), the result of the test try out showed that 8 items were 'low'; 11 'satisfactory'; 11 'excellent'. As the eight items that had low discrimination power could not really differentiate between the proficient students from the weak students, they were revised and tested on the second try out. For the second try out analysis, only the eight items having low discrimination index were analysed. The analysis result indicated that 1 item became 'excellent'; 3 'satisfactory'; 4 still 'low'. Because of the limited time, those four items were deleted.

Reliability of the Test

For the first try out, the test reliability ensured by using KR Formula 21 (Brown, 1996; Gronlund, 1982) was .73 and the second, .77 showing that the revised test was reliable.

In summary, the research instrument initially consisted of 30 items but after the try-outs there were only 26 items: 14 items were 'satisfactory'; 12 'excellent'. With regard to the difficulty level, 20 items were 'acceptable'; 1 'difficult'; 2 'easy'; 3 'very easy'. As each correct answer was scored one point, the highest score a student could get was 26.

3.2.2.6 Data Collection Procedure

After the permission to take the data was granted by the headmasters of the schools, the study started with the preparation of the research instrument and the lesson plans for the treatments both in the experimental and control groups. All of the materials in the instrument and lesson plans were about daily activities. A short quiz containing six multiple-choice questions was also prepared for each lesson plan. One of the lesson plans for the experimental group was tried out in the class where the research instrument was tried out at 'P' school a month prior to the actual treatment. The try out indicated that more time had to be allocated for the grouping. After the time allocation was improved, the study started with the pretest administration, continued to the three treatments, and ended with the posttest administration. The same teacher was involved both in the experimental and control groups. The studies at 'P' and 'Q' schools all took place in September-October 2006.

At 'P' school, when the pretest and posttest were administered, some students were absent. Since the scores for testing the hypotheses should be in pairs (pretest and posttest scores of each student), the students having only the pretest scores or only the posttest scores were disregarded. There was then data reduction resulting in only 39 and 37 students' scores in the experimental and control groups respectively. Similar procedure was carried out in the pretest and posttest scores obtained at 'Q' school resulting in only 45 and 47 students' scores in the experimental and control groups respectively.

3.2.2.7 Data Analysis Procedure

Firstly, the pretest scores were analysed using the *t*-test for significance of the difference between two means for independent samples. The first analysis was aimed to

determine whether the two groups were of more or less the same ability before the treatments were given. The second step was to find whether there was a significant difference between the posttest mean score in the experimental group and the one in the control group. Two types of statistical formulae were prepared in advance. The first type was the *t*-test for independent samples as used in the first analysis. This *t*-test was employed when the *t*-test in the pretest analysis showed no significant difference. However, when the *t*-test completed indicated that the two groups employed in this study were not equal, covariance analysis, specifically the ANCOVA (Analysis of Covariance) formula, was employed (Campbell & Stanley, 1963; Tuckman, 1988).

3.2.3 Research Method for the Second Research Question of Pilot Study 1

With regard to the second research question, the study was descriptive in nature. It took place in a natural setting of the regular language classrooms of young learners. The data which were collected in two reading class sessions were intended to reveal the young learners' perceptions on the implementation of Jigsaw.

3.2.3.1 Subjects

The students involved were the fifth grade students at 'P' and 'Q' schools in the school year of 2006/2007. They were those students present on the third treatment in the experimental group where they learnt using the Jigsaw technique. As two students were absent, there were only 39 instead of 41 subjects at 'P' school. Similarly, there were 46 instead of 48 subjects at 'Q' school. Altogether there were 85 students – 39 and 46 from 'P' and 'Q' schools respectively – as the subjects of the study.

3.2.3.2 Data

The main data to answer the second research question were the subjects' responses from the questionnaire. The supporting data were the students' answers to the questions in the interview and the classroom situation captured by the video-recorder.

3.2.3.3 Research Instruments

The main instrument employed was a questionnaire. Supplementary instruments consisted of an interview and video recordings.

Questionnaire

The questionnaire consisted of closed questions that were formulated in such a way to make the students reveal their perceptions on the implementation of Jigsaw in their classroom. A Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) was used in this instrument. There were ten statements formulated: 6 related to the perceptions on expert team activities; 2 on the home team activities; 2 on the overall perceptions on Jigsaw.

The questionnaire was piloted first to test how long it took the respondents to complete them, to check that all statements and instructions were clear, and to enable us to remove items which were not suitable (Bell, 1993).

Interview

Seventeen students randomly selected were interviewed in order to support, confirm and/or clarify the data obtained from the questionnaire. The respondents were asked series of statements to reveal their agreement or disagreement about Jigsaw. The data from the interview were recorded and used as supporting data.

Video Recordings

A cameraman assisted the recordings. The video recordings were used to capture the class situation during the implementation of Jigsaw to support the interpretation of the findings.

3.2.3.4 Data Collection Procedure

The data for the second research question were taken when the treatments in the experimental group took place (see [3.2.2.4]).

First of all a questionnaire in Indonesian was constructed. The questionnaire was tried out when the Jigsaw lesson plan was tried-out to the pilot group. From the try-out, it was found that the questionnaire was completely filled out in four minutes. After the try-out two statements were deleted as they were found to be difficult and confusing for the respondents.

When the actual experiment was carried out at ‘P’ and ‘Q’ schools in three meetings of the experimental groups, the audio-visual recording took place. The questionnaire – the main research instrument – was distributed only on the third meeting. After the lesson,

eight and nine respondents from 'P' and 'Q' schools respectively were randomly chosen to be interviewed. The interviews were recorded and transcribed.

The activities happening in the Jigsaw class were grouped into three: pre-instructional, whilst-instructional and post-instructional activities (detailed description is in [3.2.2.4]). On the third meeting when the main data collection took place, the class scenario looked like the one presented in Table 3.3.

Table 3.3 Scenario During Data Collection for the Second Research Question

Stages	Students' Activities
Pre-Instructional Activities	*Listen to teacher's explanation about the questionnaire* - Respond to the teacher's greeting. - Answer the pre-reading questions. - Have to the lesson objective informed.
Whilst-Instructional Activities	- Form home teams. (In home team session) - Get the student's worksheets and the questionnaire. - Read the passage silently. - Form expert teams. (In expert team session) - Discuss and share the answers to the comprehension questions. *Fill in the questionnaire (questions 1-6)* - Go back to their home teams. (In home team session) - Share the expert teams' discussion. *Fill in the questionnaire (questions 7-10)* - Discuss the answers to the comprehension questions.
Post-Instructional Activities	- Do the reading quiz individually.

3.2.3.5 Data Analysis Procedure

The subjects' responses from the questionnaire were tallied and the percentages were counted. With regard to 'strongly disagree' and 'disagree' responses, the negative perception was reported. Meanwhile, the positive one was reported with regard to 'agree' and 'strongly agree' responses. The data from the secondary instruments, i.e., the recorded interview, and the video recordings, were used to support and to strengthen one another.

3.2.4 Research Method for the Third Research Question of Pilot Study 1

The study was descriptive in nature. It presented information concerning the young learners' interaction in the two investigated Jigsaw classes.

3.2.4.1 Subjects

As the third research question is similar to the second one with regard to the study design, the same subjects were involved. They were the fifth grade students at 'P' and 'Q'

schools in the school year of 2006/2007. They were the students on the third treatment in the experimental group where they learnt using the Jigsaw technique (see [3.2.2.3]). In each class, one 4-student expert team was chosen. Altogether there were two expert teams – one from 'P' school; one 'Q' school. Altogether there were eight subjects chosen randomly for closer investigation.

3.2.4.2 Data

The data were student-student interaction in the expert team. As only two expert teams were chosen, only two transcripts were available for analysis.

3.2.4.3 Research Instrument

An audio recorder was set to record the discussion the students had while they were discussing a particular paragraph of a reading text.

3.2.4.4 Data Collection Procedure

Similar to the one stated in the procedure to get the data for the second research question (see [3.2.3.4]), the data for the third research question were actually taken when the treatments concerning the first research question were performed.

As a recording try out, the discussion of an expert team on Treatment 1 in the experimental groups at 'P' and 'Q' schools was recorded. The tape recorder was ensured to work well in the class situation. It was found that the expected subjects' voice was too much disturbed by the other noise – from the whole big class who were also performing the reading task in their groups. A solution to this problem was found. The recording would be performed outside the classroom where the chosen students would do the group work not too far away from the classroom door.

On Treatment 2 in the experimental group both at 'P' and 'Q' schools, when the student groups were formed, the teacher told the students apologetically that a group of students would be asked to do the group work outside the class. They were told the reason of the need of more space to solve the cramped classroom as the result of chair arrangement to make the group discussion more effective. Then one randomly chosen group was asked to go outside the class and a tape recorder was placed to record the group discussion. The result of the recording was found to be good enough – capturing the students' voice well. When Treatment 3 in the experimental groups at 'P' and 'Q' schools was performed, the main data collection took place as planned.

3.2.4.5 Data Analysis Procedure

The audio-recorded data were first of all transcribed (the transcription convention is adapted from van Lier, 1988). The transcript was then analysed further. It was analysed to initially find the initiation moves. When the initiation moves were found, the analysis was continued to describe the ways the students initiated the interaction. The parts showing initiation were then reexamined to see the response moves. The response moves were then analysed to depict the ways the students responded to initiations. At last the feedback moves were analysed to see the ways the students evaluated responses and initiations. As it was a preliminary study, no intercoder reliability was ensured.

3.2.5 Findings of Pilot Study 1

3.2.5.1 Findings Related to the First Research Question of Pilot Study 1

Concerning the data obtained at 'P' school, the statistical analysis of the pretest scores revealed that the mean scores of the experimental and control groups were significantly different (t=-2.57, df=79, p<.05). At 'Q' school, the t-test indicated the pretest mean scores between the two groups were not significantly different (t=.199; df=92; NS). This result showed that the two groups had equal reading ability at the beginning of the treatment administration.

The ANCOVA calculation for the posttest scores at 'P' school yielded an F value of 44.9 which showed there was no significant difference (df=2,75; p=.111). For the data at "Q' school, the t-test revealed the posttest mean scores between the two groups were not significantly different (t=-.125; df=90; NS). The answer to the first research question is obvious: no significant difference between the reading comprehension achievement of young learners – in this case the fifth grade students of elementary school – who were taught using the Jigsaw technique and the one of those taught using the non-Jigsaw technique.

The finding of this study was contrary to the one of other Jigsaw studies. Kurnia's (2002) and Sannia's (1998) findings showed that there was improvement in students' reading achievement after the students were taught using Jigsaw. A possible cause is that three meetings were not enough for those elementary students to adapt themselves with the Jigsaw activities. Although they had experienced group work, they were still not accustomed to working in the expert team and the home team. The students might have

got used to the traditional teaching and learning technique that was applied by their English teachers. Another cause might be related to the seriousness of the students in working in their home team and expert team. It was found that some students discussed seriously only when the teacher approached them.

3.2.5.2 Findings Related to the Second Research Question of Pilot Study 1

In this section, the analysis and findings about the students' perceptions on the implementation of the Jigsaw technique are presented based on the order of the items appearing in the questionnaire. First, the students' perceptions on the expert team activities are presented. The students' perceptions on the home team activities and their general perceptions on Jigsaw follow.

Perceptions on Expert Team

The first six statements in the questionnaire were used to obtain the students' perceptions on their expert team. It included the perceptions on sharing ideas, listening to others and helping behavior. The self-perceptions are revealed to indicate what the students thought about their own involvement; the group-perceptions about their group mates' involvement in the expert team discussion.

Self-Perceptions on Sharing Ideas, Listening to Others and Helping Others

The data presented in Table 3.4 show that a very small portion of students (1.3%) report that they do not share ideas during group discussion. This equally indicates that almost 99% students give positive perception on their sharing ideas during the discussion. Similarly, as indicated in Table 3.5 the average percentage of positive perception (99%) means that most students claim that they listen attentively to their mates during group discussion. Table 3.6 indicates that more than 90% students on average claim their good behavior in helping friends understand the text during the discussion.

Table 3.4 Self-perceptions on Sharing Ideas

I share ideas during the discussion	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	2.6%	0%	1.3%	Negative Perception	2.6%	0%	1.3%
Disagree	0%	0%	0%				
Agree	20.5%	37.0%	28.7%	Positive Perception	97.4%	100%	98.7%
Strongly Agree	76.9%	63.0%	70.0%				
Total	100%	100%	100%		100%	100%	100%

Note: P: At 'P' elementary school; Q: At 'Q' elementary school; Av.: Average.

Table 3.5 Self-perceptions on Listening to Others

I listen attentively to my group mates who also share ideas	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	0%	0%	Negative Perception	0%	2.2%	1.1%
Disagree	0%	2.2%	1.1%				
Agree	20. 5%	39.1%	29.8%	Positive Perception	100%	97.8%	98.9%
Strongly Agree	79.5%	58.7%	69.1%				
Total	100%	100%	100%		100%	100%	100%

Table 3.6 Self-perceptions on Helping Others

I help my group mates understand the text during the discussion	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	0%	0%	Negative Perception	7.7%	8.7%	8.2%
Disagree	7.7%	8.7%	8.2%				
Agree	23.1%	41.3%	32.2%	Positive Perception	92.3%	91.3%	91.8%
Strongly Agree	69.2%	50.0%	59.6%				
Total	100%	100%	100		100%	100%	100%

Group-Perceptions on Sharing Ideas, Listening to Others and Helping Others

The next analysis dealt with group mates' contribution in sharing ideas as well as listening and helping others. As previously mentioned the data are associated with the extent the students thought about their group mates' involvement in the expert team discussion.

The data presented in Tables 3.7 – 3.9 consistently reveal that a small portion of students (on average ranging from 0% to 9.1%) report that their friends do not share ideas during group discussion and that neither do their friends listen to them nor help them. This equally indicates that more than 80% of the students (ranging from 88.4% to 95.5%) have positive perception claiming that their friends do share ideas during the discussion in the expert team. They also consider their group mates listen to them. They also admit their friends' contribution on helping others. Put simply, the majority is aware of the others' contribution in sharing ideas, listening and providing assistance during the expert team discussion.

Table 3.7 Group-perceptions on Sharing Ideas

My group mates share ideas during the discussion	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	2.2%	1.1%	Negative Perception	2.6%	6.5%	4.5%
Disagree	2.6%	4.4%	3.5%				
Agree	28.2%	23.9%	26.1%	Positive Perception	97.4%	93.5%	95.5%
Strongly Agree	69.2%	69.6%	69.4%				
Total	100%	100%	100%		100%	100%	100%

Table 3.8 Group-perceptions on Listening to Others

My group mates listen to me attentively	P (n=39)	Q (n=46)	Av%.%		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	0%	0%	Negative Perception	7.7%	2.2%	4.9%
Disagree	7.7%	2.2%	4.9%				
Agree	18.0%	39.1%	28.5%	Positive Perception	92.3%	97.8%	95.1%
Strongly Agree	74.4%	58.7%	66.5%				
Total	100%	100%	100%		100%	100%	100%

Table 3.9 Group-perceptions on Helping Others

My group mates help me understand the text	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	5.1%	0%	2.6	Negative Perception	10.3%	13.0%	11.7%
Disagree	5.1%	13.0%	9.1				
Agree	23.1%	30.4%	26.8	Positive Perception	89.8%	87.0%	88.4%
Strongly Agree	66.7%	56.5%	61.6%				
Total	100%	100%	100%		100%	100%	100%

Perceptions on Home Teams

Two sorts of perceptions on home team activities are presented: the students' self-perceptions on their share in explaining their parts and the students' perceptions on others' explanation. About two-thirds of all students positively describe their ability in explaining to their friends. On average, almost 93% of the students have positive perception on their clear explanation. Likewise, it is consistently high (about 90%) students consider that their group mates give clear explanation in the home team discussion.

Table 3.10 Self-perceptions on Explaining Ability

I give understandable explanation	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	2.6%	0%	1.3%	Negative Perception	10.3%	4.4%	7.3%
Disagree	7.7%	4.4%	6.0%				
Agree	30.8%	50.0%	40.4%	Positive Perception	89.7%	95.7%	92.7%
Strongly Agree	59.0%	45.7%	52.3%				
Total	100%	100%	100%		100%	100%	100%

Table 3.11 Group-perceptions on Explaining Ability

My group mates give understandable explanation	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0.0%	2.2%	1.1%	Negative Perception	10.3%	10.9%	10.6%
Disagree	10.3%	8.7%	9.5%				
Agree	23.1%	52.2%	37.7%	Positive Perception	89.8%	89.2%	89.5%
Strongly Agree	66.7%	37.0%	51.9%				
Total	100%	100%	100%		100%	100%	100%

Perceptions on Jigsaw

Two general perceptions on Jigsaw are presented: the students' preference for and willingness to be taught by Jigsaw. The results of the analyses to the respective data are presented in Tables 3.12 and 3.13.

Table 3.12 Preference for Jigsaw

I like this technique of learning	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	2.2%	1.1	Negative Perception	5.1%	10.9%	8.0%
Disagree	5.1%	8.7%	6.9				
Agree	30.8%	26.1%	28.4	Positive Perception	94.9%	89.1%	92.0%
Strongly Agree	64.1%	63.0%	63.6				
Total	100%	100%	100%		100%	100%	100%

Table 3.13 Willingness to Be Taught Using Jigsaw

I want to learn with this technique	P (n=39)	Q (n=46)	Av.		P (n=39)	Q (n=46)	Av.
Strongly Disagree	0%	2.2%	1.1%	Negative Perception	10.3%	17.4%	13.8%
Disagree	10.3%	15.2%	12.7%				
Agree	20.5%	30.4%	25.5%	Positive Perception	89.7%	82.6%	86.2%
Strongly Agree	69.2%	52.2%	60.7%				
Total	100%	100%	100%		100%	100%	100%

As shown in Tables 3.12 and 3.13, with regard to the general perceptions on Jigsaw most students have opted 'Agree' and 'Strongly Agree' to the statements "I like this technique of learning" and "I want to learn with this technique" (the average percentage ranging from 25.5% to 63.6%). The positive perception for their preference for Jigsaw and their willingness to be taught by using Jigsaw is quite high (both at more than three quarters).

Discussion

With regard to students' perceptions on sharing ideas, listening to others, and helping others understand the text, the data analysis presented in Tables 3.4 – 3.11 indicates that the majority of students believe that they have shared ideas among themselves, listened to each other and helped one another understand the text.

Among the students interviewed, some belonged to the majority, i.e. those revealing positive perceptions; some the minority, i.e., those revealing negative perceptions. Those likely to belong to the majority revealed a simple answer 'Yes' or 'Of course' to the questions eliciting their perceptions on the expected group functions. When asked how a student helped others, one respondent answered, "I help … they do not know … so I let

them know", and another replied "I don't know this part … help me." – showing the helping behavior in the group. Those who did not think the expert team discussion ran as expected provided the reasons for the negative perception such as: "Ya … TF and AD … they only listen to us", "I'm the one who gave all the ideas with AI", "… coz he says in Indonesian … then I translate it into English" – revealing the problem in sharing ideas; only certain students in the group did share ideas while the others kept silent and did not show their participation; "Only those who understand can help me" – showing the pessimism of the group members' understanding the text. There were some respondents who were not sure whether their group mates understood their explanation. They said, "I don't know". Those who had not understood said, "Some I don't understand" or "Just a little". When asked whether the students understood one's explanation, one respondent replied, "No, because they do not know the answer" – indicating lack of explaining ability of group members.

The data analysis presented in Tables 3.12 & 3.13 similarly indicates that the majority amounting to the average percentage of 92% want to be taught by using Jigsaw, and that the majority constituting the average percentage of 86% show willingness to be taught by using Jigsaw. This finding is supported by the interviewed respondents some of whom answered, "Ya, I like it" to "Do you like this technique of learning?" Then, giving the reasons why they liked Jigsaw, one respondent pointed out, "I can work in groups". Another respondent briefly added, "It's easier to understand the text." The respondents' willingness is proven when most of the respondents claimed, "Every time there is English subject" as the answer to "How often do you want to be taught by using this technique?" The information obtained from the students interviewed might reveal the reason why a few students (the minority) do not like Jigsaw. One student said, "They don't know the answers". This particular student did not like her group mates who did not know their answers thus who could not explain the material that had been discussed in their expert teams. The minority might be captured by the video recordings revealing that there were some students yawning and rubbing their eyes. Their actions can be interpreted as tediousness.

As the quantitative analysis reveals, the majority of students claim that they have listened to their group mates when their group mates share ideas during the discussion. The video recordings catch this class condition. When they agree to or understand the ideas given, they nod their heads. The students sometimes look at the text when their

group mates are sharing ideas. The video recordings show that those students sometimes talk with their friends of other groups but then they 'come back' listening to their group mates. Nevertheless, actually through the video recordings it is not clearly shown whether the students have helped one another understand the text.

3.2.5.3 Findings Related to the Third Research Question of Pilot Study 1

The transcribed data provide information about the students' interaction in the expert team. It more particularly indicates the ways the students initiate the discussion, respond to initiations and evaluate responses and initiations.

Ways to Initiate

Our data revealed that the students initiated the discussion by making a request or inviting others to start the discussion. One student said 'Ayo kamu dulu' [Translation: Come on, (could) you start first(?)] (Appendix 14; Transcript 1 line 5). Another similar way found in the transcript is that a student asked and offered others to read – inviting others' participation. She said: 'Who wants to read the text?' (Appendix 14; Transcript 1 line 31). Similarly, the student used a question 'Diartino ta?' [Translation: Shall we translate it?] (Appendix 14; Transcript 1 line 54) to invite the discussion. Another way is asking whether the others understood or simply checking comprehension "Ngerti ta? Ngerti kamu? [translation: Understand? Do you understand?] (Appendix 14; Transcript 1 line 44).

We also found in the transcript (see Excerpt 3.1) that to initiate the discussion a student (**Dd**) repeated his friend's (**Jn's**) answer by adding 'but' – a conjunction showing something contradictory. Reinitiating, **Dd** intended to indirectly tell his friends that the two sentences were contradictory.

Excerpt 3.1: (Appendix 14; Transcript 1 1ines 12-15)

	Jn:	What does Didi do in the break time? <u>Didi plays football with his 5 friends. He does not go to the canteen.</u>
→	**Dd**:	He plays football with his 5 friends but he … but he doesn't go to the canteen.

Note: Segment underlined indicates the sentence appearing in the passage.

Reminding is another way to initiate (see Excerpt 3.2).

Excerpt 3.2: (Appendix 14; Transcript 1 lines 69-70)

Wd:	Kurang satu … ayo sama-sama. /Still one more sentence. Let's translate it together/

Reminding as the way to initiate is also shown in the following: 'Ayo, the question'. [Translation: Come on, let's go on with the question] (Appendix 14; Transcript 1 line 74).

It is shown in our transcript that **Ko** initiated the discussion by volunteering or bidding himself to read the paragraph. He said 'Aku yang baca ya' [Translation: Let me read, OK?] (Appendix 14; Transcript 2 line 1).

Realizing that there was a mistake in the translation, a student named **Ko** tried to initiate the discussion by highlighting the main point. He read part of the sentence twice to emphasize the negative sentence indicating the wrong translation done by **Ss** (see Excerpt 3.3).

Excerpt 3.3: (Appendix 14; Transcript 2 lines 15-16)

Ss: **[**translating 'He does not go to the canteen'] Dia berlari ke kantin.
→ **Ko**: [trying to correct] He does not. He does not ….

Ways to Respond

As indicated in Appendix 14; Transcript 1 line 60, one of the students directly responded to the initiation by answering the question. This way of responding was also revealed in Excerpt 3.4.

Excerpt 3.4: (Appendix 14; Transcript 1 lines 54-57)

Kn: Diartino ta? /Shall we translate it?/
→ **Dd**: Pada waktu …

After **Kn** initiated by saying 'Diartino ta?', **Dd** directly translated the sentence showing the response to the initiation.

Excerpt 3.5 indicates **Wd**'s initiation which was responded by **Ss** performing what was expected: translating the sentences.

Excerpt 3.5: (Appendix 14; Transcript 1 lines 69-71)

Wd: Kurang satu .. ayo sama-sama. /Still one more sentence. Let's translate it together/
→ **Ss**: He studies again at 9.30. Dia belajar lagi … jam setengah sepuluh. /half past nine/

One particular result is worth revealing. Initiation is not always responded to. In Excerpt 3.6 it is seen that the initiation made by **Dd** was not responded to as expected. It is likely that **Dd** reinitiated the discussion intending to show his understanding of the text – inferring the cause effect relation of the two statements in the text "He doesn't go the canteen. He likes to save his money." The other students seemed to know nothing about the intention of **Dd** to emphasize 'but', or they might just ignore it as they might think it was not an essential thing to discuss.

Excerpt 3.6: (Appendix 14; Transcript 1 lines 14-18)

	Dd:	[repeating] He plays football with his 5 friends but he .. but he doesn't go to the canteen.
	Kn :	[repeating] He plays football
	Dd:	[reading the question and answering it] Does Didi buy some food at school? No, he doesn't.

Note: Segments underlined indicate the sentences appearing in the passage.

Ways to Evaluate Responses and Initiations

As seen in Excerpt 3.7, **Dd** initiated the discussion by saying 'Ayo, kamu dulu'. **Jn** directly answered the question in the material. This particular response was then evaluated or acknowledged by **Wd**. He realized the answer was not 'Didi's going to school' but 'Didi's playing at school'. He evaluated by providing indirect correction.

Excerpt 3.7: (Appendix 14; Transcript 1 lines 5-9)

	Dd:	Ayo kamu dulu /Come on, you start first/
	Jn :	[reading the question and answering it] What does paragraph 4 tell us? Didi's going to school. [Silence]
→	**Wd:**	Didi's playing at school. Didi's playing at school.

As shown in Excerpt 3.8, after **Jn** initiated by asking 'Who wants to read the text?', **Kn** responded by asking for confirmation. Meanwhile **Dd** wondered why they needed to read the text. He asked 'Do we have to read it?' This particular initiation-response discourse was then evaluated by **Wd** who implicitly acknowledged the initiation to read the text and explicitly told the reason saying 'So that we can explain later.'

Excerpt 3.8: (Appendix 14; Transcript 1 lines 32-37)

	Jn:	Yes, finished. Who wants to read the text?
	Kn:	Mau dibaca ta? /Shall we read it?/
	Wd:	Ha? /Pardon?/
	Dd:	Perlu ta? /Do we have to read it?/
→	**Wd**:	Supaya bisa njelasin nanti. /So that we can explain later./

Giving another possible answer is also a way employed by the students to evaluate responses and initiation. After **Wd** initiated, all the students in the team responded by doing what was 'instructed' – translating the sentence. Since there was another way to translate the sentence, **Dd** continued giving an extended answer (see Excerpt 3.9).

Excerpt 3.9: (Appendix 14; Transcript 1 lines 69-72).

	Wd:	Kurang satu ... ayo sama-sama. /Still one more sentence. Let's translate it together/
	Ss:	He studies again at 9.30. Dia belajar lagi … jam setengah sepuluh. /half past nine/
→	**Dd:**	Atau … atau ... jam 9 lebih 30 menit. /Or 30 minutes after 9/

In Excerpt 3.10 it is found that **Ko** himself at last evaluated the responses and initiations by providing the answer to the question. The word "support' in the

comprehension question below the text became the focus of the discussion. 'Support your answer' was thought to be 'encouraging your answer'. **Ko** at last used another way to make the word understood. He then used the word 'prove'. Eventually he himself answered the question.

Excerpt 3.10: (Appendix 14; Transcript 2 lines 55-63)

	Ko:	Emm 'support your answer' itu mengapa lho, itu kan? /Emm, 'support your answer' means that we are asked about 'why', right?/
	Ke:	[translating 'support your answer'] Menyemangati. Semangati, semangati jawabanmu.
	Ko:	Because ...
	Yu:	Eh, maksud'e 'support' itu 'semangati jawabanmu'? /Does it mean 'encouraging your answer'?
→	**Ko:**	Apa gini lho, buktikan buktikan jawabanmu. Jadi buktikan apa. /Maybe it means 'prove your answer'. So prove/ Because he likes ... He likes to save his money. Money money.

Excerpt 3.11 indicates that evaluating responses and initiations was performed by neutralizing the disagreement. The focus of the discussion was 'does not' and 'doesn't'. **Ke** insisted on the use of 'doesn't', but **Ko** insisted on the one of 'does not'. **Yu** at last tried to evaluate the responses and initiations stating that they had to stop the 'quarrel' as both 'does not' and 'doesn't' are OK.

Excerpt 3.11: (Appendix 14; Transcript 2 lines 104-110)

	Yu&Se:	Nomer tiga. /Number 3/ No, because Didi likes saving ...
	Ke:	No, no, he doesn't. No, he doesn't
	Ko:	No, he does not.
	Ke:	Stop. **doesn't** ngono lho /Stop. **doesn't**. Keep this answer/
	Ko:	**Does not**
	Ke:	**Doesn't** ae lho /Let's use **doesn't**/
	Ko:	Gampang gampang /Take it easy/
→	**Yu:**	Ga onok bedane, ga onok bedane /There is no difference/

Stated simply, it is found that the students initiated by asking others or volunteering themselves to start the discussion, ensuring understanding or reminding others to start. The students responded to each other by reading, answering, or providing more explanation. The students evaluated responses or initiations by giving correction, giving confirmation, or providing other concluding answers. The one evaluating was not always the initiator himself or herself.

3.2.6 Summary

Pilot Study 1 reveals that there was no significant difference on the reading comprehension achievement between the students who were taught using the Jigsaw

technique and the ones who were taught using the traditional technique. However, general positive perceptions on the Jigsaw implementation were revealed from the questionnaire distributed.

The finding that the implementation of Jigsaw is positively perceived encourages the continuation of the main study. Moreover, the first pilot study provides other useful insights with regard to IRF moves. It is implicitly indicated that the transcript is analysed by initially finding its initiation moves and then by describing the functions. The next step is to find the response moves and to describe their functions, and eventually the feedback moves and the functions. Since the focus is on the lines showing IRF moves, the analysis is found to be incomplete. Some lines are analysed partially. Excerpt 3.12 shall clarify this issue.

Excerpt 3.12: (Appendix 14; Transcript 2 lines 1-6)

Ko:	Aku yang baca ya. /Let me read, OK?/ [translating the first sentence of the paragraph] Waktu waktu istirahat adalah jam sembilan lima belas.
Se:	Sek ta ngene ae lho, lapo dibaca? /Wait! Why should we read or translate it?/
Ke:	--Yo wis. Eh istirahat jam piro? /OK. Btw, what time is the break?/

As exemplified in Excerpt 3.12, after finding the Feedback move in **Ke**'s line and after examining its function namely accepting the idea of 'no need to translate the text', we unexpectedly analysed only the utterance of **Ke** 'Yo wis.' leaving the other utterance unanalyzed. 'Eh istirahat jam piro?' [translation: Btw, what time is the break?] is indeed another initiation functioning as a question – which is performed by the same person **Ke**.

Similarly, another insight is found from reexamining Excerpt 3.13.

Excerpt 3.13: (Appendix 14; Transcript 1 lines 59-60)

Jn:	[counting] 1, 2, 3, 4. Siapa dulu? Ada berapa kalimat? /Who's first? How many sentences?
Dd:	5 kalimat /5 sentences./

It is obvious that the initiation of **Jn** is responded by **Dd** who answers the question posed by **Jn**. However, when further investigation is performed, two types of interaction are found. One initiation done by **Jn** is responded but the other one is not. Thus two initiation moves are made by **Jn**. **Dd** in fact responds to the second initiation of **Jn**.

Since the pilot study does not take into account the frequency of IRF, it leaves no substantial influence to the result of the pilot data analysis. This insight acts as a reminder for the data analysis of the main study later that in one line there can be two or more moves. In other words, accurate analysis of IRF with regard to frequency is required to

reveal the interaction of high-, middle- and low-achieving students – the focus of the main study. Moreover, as the study under report is going to look more at students' interaction, another analysis procedure should precede the IRF analysis to segment the big transcript into its on-task and off-task episodes before further analysis (this issue can be found in the subsequent Chapters 4 and 5). In conclusion, Pilot Study 1 has provided more insights for us to improve our IRF analysis technique.

Another thing found from the first pilot study – crosschecked also with the audio-visual recordings – is that the class session of 40 minutes is hard for the implementation of the Jigsaw technique where home teams as well as expert teams are formed. In fact the getting together to the teams is quite time-consuming although the class has been sectioned into its Apple, Banana, Cherry groups to reduce chaos. An idea then comes up to try it in a 2x40 minute-class session. As this particular class session is available more in high schools than in elementary schools, the second pilot study is conducted at high schools.

Ultimately, it appears that no student seems to have the courage to start the discussion (see Appendix 14; Transcript 1). On the other hand, all students seem to have the desire to take the floor (Appendix 14; Transcript 2). Attempting to see if role assigning might solve the problem or help the group function better, the second pilot study focuses on role assigning.

3.3 Pilot Study 2

In this group research by Tamah, Santoso, Shendika, and Soeprapto, when an investigation was performed to see whether the implementation of Jigsaw at two junior high schools labeled 'X' and 'Y' schools provided significant effects on students' listening achievement, two further investigations were carried out to illustrate the actual Jigsaw implementation in the listening class, and to see the students' perceptions on role assigning.

3.3.1 Research Questions of Pilot Study 2

The following research questions are addressed in Pilot Study 2:

1. Is there a significant difference between the listening achievement of the learners taught by using the Jigsaw technique and the one of those taught by using the non-Jigsaw group work technique?

2. How is the Jigsaw technique implemented in the Listening class?
3. What are the students' perceptions on role assigning?

3.3.2 Research Method for the First Research Question of Pilot Study 2

3.3.2.1 Research Design

Like the research design of the first research question of Pilot Study 1, the one employed here was a quasi-experiment applying a non-randomized pretest-posttest control group design. The choice of this design was based on the consideration that it was not just possible to randomly assign subjects to group. Therefore the existing classrooms were used.

3.3.2.2 Variables

Two variables determined were (1) the independent variables which referred to the Jigsaw technique used in the experimental group and to the non-Jigsaw group work technique in the control group, and (2) the dependent variables which referred to the students' listening comprehension represented in the students' post-test scores.

3.3.2.3 Population and Sample

The population of this study was the eighth grade students belonging to the 2007/2008 school year at two high schools labeled 'X' and 'Y' schools, Surabaya, Indonesia. At 'X' school the samples of this study were the students from two classes – one was randomly chosen to be the experimental group; the other the control group. Each class consisted of 36 students. Similarly, at 'Y' school, the samples were the students from two classes randomly chosen to be the experimental and control group. Each class consisted of 48 students.

3.3.2.4 Treatments

The treatment taking place at 'X' and 'Y' schools was done three times in each of the experimental and control groups. Each treatment was done with the time allocation of 2x40 minutes. There was a pretest before the treatments and a posttest after the treatments for both groups.

Treatment in the Experimental Group

The students in the experimental group were taught by using Jigsaw. After the greetings, the teacher reviewed the previous material and informed the lesson objective.

The pre-instructional activities were then followed by the whilst-instructional activities. The pre-listening questions were initially given. Then it was time for the home team forming.

The students were divided into two big groups – Apple and Banana – to make it easier for the grouping and to reduce confusion as the class was big. In both Apple and Banana groups, the students were asked to make groups consisting of 4 students – forming their home teams. The students in each home team were asked to count off one through four as this was related to the learning material which was divided into four parts – the text was divided into 4 paragraphs each of which was labeled Materials 1, 2, 3 and 4. In the Apple group, the students with the same number – thus the same material – form their expert teams. The students in the Banana group were grouped similarly.

When the expert teams were formed (in every treatment, 8 expert teams were formed), each student was assigned a role. The roles of *captain*, *secretary*, *time keeper* and *common member* were introduced. The students themselves were asked to assign the roles among the members. As the number of the students present on every implementation varied, the number of the students in the expert team varied – 4 or 5 students at 'X' school and 4, 5 or 6 students at 'Y' school. It was then determined that each expert team would have only 1 captain, only 1 secretary, only 1 time keeper and 1-3 common members. When the number of an expert team was 5, for instance, this particular expert team then consisted of 1 captain, 1 secretary, 1 time keeper and 2 common members.

After the role assigning was settled, the students were provided with a recorder and a cassette on which one paragraph of the listening material was recorded. To be more specific, Expert Team 1 got a cassette on which paragraph 1 was recorded; Expert Teams 2, 3 and 4, paragraphs 2, 3 and 4 respectively. The students listened to the recorded material and discussed it based on the listening comprehension questions provided.

Having finished with the expert team discussion, the students went back to their home team. Each home team member then shared what they had learnt in their expert team. At the same time each student was expected to learn the whole listening material from the other students. After the group work, the students were given a quiz to make them realize the group discussion was important. The students listened to the recorded passage once and did the quiz individually. The treatment ended after the post instructional activities were carried out. The teacher and the students were primarily involved in the summary section.

Treatment in the Control Group

The students in the control group were taught using the non-Jigsaw group work technique. The pre-instructional activities in the control group included the teacher's greeting the students, asking some reviewing questions and informing the lesson objective.

In the next phase of the instructional activities, the teacher started with the pre-listening questions. Then she asked the students to form 4-student groups. Each group was given a recorder and a cassette on which the listening material (the whole text) was recorded. The students discussed the material together. The students did the work in groups; neither expert teams nor home teams were formed. Simply, no division of the material occurred.

After the group work, the students were given a quiz. The purpose of giving the quiz in the control group was the same as the one in the experimental group – to indirectly let them realize the group discussion was important. The students listened to the recorded passage once and did the quiz individually. The treatment ended with the post instructional activities – similar ones in the experimental group: wrap-up, homework assigning and partings.

3.3.2.5 Research Instrument

A listening comprehension test allocated for 40 minutes was developed for this study. Four listening texts taken from commercially published books were used for the test. From the texts, multiple-choice questions each of which had four options were constructed. The listening test was used for the pretest and posttest for both the experimental and control groups.

Before the instrument was used in the treatments, it was tried out to know the reliability, the level of difficulty and the discrimination power of the test. The statistical formulae used were the same as the ones employed in Pilot Study 1. KR Formula 21 was used for checking the test reliability, the Discrimination Power formula for the discrimination power of the test, and *FV* formula for the level of difficulty (Brown, 1996; Gronlund, 1982; Harris, 1969; Heaton, 1979).

Validity of the Test

The type of test validity employed was content validity as the test designed in this study was oriented on matching the test content with the reading instructional objective.

There were 15 factual questions, 14 inference questions, and 8 main idea questions related to the four listening texts prepared.

Reliability of the Test

The result of the calculation for the test reliability was .95 – indicating that the test was reliable.

Discrimination Power

The result of the try out showed that 1 item was 'excellent'; 36 'satisfactory' and 17 'poor'. The poor items were dropped from the actual research instrument.

Level of Difficulty

The analysis of the difficulty level of each test item showed that 11 items were 'very easy'; 15 'easy'; 10 'moderate', and 1 'difficult'. There was no 'very difficult' item in the test.

In summary, the research instrument initially consisted of 54 items but after the try-out there were only 37 items: 36 items were 'satisfactory'; 1 'excellent'. With regard to the difficulty level, 11 items were 'very easy'; 15 'easy'; 10 'moderate', and 1 'difficult'. Since the total score was 100 as the highest score a student could achieve, one correct answer was scored 2.7.

3.3.2.6 Data Collection Procedure

After the permission to take the data was granted by the headmasters of the schools, the research instrument and three lesson plans for the treatments both in the experimental and control groups were prepared. Three passages taken from different sources were modified a little bit to suit the students' grammar mastery and to make them sound like oral discourse as the original passages were actually intended for written discourse. All of the passages were descriptive: an outer space, a man and a house. Some listening comprehension questions for group discussion and for the quiz were formulated for each lesson plan. After the materials were in hand, they were audio-recorded.

One lesson plan for the experimental group was tried out in a classroom that was not part of the study in order to improve the lesson plan (if any). At the same time the research instrument was tried out. It was then found that the time allocation was not proper with the real implementation. The difficulty in grouping the students – like the one found in Pilot

Study 1 – appeared since it was the first time for the students to have the Jigsaw technique implemented. The time allocation in the lesson plan was then revised. The study then started with the pretest administration, continued to the three treatments, and ended with the posttest administration. The same teacher was involved both in the experimental and control groups. The studies at 'X' and 'Y' schools all took place in November 2007.

At 'X' school, when the pre- and post-tests were administered, some students were absent. Since the scores for testing the hypotheses should be in pairs (pre- and post-test scores of each student), the students having only the pretest scores or only the posttest scores were disregarded. There was then data reduction resulting in 32 and 29 students' scores in the experimental and control groups respectively. Similar procedure was carried out in the pretest and posttest scores obtained at 'Y' school resulting in only 44 and 47 students' scores in the experimental and control groups respectively.

3.3.2.7 Data Analysis Procedure

The data analysis procedure applied was the same as the one presented in the research method for the first research question of Pilot Study 1 (see [3.2.2.7]).

3.3.3 Research Method for the Second Research Question of Pilot Study 2

The study was descriptive in nature. It presented the information concerning the Jigsaw implementation in Listening classes.

3.3.3.1 Subjects

The subjects were a teacher and her eighth grade students in a regular English class where the listening material was discussed by using the Jigsaw technique. They were the teacher and the students present on the second and third treatments in the experimental group where they learnt using Jigsaw at 'X' school in the academic year of 2007/2008 (see [3.3.2.3])

3.3.3.2 Data

The data in this study were the teacher-student activities depicting the implementation of Jigsaw in the three Listening classes investigated.

3.3.3.3 Research Instruments

Two sorts of recording were employed: audio recording and audio-visual recordings. The audio recorder was used to record the teacher interaction with the students (the

teacher talk and students' responses). The audio-visual recording was used to make us know about the real class situation when Jigsaw was implemented.

3.3.3.4 Data Collection Procedure

The data for the second research question, as implied, were taken when the treatments concerning the first research question took place (see the discussion in [3.3.2.3]). A cameraman assisted with the audio-visual recordings to capture the Jigsaw class situation.

3.3.3.5 Data Analysis Procedure

The audio recordings were reviewed continuously to get a picture of the teacher-student interaction and the student-student interaction while the teacher was implementing Jigsaw in the listening class. The data from the video recording were also reviewed to describe the class situation more.

3.3.4 Research Method for the Third Research Question of Pilot Study 2

The study was descriptive in nature. It was carried out in a natural setting of the regular language classrooms in high schools. The data collected in 4 listening class sessions using a questionnaire as the main instrument were intended to reveal the students' perceptions on role assigning in the implementation of Jigsaw.

3.3.4.1 Subjects

The subjects involved were the students of Junior High Schools. They were the students present on the second and third treatments in the experimental groups where Jigsaw was implemented at 'X' and 'Y' schools in the 2007/2008 academic year (see [3.3.2.3]). At 'X' school, when the data were taken, there were 34 and 35 students present on the second and third Jigsaw classes respectively. Meanwhile at 'Y' school, there were 48 students on each class.

The roles assigned to the students in each expert team were *captain, secretary, time keeper,* and *common member.* The task of the captain was coordinating the group work, making certain every one contributed and keeping the group on task. The secretary's task was keeping notes on important information appearing in the discussion. The time keeper's task was keeping track of time and reminding the group how much time there

was. The common member was not assigned a special task, but was asked to contribute to the discussion. The tasks were confirmed every time prior to their team work.

As eight expert teams were formed in each class, there were then 8 captains, 8 time keepers, 8 secretaries in each class. For the role of *common member*, the number varied depending on the number of students present on the days when the data were collected. For each Jigsaw class, the roles were not predetermined; the students were free to assign the roles among the members in the group. The students were however encouraged to apply roles rotating or to take different roles – taking another role every time the group work was performed. It was not detected which and how many students had taken different roles. The informal checking by the class teacher indicated that the majority applied rotated roles in their group. At 'X' school, 10 and 11 students became common members on the second and third Jigsaw implementation respectively. At 'Y' school, 24 and 19 students became common members on the second and third Jigsaw implementation respectively. A total of 32 students having the role of *captain*, 32 *secretary*, 32 *time keeper* and 69 *common member* were available.

3.3.4.2 Data

The data were the students' answers found in the questionnaire. Their answers revealed their perceptions concerning the roles assigned to them in their expert team.

3.3.4.3 Research Instrument

A questionnaire was formulated to obtain the data. It consisted of five statements which were divided in three categories. The first statement was the only one asking the opinion of the students concerning their own role. The second and fourth statements were of similar sort. They were formulated to reveal the students' perceptions concerning their own role related to the other roles assigned in their expert team. The third and fifth statements were similarly formulated to indicate the overall perceptions on all roles assigned. A Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) was used to reveal the students' perceptions on the roles assigned to them.

The questionnaire which was written in Indonesian was tried out first to test how long it took the respondents to complete and to ensure that all the statements and instructions were clear. The try-out was done when one regular English class session was used as the try out of one Lesson Plan (see [3.3.2.6]).

As secondary research instruments, an observation sheet and an audio recorder to record the interview with some students were used to obtain additional data as a cross check. The observation sheet was prepared for the observers, i.e., the English teachers of the respective schools and one of our students. The completed observation sheet would reveal whether the observers thought role assigning was helpful.

3.3.4.4 Data Collection Procedure

The data for the third research question were actually taken when the three treatments concerning the first research question were performed in the experimental groups. On the first implementation no questionnaire was distributed. On the second and third implementations the research instrument was administered to collect the data. The observers were in the class completing the observation sheet. They observed the students working in their group.

On each meeting, Jigsaw was carried out based on the Lesson Plan prepared. The 80-minute regular class was divided into three main parts: Pre-instructional Activities, Whilst-instructional Activities, and Post-instructional Activities (see [3.3.2.4] for the detailed illustration of a typical Jigsaw class). The observation and the questionnaire distribution took place in the Whilst-Instructional Activities. When the students were discussing the material in their expert team, the observers completed the observation sheet. Right after the students finished the discussion in their expert team, the questionnaire was distributed. After the Post-instructional Activities, some randomly chosen students were interviewed. The interview was recorded.

3.3.4.5 Data Analysis Procedure

The data analysis was done by tallying the students' responses in the questionnaire. The percentages were counted. The obtained data were then interpreted and crosschecked with the data from the secondary instruments.

3.3.5 Findings of Pilot Study 2

3.3.5.1 Findings Related to the First Research Question of Pilot Study 2

The statistical calculation of the pretest scores obtained at 'X' school revealed that the mean scores of the experimental and control groups were not significantly different (t=.579, df=62, NS). The two groups had more or less the same achievement before the treatment was conducted. Similarly, the calculation of the ones obtained at 'Y' school

showed that the experimental group mean score and the control group mean score were not significantly different either (t=1.21, df=94, NS).

Further t-test calculation for the posttest scores obtained at 'X' school revealed that the posttest mean scores of the experimental group and the control group were not significantly different (t=-.973; df=66; NS). The posttest mean scores between the two groups at 'Y' school were not either (t=-.591; df=89; NS).

The findings indicated that the alternative hypothesis which says "There is a significant difference in the listening achievement between the second grade junior high school students who are taught using the Jigsaw technique and those who are taught using the non-Jigsaw group work" is rejected. A possible cause is that Jigsaw was a new technique for the students. They might need more time to adapt to this technique since there were only three treatments. Although they had known how to work in groups, they still did not get used to working in the expert teams and home teams.

The condition of the experimental group at 'X' was not so good when the posttest was conducted. At that time, the class next to the respective experimental group was noisy because they had a music class. It was so disturbing that the students could not hear the recordings well. The number of the students is also one of the possible causes. At 'Y' there were 48 students in one class. It was quite difficult for one teacher to monitor a big class, especially using the Jigsaw technique.

3.3.5.2 Findings Related to the Second Research Question of Pilot Study 2

The First Implementation of Jigsaw

In the pre-instruction, the teacher greeted the students who responded her greetings. What followed primarily includes the teacher's forming home teams and expert teams, distributing the materials and the students' doing the task in their expert teams and home teams.

At first the teacher explained what they would do concerning the Jigsaw technique. Then the teacher asked the students to form groups of 4 students. Most of the students however asked to have groups of 5. The teacher refused and strictly asked them to count off 1 through 4. The students with number 1 were in one group with the other students numbered 1. The students were still confused and complained to the teacher. They wanted to be in one group with their best friends. Ignoring the request, the teacher moved some students and helped them find their group because they still did not understand what they

were supposed to do. After they formed the groups, the teacher divided the class into two big groups. The teacher named them **Apple** and **Banana**, but they were changed into **Strawberry** and **Blueberry** because of the students' request. The teacher then informed that the groups were called 'home teams'. The students did not know what a home team was, and the teacher explained it. The students listened to the teacher's explanation.

The teacher then asked each group to count off 1 through 4 again. To make it clearer, the teacher gave an example, by saying "Rexi no. 1, Widodo no. 2, Cahyo no. 3, and Reni no. 4" (all names are pseudonyms). The students who got number 1 gathered with the other students numbered 1. When the teacher asked this, the students were confused. They did not do anything, they just sat and listened to the teacher, so the teacher helped them again to form the groups. When the teacher asked their number, some of the students were still confused with their number. Then the teacher helped them count again. The students in the Strawberry group were asked to form their expert teams. The students in the Blueberry group were too. After the teacher helped them, most of the students understood well, but there was still a student who did not understand.

After they formed their expert teams, the teacher asked the students to take the materials in front of the class. Almost all of the students left their desks. The class started to be noisy. Seeing there were so many students in front of the class, the teacher asked only one person from each group to stay. The others were asked to go back to their seats. The teacher then distributed the cassette and audio recorder for each group and asked one student to be responsible for the equipments. Some students who had already got the recorders and cassettes tried to turn them on and played with them.

The teacher asked the students to listen to the recorded material and discuss it with their friends based on the questions given. In some groups, each student listened to the material in turns because the sound was so low that they needed to stick the recorder to their ears. Some groups equipped with the big recorders turned them on loudly. The groups that were disturbed complained to the teacher. There were other problems: some students could not operate the small recorders well and there was a student who pressed the record button. The class became uncontrolled and crowded. The teacher repeatedly warned them not to push the record button.

The teacher went from one group to another group to help them. They were reminded not to discuss other things before they really finished the task. They were also reminded to get as much information as possible so that they could share it in their home teams. Some

groups did the discussion seriously; some were not as they started the discussion only when the teacher came to them. Some students summoned the teacher when they needed some help or when they did not understand, for example, the meaning of 'miles'. When the time for the expert team discussion was over, the teacher asked them to return the listening equipments.

The teacher asked the students to go back to their own home teams and discuss what they had already got in their expert teams. The students were still busy with their own business and did not listen to the teacher, so the teacher repeated the instructions. The students then performed the sharing task in their home teams. Meanwhile the teacher went to help when necessary.

In the post-instruction, the teacher administered a quiz. The students started to keep silent and did the quiz. The teacher asked them not to write anything in the test sheets. A student gave a comment by saying "Loh terus dikerjakan di mana?" [translation: 'So where should we do the test?']. Then the teacher distributed the answer sheets. To make the students do the quiz seriously, the teacher reminded them that the quiz scores would be considered as their ordinary test scores. After they were quiet, the teacher switched on the recorder. The students listened to the recordings only once. When the quiz was over, the students asked the teacher to let them listen again because it was not clear enough for them. Their request was not granted. Some students tried to cheat by asking the answers to their friends. They were stopped by the teacher.

The Second Implementation of Jigsaw

The teacher greeted the students who then responded. The teacher asked the students whether they still remembered what they had learnt in the previous meeting. Most of the students answered 'Yes, outer space'.

The teacher then asked the students to form their home teams as they did in the previous meeting. The students directly did so, but there were some students who forgot his or her home team members. One student was absent, so the teacher reformed some group members.

After the home teams were formed, the teacher asked "What is the next step?" Some of the students said "Go to expert team". When the teacher asked them to do it, the students directly went to their expert teams and arranged the chairs for group discussion.

The teacher checked again whether they were in their correct groups or not. Some students were ‘lost’, so the teacher assisted them.

The teacher assigned roles for each group member and the students listened to the teacher’s explanation. The teacher said “The captain’s job is leading the discussion. The secretary has a job to help the captain. If the captain does not have any ideas, help. She also takes a note. The time keeper watches the time for the discussion. The ordinary member has a job to be active in the discussion” While the teacher was explaining, the students tried to memorize the roles. After her explanation, the teacher asked the students to decide among themselves who would be the captain, secretary, time keeper and ordinary member in the groups.

Afterwards, the teacher asked a student from each group to take the materials. Some of the students ‘competed’ to get the recorders. A group that was provided with a big recorder turned it on loudly; therefore, some students directly complained.

This time the students did the task better. The students directly discussed the text after being reminded to do well in their groups. While discussing the materials, some of the students had an initiative to ask the teacher or their fellow friends about, for example, the meaning of ‘chasing’. There was still a student who pressed the record button, so the teacher warned him to be careful with the record button. The students discussed seriously. They listened to the cassettes for several times and took a note. Sometimes, when they did not know the answer, they asked the teacher what the answer was. They knew what they were supposed do in the group discussion. The teacher went from one to another group checking to ensure the discussion ran well.

Afterwards, the students were given a questionnaire. The teacher asked them to fill in the questionnaire which was in fact the research instrument to get the data for the third research question. A student asked the meaning of ‘memonopoli’ – a word appearing the questionnaire. The teacher then explained it to the students. Some of the students completed the questionnaire seriously.

The teacher asked the students to go back to their home team. As they moved slowly, the teacher told them to hurry. The teacher reminded them to share the information with their home team members. The students did their home team task.

In the post-instruction, the teacher administered the quiz. The students listened to the recordings once. Some students answered the questions while listening; some just waited until the whole passage was listened to.

The Third Implementation of Jigsaw

After the greetings section, the teacher asked the students what they remembered from the previous meeting. The students answered, 'A strange man'. They could mention that the man was an Arabian and that the man had black, short, wavy and lousy hair.

When it was time to form the home teams, the teacher asked whether the students still remembered their home team or not, and – without waiting for the students' response – said "Ok, Now go to your home team". All the students directly moved and formed their home team. Before the teacher asked "What is the role of each member?", the students had already distributed the roles of *captain, secretary, time keeper* and *ordinary member* among themselves.

In the section of materials distribution, this time the teacher called one student from each group in turns. Each group waited to be provided with the material. The class was quiet enough and under controlled.

The students then discussed the material quietly. All groups performed the group task. They helped each other in solving the problems. The students asked the teacher every time they had difficulties – mostly about the difficult words. After they finished the discussion, the teacher asked them to return the cassettes and recorders and put them on the teacher's desk. Afterwards, the teacher asked the students to fill in the questionnaire. After the teacher distributed the questionnaire, some students commented that they had done the same thing in the previous meeting. The teacher apparently did not hear it. Some students answered the questionnaire directly. Some did it after the teacher reminded them. Having completed the questionnaire, the students were asked to go back to their home team and do the home team task. The students directly responded so.

Eventually the quiz was administered. When the teacher distributed the test and answer sheets, the students directly kept silence. They listened to the recordings once. The students did the quiz in less than 5 minutes, less time than in the previous meetings.

Discussion

In the first implementation, the teacher introduced the Jigsaw technique to the students. The teacher had difficulties in forming both the home and expert teams. The students were confused and did not understand the teacher's instruction. This was quite understandable as it was the first time for the students to learn using Jigsaw. During the materials distribution, quite a lot of students came to the teacher's desk in front of the

class. This made the class chaotic. In the expert team discussion, the students still did not know what they had to do. Problems occurred when the students could not operate the recorders well. These technical issues disturbed the process of the discussion.

The second implementation was better than the first one. The teacher was able to overcome the class management problem. The students did the teacher's instruction quietly and seriously. The time was spent more effectively. The students directly formed the home and expert teams when instructed. The group discussion ran well both in the home and expert teams.

The third implementation was satisfactory. Fewer and fewer problems occurred. In forming the expert and home teams, the students were not confused any more. They did it quickly. They also had already known the role assigning for each member and performed their roles. They did the group task better than in the previous Jigsaw implementation.

3.3.5.3 Findings Related to the Third Research Question of Pilot Study 2

Students' Perceptions Concerning Their Own Role

Item 1 in the questionnaire which says "The role I get enables me to discuss well" is related to the students' perceptions on the role they got in the expert team. The result of the analysis is summarized in Table 3.14.

Table 3.14 Perceptions on One's Own Role

The role I get enables me to discuss well	Captain (n=32)	Secretary (n=32)	Time-keeper (n=32)	Common member (n=69)
Strongly Disagree	0%	3.1%	3.1%	1.5%
Disagree	9.4%	9.4%	12.5%	8.7%
Agree	75.0%	78.1%	68.8%	78.3%
Strongly Agree	15.6%	9.4%	15.6%	11.6%
Total	100%	100%	100%	100%

With regard to the percentages of 'agree' and 'strongly agree' (90.6% of the captains, 87.5% of secretaries, 84.4% of the time keepers, and 89.9% of common members), the average opinion of 88.1% was obtained (Table 3.14). The students believed that the roles they got enabled them to discuss well. The captains, secretaries, time keepers, and common members held consistent positive perceptions on how useful the role assigned to them was for their discussion.

This finding is in line with the ones obtained from the interview. From the interview transcript, it is found that among 11 students interviewed, 9 students answered YES to the interviewer's question 'Given the specific role, can you discuss well?' One said 'NO';

one ‘QUITE SO’. These findings are also supported by the ones from the observation form completed by the observers. The majority of the observers admitted that the students discussed well.

Students’ Perceptions Concerning Their Role Related to the Other Roles

Items 2 ‘I cannot discuss well because my friend does not play their role as expected’ and 4 ‘My friends monopolize the discussion’ in the questionnaire concerned about the students’ perceptions on the role they got related to the other roles. The summary of the questionnaire analyses for these items is presented in Tables 3.15 and 3.16.

Table 3.15 Perceptions on One’s Own Role Related to the Other Roles (1)

I cannot discuss well because my friends do not play their role as expected	Captain (n=32)	Secretary (n=32)	Time-keeper (n=32)	Common member (n=69)
Strongly Disagree	25.0%	28.1%	40.6%	24.6%
Disagree	53.1%	50.0%	40.6%	56.5%
Agree	12.5%	12.5%	18.8%	18.9%
Strongly Agree	9.4%	9.4%	0%	0%
Total	100%	100%	100%	100%

Table 3.16 Perceptions on One’s Own Role Related to the Other Roles (2)

My friends monopolize the discussion	Captain (n=32)	Secretary (n=32)	Time-keeper (n=32)	Common member (n=69)
Strongly Disagree	34.4%	46.9%	53.1%	39.1%
Disagree	46.9%	43.7%	34.4%	47.8%
Agree	9.4%	6.3%	3.1%	13.1%
Strongly Agree	9.4%	3.1%	9.4%	0%
Total	100%	100%	100%	100%

A further observation on the data indicates that with regard to the percentages of ‘strongly disagree’ and ‘disagree’ as the response to ‘I cannot discuss well because my friends do not play their role as expected’ (78.1% of the captains, 78.1% of secretaries, 81.2% of the time keepers, and 81.1% of common members), the average opinion of 79.7% was obtained (Table 3.15). The students therefore admitted that their friends carried out their roles as expected. With regard to the percentages of ‘strongly disagree’ and ‘disagree’ as the response to ‘My friends monopolize the discussion’ (81.3% of the captains, 90.6% of secretaries, 87.5% of the time keepers, and 86.9% of common members), the average opinion of 86.6% was revealed (Table 3.16). The students implicitly claimed that there was no monopoly in the group discussion. The captains, secretaries, time keepers, and common members held consistent positive perceptions on

how useful the other roles assigned to their friends were. In brief the majority agreed to say that their own role was positively influenced by the other roles in the group.

This particular finding is confirmed by the ones obtained from the interview. From the interview transcript, it is found that among 11 students interviewed, 8 students did not think their friends monopolize the discussion and thought they could discuss well as their friends played their role as expected. The three others had the opposite opinion. These findings are also supported by the ones from the observation form completed by the observers. Two-thirds of the observers disagreed to 'Some students monopolize in the discussion' and to 'Some students do not participate in the discussion'.

Students' Perceptions Concerning All Roles Assigned

Table 3.17 is presented to show the result of the analysis of the students' responses to the statement: "I like role assigning for each student in group discussion". Meanwhile Table 3.18 indicates the one to "Group discussion becomes better because of the role assigned to each student".

Table 3.17 Preference for Role Assigning

I like role assigning for each student in group discussion	Captain (n=32)	Secretary (n=32)	Time-keeper (n=32)	Common member (n=69)
Strongly Disagree	3.1%	0.0%	3.1%	1.5%
Disagree	3.1%	3.1%	9.4%	7.3%
Agree	53.1%	65.6%	46.9%	62.3%
Strongly Agree	40.6%	31.3%	40.6%	29.0%
Total	100%	100%	100%	100%

Table 3.18 Perceptions on Role Assigning for Better Discussion

Group discussion becomes better because of the role assigned to each student	Captain (n=32)	Secretary (n=32)	Time-keeper (n=32)	Common member (n=69)
Strongly Disagree	0.0 %	0.0 %	6.3%	2.9%
Disagree	3.1 %	9.4%	3.1%	8.7%
Agree	56.3 %	53.1%	46.9%	60.9%
Strongly Agree	40.6 %	37.5%	43.7%	27.5%
Total	100 %	100%	100	100%

The data in Table 3.17 show that the majority of captains, secretaries, time keepers, and common members have positive perceptions on role assigning. When the percentages of 'agree' and 'strongly agree' as the response to 'I like role assigning for each student in group discussion' are considered, it is found that the average percentage revealing the preference for role assigning is about 92%. The students did like role assigning. The

reasons the interviewed students provided – that the discussion ran more smoothly because of the role assigning – then support this particular finding.

Based on the data presented in Table 3.18, it is found that when the percentages of 'agree' and 'strongly agree' are computed, the captain's positive perceptions constituted 96.9%; the secretary's 90.6%; the time-keeper's 90.6%; the common member's 88.4%. The average percentage of positive perceptions on this role assigning for better group discussion is 91.6%. Slightly above two-thirds of all the students consider their discussion gets better because of role assigning.

This finding is supported by the observers whose opinion is reflected in the observation form. All of the observers agreed to "The role assigned to each student is helpful to make the discussion go on smoothly" and "The students like the role assigning". All of the students interviewed similarly revealed positive perceptions on role assigning. This finding might be related to the teacher's role – reminding the students regularly about their roles before they started the discussion. Role assigning as a sort of positive interdependence is not without its value to maintain smoothly functioning groups.

3.3.6 Summary

Pilot Study 2 finds that there is no significant difference in the listening achievement between the second grade junior high school students who are taught using the Jigsaw technique and those who are taught using the non-Jigsaw group work. The three implementations of Jigsaw in the listening class reveal a distinctive situation among them. The chaos in the class gradually becomes lessened from one to the next implementation. With regard to the students' perceptions on role assigning, the questionnaires indicate that role assigning in the implementation of the Jigsaw technique is positively perceived by the students.

Like Pilot Study 1, Pilot Study 2 provides other useful insights for our main study. As role assigning is positively perceived for its usefulness, we are firmly encouraged to maintain it and to continue with our investigation on to what extent role assigning influences the interaction of high-, middle- and low-achieving students. However, when the formulation of tasks is reexamined (see [3.3.4.1]), it is realized that the tasks of *captain*, *secretary* and *time-keeper* have been clearly formulated while *common member* is not yet given a specific functional task. Therefore, the common member role will be reconsidered later in the main study.

3.4 The Main Study under Report

The two pilot studies presented in the previous sections are not the same as the main study under report. The differences are as follows:

(1) Unlike Pilot Study 1 which examines student interaction that is triggered by the comprehension questions appearing below the text read, the main study analyzes student interaction which is triggered by the students themselves. Facilitated by Ogle's (1986) K-W-L teaching model which is modified (the details are available in [4.4.9]), the students discuss the text based on what they want to know from the text or on what they want to check with their team mates to ensure whether their understanding is correct or not. Therefore, the student interaction is triggered by the students' own goal or interest.

(2) The positive interdependence in Pilot Study 2 concerns role interdependence. In the main study, besides role interdependence, reward interdependence is also employed.

(3) In both pilot studies, the students are simply put into groups of 4-5 students based on the vicinity consideration. In the main study, the student grouping is more systematic. The students are grouped by employing the sociometric method, and by forming heterogeneous groups each of which consists of high-, middle-, and low-achievers (this grouping issue is elaborated in [4.4.5] and [4.4.6]).

(4) The design in the main study is improved to obtain 'more structured' interaction – to enforce face-to-face interaction – one of the essential components of cooperative learning which was not enforced in both pilot studies. The task directions and procedures were implicitly provided to the students in the worksheets (more discussion on the task preparation is in [4.4.9]).

(5) In both pilot studies, the students are not given any special preparation for cooperative behavior. The students are simply instructed to work together in the short period of the Jigsaw implementation – indicating that interpersonal skills as one essential component of cooperative learning are not yet enforced. In the main study, four classroom sessions are spent on providing a model of group discussion (introduction to cooperation). Moreover, the teacher points out to the students the reasons for cooperation with peers. These preparation sessions of which the goal is to indirectly teach interpersonal skills are set aside following the arguments put forward by Blatchford et al. (2003), Dörnyei (1997), Galton & Williamson (1992) in Mercer (2000), Graves (1994), Jaques (2000), Mercer (2000), Tinzmann et al. (1990), and Wohl & Klein-Wohl (1994). They similarly argue for

the necessity of special preparation for cooperative behavior stating that students need to be given models and explanations telling them how to learn cooperatively (more discussion on the model of group work is in [4.4.10]).

(6) In Pilot Study 1 the recordings of the chosen group discussion were done outside the classroom thus the data collection in this pilot study is not done naturally. The audio recordings in the main study are done more naturally (elaborated in [4.4.11])

(7) In both pilot studies the Jigsaw implementation is a short treatment of cooperative learning. The intervention is performed in merely three out of the whole school year sessions which are predominantly teacher-centered. To be more specific, Jigsaw is implemented where teacher-centered instruction is used over a school year. As there is also a need for more studies of cooperative learning in naturalistic settings rather than in short-term experimental manipulations, the main study is performed differently. In the main study cooperative learning dominates the class sessions over a semester. It is then more of a cooperative learning class. The 28-session semester program is designed specifically for six sorts of class sessions: (1) one introductory session at the very beginning of the semester program, (2) one feedback and review session in the middle of the semester, (3) one feedback and closing session at the end of the semester, (4) model group work allocated for 4 sessions in which the students are given a model of group work, (5) teacher-centered instruction allocated for 7 sessions, and (6) cooperative learning or student-centered instruction scheduled for 14 sessions. It is then obvious that the time allocated for group activities exceeds that for teacher-fronted activities (this cooperative learning-dominated class is indicated in the course outline elaborated also in [4.4.11]).

Considering especially the improvements made as described in (3) - (8) above, the main study then obviates some of the pitfalls of the pilot studies hence making the main study worth-conducting.