

# Analysis of Students' Communication Strategies in ESP Class of Mathematic Study Program

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This study examines communication strategies resulting from a project based on presentation in English for university class at Lampung University. An oral presentation session consisting of individual presentation session, question and answer session, and summary session was conducted by the English lecturer as part of project based on learning program. Twenty first-year students enrolled in the course were taken as sample for the research. The presentations were recorded, transcribed, and coded according to communication strategy classification. The results show that from 12 communication strategy classifications, nine types of communication strategies were identified. These strategies were grouped into high frequency strategies, mid frequency strategies, and low frequency strategies. The distributions of the strategies identified are high frequency strategies including code switching (36.28%), time-gaining strategies (30.37%), and appeal for help (16.03%), mid frequency strategies including non-linguistic signal (6.32%) and literal translation (4.64%), and low frequency strategies including message abandonment (2.53%), topic avoidance (2.11%), circumlocution (0.84%), and approximation (0.84%), and non-existence strategies (use of all purpose words, word coinage, and foreignizing).

*Keywords:* communication strategies, code switching, ESP class

## Introduction

Communication is one of the main goals in learning English and this skill is very important to be achieved by all of the English learners. Communication is a continuous process of expression, interpretation, and negotiation (Savignon, 1997). A successful communication refers to passing on a comprehensible message to the listener. Communication does not only happen in the L1, but also in L2. Canale and Swain (1980) also stated that to keep the conversation going on, the speakers need some strategies for their communication. Since no individual's linguistic repertoire is perfect, most people have experienced struggle to find the appropriate expression or grammatical construction when attempting to communicate their meaning. The steps taken by language learners in order to enhance the effectiveness of their communication are known as *communication strategies* (Littlemore, 2003).

A research conducted by Ikawati (2011) was about communication strategies employed by the students at SMA Negeri 8 Malang. She found that the subjects did not employ L2-based strategies, for example, Circumlocution, Word-Coinage, and Foreignizing, because they considered those strategies difficult and they

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were not familiar with them. The most frequently employed strategies were the use of fillers/hesitation devices (23.97%), repetition (15.7%), message abandonment (15%), and code switching (15%).

Hantia (2014) investigated ELT (English Language Teaching) learners' communication strategies in English Teaching (ET) media class at University of Lampung. The result shows that there are seven types of communication strategies produced by students of ELT learning subject matter at University of Lampung: Message Abandonment, Topic Avoidance, Use of All Purpose Words, Non-linguistic Signals, Code Switching, Appeal for Help, and Time Gaining. The results also show that communication strategies occurred more frequently in the class that used EXCLUSIVE learning.

It is a common practice in any foreign language learning situations that people judge someone' language competence based on his/her performance on the language. And the performance being jugded is speaking performance. Thus, learning and using oral communication strategies can be beneficial for them in order for them to engage in effective conversations in English and to make them look good "at face value" (McDonough & Shaw, 2003).

### **Method**

This research was a non-experimental descriptive study using taxonomic analysis as qualitative design. The researchers analyzed types of the communication strategies adapted from Dornyei's taxonomy (1995). Communication strategies that ocured in the presentation session was classified by using Dornyei's taxonomy.

Subjects in this study were 20 fresh college learners of mathematic study program in English for Specific Purpose (ESP) class at University of Lampung. This research was conducted in the individual presentation session, so that they could share what they were thinking about the topic of the presentation. The instrument used in this research was observation sheet. The explanation of the observation sheet task is as follow:

Observation Sheet: This research used observation sheets to analyze the data. Observation sheet was observation sheet for analyzing communication strategies.

The study used qualitative description in analyzing the data from the observation sheet which was about Communication Strategies (CSs) that was conducted to probe their perceptions of communication strategies and the use of certain strategies when communicating with others. It means that the researcher would describe all collected data and problems found in the field with referring to the previous research about CSs.

### **Results and Discussion**

#### **Results**

The data of this research were taken from the presentation session in ESP class. The data were in the form of communication strategies applied by the participants in the presentation session. The participants were 20 students from first-year mathematic students. From the question and answer session in presentation, it was found that there were 237 communication strategies used by all participants. They were message abandonment, topic avoidance, approximation, circumlocution, non-linguistic signals, code switching, literal translation, appeal for help, and time-gaining strategy (see Table 1).

Table 1

*Total Numbers of Communication Strategies Used by Mathematic Students*

Communication strategies	Numbers of use	
	$\Sigma$	%
Message abandonment	6	2.53
Topic avoidance	5	2.11
Circumlocution	2	0.84
Approximation	2	0.84
Use of all purpose words	0	0
Word coinage	0	0
Non-linguistic signal	15	6.32
Literal translation	11	4.64
Foreignizing	0	0
Code switching	86	36.28
Appeal for help	38	16.03
Time-gaining strategies	72	30.37
Total	237	100

Based on the data above, the researcher divided the communication strategies that were used by mathematic students into four levels of frequency, which were high frequency strategies, mid frequency strategies, low frequency strategies, and non-existence strategies. The strategies that included of each level could be seen from the figure below (see Figure 1):

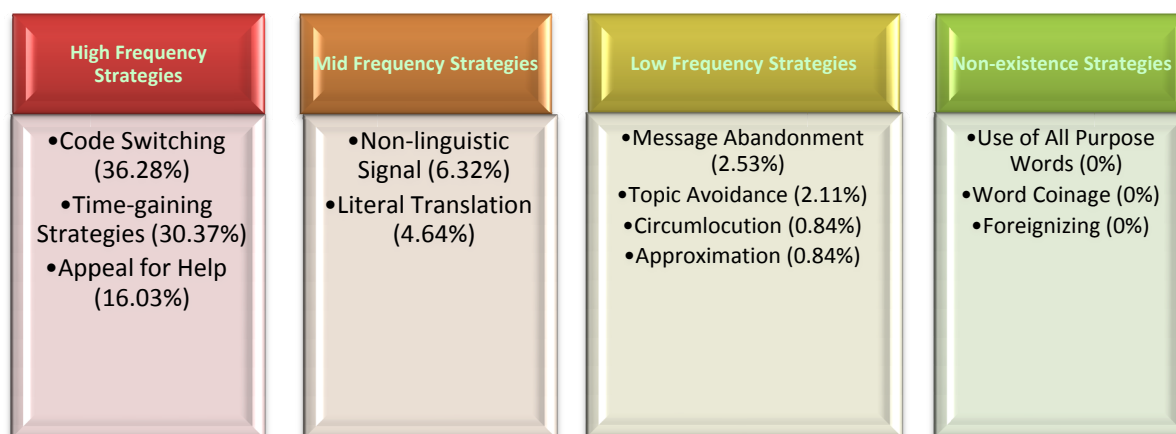


Figure 1. Level of communication strategies used by mathematic students.

## Discussion

From the result of the communication strategies used by mathematic study program in presentation session of ESP class, there were 237 communication strategies that were used in the presentation session. Communication strategy that was most frequently used was code switching, time-gaining strategies, and appeal for help. Those strategies are included in high frequency strategies. The example of code switching used by mathematic students could be seen as follow:

## Example 12

DA: at first need to take a plant leaves. It's a *leavesnya.. daunnyadirebus. Putri malunya hehe*. Take plants of putri malu, then buil of tritenn to..30 sampai 60 gram leaves of plant putrimalu.

## Example 13

F: should? *Seharusnya?* Emmm... we must to know emmm because eemm.. chemistry is ... emm... harmful.. we different his hand illustrate the different by making it looks like stairs) emmm... *apaan sih .. supaya.. supaya apa sih?* (looking to other friends)

F: Language Indonesia? (looking to Mr. Hery). *Itu supaya kita bisa membedakan kelebihan dan kekurangannya gitu..jadi kalo kelebihan itu apa, kekurangan itu apa.*

Based on the data above, the use of “leavesnya” and “apaansih” were included in unconcious process. That happened because of the speaker’s habit in the first language. The speaker used those words because they usually used that in the first language. In the Example 12, the phrase “*daunnyadirebus*” means that the speaker did not know about phrase “*daunnyadirebus*” in English, so that the speaker preferred to use L1 in explaining the leaves was boiled. That happened also because the students did not know the words that they should use in English. Then in the Example 13, the researchers assumed that in the last dialogue of Example 13, the speaker used code switching conciously because he avoid misunderstanding in his explanation, so he preferred to use *Bahasa Indonesia* to avoid misunderstanding. He also used *Bahasa Indonesia* because it was easier for him to communicate with his friends during the presentation session. The research findings had indicated that one of the major factors of code switching was that elements of the other language convey the meaning of the intended idea more accurately (Gumperz, 1982). From that statement, it could be concluded that code switching was done to get more accurate conversation. If it was compared with the result of the participants here which were mathematic students, there was consideration that the participants not only wanted to get accurate idea, but also they wanted to get the ease in delivering their ideas.

Secondly, there was “time-gaining strategies” used 72 times in presentation session by Mathematic students. Time gaining refers to a strategy in which the speakers gain time to think. In this thinking process, the speakers may think about appropriate words, phrase, sentence, or even structures of the sentence he will speak. In filling this thinking process, there were many ways used by the speakers. Those could be silent for a moment for a time or filling the thinking process by using fillers. From the result, the participants frequently used fillers in their thinking process. It could be seen from the high existence of “*hmm*” and “*emm*” in their presentation. The example of time-gaining strategies used by students could be seen as follow:

## Example 14

1st question: what the was using make ice with out refrigerator?

M: We use the ice cube and the salt. We mix the ice cube and salt so the *eeeeemmm....temperature eeeeemmmreduce*, so the liquid that we make ice kan we... we.... took the ice into the bowl, then we prepare... *eeemm....* what is want we... we..... used to be make ice. For the example we.... *emmm...* we and we... pull up and

down Because the emm... ice cube and the salt itu it will make endotherm reaction. So, *eemmm*....calor from the *eeemmm*...from the.... substransitu will be lower so ice cube and salt will be *emmm*... make it freeze. Any question? No question? Ok lisa?

The existence of fillers used in the presentation session then brings the researchers to the consideration that it perhaps is an unconscious process. It may be caused by the habit of the participants in facing the problems in speaking. This habit can be created from their inability to overcome the difficulty in speaking in their beginning in learning English. It can be explained simply by imagining the junior students who learn English for the first time. They may face the problems in speaking at that time. As the beginner in learning English, the only way used by them to cover their inability may be by using time-gaining strategies (*hmm* or *emmm*). It then may become a habit until they have learnt English for a long time. The habit once again perhaps creates the unconscious process in their speaking activities.

The existence of the high number of fillers strategy possibly means that the participants do not compensate for the linguistic deficiencies. Dörnyei (1995) stated that stalling or time-gaining strategies are functionally different from the other strategies, because they are not actually used to compensate for any linguistic deficiencies but rather to gain time and to keep the communication channel open at times of difficulty. From this statement, fillers seem to be a process of thinking used in order not to give up while the speakers express their idea. The speakers may not compensate the linguistic deficiencies.

Thirdly, “appeal for help” which was in the third rank in high frequency strategies refers to a strategy in which the speakers ask to other friends either directly or indirectly. From the result, “appeal for help” was used 38 times with percentage of 16.03%. This strategies can be used by asking directly like “*apasih, apan, and apanamanya*”, while indirectly like using mime and staring to other friends. The example of fillers used by male students can be seen as follow:

#### Example 15

FAP: kenapa bertambah? I think no. Because the corrotion not *apa ya???* Iya

F: Deoxidtribosa nucleus acid. Emmm... in DNA tuh any RNA.RNA itu bercabang-cabang. *Bercabang-cabang itu apa?* (looking to other friends)

Those two utterances are asked by the participants to the audience. They seem not to know about an English word although they know it in Indonesia. Therefore, they asked to the audience whether asking directly or indirectly. The examples of direct asking are like the asking about “*terbakarituapasih*” in *Bahasa Indonesia* and by saying “*apanamanya*”. Then, the example of indirect asking is like saying “*apasih*”. The speaker here did not ask to the audience. Indirect asking also can be seen when the student who had presentation stares or looks to other friends. However, they rose their intonation up and used eye contact in order to make the audience knew that they needed help from the audience. The use of mime, gesture, facial expression, and sound imitation is used in order to express emotions. Park (2007) stated that certain emotions are expressed both linguistically through what is said in response and paralinguistically through features, such as intonation, high pitch, pause, accent, nonverbal signs, and gestures such as facial expression. From this statement, it can be said that the students are expressive while they are expressing their idea since they try to express their emotions like using mime, rising their intonation while asking, and also looking at their friends when they needed help.

Based on the explanation above, it can be seen that there are three strategies that were most frequently used by the students and they were code switching, time-gaining strategies, and appeal for help. These strategies were included in high frequency strategies. It can be assumed that the students used these strategies because they do not master the second language well. Firstly, they used code switching because they did not know the word in English and also how to make phrases in English. They were also afraid of making mistakes, so they preferred to use L1 to explain the content to audience. It happened because when they explained in L1 that was easier to them. They also avoided misunderstanding during their explanation. Secondly, they used time-gaining strategies to help them gain time to think. This happened because they forgot the word in English or they tried to make phrases in English. Thirdly, they used "appeal for help" strategies because they had difficulties in vocabularies in English and they did not know the word in English that they should use, so they asked their friends directly and indirectly. They usually use "*apanamanya*" to ask about the word that they did not know and sometimes they also looks or stars to other friends as a form of expect help.

The strategies, such as non-linguistic signal and literal translation, are included in mid frequency strategies, meanwhile, message abandonment, topic avoidance, circumlocution, and approximation are included in low frequency strategies. They are also used more rarely. According to Dörnyei (1995), these strategies like circumlocution, approximation, use of all purpose word, word coinage, and code switching are normally termed achievement or compensatory strategies as they offer alternative plans for the speakers to carry out their original communicative goal by manipulating available language, thus compensating somehow for their linguistic deficiencies. Looking result shows that most strategies in which the speakers should compensate the linguistic deficiencies (circumlocution, approximation, message abandonment, and topic avoidance) are used more rarely. It indirectly shows that they may have ability in comprehending linguistic deficiencies. Once again, it can be caused by their status as mathematic students in which they should learn and acquire English for only some subjects. They were not required to learn English in detail in their major and they are only required to learn English for their need.

When message abandonment, topic avoidance, circumlocution, and approximation show the almost similar numbers used by mathematic students, the strategies, such as non-linguistic signal and literal translation, show the difference in numbers' usage. From the result showed in Table 1, non-linguistic signal that was used by the students are 15 times with percentage of 6.32%, meanwhile, literal translation was used by the students as much as 11 times with percentage of 4.64%. The example of non-linguistic signal used by the students can be seen as follows:

Example 16

- Mr. Hery :           insomnia?  
 DA:                   yes insomnia (give example by the gesture of sleep)  
                           Susah tidur.  
 Mr. Hery:           you mean, cough??  
 DA:                   cough? (looking to Mr. Hery)  
 Mr. Hery:           cough itu apa? Batukkan???  
 DA:                   he'eh (her hand touches her neck) iyabatuk

There were some non-linguistic signals which were made by the mathematic students. It was done because they had difficulties to explain about something. So they used gestures in their explanation to make their

explanation more clear. The participants in this study used message reduction and alternation strategies and a finding echoes Bialystok's report (1990) that foreign language learners are inclined to utilize familiar words rather than risk unfamiliar ones. They attempted to make a good impression and tried to enjoy the process of oral communication. In addition, the students often utilized gestures to help to get meaning across and eye contact to attract the attention of their listeners.

This research also found that many students used literal translation strategy during their presentation session. The example of literal translation used by the students can be seen as follows:

#### Example 17

Other friends:        bahasa Indonesia aja..

F:                        *Language Indonesia?* (looking to Mr. Hery). Itu supaya kita bisa membedakan kelebihan dan kekurangannya gitu. jadi kalo kelebihan itu apa, kekurangan itu apa. Dan kimia itu kan berbahaya gitu lho, jadi agar kita supaya tahu ..gitu. Bagaimana cara menanggulangi, iya, dari dampak kimia itu. Any question again?

Mr. Hery:                yeea. Ada prevention ada curation. Pengobatannya gimana?

DAP:                     *juice guava*

The words above are just some examples of literal translation appearing in presentation session. From those words, the speakers seem to translate the structure of their L1 (Indonesian) into L2 (English). As the result, the words like "language Indonesia and juice guava" appeared in presentation session. The researcher assumed that this strategy happened in unconscious condition. The students just translate the words from L1 to L2 without thinking about the language structure in L2.

### Conclusion

There were nine communication strategies used by mathematic students at University of Lampung. The strategies are divided into four levels, which were high frequency strategies, mid frequency strategies, low frequency strategies, and non-existence strategies. High frequency strategies were code switching (36.28%), time-gaining strategies (30.37%), and appeal for help (16.03%). Mid frequency strategies were non-linguistic signal (6.32%) and literal translation (4.64%). Low frequency strategies were message abandonment (2.53%), topic avoidance (2.11%), circumlocution (0.84%), and approximation (0.84%). Non-existence strategies were use of all purpose words, word coinage, and foreignizing.

### Suggestions

(1) Students in Indonesia might not aware about CSs. It would be better for lecturers or teachers to introduce and train them since CSs are helpful to improve students' speaking performance.

(2) This study investigated the use of CSs in ESP class by using presentation session. Future research can try to focus on investigating the use of CSs in other activities. Therefore, the results will be different from this research.

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