CHAPTER 5. SUMMARY AND RECOMMENDATIONS

This chapter presents a summary of the findings in this study. It also discusses the effects of technology in the strategies used to accomplish the tasks and the limitations and the problems of conducting this study as well as how such a study can be improved. The final section will discuss the use of the jigsaw and decision-making task to a classroom setting in Indonesia.

Summary of Findings

Following the organization of the presentation of information in Chapter 4, the summary of the findings of this study will be organized in this manner: (1) overview of the amount of language produced in each task, (2) frequency and type of IM types that occurred frequently in the tasks; (3) the production of IM per task in each dyad; and (4) the motives and factors involved in the IM production.

First, in order to answer the question about IM type frequency in Research Questions Two and Three, it is necessary to provide an overview of the amount of language produced in each task. The results of the total word production analysis in each task showed that the jigsaw task produced more words than the decision-making task. The analysis of average word production per turn in each task had this same result. A paired t-test analysis confirmed that difference was statistically significant for total word production in each task. One explanation for this difference was difference in the giving and sharing information in each task. Subjects may have produced more words in the jigsaw task because it involved providing elaborate descriptions of pictures. It is thus reasonable to expect more word production in the jigsaw task.
On the contrary, the results of total turns for each task shows that the decision-making task produced more turns than the jigsaw task. A paired t-test analysis, however, did not confirm that difference was statistically significant for total turn production in each task. One explanation for this finding was the nature of interaction in the decision-making task, which emphasizes argumentation and the giving of rationales in selecting certain items. Thus it is possible that the flow of turn-taking was more frequent.

To summarize, the results of the data analysis on total word and turn production yield an interesting finding. In terms of word production, the results of the data analysis reveal that the jigsaw task provides more opportunity for the subjects to generate more word production. On the contrary, in terms of total turn production, the decision-making task generates more total turn production than the jigsaw task. In terms of total turn production, the results of this study are similar to Sauro’s study (2001), in which there is no significant difference in the average total turn production in the two tasks. It is possible that the differences in the tasks themselves account for the differences in the results of the study. It is also interesting to note that different unit of analysis affects the outcomes of the study in regard to the difference between the two tasks.

The study’s first research question investigated the frequency and the type of IMs that occurred in both tasks combined. Confirmation checks occurred the most frequently, followed by overt indications of agreement and clarification requests. Although, the use of Indonesian to replace ideas or words in English occurred quite frequently, this IM type was not considered as notable since it occurred as a result of idiosyncrasy of one dyad.

The second research question broke down the production of IMs according to both task and dyad. This analysis was done to determine whether or not there was a difference between the two tasks in producing IMs and the consistency in usage across the dyads.
Firstly, the results suggest that the decision-making test generates more occurrences of each IM. For five IM types, there were large differences in frequency between the two tasks. These five IMs with notable differences include clarification requests, overt indications of agreement, the use of Indonesian, confirmation checks, overt indications of understanding, and overt indications of non-agreement. Looking at the discourse in which these IMs occurred, we can see that there are three factors that can account for the differences: (1) the nature and the requirements of the tasks (whether the task requires a description or argumentation), (2) the importance of the information being supplied, and (3) idiosyncrasy. Although the results suggest that the differences in frequency were not large for certain types of IMs, it is interesting to note that when great differences occurred, the decision-making task usually had the higher frequency of IM occurrences (i.e. in clarification requests, overt indications of agreement, confirmation checks and overt indications of non-agreement). The only case where the jigsaw task generated more IMs (i.e. in the use of Indonesian) occurred only as an idiosyncrasy: it took place in one dyad only and under a circumstance in which the dyad encountered a situation which led them to not completely follow the instruction to use English in the conversation.

Secondly, with regard to IM production in each dyad, both the results of the descriptive statistical analysis and the inferential statistical test suggested that there is a statistically significant difference between the two tasks in generating IMs in each dyad. Specifically, similar to a previous study by Sauro (2001), the results indicate that the dyads produced more IMs in the decision-making task.

The third research question aimed to explore the motives and factors in producing IMs. This analysis reveals that the need for understanding was an instrumental factor in the subjects’ decision to produce an IM. This result was not surprising because
understanding was important to the success in achieving the goal of the tasks. Other factors involved in the production of IMs were the time dedicated to doing the tasks and the medium.

**The Effect of Technology on the Subjects’ Strategies**

Analysis on the subjects’ perception regarding the factors involved in the IM production reveals that the medium in which the subjects did the tasks has an effect on their strategies in understanding their partners and in making their partners understand their message. As they did not have the choice of using non-verbal communication, they had to signal misunderstanding or to check their partners’ understanding by producing written IMs.

Another effect of technology in this study is in the subjects’ strategy in accomplishing the tasks. For example, in the jigsaw task, instead of presenting the pictures that each of the subjects had one by one and made sure that each picture was understood by the partner, the transcript reveals that in the beginning of the task both subjects in a dyad typed the description of each picture simultaneously and in concurrent to each other’s description. In the decision-making task, both subjects in the dyad typed their selection of certain items in each group of items almost at the same time. In face-to-face communication, such strategy will not be possible to be used because it means that they are talking at the same time and not listening to each other. In internet interaction, as the subjects can always look back to what their partner typed, this strategy is feasible.

Interaction in CMC environment also provides an opportunity for the subjects to pay attention to the forms of their language production. This result is consistent to the results of Smith’s (2004) study, in which the saliency of linguistic features offered by CMC medium helps students to focus on the form of their vocabulary production. For
instance, they had time to make sure that they did not misspell any words to avoid confusion and that they used appropriate tense forms for each verb. Analysis of the transcript shows that most of the occurrences of repetition and self-correction (27 and 54 respectively) in this study are for correcting previous misspelling of words. In the face-to-face communication, corrections on the spelling of previously said words may not be possible.

Another interesting revelation from the interaction in the CMC environment is that the subjects used the feature of the internet chatting software to project their unique identity. The first thing that each subject did upon login was to change the font type and color of their message in the internet chatting. In addition to the practical purpose of this action, i.e. to distinguish their message from their partner’s in the chatting window, this action illustrates their wish to introduce and maintain their unique individual identity. As each subject was given a login name which was very uniformed (i.e. subject01, subject02), the action of changing the appearance of the font reflects their wish to be treated as unique individuals, even before they had the chance to introduce their names to the partners.

Cultural issue of how to present disagreements is also an interesting finding that may become a topic of future research. As the transcript analysis reveals, the subjects expressed disagreements indirectly using IMs in computer-mediated communication, instead of explicitly opposed the partners. It is interesting to compare how they would express disagreements when the tasks are presented in face-to-face medium. It is possible that the subjects would still express their disagreements indirectly in face-to-face communication, using non-verbal language such as facial expressions or body gesture as suggested by Condon and Cech (1996) study that such non-verbal communication is common in face-to-face communication.
Limitations and Problems

This section reviews the limitations of this study and problems encountered in its execution. Such limitations and problems may have affected the results either directly or indirectly. Most of the problems in this study were related to its methodology and to the fact that the data collection was conducted remotely, which greatly limited the researcher’s control over the study.

The first problem encountered was in the availability of subjects. As the study was conducted with subjects in Indonesia, the process of recruiting the subjects relied heavily on the ability of the assistant researcher to attract potential subjects. This study was originally designed to include 30 subjects, with an equal number of females and males. It turned out that it was difficult to control the number and gender of the subjects. There were two factors which contributed to this problem. The first one was the time frame of the data collection. Recruitment was done when the semester was about to end in Indonesia and thus it was difficult to attract students to join the study because most of them were busy with end-of-semester exams or assignments. When the dates for the data collection were offered, which were at the very last week of the semester, most of the subjects could not attend because they planned to be on vacation. It was fortunate that the assistant researcher had a good network of students who were willing to do the data collection.

The timing also prevented the possibility of integrating this study into courses. Because the semester was coming to the end during the data collection process, the assistant researcher could not incorporate the study in the courses that she taught. It would have been more interesting to integrate this study in a course to find out the effect...
of chatting in an actual classroom setting. The subjects may have been more homogeneous and may have taken the tasks more seriously if the study had been conducted as a part of regular classroom interaction.

The location of the data collection in the computer lab was another factor. Originally, the data collection was to be done at internet cafés. Since it would be more expensive and technically more complicated to collect the data in internet cafés, it was decided that the data would be collected in the computer lab. Although using computer lab required special permission from the university and the researcher needed to pay for the usage, it was relatively easier to obtain the permission and to gather the data all at once.

As mentioned earlier, collecting the data in Indonesia consequently resulted in the researcher having to rely on the assistant researcher to execute the internet sessions. It was crucial that the assistant researcher and the computer technician understand the study completely. Therefore, a set of instructions was generated to give the assistant and technician a detailed step-by-step procedure for collecting the data. Nevertheless, misunderstanding still occurred in the first session of the data collection. For instance, it was not made clear what files were considered to be vital for analysis and the time frame that subjects had to read the instructions in each task and to do the tasks.

The technical difficulties that occurred in this first session were mostly related to the subjects’ unfamiliarity with the system of file saving in the computer lab and to the IM software. Also, some of the subjects did not come on time and others had to wait until the number of subjects was sufficient to do the tasks. The second session was relatively free of problems because the assistant and technician were more familiar with the set-up and procedure of the data collection.

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In sum, it is necessary to have access to the subjects and the technical and support, as well as to have detailed instructions for each key personnel in a study. Success in having enough data for analysis was definitely due to the effort of the key personnel in Indonesia.

**Improvements in the Methodology**

One of the improvements suggested by the subjects was that the clarity of the pictures for the jigsaw task should be better. The original pictures were not very big and so their clarity could be enhanced by enlarging them. In addition to size, quality may also have been a factor. In view that the pictures were scanned and sent via email to the assistant, it may be that the process of re-printing the pictures had reduced the quality of the pictures.

Another improvement involves integrating the data collection process with a course. Doing so may change the perspective of the subjects involved in the study: they might take the tasks more seriously and provide an opportunity to test the tasks in a natural setting. In order to integrate the tasks in a course, the time frame of doing the tasks needs to be adjusted to fit with the session schedule.

The development of tasks which are more authentic for the subjects needs to be considered as well to improve the study. During the data collection process, it was observed that in the decision-making task, some of the items were culturally not familiar.
to the subjects, for instance, most of the subjects were not familiar with yeast and water purification tablets.

It is also important to conduct an initial survey on the subjects’ familiarity with the IM software and to determine a time when they feel most comfortable doing the internet chatting. Information from such a survey would be invaluable in setting up the study.

Task Usage in the Indonesian Classroom

The intention of this study is to provide a methodology for using the tasks in Indonesia. To do this, it is necessary to keep in mind the following issues for their implementation: the appropriateness of the tasks, technical support, and the financial support to do the tasks.

In terms of task appropriateness, the results of this study suggest that the teachers who want to do either the jigsaw or decision-making task need to consider the purpose of engaging their students in the tasks. When the teacher is more interested in the amount of words produced by his/her students, the jigsaw task is probably best-suited for this purpose. When s/he wants the students to practice the use of certain IM types or to encourage more turn-taking, the decision-making task may be more useful. Selection of the tasks should also consider the nature of the tasks (whether it promotes practice in describing some objects or building argumentative skill) to ensure the appropriateness of the tasks with the purpose of the course. The results of this study also suggest that
engagement in the tasks through CMC may provide opportunities for students to practice English. As English is treated as a foreign language in Indonesia, the opportunity to use English in natural context is very limited. Internet chatting may be one of the alternatives to give students the arena for practicing their English.

The limited use of English in daily conversation is also interesting to discuss. Looking back on my experiences as a student and a teacher of English in Indonesia, I observed that the society has a mixed feeling about using English in daily conversation. On one hand, the ability to converse in English is highly appreciated in the society, because the ability brings a great advantage for the conversant to get a relatively better paying job. Most vacancies require applicants to have English language proficiency, regardless of the type of jobs and responsibilities that are entailed to those jobs. However, conversing in English in daily life among non-native speakers of English is viewed as an action of showing-off. It may provoke negative comments from the hearers. One of the common questions that I received when I used English with my colleagues and students in the department was that I did not need to talk in English to other people who share the same native language with me? Other common “accusations” that I received is that by using English in daily life with those who share the same native language, I lose my identity as an Indonesian and I was attempting to put myself socially above other people who do not know English at all or very well. Although my intention in doing so was to maintain my English skills and to provide opportunities for my students to use English outside of the classroom environment (i.e. in a more natural environment) such motivation may not be a consideration in my society. As a result, the use of English in a natural environment in Indonesia is even more limited. Conversation through internet chatting may offer a less threatening environment for students to practice their English because it is relatively free from other people’s scrutiny. It also opens the window to the
world and exposes students to variety of English used by native speakers of English or non-native speakers from other countries.

Technical implementation of the tasks in classroom setting remains very problematic. The availability of a stable internet connection is a pre-requisite for conducting the tasks, but such a connection may not be readily available in many of the classrooms in Indonesia. Although many colleges in Indonesia may have computer labs, such labs are usually not internet-enabled because the technology is still considered expensive. The cost of the technology may not be the only reason why the adoption of internet technology in education institutions is not as rapid as in the other sectors in Indonesia. With the freedom of information access that the internet technology is capable to offer, there is also a fear that the students may access information that is not appropriate for them to consume. This may lead to the tendency of the administrators in education institutions to approach the use of this technology with caution and critical perspective. The technology promises positive effects for pedagogical purposes, but because such effects have not been empirically proven to deliver the effects, the administrators may be reluctant to adopt the technology for their institutions.

Studies similar to this one are an opportunity to provide evidence on the positive effect of the internet technology to the teachers and the administrators. This type of study illustrates to teachers how the tasks can be utilized in their class and can benefit their students. Provided that the teachers have appropriately selected the tasks for certain purposes and provided enough activities to keep the students focused on the tasks at hands (i.e., not to wander around the world wide web to access irrelevant information), interaction in CMC environment using internet chatting software may encourage students to produce and practice the target language, to pay attention to forms in their language production, and to acquire specific skills of communication. The positive results of the
study may convince the administrators to start considering the adoption of internet technology to their institutions. Among the positive results that the administrators need to know and consider in the adoption of internet technology is the capability of the internet chatting to make the students engage in meaningful tasks, to provide more alternative means for students use English in a less threatening environment. With the difficulty of attracting native speakers of English to teach in Indonesia, internet communication may also become a solution for the administrators in providing exposure to native speaker use of English.

In sum, to put the internet technology in practice, cooperation between teachers and administrators is a requirement. The teachers play a role in selecting tasks and activities in internet environment that encourage students to gain the fullest benefits of a CMC environment. The administrators play a role in providing technology to support teachers’ efforts to help students acquire the target language.

**Future Research**

So far, the findings of this study have examined the differences between the jigsaw and decision-making tasks in the generation of IM types in NNS-NNS dyads in a controlled environment of computer labs. It will be very valuable to examine differences between the tasks in the natural environment of internet cafes using the IM software that most of the subjects in this study are accustomed to. It will also be useful to have a control group in which the subjects are engaged in non-CMC interaction. The results of that group can be compared with the results of a study similar to this one to actually explore whether differences in the communication medium affect the negotiation of meaning. Another direction of research that is worth pursuing is the effects of technology in communication, whether the difference in medium affects the learners’ strategies in
communication. In this topic, a question that may be pondered is whether the learners will use different strategies of communication depending on the medium of communication. Also, it is interesting to see if there will be less IM production in CMC because the learners can always go back and see what they have typed. It will also be interesting to explore the cultural aspects of using English in CMC environments, such as the perception of learners in using English in CMC environments. One of possible research question for this topic is whether the learners have different level of comfort when they are engaged in CMC environment as compared to non-CMC environment (i.e. whether two Indonesian students would feel more comfortable in using English in CMC environment because it is considered a private domain, where the society has no access). In the case of expressing disagreement, one of possible direction of research is to compare two cultures in their ways of expressing disagreements and whether the IM production reflects the difference in the degree of directness.