A Study of English Communication Strategy Use of Undergraduate Students Majoring in Science

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Abstract

The study of communication strategy has become an important aspect of English language teaching and learning. This paper aimed to examine communication strategy use of Thai undergraduate students majoring in science. Eighty-six first-year students at Chulalongkorn University were asked to complete a questionnaire adapted from Nakatani (2006). The participants studied in three science-related faculties: Science, Engineering, and Sports Science. The results of the study revealed that most of the participants used "nonverbal strategy." On the contrary, "Attempt to think in English" was the least often employed strategy. It is necessary that students should be trained to use other achievement strategies such as attempt to think in English, accuracy-oriented, and fluency-oriented strategies.

Keywords: communication strategy, second language speaking, survey

Background and Significance of the Study

Oral communication has become a favorite topic for English Language Teaching. According to Tinjaca and Contreras (2008), speaking is the most desirable ability for English as a Foreign Language (EFL) learners. People may want to communicate in English for their benefits in occupation because the English language is a Lingua Franca which means a language people use to contact and communicate with people from different national or cultural backgrounds. Especially, the ASEAN Economic Community

(AEC) was established at the end of December 2015 in order to integrate 10 countries in South East Asia to become a highly competitive economic region. English is specified as an official language of the AEC; thereby, many companies need to recruit employees with good command of English.

According to Education First (EF) English Proficiency Index, Thailand is ranked 62nd out of 70 countries in English skills, which is a very low level (EF, 2016). It is startling that Thailand was ranked number 42 four years ago, and the ranking has been declining. Thai people study the English language, for it is a compulsory subject, from primary school to university level. It is doubtful why Thais still cannot communicate in English well enough. One potential problem of this issue is the curriculum in Thailand that does not support conversation in the classroom, but it has been focusing on grammar translation. Accordingly, students have been struggling with many problematic factors such as the ability to communicate in their daily lives and development of fluency that teachers cannot effectively assist.

There are four skills in language: listening, speaking, reading, and writing. Generally, speaking skill is considered the most difficult competence to achieve (Gudu, 2015). Thai people are more familiar with receptive skills which are reading and writing because they have to read and write in classrooms, which is a conventional teaching method of Thailand. Due to a sizable classroom with approximately 50 students per class, the speaking and listening activities may not be suitable. When learners lack classroom practices, their performance could generate more errors and difficulties since it is a spontaneous skill. In addition, Thai learners are taught this way in order to serve purpose of tests such as summative examination and University Admission's Examination. It is more convenient to administer the tests that focus on reading and grammar.

English curriculum at Chulalongkorn University could be an example. Foundation courses for the English language, Experiential English I and II, concentrate on reading and writing skills. In light of course materials and examinations, they, principally, lean on vocabulary, grammar, reading, and writing. It does not promote engagement in communication sufficiently.

Each notable organization defines ability of proficient English speakers in different ways with different definitions. One well-known organization is Common European Framework (CEF) that many countries rely on. It provides and enhances comparable criteria for describing language proficiency in Europe and other continents ranging from A1 to C2. Thai undergraduate students are postulated to be independent users at B2 level. According to the can-do statement of Common European Framework of Reference (2014), spoken interaction skill at proficient B2 level is described as

Can use the language fluently, accurately and effectively on a wide range of general, academic, vocational or leisure topics, marking clearly the relationships between ideas. Can communicate spontaneously with good grammatical control without much sign of having to restrict what he/she wants to say, adopting a level of formality appropriate to the circumstances.

This involves learners' fluency and ability to express their thought accurately, which may need some strategies to facilitate speakers to convey the message. In order to communicate effectively, vocabulary is another part of the language system. It is believed that "the more vocabulary you know, the more things you will be able to talk about, read about, write about, and listen to well" (Leaver, Ehrman & Shekhtman, 2005, p. 162). People do not need to remember all vocabulary in an English dictionary because they require approximately 2,000 words in communicating in daily life, and 20,000 words for academic purposes (Lightbown & Spada, 2006).

It is believed that communication strategy can assist interlocutors to solve their speaking problem and enhance their communicative competence. Although considerable research has been devoted to investigating oral communication strategy use, less attention has been paid to specific groups of learners such as those in different fields of study. This study was designed to investigate the use of communication strategies among Thai EFL learners so that teachers' awareness of communication strategy use could be raised in order to improve learners' proficiency. The instructor may revise their instruction to accommodate learners' needs.

Objective

The objective of the study was to investigate the most and the least frequently used communication strategies of undergraduate students in the scientific field.

Definitions of Terms

1. Communication strategy

Communication strategy refers to a conscious plan dealing with any language-related problems to reach a particular communicative goal (Dornyei & Scott, 1997). In the earlier conceptualization, communication strategies entailed only the process of negotiation for meaning between individuals (Tarone, 1981 as cited in O'Mally & Chamot, 1990). Faerch and Kasper (1984) extended the notion of communication strategies as a psycholinguistic solution to communication problems, for example, the reduction of language complexity to avoid errors (as cited in O'Mally & Camot, 1990). The Oral Communication Strategy Inventory of Nakatani (2006) also includes speaking and listening strategies. In this study, communication strategy refers to strategies used by undergraduate students at Chulalongkorn University for coping with speaking problems only. According to an

extensive review, the theoretical framework was adapted from Nakatani (2006) seeing that it covered both achievement and avoidance strategies. They were composed of social affective, fluency-oriented, negotiation for meaning, accuracy-oriented, nonverbal, attempt to think in English, message reduction and alteration, and message abandonment strategies. These are the strategies that assist students in spontaneous conversation during Experiential English I course.

2. Thai undergraduate students majoring in Science

Thai undergraduate students majoring in Science refer to university students who study in the science-related faculties. In the present study, Thai undergraduate students majoring in Science were first-year students studying Experiential English I as a compulsory subject at Chulalongkorn University. Three science-related faculties included Science, Sports Science, and Engineering. Typically, they had passed 12 years of English language education in their primary and secondary school. According to Chulalongkorn University Test of English Proficiency, or CU-TEP, students from Faculty of Engineering are at an intermediate level. Meanwhile, the average scores of students from the Faculties of Science and Sports Science were at a low intermediate level.

Expected Outcomes and Benefits

The results of this study will redound to the benefits of communication strategy theory in that it reinforces the current knowledge of this area and raise awareness of the theory among researchers in English language teaching. It is significant that this study be a model which proves that the communication strategy theory could be applied in both international and local Thai contexts. It also uncovers what strategies are used among learners in a scientific field, which could be a new model for further research. Besides, this study is a review of another facet of communication strategy by the researcher's perspective.

By recognizing communication strategy use of learners, EFL instructors will be able to identify their strengths and weaknesses in oral communication. It will be beneficial to educate and train EFL learners with the strategies they lack. What is more, the results of the study will provide a potential framework for language instruction as many strategies could raise students' awareness of effective communication; for instance, the use of nonverbal communication could assist meaning making when they face difficulty in language production.

Literature Review

Communicative competence refers to the ability of language learners to interact with other speakers to make the conversation meaningful (Savingnon, 1991 as cited in

Bailey, 2005). The most influential model of communicative competence is originated by Canale and Swain (1980 as cited in Bailey, 2005). It constitutes grammatical competence, sociolinguistic competence, strategic competence, and discourse competence. In order to communicate effectively, the speakers must have these competences. Grammatical competence is the foundation of the interaction as it is the knowledge of grammar, lexis, morphology, syntax, semantic, and phonology. Then, sociolinguistic competence is the ability to use language appropriately in different contexts and functions. It also involves register, style shifting, and pragmatics. The third skill is strategic competence. It is defined as a set of strategies that could be utilized to overcome problems and enhance the effectiveness of communication. The last element which was developed later in 1983 is discourse competence. It is necessary that language learners must know how to produce a unified spoken or written text in different genres by integrating cohesion and coherence.

Communication strategies are "an adaptation to the failure to realize a language production goal" (Tarone, 1981 as cited in O'Mally & Chamot, 1990). It is important that individuals should try to negotiate the meaning while communicating by using different strategies such as circumlocution, approximation, and mime. To clarify, circumlocution is the way an interlocutor exemplifies, illustrates, or describes the properties of an intended term. Approximation is the use of an alternative lexical item which shares semantic features with the target term. Mime is a nonlinguistic strategy which involves describing something nonverbally, or accompanying an expression with a visual illustration (Dornyei & Scott, 1997).

Many scholars produced different models of communication strategies but they generally included two main categories: achievement and avoidance strategies. Achievement strategies are strategies speakers used to expand their linguistic resources to attain communicative goals whereas avoidance strategies refer to "strategies speakers use to adjust the message to match their linguistic resources" (Chuanchaisit & Prapphal, 2009, p. 102). Tarone (1977 as cited in Dornyei & Scott, 1997) postulated the taxonomy which consisted of avoidance, paraphrase, conscious transfer, appeal for assistance, and mime strategies. Then, Faerch and Kasper (1983) developed a communication strategy inventory which comprised formal reduction, functional reduction, and achievement strategy (as cited in Dornyei & Scott, 1997).

The theoretical framework of this study was based on Nakatani's Oral Communication Strategy Inventory or OCSI (2006). This framework originally contained both listening and speaking strategies, but the present study focused on speaking strategies solely. It is claimed that the inventory is particularly suitable for EFL learners. The instrument illustrated high internal consistency since Cronbach's alpha was 0.86. Moreover, he compared OCSI with the Strategy Inventory for Language Learning (SILL) to point out the correlation and concurrent validity of his inventory were significant

(Nakatani, 2010).

There are eight categories of oral communication strategies. The followings are six achievement strategies. First, social-affective strategies are the strategies used to assist a speaker's emotions and also the attitudes towards risk taking. Second, fluency-oriented strategies involve the conversation flow and time taking. Third, negotiation of meaning strategies deal with confirmation, comprehension checks, and clarification request. Fourth, accuracy-oriented strategies emphasize grammar usage and pronunciation. This definition is slightly different from the OCSI (Nakatani, 2006) as he categorized pronunciation into fluency-oriented category. According to Brown (2007), accuracy refers to grammatical and phonological correctness. Therefore, pronunciation belongs to accuracy-oriented strategies. Next, nonverbal strategies are the way speakers use gestures and facial expressions in communication. Lastly, attempt to think in English strategy is utilized when speakers do not think in their mother tongue but English.

On the contrary, when considering avoidance strategies, it could be seen that message reduction involves the strategies of how the speaker shortens what they want to say, while message alteration refers to the change of words and expressions into more simple utterances. Another avoidance strategy is message abandonment dealing with avoidance of communication. When the interlocutor encounters some problems, they stop and leave the message unfinished, or may not respond at all.

A great number of studies concerning communication strategy in Thailand have been carried out. First, Chuanchaisit and Prapphal (2009) conducted a study of English communication strategies of Thai university students. The study aimed to examine the types of communication strategies that low-ability students used in their speaking. Fifty low-ability and 50 high-ability students were randomly selected to complete the self-reported questionnaire. An independent t-test and descriptive statistics were employed to find out whether there was any significant difference between the two groups. The results showed that the high-ability students tended to use risk taking strategies such as social-affective, fluency-oriented, help-seeking, and circumlocution strategies. On the other hand, the low-ability group preferred risk-avoidance strategies, especially the time-gaining strategy.

More recently, Metcalfe and Noom-Ura (2013) investigated communication strategy use of high and low proficiency learners in Thailand. They also used the Oral Communication strategy Inventory (OCSI) by Nakatani (2006). A self-reported questionnaire with 62 items regarding speaking and listening strategies were employed. The participants were 104 first-year undergraduate students at Chulalongkorn University. Overall, the finding showed that the subjects reported message reduction and alteration

whilst speaking was the most frequently used strategy. With regard to language proficiency, high proficiency learners more often used social affective, fluency-oriented, and negotiation for meaning strategies. In contrast, low proficiency student reported that message abandonment strategy was the most frequently used strategy. The findings were similar to those of Chuanchaisit and Prapphal's (2009) study in that high-achievers preferred social affective and fluency-oriented strategies.

Malasit and Sarobol (2013) also carried out research on communication strategies used by Thai EFL learners. The participants of this study were 30 Mattayomsuksa 3, or grade 9, students in the English program at Joseph Upatham School. The data were derived from one-way and two-way speaking tasks. Semi-structured interviews and picture story narrative tasks were conducted to examine communication strategy use of high, middle, and low proficiency groups. It was found that students tended to use communication strategies in a two-way task rather than in a one-way task. Overall, the participants from three different proficiency groups employed similar strategies. The most frequent compensatory device they used was filler to gain more thinking time. Based on the study findings, it could be assumed that strategic competence is essential for an EFL curriculum.

Many researchers focused on international contexts. Nakatani (2005) investigated the effects of awareness-raising training on oral communication strategy use of Japanese EFL students. The participants were 62 female students with a mixed level of proficiency. They were divided into two groups: the strategy training group which consisted of 28 students and the control group which consisted of 34 students. The experimental group received explicit strategy training, while the control group was taught with a traditional communicative approach. The class lasted 90 minutes per week, totally 12 weeks. The age of students ranged from 18 to 19 years old. The data were collected through the pre- and post-oral communication tests, transcriptions from the tests, and retrospective verbal protocol to investigate learners' intentions towards their strategy use according to their task performance. The results revealed that the experimental group who received training performed significantly better than the control group. From the retrospective verbal protocol, students indicated that their performances were improved because of the awareness of oral communication strategies such as maintenance and negotiation strategies.

Nakatani (2010) conducted a classroom study on EFL learners' oral communication strategy use. The study's objective was to explore whether the use of specific communication strategies could improve learners' proficiency. Sixty-two Japanese college students participated in the study. The Communicative Language Teaching approach and strategy training were the key functions for this 12-week course. Transcription data, questionnaire, and retrospective verbal protocol were the main data collection instrument. The findings supported his previous research that maintenance discourse and negotiation

for meaning strategies could help students improve their speaking ability while engaging in communicative tasks. However, rarely did the students use modified output strategy, or modify their previous utterance in order to gain mutual understanding.

Later, Nakatani (2012) examined the communication strategy usage presented in the Common European Framework of Reference and ability of EFL learners. The participants were 62 female students in an English class at a private college in Japan. It was indicated that the proficiency of learners was quite low as their TOEIC scores ranged from 350 to 540. He collected the data from the pre- and post-conversation tests, transcription data and self report questionnaire. According to pre- and post-tests, the strategy use of the participants increased significantly, especially the use of achievement strategies. They employed accuracy-oriented strategies intentionally to improve their interlanguage.

Razmjoo and Ardeleani (2011) developed a new model of speaking strategies for EFL learners, and examined whether learners' gender and their proficiency affected the application of strategies. In the first phase, 30 adults studying at Shiraz University Language Center in Iran were interviewed to elicit their perspectives. Then, 210 participants with different proficiency levels, namely beginner, intermediate, and advanced from Shiraz University Language Center and Bahar Language Institute were selected to complete the 21-item questionnaire. In the second phase, T-test statistics was implemented to analyze the relationship between their genders and the use of strategies. Moreover, to determine the effects of participants' proficiency, one-way ANOVA analysis was used. Consequently, the researchers came up with the online and offline strategies model. Online strategies, which were used at the time of speaking, included interference of the mother tongue, error correction, accuracy, and body language and substitution. On the other hand, offline strategies, the way learners utilized strategies to develop their speaking ability, comprised educational-aid method and instruments, memorization and summary, and sensitivity towards chances. Eventually, the findings showed that gender and level of proficiency did not affect adult learners' speaking strategy.

From the aforementioned studies, it may be inferred that participants in different proficiency levels apply different strategies. In addition, contexts of the studies play an essential role affecting communication strategy usage; for instance, Thai and Japanese learners utilize different strategies. On the basis of communication strategy training, it could ameliorate learners' speaking performance remarkably.

Methodology

Sample

The participants consisted of 86 students from the science-related faculties at Chulalongkorn University. There were 24 students from Faculty of Science, 34 students from Faculty of Engineering, and 28 students from Faculty of Sports Science. They were selected from intact groups to represent the science students in the university. All of them were the first-year students who enrolled in the Experiential English I course which is a compulsory subject for all first-year students except for students in the Faculty of Arts and international programs. Normally, the number of students in this course is limited to no more than 35 students per section.

According to the regulation of the university, all students must take the Chulalongkorn University Test of English Proficiency (CU–TEP) before the first semester starts. The total score is 120 points indicating the proficiency as follows: 1-7 = beginner, 8-17 = middle beginner, 18-32 = upper beginner, 33-44 = low intermediate, 45-56 = middle intermediate, 57-68 = intermediate, 69-79 = low advanced, 80-91 = middle advanced, 92-106 = advanced, and 107-120 = upper advanced (Chula, 2016). The average score of Science students is 41.38 which is considered at a low intermediate level. The proficiency level of Engineering is 68.22 which is intermediate. Lastly, Sports Science students' average score is 39.17, categorized as low intermediate as well.

Research Instrument

The study was survey research based on questionnaire administration. The self-reported questionnaire consisted of two sections, including demographic information and questions related to communication strategy use of learners when speaking. For the first section, the participants were asked to give information regarding their gender, grades received in previous English class from their Matthayomsuksa 6 (12th Grade), self-assessed speaking proficiency levels and CU-TEP scores. In the second section, there were 27 items which portrayed communication strategies. A Likert-scale questionnaire was designed to evaluate the frequency of their English oral communication strategy use.

The Likert-scale questionnaire was adapted from Nakatani (2006 and 2010) because it was piloted and assessed. Many researchers adjusted their questionnaires by conforming to this model (e.g., Chuanchaisit & Prapphal, 2009; Metcalfe & Noom-Ura, 2013). They translated or adapted the instrument of the original version, and used them in their studies.

The original version of Nakatani (2010) consisting of 32 items under eight factors for the speaking strategies was employed in the present study, but some items were

removed and reconceptualized. For example, it would seem that the use of fillers was not relevant to social-affective strategy, so it was omitted from that category. The notion of pronunciation was relocated from fluency-oriented to accuracy-oriented strategy. The item "I try to talk like a native speaker" was also removed now that it might be too broad. Consequently, there were 27 items in this taxonomy as follows:

Achievement Strategies
    1. Social-affective strategies (5 items)
    2. Fluency-oriented strategies (3 items)
    3. Negotiation for meaning strategies (4 items)
    4. Accuracy-oriented strategies (4 items)
    5. Nonverbal strategies (2 items)
    6. Attempt to think in English strategies (2 items)

Avoidance Strategies
    7. Message reduction and alteration strategies (3 items)
    8. Message abandonment strategies (4 items)

In order to establish an effective questionnaire, validation was required in this process. Three validators, an expert in communication strategy, a professional translator, and an engineering student, were invited to evaluate the validity of the instrument. The expert gave comments on contents and validity of the questionnaire. The translator was asked to translate the questionnaire from English to Thai. Finally, the engineering student was asked to check whether the instrument was comprehensible to average students. In the follow-up phase, the revision was made based on the feedback from the three validators.

Data Collection

In the first semester of the academic year 2015, the participants were studying in the Experiential English I course which focuses on integrated skills (listening, speaking, reading, and writing) and everyday communication. Before the questionnaire was administered, three instructors in each section had assigned the learners to do communicative tasks and talk with their partners about jobs and landmarks in Thailand, which were related to the course contents. This was to ensure that the learners were aware of how they communicated in English before collecting the data. This session took approximate 30 to 40 minutes. After that, the questionnaires were completed during the regular hours. The questionnaire was written in Thai to avoid misinterpretation by the participants.

Data Analysis

Descriptive statistics was used to analyze the data from the questionnaire in terms

of frequency distribution, mean and standard deviation. One of the major data analyses is mean score. In response to a five-point Likert scale, the interpretation of the mean scores is as follows: 4.51 to 5.00 (usually), 3.51 to 4.50 (normally), 2.51 to 2.50 (sometimes), 1.51 to 2.50 (rarely), 0.00 to 1.50 (never). Moreover, percentages were calculated in order to avoid some results which might regress to norm as the mean scores of some items are similar after calculating. The Microsoft Office Excel Program was employed to identify the frequency of an individual communication strategy use and categorization of communication strategy.

Results

The study findings showed that *nonverbal strategy* was the most frequently reported communication strategy, followed by *message reduction and alteration strategies*. On the other hand, *attempt to think in English strategy* was the least frequently used strategy perceived by the subjects at the mean score of 3.06. The frequency of *accuracy-oriented strategy* was also low. The frequency distribution was arranged from the most frequently used strategy to the least frequently used strategy (see Table 1).

Table 1: Frequency Distribution
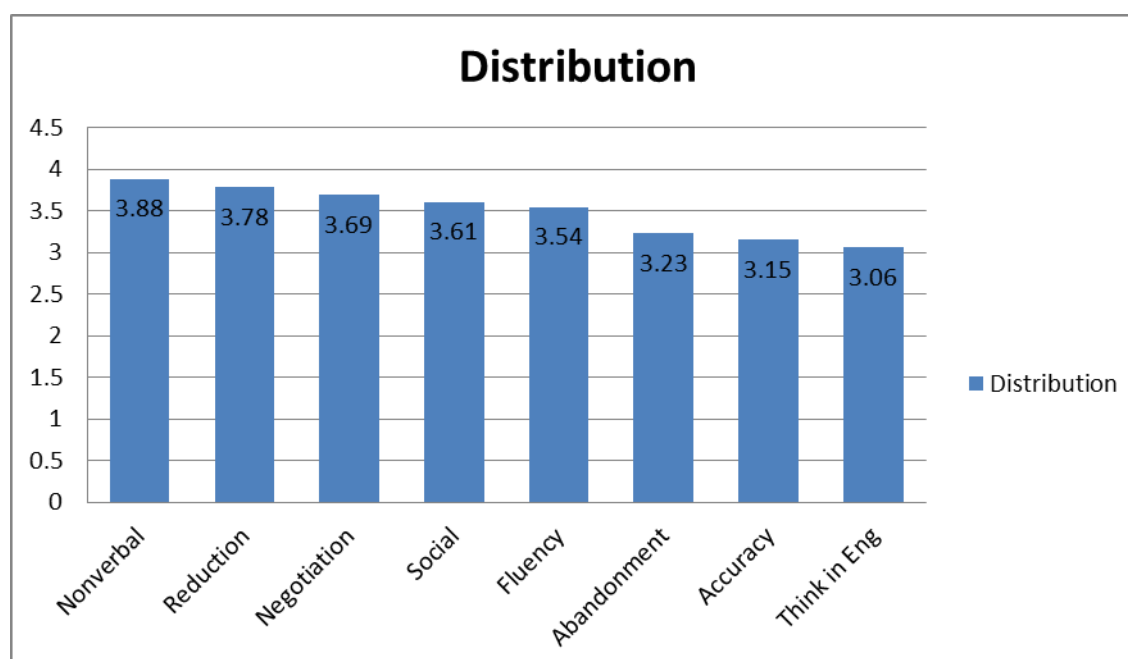
Achievement Strategies

The average mean score of all "achievement strategies", including *social affective strategy, fluency-oriented strategy, negotiation for meaning strategy, accuracy-oriented strategy, nonverbal strategy*, and *attempt to think in English strategy* was 3.51 which was at a "normally" range.

-Social Affective Strategy

The findings revealed that the participants "normally" used *social affective strategy* at a mean score of 3.61. To illustrate, they often tried to relax and make a good impression with the listener. However, it was reported in detail that they "sometimes" dare not to take risks of making mistakes.

-Fluency-Oriented strategy

The participants pointed out that they "mainly" paid attention to the conversation flow and time taking. Still, they "sometimes" changed the way of saying things according to the context as the mean score is 3.30. This means, they were occasionally aware of adapting their message to continue conversations.

-Negotiation for meaning strategy

The response of the subjects showed that most of them "mainly" negotiated for meaning while speaking. The respondents frequently conducted *modified interaction* which was the way speakers check listeners' reaction. When listeners did not understand what they said, they would repeat, or clarify the message.

-Accuracy-oriented strategy

Many respondents thought that they "sometimes" used *accuracy-oriented strategy* as the mean score was quite low. They occasionally paid attention to grammar and pronunciation while speaking. Besides, 41 percent of the participants reported that they "rarely" followed the rule they had learned when speaking. This was one of the least frequently used communication strategies. On the contrary, the subjects indicated that they normally corrected themselves when they make a mistake.

-Nonverbal strategy

Nonverbal strategy was the highest communication strategy used by the undergraduate students. They often used gestures and facial expression to compensate what they want to say. Moreover, they tried to make eye contact during the conversation.

-Attempt to think in English strategy

The results showed that this strategy was the least frequently used strategy. They occasionally relied on thinking in the English language before speaking. Thirty-eight percent of the subjects "normally" thought of an English sentence they had already known, and then tried to change it to fit the situation.

Avoidance Strategies

"Avoidance strategies" comprised *message reduction and alteration strategies*, and *message abandonment strategy*. The average mean score of these two subcategories was 3.45. Most students also used avoidance strategies at the "normally" range. It was slightly less than achievement strategies by 0.06 score.

-Message reduction and alteration strategies

This category was divided into two types: *message reduction* and *message alteration*. In the current study, these strategies were ranked second in the frequency distribution. The participants mainly used familiar words, and simplify their utterance when they were incapable of executing the original message. Nevertheless, 41 percent of the respondents "sometimes" reduced the message. In other words, they sometimes used *message reduction strategy*.

-Message abandonment strategy

Most of the subjects perceived that they "sometimes" abandoned their message when they faced language difficulty. They "sometimes" left the message unfinished, but they "normally" asked other people to help when they could not communicate well.

Discussion

The findings showed that *nonverbal strategy* and *message reduction and alteration strategy* were the most frequently used communication strategies. Nonverbal communication includes paralanguage and nonverbal conventions in face-to-face communication. Paralanguage is a communication of sounds, for example, volume, pitch, and intonation. Subsequently, nonverbal conventions in face-to-face encounters involve eye contact, facial expressions and gestures (Beamer and Varner, 2008). People can manifest their interest toward listeners by eye contact (Aitchison, 2007). Additionally, several emotions are expressed universally, specifically happiness fear, and sadness (rpi.edu, 2015). Therefore, most of the EFL learners have a tendency to rely on nonverbal strategies as it is easy to communicate the intention without language; for instance, people can use gestures to mean "come here" and "go away."

For *message reduction and alteration strategies*, the participant used *message alteration strategy* more often than *message reduction strategy*. The learners would simplify the sentence they wanted to say, and used familiar words to convey the meaning. This was in line with Metcalfe and Noom-Ura's research (2013). *Message reduction and alteration strategies* were the most frequently reported strategy by first-year undergraduate students at Chulalongkorn University. This emphasizes the fact that Thai university students rely definitely on these strategies. Although these were avoidance strategies, it

could assist learners to communicate by using sentences and vocabulary they recognize. It might be a good beginning for low proficiency achievers to try out simple expressions first. For example, learners might use the word "baby" instead of "infant." On the other hand, high-achievers are advised to use wider range of vocabulary and more complex syntax to demonstrate mastery of language.

In contrast, *attempt to think in English* and *accuracy-oriented strategies* were the least often used strategies. It is believed that *attempt to think in English* is one of the most difficult abilities in learning second language. In order to think in English, the learner has to acquire the second language already, or use the language regularly. One potential explanation is "Critical Period Hypothesis". It is widely believed that second language learners will acquire the language successfully before the puberty period, or around 12 years old, and have a native-like proficiency. In real situation, parents may need to consider registering an English course for their children. It would be fantastic if the government participates in solving this problem by extending English lessons in school and recruiting efficient English teachers especially in primary school education. This hypothesis is still controversial because some experts claim that the critical period affect only pronunciation factor of learners (Lightbown and Spada, 2006). Other aspects of language such as grammar and vocabulary are, hence, learnable by teenagers and adults.

Accuracy-oriented strategy is also problematic for Thai learners of English. According to the data gathered, the subjects sometimes paid attention to grammar and pronunciation when speaking. Most of them did not realize the grammatical rules they had learned when they spoke. This implied that they could not apply the rules they had learned in classroom on face-to-face communication. The most likely explanation to this negative result is that grammar in lessons is more difficult than what they experience in everyday life. On the contrary, it was revealed that they corrected themselves when they had noticed that they had made a mistake. This supported the assumption of Nakatani (2012) that EFL learners employed accuracy-oriented strategy deliberately to improve their interlanguage. It depends on learners' proficiency level as well.

On this basis, it was a positive outcome that respondents did not use message abandonment strategy, one of the avoidance strategies. Instead, the fact that they often tried to relax and made comprehension check while speaking was an exquisite indication of productive learning.

In brief, all of the problems above, namely the acquisition of the second language and accuracy of learners reflect the shortcoming of Thai education. The fact that students did not acquire the English language results from a conceivably ineffective curriculum. Moreover, grammar translation approach which is considered a method of English

instruction in Thailand tend to be an incorrect alternative to promote students to reach decent accuracy in communication.

Implications of the Findings

The finding allowed instructors to recognize students' strengths and weaknesses. It is remarkable that learners used "nonverbal strategy" more than others. Now that students used "accuracy-oriented" and "attempt to think in English" strategies the least, instructor should assist them by implementing strategy training in the lesson. Paranapiti (2014) experimented the "4Ps" instructional model, including Pre-reflection, Presentation, Practice, and Post-reflection to develop speaking ability and confidence of EFL undergraduates. First, students were to be assessed on their strategy use by communicative tasks or a questionnaire in the *Pre-reflection* stage. In the second stage, Presentation, the instructor then raised awareness of communication strategies either inductively or deductively. For instance, students would learn inductively by watching a video and discuss how to deal with particular circumstance. Meanwhile, communication strategies could be taught by explicit instruction. After *Presentation* stage, students were reinforced with *Practice* stage. They performed communicative activities such as story-telling, picture description, and information gap under the instructor's supervision. The last stage was *Post-reflection*. Students would evaluate and share their opinions regarding the use of communication strategies. It was found that subjects' speaking ability has improved significantly, and they had a positive attitude towards the instruction. This model may be an effective EFL instructional plan in Thai context.

Besides, error correction is one potential technique to improve accuracy in learners to become proficient in English. Still, correction of speech errors should be at an optimal level. Too much negative feedback will render learners reluctant to speak the second language. On the contrary, if there is no corrective feedback made, it will reinforce those errors in learners. Teachers ought to discern the difference between local and global errors. Local errors which do not interfere understanding may not be corrected. Global errors, yet, cause communication breakdown, and they need treatment (Brown, 2007). Further, teachers may need to consider the objective of the course whether it focuses on survival communication or high proficiency.

To enhance the mastery of language, classroom activities are crucial for teachers to be aware of. Learners should be motivated to participate in speaking tasks as much as possible because they do not have opportunity to speak outside classroom. The environment out of English class is full with their native language. There are many communicative activities, for example, role-play, information gap tasks, pair works, and group works (Bailey, 2005). For beginner to intermediate learners, the topics for role-play and information gap activities should be related to their everyday lives, for example, asking for direction and booking hotel room. For upper intermediate to advanced learners,

teacher may manage group projects such as creating an advertising campaign and compiling a recipe book. This activity will allow them to interact with one another in English during planning, preparation, and presentation (Bohlke, 2014).

On the whole, it is suggested that communication strategies be explicitly introduced in Thai and other EFL contexts to develop learners' speaking performance. Communicative activities in classroom are still necessary for students to practice using English as the environment outside classroom does not allow them to do so. In addition, accuracy or grammar should not be disregarded because it is a factor that influences intelligibility and meaning of utterances

Limitations of the Study

It should be noted that this study has been primarily concerned with undergraduate students whose major is in science only. Consequently, the study could not be generalized to every Thai EFL learners. Another limitation of this study is that number of participants might not be a good proportion. Some experts suggest that survey research should include a minimum of 100 participants.

Recommendations for Further Research

Further research could be conducted with different fields of study such as social science and business. Moreover, it should be randomly selected more than 100 participants in quantitative study. Also, it would be a great idea that researchers triangulate the investigation with interviews and observation.

Conclusion

The present paper describes and analyzes the communication strategy use of Thai undergraduate students majoring in science. The participants were first-year students in Faculty of Science, Engineering, and Sports Science. The questionnaire administration was conducted in Experiential English I course. The results showed that the students use nonverbal communication more than other strategies. On the other hand, *attempt to think in English* was the least often used strategy. Based on the findings, it is recommended that English language instructors should encourage students to speak in classroom, and provide communicative activities as many as possible.

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Appendix

Questionnaire

An Investigation of English Communication Strategy Use of Thai University Students

การสำรวจการใช้กลวิธีการสื่อสารภาษาอังกฤษของนิสิตไทยระดับมหาวิทยาลัย

แบบสอบถามนี้มีวัตถุประสงค์เพื่อวิจัยการใช้กลวิธีการสื่อสารภาษาอังกฤษของนิสิตชั้นปีที่ 1 จุฬาลงกรณ์มหาวิทยาลัย ขอความกรุณาตอบคำถามทุกข้อตามความเป็นจริง ข้อมูลทั้งหมดของท่านจะถูกเก็บเป็นความลับ

ส่วนที่ 1 ข้อมูลทั่วไป

โปรดทำเครื่องหมาย / หรือกรอกข้อความในช่องที่ตรงกับความเป็นจริง

1. เพศ: ____ ชาย ____ หญิง ____ อื่นๆ
2. เกรดภาษาอังกฤษโดยเฉลี่ยในชั้นมัธยมศึกษาปีที่ 6

___ 4 ___ 3.5 ___ 3 ___2.5 ___ 2 ___ 1.5 ___1

3. คุณคิดว่าทักษะการพูดภาษาอังกฤษของคุณอยู่ในระดับใด

____ดี ____ ปานกลาง ____อ่อน

4. คะแนนสอบวัดระดับภาษาอังกฤษ (โปรดกรอกคะแนนที่ได้)

_____ CU-TEP

_____ O-NET (English)

_____ TOEFL

_____ IELTS

_____ GAT (English)

ส่วนที่ 2 กลวิธีการสื่อสารในการพูดภาษาอังกฤษ

	ตลอดเวลา	บ่อยครั้ง	บางครั้ง	แทบจะไม่	ไม่เคย-เลย
1 ฉันพยายามที่จะผ่อนคลายเมื่อเกิดความตื่นเต้น					
2 ฉันพยายามที่จะสนุกกับการสนทนา					
3 ฉันพยายามทำให้ผู้ฟังประทับใจ					
4 ฉันให้กำลังใจตัวเองเพื่อให้สื่อสารในสิ่งที่ฉันต้องการได้					
5 ฉันไม่กลัวที่จะเสี่ยงแม้ว่าฉันจะพูดผิด ๆ ออกไป					
6 ฉันให้ความสนใจกับการทำให้การสนทนาลื่นไหลต่อเนื่องไปเรื่อยๆ					
7 ฉันปรับเปลี่ยนวิธีการพูดตามบริบทเพื่อให้การสนทนาดำเนินต่อไปได้					
8 ฉันค่อย ๆ ใช้เวลาในการสื่อสารในสิ่งที่ฉันต้องการ					
9 ฉันตรวจสอบดูว่าผู้ฟังเข้าใจสิ่งที่ฉันต้องการพูดไหม					
10 ฉันจะพูดซ้ำ ๆ จนกว่าผู้ฟังจะเข้าใจ					
11 ในขณะพูด ฉันให้ความสนใจการตอบสนองของผู้ฟังต่อสิ่งที่ฉันพูด					
12 ฉันยกตัวอย่างเพิ่มเติมถ้าผู้ฟังไม่เข้าใจในสิ่งที่ฉันพูด					
13 ฉันให้ความสนใจกับไวยากรณ์ และการเรียงลำดับคำในระหว่างการสนทนา					
14 ฉันสังเกตตัวเองได้ว่าฉันใช้คำพูดตามกฎที่เรียนมา					
15 ฉันแก้คำพูดเมื่อรู้ตัวว่าพูดผิด					
16 ฉันให้ความสนใจกับการออกเสียงภาษาอังกฤษให้ถูกต้อง					
17 ฉันพยายามสบตาผู้ฟังขณะพูดคุย					
18 ฉันใช้ท่าทางและสีหน้าช่วยในการสื่อสาร ถ้าฉันไม่สามารถสื่อสารสิ่งที่ต้องการด้วยคำพูดได้					

19 ฉันคิดประโยคที่ฉันรู้เป็นภาษาอังกฤษก่อนแล้วค่อยปรับเปลี่ยนให้เข้ากับเหตุการณ์					
20 ฉันพยายามไม่คิดสิ่งที่ฉันต้องการพูดเป็นภาษาไทย แต่คิดเป็นภาษาอังกฤษเลย					
21 ฉันตัดทอนเนื้อความที่จะพูด และใช้สำนวนที่ง่าย ๆ					
22 ฉันใช้แต่คำที่ฉันคุ้นเคย					
23 ฉันเปลี่ยนเนื้อความที่ฉันจะพูดเป็นอย่างอื่น ถ้าฉันไม่สามารถสื่อสารสิ่งที่ฉันต้องการในตอนแรกได้					
24 ฉันหยุดพูดทันทีที่มีปัญหาแม้ว่าประโยคที่พูดไปจะยังไม่สมบูรณ์					
25 ฉันให้ผู้อื่นช่วยเมื่อฉันไม่สามารถสื่อสารได้ดี					
26 ฉันเลิกพูดเมื่อฉันไม่สามารถทำให้ผู้ฟังเข้าใจฉันได้					
27 ฉันเลิกเรียบเรียงคำพูดและพูดเพียงบางคำเมื่อฉันไม่รู้ว่าจะสื่อสารอย่างไร					

ขอขอบพระคุณทุกท่านที่ให้ความร่วมมือ