

# COMMUNICATION STRATEGIES OF ENGINEERING STUDENTS AT A PRIVATE UNIVERSITY INSTITUTE IN BANGKOK IN THE ACADEMIC YEAR OF 2015

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## Abstract

The objectives of this research are to identify oral communication strategies (CSs) employed by first-year engineering students at a Private University Institute in Bangkok in the academic year of 2015, and to investigate the differences of CS use according to gender and self-perceived English speaking ability of the students. An adapted Metcalfe and Noom-Ura's Oral Communication Strategy Inventory (OCSI) 2013 was used to collect quantitative data from 361 first-year engineering students whose age ranged from 17 to 29 years from Thai-Nichi Institute of Technology and Mahanakorn University. Stratified random sampling technique was applied. Statistics used for analyzing the data were frequency, percentage, mean, standard deviation, T-test, F-test or ANOVA, and Scheffe test. The results of this study show that the students applied all nine oral communication strategy groups (social and affective, fluency-oriented, negotiation for meaning while speaking, accuracy-oriented, message reduction and alteration, nonverbal, message abandonment, attempt to think in English and circumlocution strategies) at a moderate frequency of use. The most frequently used strategies were message reduction and alteration whereas the least frequently used strategy group was accuracy-oriented. The use of overall oral communication strategies reported by male students and female counterparts was not significantly different at a confidence level of .05. Additionally, there were significant differences at a confidence level of .05 found among the students with different self-perceived speaking ability.

**Key words:** communication strategies, oral communication, engineering students, private universities,

## Introduction

English is one of the world's dominant languages for commerce, technology, opportunities, and empowerment (Crystal, 2003). It is an essential medium of communication for people who speak English as a second and foreign language in order to gain higher academic and career opportunities. In the field of engineering English is an important language communication tool between engineers who are from different cultures where English is not a native tongue (El-Raghy, 1999). In order to professionally convey messages effectively, they are required not only to possess lexical and syntactical knowledge but also to express and negotiate using proper cultural and social rules in the communication setting (Wells, 1985:22). Several research in Thailand reported that some students, including engineering students, had speaking difficulties because they lacked linguistic competence and strategic knowledge in order to maintain conversations with listeners. Additionally, they had a low level of self-confidence when communicating in English with native or non-native speakers (Jindathai, 2015; Kongsom, 2004; Toosiri, 2005; Weerarak, 2003).

Communication strategy technique is one of the language devices which assist students to overcome speaking problems. According to Hughes (2002:91), the term 'communication strategies' refers to "the ability of a language user actively to manipulate a conversation and negotiate interactions effectively. Such strategies are particularly beneficial when there is some difficulty of expression or communication". Over the past decades, experts such as Faerch and Kasper (1983); Bialystok (1990); Dörnyei and Scott (1997); Nakatani (2005); Mariani (2010) have suggested language learners develop the use of CSs which enable them to handle oral communication difficulties even though they have some deficiency in linguistic knowledge in the target language.

Regarding CS research in Thailand, Thai researchers for examples Metcalfe and Noom-Ura (2013); Phothongsunan (2010); Somsai (2011); generally focused on the frequency of CS use of undergraduate students. Some researchers and practitioners also examined different variables affecting the use of CSs, e.g. students' level of proficiency, gender, and task types (Chuanchaisit and Prapphal, 2009; Somsai, 2011; Metcalf and Noom-Ura, 2013). After a review of the relevant literature research in the field of CSs there was very little investigation that has been carried out with engineering students at a private university institute to examine the differences of gender

and self-perceived speaking ability. For this reason, the practitioner aims to examine the differences in the CS use according to these two variables. This research could serve as an insight into this topic for instructors at this institution to identify useful CSs to enable students to overcome speaking difficulties and finally improve their oral communicative competence.

Based on the objectives of the study, this research attempts to answer the following questions:

1. What kinds of oral communication strategies are used by first-year engineering students at a Private University Institute?
2. Are there any differences in the use of oral communication strategies between male first-year engineering students and female counterparts?
3. Are there any differences in the use of oral communication strategies used by first-year engineering students with different levels of self-perceived speaking ability?

## Literature Review

Over the past decades since Selinker (1972) introduced the notion of CSs for second language learners who attempted to communicate meaning with a limited linguistic knowledge. Canale and Swaine (1980); Canale (1983) developed a widely recognized framework of communicative competence which includes grammatical competence, sociolinguistic competence, discourse competence, and strategic competence. The term communication competence refers to “verbal and non-verbal strategies that may be called into action to compensate for breakdown in communication due to performance variables or to insufficient competence” (Canal and Swaine, 1989:30). They suggested that this type of competence is applied when language learners use communication strategies. Examples of using communication strategies are paraphrase, approximation, word coinage, literal translation, language switch, avoidance of difficulties, requests for repetition, simplification, clarification, and using fillers. These language devices help language learners to express meaning during spontaneous speech despite the inefficiency in the knowledge of linguistics. Dörnyei and Thurrell (1991) pointed out that language devices also increase language learners’ confidence in communication.

Although experts have proposed different definitions of communication strategies for second and foreign language learners, such as

Tarone, Cohen, and Dumas (1976); Canale (1983); Faerch and Kasper (1983); Dörnyei and Scott (1997); Nakatani (2005), most of them include three main criteria: problemat�city, consciousness, and intentionality (Bialystok, 1990). Problemat�city is the most basic feature which is included in the definitions of CSs. It refers to “the idea that strategies are used only when a speaker perceives that there is a problem which may interrupt communication” (Bialystok, 1990:3).

Consciousness is another important feature included in many definitions of CSs. This refers to an awareness of language learners to employ a strategy in order to express the intention of meaning. However, Bialystok (1990) argues that there was no clear evidence to support that learners are aware of what types of communication strategy they have used. Consequently, Bialystok proposes the term intentionality.

Intentionality refers to “the learner’s control over a repertoire of strategies so that particular ones may be selected from the range of options and deliberately applied to achieve certain results” (Bialystok, 1990:5).

In addition, several experts such as Bialystok (1990); Dörnyei and Scott (1997); Dörnyei and Cohen (2002); Nakatani (2005), (2006) base their taxonomies on two distinction concepts of reduction or avoidance strategies, and achievement or compensation strategies. Reduction or avoidance strategies refer to topic avoidance (or message reduction), message abandonment, and message replacement. These strategies are commonly found in the main taxonomies. Achievement or compensation strategies consist of circumlocution, approximation, word coinage, restructuring, literal translation, foreignising, code switching, paralinguistic, direct appeal for help and indirect appeal for help (Dörnyei and Scott, 1997).

The Oral Communication Strategy Inventory (OCSI) was initiated by Nakatani (2006) who combined two features of reduction strategies and achievement strategies into a self-reporting questionnaire. The questionnaire contains two parts. The first part refers to speaking strategies or the strategies for coping with speaking difficulties. There are eight strategies consisting of 32 strategy items: social and affective, fluency-oriented, negotiation for meaning whilst speaking, accuracy-oriented, message reduction and alteration, non-verbal strategies whilst speaking, message abandonment, and attempt to think in English. The second part contains listening strategies or the strategies for solving listening problems, seven strategy groups consisting of 26 specific strategies: negotiation for meaning

whilst listening, fluency-maintaining, scanning, getting the gist, nonverbal strategies while listening, less active listener, and word-oriented.

Metcalf and Noom-Ura (2013) combined the inventories of some experts and researchers namely Nakatani (2006), Chuanchaisit and Prapphal (2009), and Chiang (2011) and created a new adapted questionnaire. It contains two parts: speaking strategies which contain 37 strategy items: social and affective, fluency-oriented, negotiation for meaning whilst speaking, accuracy-oriented, message reduction and alteration, non-verbal, message abandonment, attempt to think in English, and circumlocution strategies. The second part includes 25 items referring to strategies in dealing with listening problems comprised of negotiation for meaning whilst listening, fluency-maintaining, getting the gist, non-verbal strategies whilst listening, less active listener, and word-oriented.

Regarding CS research in Thailand, previous studies of Thai researchers generally examined frequency of CS use of undergraduate students majoring in English and their findings showed diversity (Metcalf and Noom-Ura, 2013; Phothongsunan, 2010; Somsai, 2011). This is due to different taxonomies that were employed. Phothongsunan (2010) investigated CSs employed by university students and used observation and semi-structured interviews to gather data. The results revealed that avoidance strategies were the most frequent used strategy. Somsai (2011) studied types and frequency of CS use of Rajamangala University of Technology students majoring in English by using a semi-structured interview and questionnaires to collect data. The findings showed that the students used familiar words, phrases, or sentences to convey messages most whilst making a phone call for assistance was reported as the least frequently used. Metcalf and Noom-Ura (2013) examined the frequency of CS use by applying self-created questionnaires to collect data from undergraduate students at Chulalongkorn University. The findings showed that message reduction and alteration strategies were the most frequently used strategy; on the other hand, message abandonment strategies were the least frequently used strategy.

Somsai (2011) examined the relationship between CS use and gender. The findings reported that there was a relationship between the students' overall CS use. Female students reported a significant higher percentage of individual CSs than did male counterparts. After a review of the relevant literature research, little investigation has been carried out to examine the use of CSs with regard to student's gender.

According to Huang (2010), self-perceived speaking ability refers to self-perception by a person that he or she can speak or understand a foreign language well. Bacon and Finnemann (1990) state that oral communication problems were related to self-conception. A person with a positive self-belief leads to progress in language learning. Baker and MacIntyre (2000) assert that a learner's self-perception is not the actual speaking skill that is evaluated, but it shows how he or she perceives his / her oral communicate competence that will determine their willingness to communicate. They also confirm that the perceived competence has an effect on the frequency of oral communication. In the Thai context, several previous researchers examined students' oral proficiency by assessing their scores from spontaneous speaking tasks. For examples Chuanchaisit and Prapphal (2009); Metcalfe and Noom-Ura (2013) conducted research to examine high and low proficiency levels which affect the types of CSs that undergraduate students employed by using speaking tasks and self-adapted questionnaires to collect data. The results reported that high proficiency students used social and affective, fluency-oriented, negotiation for meaning whilst speaking, and circumlocution strategies whereas low proficiency peers reported significantly higher use of message abandonment, less active listeners, and risk-avoidance strategies. After a review of the relevant literature research, there is no empirical research in the field of CSs in Thailand carried out to investigate the use of CSs in relation to students' self-perceived speaking ability. An investigation on CSs with non-English major students with the aforementioned variable may help the practitioner and other researchers to gain new insight into the use of CSs in the Thai context.

### *Participants*

A stratified random sampling technique was employed for data collection. The participants were first-year engineering students at Thai-Nichi Institute of Technology, and Mahanakorn University. The institutes are located in Bangkok and served as the samples in this research. The total sample was 361 students: 200 participants were selected from Thai-Nichi Institute of Technology and 161 participants were chosen from Mahanakorn University. Of the 361 participants, 283 were males and 73 were females, their age ranging between 17 – 29 years old. They were first-year engineering students. The students from Thai-Nichi Institute of Technology took ENL-101: English for Communication I, and the students from Mahanakorn University took ENGL1101: Foundation English. ENL-101 and

ENGL1101 were compulsory English subjects for first-year engineering students at two private university institutes.

### *Research Instrumentation*

The instrument used in this research was an adjusted Oral Communication Strategy Inventory (OCSI) developed by Metcalfe and Nook-Ura (2013). The adapted version contained 38 strategy items in the speaking section, 25 items remained the same in the listening part. The new Objective Congruence (IOC) were tested and found at 0.91. The pilot test of the adapted questionnaire indicated the Cronbach alpha coefficient at .923 for the speaking section and .931 for the listening part.

### *Data Collection*

The adapted Metcalfe and Nook-Ura's OCSI (2013) in Thai version was distributed to the engineering students during their regular English class at Thai-Nichi Institute of Technology and Mahanakorn University. The practitioner reminded the students that there were no right or wrong answers and the results will assist them to improve English communication abilities. Finally the participants were given time to complete the questionnaires which were returned for analysis.

### *Data Analysis*

The descriptive statistics for the OCSI were analyzed to identify the frequency and range of communication strategies used by the participants. T-test was applied in order to find out the discrepancy of gender, F-test or ANOVA was used to examine the discrepancy of student's self-perceived speaking ability which is classified into Good, Moderate and Poor. Finally Scheffe test was applied to figure out the discrepancy of pair abilities.

## **Results**

**Research Question one: What kinds of oral communication strategies are used by first-year engineering students at a Private University Institute?**

The first purpose of the present study is to investigate the oral communication strategies which are employed by first-year engineering students. The descriptive results were analyzed from the data in 361 returned questionnaires. In table I, nine strategy groups (social and affective, fluency-oriented, negotiation for meaning whilst speaking, accuracy-oriented, message reduction and alteration, non-verbal, message abandonment, attempt to think in English, and circumlocution) are presented according to degree of use ranking from the most frequently used strategy group to the least frequently used strategy group. As for the criteria for evaluating the level of strategy use, the levels of frequency were classified as: lowest frequency use (1.00 - 1.49), low frequency use (1.50 - 2.49), moderate frequency use (2.50 - 3.49), high frequency use (3.50 - 4.49), and highest frequency use (4.50 - 5.00).

Table I: Average Frequency of Oral Communication Strategy Groups Used by Engineering Students at a Private University Institute (N = 361)

Oral Communication Strategies	Mean	SD.	Rank	Average frequency of strategy use
Social and affective	3.62	.59	3	High
Fluency-oriented	3.40	.80	7	Moderate
Negotiation for meaning whilst speaking	3.46	.70	5	Moderate
Accuracy-oriented	3.17	.71	9	Moderate
Message reduction and alteration	3.82	.73	1	High
Non-verbal	3.69	.70	2	High
Message abandonment	3.27	.67	8	Moderate
Attempt to think in English	3.59	.75	4	High
Circumlocution	3.41	.69	6	Moderate
<b>Overall</b>	<b>3.47</b>	<b>.49</b>		<b>Moderate</b>

Table I discloses the average use of nine strategy groups reported by 361 engineering students. The results show that the use of overall oral communication strategies was at a moderate level of use (Mean = 3.47). Four out of nine strategy groups were rated at a high level of use, these were message reduction and alteration (M = 3.82), followed by nonverbal (M = 3.69), social-affective (M = 3.62), and attempt to think in English (M = 3.59). The rest of the strategy groups were reported at a moderate level of use including negotiation for meaning whilst speaking was at (M = 3.46), circumlocution at (M = 3.41), fluency-oriented at (M = 3.40), message abandonment at M = 3.27), and accuracy-oriented at (M = 3.17).

**Research question 2: Are there any differences in the use of oral communication strategies between male first-year engineering students and female counterparts?**

This section presents a comparison of the use of oral communication strategies between male engineering students and female peers. The data obtained from 361 returned questionnaires was analyzed through an independent T-test to determine the significant level of differences. The criterion set for the value of significance is  $<.05$ .

Table 2: Comparing the Use of Oral Communication Strategies between Male Engineering Students and Female Counterparts at a Private University Institution (N = 361)

Oral Communication Strategies	Males			Females			t	P
	Mean	SD.	Rank	Mean	SD.	Rank		
Social and affective	3.61	.61	3	3.68	.54	3	-.972	.332
Fluency-oriented	3.41	.83	7	3.36	.69	7	.529	.597
Negotiation for meaning whilst speaking	3.46	.71	5	3.47	.66	5	-.208	.835
Accuracy-oriented	3.18	.72	9	3.14	.70	9	.429	.668
Message reduction and alteration	3.80	.74	1	3.88	.69	1	-.852	.395
Non-verbal strategies whilst speaking	3.67	.70	2	3.77	.71	2	-1.154	.249
Message abandonment	3.24	.68	8	3.37	.63	6	-1.505	.133
Attempt to think in English	3.57	.74	4	3.67	.77	4	-.989	.323
Circumlocution	3.43	.79	6	3.35	.68	8	.985	.325
<b>Overall</b>	<b>3.46</b>	<b>.50</b>		<b>3.49</b>	<b>.45</b>		<b>-.511</b>	<b>.610</b>

*\* Statistical significant at .05 level*

Table 2 shows that the mean of overall oral communication strategy use from female students was higher than that of male counterparts but *not* at a significance level of  $p < .05$ . In other words, the use of overall oral communication strategies reported by male students and female peers showed no significant difference at a confidence level of .05. In addition, the results show that there was no significant difference in the use of all oral communication strategies: social-affective, fluency-oriented, negotiation for meaning whilst speaking, accuracy-oriented, message reduction and alteration, non-verbal, message abandonment, attempt to think in English, and circumlocution between male students and female counterparts at a confidence level of .05.

The independent T-test was further analyzed for each item in each strategy group of oral communication strategies. The results disclose that

there were some individual items that showed significant differences among the two groups, this appeared in message reduction and alteration, non-verbal, message abandonment, and circumlocution strategies. More details are shown in the following sections.

The analysis from Table 2 above shows that there was no significant difference ( $p = .395$ ) between male and female engineering students' use of message reduction and alteration strategies at a confidence level of  $p < .05$ . However, analysis of each individual item discloses that *female students used words that were familiar to them* (item 23) significantly more often than that of male counterparts ( $p = .020$ ) as shown in Table I in the Appendix.

Regarding the use of non-verbal strategies between male and female students, the analysis from Table 2 reveals that there was no significant difference ( $p = .249$ ) at a confidence level of  $p < .05$ . On the other hand, when testing of each individual item, it reveals that *female students used mime to try and convey the meaning when they could not think of a word* (item 28) significantly more often than that of male counterparts ( $p = .001$ ) as shown in Table 2 in the Appendix.

With regard to the different CS use between male and female students in message abandonment strategies, Table 2 reveals that there was no significant difference ( $p = .133$ ) at a confidence level of  $p < .05$ . However, when testing of each individual strategy item, it demonstrates that *female students left the message unfinished when facing some difficulties* (item 29) significantly more often than that of their male counterparts ( $p = .010$ ). Additionally, *female students used talking dictionaries when they did not know what to say* (item 32) significantly more often than that of male peers ( $p = .032$ ) as shown in Table 3 in the Appendix.

Finally, the comparison of male and female students' use of circumlocution strategies, the results from Table 2 reports that there was no significant difference ( $p = .325$ ) at a confidence level of  $p < .05$ . On the contrary, analysis of each individual strategy item, it shows that *male students created new words when they did not understand how to express themselves* (item 37) significantly more often than that of female counterparts ( $p = .017$ ) as shown in Table 4 in the Appendix.

**Research question three: Are there any differences in the use of oral communication strategies used by first-year engineering students with different levels of self-perceived speaking ability?**

This section presents the differences of nine oral communication strategies among the students with different self-perceived speaking ability. The data obtained from 361 returned questionnaires was analyzed using F-test or ANOVA to determine the significant level of differences. The criterion set for the value of significance is  $< .05$ .

Table 3: Comparing Use of Nine Oral Communication Strategies of Engineering Students with Different Self-Perceived Speaking Ability at a Private University Institution (N=361)

ANOVA

Components		SS	df	MS	F	p	Scheffe
Social and affective	Between groups	4.274	2	2.137	6.229	<b>.002*</b>	G - P M - P
	Within groups	122.811	358	.343			
	Total	127.084	360				
Fluency-oriented	Between groups	13.671	2	6.835	11.184	<b>.000*</b>	G - M G - P M - P
	Within groups	218.810	358	.611			
	Total	232.481	360				
Negotiation for meaning whilst speaking	Between groups	6.428	2	3.214	6.875	<b>.001*</b>	G - P
	Within groups	167.365	358	.467			
	Total	173.793	360				
Accuracy-oriented	Between groups	6.792	2	3.396	6.876	<b>.001*</b>	G - P
	Within groups	176.800	358	.494			
	Total	183.592	360				
Message reduction and alteration	Between groups	6.064	2	3.032	5.868	<b>.003*</b>	G - P M - P
	Within groups	184.991	358	.517			
	Total	191.055	360				

Components		SS	df	MS	F	p	Scheffe
Non-verbal strategies whilst speaking	Between groups	.475	2	.238	.484	.617	
	Within groups	175.716	358	.491			
	Total	176.191	360				
Message abandonment	Between groups	5.437	2	2.719	6.305	<b>.002*</b>	G - M M - P
	Within groups	154.359	358	.431			
	Total	159.796	360				
Attempt to Think in English	Between groups	.778	2	.389	.700	.497	
	Within groups	198.864	358	.555			
	Total	199.641	360				
Circumlocution	Between groups	2.243	2	1.122	2.355	.096	
	Within groups	170.485	358	.476			
	Total	172.728	360				
Overall	Between groups	2.715	2	1.357	5.871	<b>.003*</b>	
	Within groups	82.768	358	.231			
	Total	85.483	360				

\* Statistical significant at .05 level

Table 3 discloses that there was a significant difference ( $p = .003$ ) in overall oral communication strategies among the engineering students with different self-perceived speaking ability at a confident level of .05. The findings reveal that there was a significant difference, at a significant level of  $<.05$ , in social and affective, fluency-oriented, negotiation of meaning whilst speaking, accuracy-oriented, message reduction and alteration, and message abandonment strategies. On the other hand, there was no significant difference in non-verbal, attempt to think in English, and circumlocution strategies. In the following sections further analysis was applied by using Scheffe test to find significant difference in each pair of social and affective, fluency-oriented, negotiation of meaning whilst speaking, accuracy-oriented, message reduction and alteration, and message abandonment strategies.

The findings disclose that there was a significant difference between students with Good self-perception and peers with Poor self-perception or ( $G > P$ ) in social and affective, message reduction and alteration, fluency-

oriented, negotiation for meaning whilst speaking, and accuracy-oriented. In contrast, the group of  $G < P$  reported using message abandonment strategies. On the other hand, there was no significant difference between students with Good self-perception (G) and peers with Moderate self-perception (M) in social and affective, message reduction and alteration, and message abandonment strategies.

## Discussion

### *Discussion of Finding One*

The results of this research are in line with the studies of Metcalfe and Noom-Ura (2013); Somsai (2011) who found that undergraduate students majoring in English most frequently used message reduction and alteration (or using familiar words, phrases, or sentences). They are also consistent with the results in Japan (Nakatani, 2006) and the investigation in Taiwan (Chiang, 2011; Huang, 2010). Additionally, these findings correspond with Bialystok (1990); that second language learners and foreign language peers have a tendency to use reduction strategies that use simple expressions and familiar words when they are faced with difficulties in spontaneous interaction with interlocutors in the target language. It could infer that whether Thai undergraduate learners are English major or non-major they are likely to employ reduction strategies to overcome their speaking difficulties. Further research is needed to find out reasons behind their strategy choice. On the other hand, they also employed achievement strategies for example using gesture, and thinking in their native language when they faced deficiency in linguistic knowledge (Canal and Swaine, 1980; Allen, 1999). This means that they tried very hard to overcome their speaking problems.

### *Discussion of Finding Two*

This research reveals that there were no significant differences in the use of overall oral communication strategies between male engineering students and female peers. However, significant differences were found only at an individual level of CS use, that are *using words which are familiar to them* (item 23); *using mime to try and convey the meaning* (item 28); and *using a talking dictionary to help communicate when you do not know what to say* (item32). In terms of the overall aspect of CS use, these present findings contradicted Somsai, 2013 who revealed that female students

showed significantly higher frequency of overall CS use than male counterparts. Nevertheless, there were some items which show consistencies with the present study at the individual level of CS use such as using non-verbal expressions, e.g. mime, gestures, and facial expressions to convey the message to the interlocutor; referring to a dictionary to convey the message to the interlocutor. One possible explanation that can be inferred is that the participants of the present research and Somsai's were in the same scientific field; therefore, it is likely that they have similar scientific thoughts. Consequently they employed scientific and modern devices e.g. a talking dictionary to assist their linguistic deficiency. In addition, the present results disclose that female students reported greater CS use than male peers (see Appendix: Table I - 3) which are in line with Somsai's study (2013) although the number of strategy items in this present research were a lot less due to different taxonomies being employed. This could strongly support the conclusion posted by many experts and researchers that females are more social-orientation than males (Oxford, 1995; Ok, 2003; Mori and Gobel, 2006).

### *Discussion of Finding Three*

Previous research revealed that high proficiency learners reported using social and affective, fluency-oriented, negotiation for meaning whilst speaking, and circumlocution strategies to cope with speaking difficulties. On the other hand, low proficiency peers employed message abandonment, less active listener, and risk-avoid strategies (Chuanchaisit and Prapphal, 2009; Metcalfe and Noom-Ura, 2013). The results of this present research show that there was a significant difference in overall oral communication strategies among the engineering students with different self-perceived speaking abilities. Additionally, the findings disclose that there was a significant difference between students with Good self-perception and peers with Poor self-perception or ( $G > P$ ) in social and affective, message reduction and alteration, fluency-oriented, negotiation for meaning whilst speaking, and accuracy-oriented CS use. In contrast, the group of  $G < P$  reported using message abandonment strategies. On the other hand, there was no significant difference between students with Good self-perception ( $G$ ) and peers with Moderate self-perception ( $M$ ) in social and affective, message reduction and alteration, and message abandonment strategies. Although, the present research used a different term of the variable in terms of assessing a level of students' speaking competence, in some extents, its

findings are in line with (Chuanchaisit and Prapphal, 2009; Metcalfe and Noom-Ura, 2013) in the use of CSs and the level of students' proficiency. Therefore, it may be inferred that the term 'self-perceived' competence might share some areas with regard to assessing oral competence with the actual speaking tasks. These sharing areas may confirm Bacon and Finnemann's (1990); Baker and MacIntyre's (2000) study that students' self-perceived competence affects the frequency use of oral communication and also it is not the actual speaking skill that is evaluated, but it shows how learners perceive their oral communication competence that determines their willingness to communicate. Therefore, further empirical research in this variable is needed.

It is also valuable to note a contradiction with the previous research. Students with Good self-perception did not report employing circumlocution strategies which occurred in several research (Chuanchaisit and Prapphal, 2009; Metcalfe and Noom-Ura, 2013; Mirzaei and Heidari, 2012). A possible explanation is that there is a lack of exposure to English of the engineering students inside and outside the classroom setting. The engineering students at Thai-Nichi Institute of Technology and Mahanakorn University were non-English majors and they had less opportunity to be exposed to oral interaction with native or non-native speakers than their English major peers. In addition, they still lack linguistic and strategic knowledge to cope with various spontaneous situations. As a result their actual level of proficiency may be lower than the students in the English major even though they perceived themselves as being good learners.

## Conclusion

In this study, participants reported a high level of CS use in message reduction and alteration, nonverbal, social-affective and attempt to think in English. Additionally, they employed a moderate level of CS use in negotiation for meaning whilst speaking, circumlocution, fluency-oriented, message abandonment, and accuracy-oriented.

Statistical analysis reveals that there were no significant differences in the use of overall oral communication strategies between male engineering students and female peers. The discrepancy of CS use was reported at the individual item level.

With regard to students' self-perceived speaking ability, there was a significant difference in overall oral communication strategies among the

engineering students with different self-perceived speaking ability. The findings also reveal that there was a significant difference in social and affective, fluency-oriented, negotiation of meaning whilst speaking, accuracy-oriented, message reduction and alteration, and message abandonment strategies. On the other hand, there was no significant difference in non-verbal, attempt to think in English, and circumlocution strategies.

Considering the limitation of this study in terms of making comparison in the Thai context, the Thai Communication Strategy Inventory (CSI) may be adapted by combining good features of Metcalfe and Noom-Ura (2013); Somsai and Intaraprasert (2010), and other experts. This newly design inventory will be highly beneficial for several instructors and practitioners in the field of teaching and learning speaking and listening in Thailand. In addition, many aspects in several researches could be served as guideline knowledge in order to produce useful and valuable teaching materials which include the practical use of CSs for Thai learners to help increase their oral competence with native and non-native speakers.

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### Appendix

Table I: Comparing the Use of Message Reduction and Alteration Strategies between Male Engineering Students and Female Counterparts at a Private University Institution (N = 361)

Message Reduction and Alteration	Males		Females		t	P
	Mean	SD.	Mean	SD.		
22. I reduce the message and use simple expressions.	3.78	.93	3.73	.91	.393	.694
23. I use words which are familiar to me.	<b>3.93</b>	<b>.84</b>	<b>4.18</b>	<b>.77</b>	<b>-2.333</b>	<b>.020*</b>
24. I change my sentence (s) when I feel I cannot get the message across with the first/previous sentence I produced.	3.69	.94	3.73	.83	-.336	.737

\* *Statistical significant at .05 level*

Table 2: Comparing the Use of Non-Verbal Strategies between Male Engineering Students and Female Counterparts at a Private University Institution (N = 361)

Non-verbal	Males		Females		t	P
	Mean	SD.	Mean	SD.		
25. I make eye-contact when I am talking.	3.66	.90	3.50	.94	1.414	.158
26. I use gestures if I cannot express myself.	3.78	.97	3.83	.99	-.392	.695
27. I use facial expression if I cannot express what I want to say.	3.53	.89	3.68	.80	-1.339	.181
28. When I cannot think of a word, I use mime to try and convey the meaning.	<b>3.69</b>	<b>.90</b>	<b>4.06</b>	<b>.92</b>	<b>-3.284</b>	<b>.001*</b>

\* *Statistical significant at .05 level*

Table 3: Comparing the Use of Message Abandonment Strategies between Male Engineering Students and Female Counterparts at a Private University Institution (N = 361)

Message Abandonment	Males		Females		t	p
	Mean	SD.	Mean	SD.		
29. If I face some language difficulties, I leave the message unfinished.	<b>3.42</b>	<b>.84</b>	<b>3.69</b>	<b>.76</b>	<b>-2.604</b>	<b>.010*</b>
30. I ask other people to help when I cannot communicate well.	3.66	.92	3.72	.91	-.488	.626
31. I give up when I cannot make others understand.	3.07	.99	3.03	.93	.391	.696
32. I use my talking dictionary to help me communicate when I do not know what to say.	<b>3.05</b>	<b>1.09</b>	<b>3.35</b>	<b>1.04</b>	<b>-2.153</b>	<b>.032*</b>
33. I prefer to remain quiet if I do not know what to say to avoid embarrassing myself.	3.02	1.-5	3.08	1.05	-.440	.661

\* *Statistical significant at .05 level*

Table 4: Comparing the Use of Circumlocution Strategies between Male Engineering Students and Female Counterparts at a Private University Institution (N = 361)

Circumlocution	Males		Females		t	p
	Mean	SD.	Mean	SD.		
36. I describe the characteristics of the object instead of using the exact word when I am not sure.	3.53	.80	3.69	.83	-1.534	.126
37. I create new words when I do not understand how to express myself.	<b>3.27</b>	<b>.93</b>	<b>2.97</b>	<b>1.044</b>	<b>2.408</b>	<b>.017*</b>
38. I use key words to replace a whole sentence when I have difficulties conveying my ideas.	3.50	.83	3.37	.88	1.173	.241

\* *Statistical significant at .05 level*