

Metacognitive Knowledge in Performing a Speaking Task: A Report From High and Low Proficient Thai University Students

Thiwaporn Thawarom

School of Liberal Arts, King Mongkut's University of Technology, Bangkok, Thailand

Jeffrey D. Wilang

School of Liberal Arts, King Mongkut's University of Technology, Bangkok, Thailand

Wareesiri Singhasiri

Faculty of Humanities and Social Sciences, Khon Kaen University, Khon Kaen, Thailand

Abstract—This study analyzes the use of metacognitive knowledge in performing a speaking task between high-proficient and low-proficient university students. The data was collected by employing stimulated recall interviews from 34-first year students. The data was coded deductively by using metacognitive knowledge frameworks. The results showed that the students employed all types of metacognitive knowledge in their speaking. Both high-proficient and low-proficient students prominently manifested strategy knowledge such as vocabulary strategies, planning strategies and problem-solving strategies. However, the high-proficient students were found to use some strategies differently from the low-proficient students. The high-proficient students showed the highest percentage of task knowledge, while the low-proficient students displayed the lowest percentage. The former group clearly showed understanding of the purpose, nature and difficulty of the task, which could influence the task management. Both groups exhibited person knowledge at a low percentage. While the high-proficient students were found to depict knowledge that facilitated their learning and speaking, the low-proficient students were concerned about variables such as limited vocabulary knowledge and grammatical deficiency that inhibited their learning and speaking. The finding implies the importance of raising metacognitive knowledge to accomplish learning tasks.

Index Terms—metacognitive knowledge, speaking task, vocabulary use, university students

I. INTRODUCTION

The ultimate goal of English language learning and teaching is to provide learners with the ability to use language to communicate effectively and correctly (Davies & Pearse, 2000). Among all language skills, speaking is perhaps the most essential skill that serves the learning goal for communicating in various situations. At a tertiary level, speaking is one of the key aspects of language skill assessments and speaking proficiency may include descriptions, discussions, and effective presentations. In addition, university students tend to perform speaking activities within a specific context as programs are on grounds of learners' needs and interests (Jin et al., 2013; Paltridge & Starfield, 2013). They are expected to achieve their academic and professional goal by combining acquired language knowledge and content knowledge (Douglas, 2000), together with specific knowledge of particular subjects (Feak, 2013). In this regard, learners need to combine both general and technical words to convey messages in specific contexts.

Nonetheless, second and foreign language learners generally find effective speaking challenging and difficult (Paquot, 2010). Besides, second language teachers accepted that developing the learners' speaking ability is an arduous task (Pawlak et al., 2011). This is because speaking does not only involve vocabulary knowledge from the speakers' lexicon (Nation, 2013; Zipagan & Lee, 2018) but also a mastery of language subsystems (Pawlak et al., 2011), consistency of practice (Burns, 2016), and familiarity of situations and variety of topics (Richards, 1976).

In the field of psychology education, researchers have investigated learners' metacognition and found that it has a direct impact on successful learning outcomes (Mokhtari & Reichard, 2002; Zimmerman & Schunk, 2001). Metacognition "has the potential to empower students to take charge of their own learning and to increase the meaningfulness of students' learning" (Amado Gama, 2005, p. 21). Metacognitive knowledge and skills are critical for learners to become successful (Altoik et al., 2019) because it fosters learners to learn what to do when they don't know what to do (Claxton, 2002). For this reason, it is interesting to investigate how university students employ their metacognitive knowledge to regulate their learning. This study, therefore, is designed to seek answers to the question "To what extent do high and low proficient students use metacognitive knowledge in a speaking task?"

II. LITERATURE REVIEW

A. Types of Metacognitive Knowledge

The concept of metacognition emerged in the late 1960s when Flavell studied the significance of metacognition and behaviors in children's memory development. Even though the term has subsequently been conceptualized by different scholars, the notion of metacognition lies in the heart that it is a key element to enhance and regulate successful learning. It deals with one's own thinking, information processing, learning goal, and management. In this study, we acknowledge its original definition by Flavell, (1976, p. 232) as "*one's knowledge concerning one's own cognitive processes and products or anything related to them.*" Studies of metacognition focus on the two components: knowledge of cognition and regulation of cognition (Flavell, 1979; Paris & Winograd, 1990; Schraw et al., 2006; Wenden 1998; White & Frederiksen, 2005). Knowledge of cognition or metacognitive knowledge refers to an individual's knowledge of one's own cognitive process, whereas regulation of cognition or metacognitive control refers to the process of regulating one's own learning based on metacognitive knowledge.

Metacognitive knowledge is essential for effective learning strategies (Wenden, 1998) and is influential to learning outcomes (Choyet al., 2019). Butler and Winne (1995) and Baker and Brown (1984, as cited in Wenden, 1998) argue that metacognitive knowledge is a prerequisite to self-regulation. This is probably because accurate self-assessment is the principal to effective self-regulation (Schoenfeld, 1987). Thus, learners who understand their thinking and learning processes can make choices or applications of strategies in planning, evaluating and monitoring pertaining to a learning task (Wenden, 1998; Zhang & Goh, 2006).

Metacognitive knowledge is divided into three categories: person knowledge, task knowledge and strategy knowledge (Flavell, 1979; Wenden, 1998; Vandergrift & Goh, 2012). Person knowledge is a part of our stored knowledge or our long-term memory that is acquired formally or informally, deliberately or incidentally and this knowledge is relatively stable (Flavell, 1979). In language learning, Wenden (1998) points out that person knowledge is learners' understanding of human factors that facilitate or inhibit learning; cognitive and affective factors such as age, beliefs, and motivation. This knowledge includes knowledge learners' proficiency in a given area such as reading skills, and grammatical knowledge, knowledge of learning efficiency and achievement beliefs. In listening, Vandergrift and Goh (2012) acknowledge person knowledge as knowledge of ourselves as learners and the beliefs we have about what leads to success or failure in learning (Vandergrift & Goh, 2012, p. 87). It can be summarized that person knowledge is knowledge of self-assessment towards a learning task. Task knowledge is knowledge about the purpose, the nature, and the demand of the task to be accomplished (Flavell, 1979; Vandergrift & Goh, 2012; Wenden, 1998). To clarify, knowledge of a task's purpose is understanding that a speaking task aims at improving an ability to orally describe something and it has a relationship with expanded vocabulary after task completion. Knowledge of the nature of a learning task is understanding that a speaking task is different from a writing task because it requires knowledge and skills of grammar, vocabulary, and pronunciation. Furthermore, knowledge of a task's demands is understanding that the task is probably challenging; as a result, knowledge and skills are deliberated for accomplishing a general task or a specific task. Strategy knowledge is knowledge about what strategies are, why they are useful, and when they should be used to complete a particular task. According to Flavell (1981), strategy knowledge happens during a learning process rather than a planning process. In some cases, however, learning strategies are considered strategy knowledge. This is because some data collecting techniques such as interviews and questionnaires retrospect upon participants' learning process which requires them to draw upon their stored metacognitive knowledge about learning strategies. As a result, strategies learners may use or what they think they use or should use - can also be viewed as evidence of their strategic knowledge (Wenden, 1998, p. 519).

B. Effects of Metacognitive Knowledge on Speaking Performance

A study of oral skill awareness of advanced EFL students by Drożdżal-Szelest (2011) showed a high degree of metacognitive awareness among them. They were able to assess their speaking abilities and realized the nature of the speaking task. According to Putri (2019), metacognitive awareness allowed the learners to reflect upon problem areas such as vocabulary, accuracy, and confidence that they faced in speaking. In addition, they were aware that communicative competence required combinations of various factors such as teachers, learners, environment and time. Another study by Karim (2019) revealed that learners who were aware of metacognitive knowledge of their English language background, difficulties in their learning, and learning resource access could apply these kinds of knowledge to accommodate metacognitive strategies – planning, monitoring, and evaluating, for developing their speaking skill.

Tan and Tan (2010) conducted a case study to examine a metacognitive approach for developing students' Chinese language speaking. The use of audioblogs as the mediating information and communication technology (ICT) tool was employed to facilitate language learning tasks. The main sources of data were from seven students' oral recordings and interactions in their audioblogs. The results revealed significant improvement in the mean scores of pre- to post-test oral performance. It was found that the systematic approach in their reflection: evaluating --> monitoring --> planning, was adopted with a greater amount of attention devoted to the monitoring strategy. However, the distribution of metacognitive knowledge usage revealed in students' self-assessment was unbalanced. Among the types of metacognitive knowledge, task knowledge was the metacognitive knowledge predominantly used by the students. On the other hand, person knowledge and strategy knowledge were not adopted by the students. The findings implied that more attention could be given to the person knowledge and strategy knowledge.

Previous studies reported positive relationships between awareness of metacognitive knowledge and speaking skills. Nonetheless, how learners employ metacognitive knowledge in their learning processes needs further inspection. Therefore, this study attempts to explore the use of metacognitive knowledge in oral production in both high and low proficiency university students. In addition, it is interesting to examine the metacognitive knowledge of EFL students in a task that is closely related to a specific context.

III. RESEARCH METHODOLOGY

A. *Participants of the Study*

The participants were first-year students who enrolled in the course Technical English, at King Mongkut's University of Technology Thonburi (KMUTT), Thailand. Their general English proficiency was assumed to be comparable to intermediate level. The participants were selected from fifteen different groups (418 students), and they were taught by different teachers. To examine the use of metacognitive knowledge in the speaking task between high- and low-proficient students, participants were obtained based on their scores of a speaking task. The criteria of speaking assessment include content, language accuracy, fluency and one-minute time required to complete the task. In this process, the researchers asked for the names of the six students regarding their speaking scores. In other words, only extreme cases were focused. That is to say, three students who gained the highest scores and three students who gained the lowest scores from each group were singled out. Then, the researchers made contact with each student (90 students in total) for permission to an interview. However, the students were not informed about their gained scores. In the end, 34 students voluntarily took part.

B. *Speaking Task*

The speaking task was a requirement of Technical English. The course aims to develop English communication skills. Particularly, the course focuses on the use of skills in meaningful communicative tasks in academic and technological contexts. In line with the aim of the course, students are required to accomplish a task, which is an oral report of a situation on the topic of safety at the workplace. There were five different pictures and the students were allowed to prepare in advance. The task is a one-minute picture description and the students should report the situation according to the guidelines, which includes the scene, the equipment or materials appearing in the pictures, potential accident and safety. On the actual task performance, each student randomly picked one picture, prepared the speaking for one minute and performed it. During the task performance, the students' speech was audio recorded for the stimulated recall interview process.

C. *The Interviews*

In order to explore the use of metacognitive knowledge in a speaking task, a stimulated recall interview was employed to draw the students' thinking when they were doing a task. The interview questions were designed based on the students' considerations for performing the task. The interviews were conducted one week after the speaking task. As the participants were high- and low-proficient students, the interviews might allow the researchers to see how different metacognitive knowledge was used between the two groups. The interview was conducted individually one week after the speaking task. The time and venue were set according to the availability of the interviewee, and they were asked to participate in the interview outside the classroom. Prior to the interview, each of the participants gave the researchers consent for data collection.

D. *Coding*

To analyze the data, the schemes for coding were set by adapting Flavell's (1979), Wenden's (1998), and Vandergrift and Goh's (2012) metacognitive knowledge frameworks. Table 1 illustrates person knowledge, task knowledge, and strategy knowledge that could influence an outcome of a speaking task. Person knowledge is knowledge of one's self as a learner and EFL speaker. It can be reflected through students' understanding of self-proficiency in their learning in general and speaking in particular. This also includes self-beliefs and attitudes, cognitive ability and styles in learning. Task knowledge is knowledge of the task's purpose, nature, and demand. Strategy knowledge involves knowledge about what strategy, when to use, and why it could be effective for task completion.

TABLE 1
MODIFIED SCHEMES FOR CODING METACOGNITIVE KNOWLEDGE IN SPEAKING AND EXAMPLES FROM THE STUDENTS' INTERVIEWS

Variables of metacognitive knowledge	Metacognitive knowledge	Metacognitive knowledge about speaking	Examples of metacognitive knowledge of students
Person knowledge	<ul style="list-style-type: none"> • Beliefs or perceptions about the nature of learning and proficiency of oneself and others. • Beliefs about what leads to success or failure in learning. • Knowledge of the cognitive and affective factors that facilitate or inhibit learning. 	<ul style="list-style-type: none"> • Knowing one's self and others in terms of strength and weakness in learning and cognitive processing in general, e.g., how good their memory is, how they learn the language • Learning styles, e.g., one may prefer understanding to memorize • Beliefs and attitudes towards speaking, e.g., perception towards learning and speaking English • Knowing their own language proficiency and speaking proficiency in general such as how well they can speak, how much grammar they know 	<ol style="list-style-type: none"> 1. I was not confident about the part of speech of the vocabulary because I am not good at grammar. 2. Most of my friends prepare the scripts, but I don't like to memorize them. I don't like reading it from the script.
Task knowledge	<ul style="list-style-type: none"> • Information available to the students during a cognitive enterprise. • Knowledge of the nature and purpose of the task and how it will serve their language learning needs. • Knowledge of task demands. 	<ul style="list-style-type: none"> • Knowledge and skills acquired from accomplishing the speaking task, e.g., the oral ability for describing the task, target vocabulary and knowledge of language structure for describing damages • Knowledge and skills needed for completing the task e.g. vocabulary • Needed, sentence points and structures, source of information for the task processing • Mental, affective factors towards speaking task, e.g., level of task difficulty • Factors that influence speaking e.g. nature of the task, time constraints and scores 	<ol style="list-style-type: none"> 1. I tried to recall what I have learnt in the class and remembered that we studied about "safety". 2. I focused on what related to the topic "safety" because it could be the criteria of the scores.
Strategy knowledge	<ul style="list-style-type: none"> • Knowledge concerning effective strategies for accomplishing a task. • Knowledge about what strategies are, why they are useful and specific knowledge about when and how to use them. 	<ul style="list-style-type: none"> • Knowledge or actions of 'what' is useful for accomplishing a speaking task, e.g., what a student does or should do in order to achieve the speaking task • Knowledge or awareness of 'why' such strategies are helpful for accomplishing the speaking task • Knowledge or actions of 'how' to employ strategies for the speaking task attainment • Knowledge or actions of 'when' the strategies should be regulated 	<ol style="list-style-type: none"> 1. I wrote a script and checked the structures and vocabulary. I checked whether a word looked strange in the context or were there any other words. I studied how they were used. 2. I used the Thai language to search for vocabulary in English. I typed my sentences in Google to check if other people used the same sentences or not.

The schemes based on Flavell (1979); Wenden, (1998) and Vandergrift and Goh, (2012)

In the next step, metacognitive knowledge was coded deductively (see Table 1). In the coding process, two researchers familiarized the data by reading and re-reading the interviews data. Then, specific words or phrases relating to the descriptions of person knowledge, task knowledge, and strategy knowledge were pinpointed. For example, the phrase *I am not good at speaking* was coded PK (Person knowledge) as it described a belief of specific skills that the participant self-assessed. Then, phrases and keywords of each type of metacognitive knowledge were examined and grouped into broader categories to capture the meaningful themes. The researchers conducted the intra- and inter-reliability checks. To explain, the data was coded by the same researchers and two experts in the fields. Subsequently, the agreement is 92 percent, indicating high reliability.

IV. RESULTS

A. Types of Metacognitive Knowledge in the Speaking among University Students

Table 2 shows types of metacognitive knowledge used in speaking among EFL university students. As can be seen, strategy knowledge was prominently elicited with the highest percentage (54%), followed by task knowledge (30%), whereas person knowledge was least frequently produced (16%).

TABLE 2
TYPES OF METACOGNITIVE KNOWLEDGE IN PERFORMING A SPEAKING TASK BY THAI UNIVERSITY STUDENTS

Types of metacognitive knowledge	Numbers of occurrences	Percentage
Person knowledge	60	16%
Task knowledge	111	30%
Strategy knowledge	202	54%
Total (occurrences)	373	100%

Table 3 displays percentages of metacognitive knowledge between the high-proficient students and the low-proficient students. It is noticeable that the high-proficient students were able to reflect higher percentages on all types of metacognitive knowledge than the low-proficient students. Among the three types of metacognitive knowledge, 70 percent of task knowledge, 56 percent of strategy knowledge, and 55 percent of person knowledge were reported among the high-proficient students. At the same time, the low-proficient students elicited 45 percent of person knowledge, 44 percent of strategy knowledge and 30 percent of task knowledge. Among these types of knowledge, task knowledge demonstrated the greatest difference between the two groups

TABLE 3
METACOGNITIVE KNOWLEDGE IN A SPEAKING TASK BETWEEN HIGH AND LOW PROFICIENT STUDENTS

Types of metacognitive knowledge	Person knowledge		Task knowledge		Strategy knowledge	
	Numbers of occurrences	Percentage	Numbers of occurrences	Percentage	Numbers of occurrences	Percentage
High-proficient students	33	55%	78	70%	113	56%
Low-proficient students	27	45%	33	30%	89	44%
Total	60	100%	111	100%	202	100%

Subsequently, themes of each type of metacognitive knowledge emerged. Under person knowledge, three themes have been found. The first theme is recognizing self-proficiency which reflects students' assessment of their language and skill such as grammar knowledge, vocabulary knowledge, speaking ability and pronunciation knowledge. The second theme is knowledge of self-beliefs and attitudes towards learning and speaking. The last is understanding of one's own and others' cognitive ability. There are four themes under task knowledge: knowledge of task purpose, nature of the task, task difficulty and other factors that can affect the task completion. Strategy knowledge consists of five elements covering knowledge of vocabulary strategy, planning strategy, problem-solving strategy, rehearsing strategy and evaluating strategy. The themes of each type of metacognitive knowledge between the two groups are shown in Table 4.

TABLE 4
THEMES OF METACOGNITIVE KNOWLEDGE IN THE SPEAKING TASK BETWEEN HIGH AND LOW PROFICIENT STUDENTS

Types of metacognitive knowledge	High-proficient students	Low-proficient students	Total
1. Person knowledge	33	27	60
1.1 knowledge of self-proficiency	13 (50%)	13 (50%)	26
1.2. knowledge of self-beliefs and attitudes	5 (50%)	5 (50%)	10
1.3. knowledge of one's own and others' cognitive ability	15 (62.5%)	9 (37.5%)	24
2. Task Knowledge	78	33	111
2.1 knowledge of task purpose	56 (67%)	27 (33%)	2
2.2. knowledge of the nature of the task	8 (89%)	1 (11%)	9
2.3 knowledge of task difficulty	12 (80%)	3 (20%)	15
2.4. knowledge of other factors that can affect the task completion	2 (50%)	2 (50%)	4
3. Strategy Knowledge	113	89	202
3.1 knowledge of vocabulary strategies	20 (74%)	7 (26%)	27
3.2 knowledge of planning strategies	31 (55%)	26 (45%)	57
3.3 knowledge of problem-solving strategies	44 (51%)	42 (49%)	86
3.4 knowledge of rehearsing strategies	13 (54%)	11 (46%)	24
3.5 knowledge of evaluating strategy	5 (62.5%)	3 (37.5%)	8
Total	224	149	373

B. The Use of Metacognitive Knowledge between High and Low Proficiency Students

1. Person Knowledge

In order to perform a speaking task, the students show that they were conscious about themselves in terms of self-proficiency, self-beliefs and attitudes, and knowledge of self-beliefs and attitudes.

a. Knowledge of Self-proficiency

Examination of self-proficiency revealed that the high-proficient students were found to self-assess vocabulary knowledge or lexicon which easily helps make choices of vocabulary to complete the task. On the contrary, the low-proficient students showed severity in learning proficiency and speaking. This indicates that they may have receptive vocabulary knowledge, but may lack productive vocabulary knowledge.

high-proficient student *I check my vocabulary, how much vocabulary I know in the picture. S2*

low-proficient students *I didn't use the guideline from the teacher because I know that in the end, I will think in Thai when I have the test, so I wrote the script in Thai. S31*

b. Person knowledge of Self-beliefs and Attitudes

The finding revealed that the students were able to reflect beliefs and attitudes towards the speaking task. The high-proficient students assessed their learning ability in more positive ways than the low-proficient students. It is noticeable that the first group had self-efficacy beliefs to attain the task. On the contrary, low-proficient students had low confidence and belief to achieve the task due to grammar proficiency. The findings revealed that learners' perceptions towards learning foreign languages can affect vocabulary selection for their speaking.

high-proficient students *Well, I think even though there are mistakes, the vocabulary that I used is appropriate and understandable. I am quite satisfied with it. S22*

low-proficient students *I had no confidence that my English script was grammatically correct. S6*

c. Knowledge of One's Own and Others' Cognitive Ability

Another aspect of person knowledge elicited among university students is recognition of one's own and others' cognitive abilities and learning styles. High-proficient students were found to be aware of the way that they can learn best, which may be different from their friends. When performing a speaking task, they tended to regulate the way that matched their cognitive ability. In contrast, despite low-proficiency students' understanding of learning differences, they did not elicit clearly how it influenced different choices of controlling their speaking.

High-proficient student *Most of my friends prepare the scripts, but I don't like to memorize them. I don't like reading it from the script. S22*

Low-proficient students *I think the friends who are studying engineering are familiar with vocabulary about "construction sites", but I study Math. I don't usually study this topic nor use this kind of vocabulary. S 28*

2. Task Knowledge

In order to accomplish the speaking task, the students elicit task knowledge which includes the task purpose, task nature, task demand and other factors that can affect the task.

a. Knowledge of Task Purpose

As prompted in the interview, both groups of students were aware of the purpose of the task. To explain, high-proficient students analyzed the main message of the description and came up with target vocabulary and language structures. Similarly, low-proficient students studied details in the picture and potential consequences. The findings can be implied that task knowledge could help students to make word choices that embrace the main message of the task.

high-proficient students *I looked at the five pictures at the same time and pondered what they had in common such as they are not allowed to do something. S7*

low-proficient students *I looked for the meanings of vocabulary. I used Google and other search engines. I checked the one that is the most sensible to serve the purpose and the context of the task. S20*

b. Knowledge of Nature of the Task

Understanding the nature of the task is essential for students to become aware of the specific knowledge and skills they should gain. The findings showed that both groups show an understanding of the nature of the speaking task. However, high-proficient students appeared to take into consideration the connection of task and skills needed, task type and vocabulary to be used in the speaking task.

high-proficient students *For this task, I worried about grammar, not vocabulary. But I didn't recheck it because I think it is a speaking task, vocabulary is more important. S18*

low-proficient students *I think that when I perform the speaking, I would try to think in English so that it would not sound like memorizing the script. S 32*

c. Knowledge of Task Difficulty

Due to the context of the task which is relatively technical, the students understand that it was not easy to achieve it. In the speaking task, high-proficient students were conscious of levels of task difficulty and the context. One student (S27) realized that he needed to utilize vocabulary from the course book to serve the context of the task. Another student elicited that vocabulary items in her speaking were determined by the context of the task, especially words for

describing tools. On the other hand, low-proficient students found that the task was demanding. However, they could not show a clear understanding of how the context shaped the vocabulary needed for this task.

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| <i>high-proficient students</i> | <i>Even though I employed some vocabulary from the book, I think the task is more complex than what we learned in the class. S27</i> |
| <i>low-proficient students</i> | <i>When preparing the task about this picture, I struggled with vocabulary (stumble, trip). I used an online dictionary to look for English vocabulary. S33</i> |

d. Knowledge of Other Factors that Can Affect the Task Completion

Aside from previous factors, the students were able to recognize there exist other factors that could also affect the speaking task. High-proficient students expressed that the amount of time given for the speaking task may affect their speaking. Thus, they needed to limit information in the description. In addition, different pictures seemed to be another factor that could impact choices of vocabulary use in the description. Consequently, the students were likely to employ easy-to-memorize words in their descriptions.

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| <i>high-proficient students</i> | <i>Before I did the speaking task, I prepared it by taking notes about the scope of the talk. I consider the amount of time for speaking. S22</i> |
| <i>low-proficient students</i> | <i>When I prepare vocabulary, I go for words that are easy to memorize like the word "helmet" is easy to memorize because there are five pictures. I don't know which I will pick. S28</i> |

3. Strategy Knowledge

To reach the final product of the task, the students were found to be thoughtful of several ways of task management. Both groups had relatively high metacognitive knowledge ranging from vocabulary, to planning, problem-solving, rehearsing, and evaluating, which seemed effective to achieve their speaking.

a. Knowledge of Vocabulary Strategies

Based on the finding, students were aware that vocabulary is essential for speaking. In this regard, high-proficient students were able to reflect knowledge of vocabulary strategy which emphasizes vocabulary from their mental lexicon. To perform, they relied upon their lexicon as the main vocabulary source. In a similar vein, low-proficient students chose stored vocabulary and focused on simple words to carry the direct message in the talk. Moreover, some students managed to avoid using words they cannot pronounce correctly.

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|---------------------------------|---|
| <i>high-proficient students</i> | <i>I used it ("sewer") because I am familiar with these words, but I know both ("sewer" and "drain"). S3</i> |
| <i>low-proficient students</i> | <i>If I have a problem with vocabulary, if I cannot pronounce it clearly or correctly, I avoid using that word. S28</i> |

b. Knowledge of Planning Strategies

The planning strategy is unavoidable for students to attain the speaking specifically when description should serve the learning purposefully and contextually. The findings demonstrated that the students employed different approaches to manage their ways to speak. Knowledge of planning strategies helps them arrange the scope of the talk, make use of guidelines, take notes and make a list, prepare scripts and translate scripts. High-proficient students addressed that they were engaged with translating the scripts, arranging ideas, and taking notes/making a list of what information they should present in the speaking. On the other hand, low-proficient students addressed that they were occupied with preparing scripts in Thai and translating them into English.

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| <i>high-proficient students</i> | <i>First, I looked at the picture and made a list of vocabulary in the Thai language. I listed the objects that I saw in the picture. S26</i> |
| <i>low-proficient students</i> | <i>I studied what happened in the scene, prepared the script in Thai and translated the Thai script into English. S29</i> |

c. Knowledge of Problem-solving Strategies

Due to the task difficulties, university students exhibited how they could get the problems resolved. However, it is noted that difficulties depend on individuals' perceptions; for this reason, different types of solutions were deployed. Both high-proficient and low-proficient students relied heavily on technology, namely online dictionaries and machine translation in seeking resources to cope with their problems. Both groups were found to have similar strategies for rechecking the correct meaning of vocabulary. However, some discrepancies of employed strategies were found between the two groups. Secondary to utilizing technology, high-proficient students center their attention to deal with the task by themselves. In contrast, low-proficient students managed to deal with difficulties by seeking help from friends or teachers.

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| <i>high-proficient students</i> | <i>I used some words from the book, but it's not enough. I have to use other sources to get the vocabulary for describing this picture. S26</i> |
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low-proficient students *I used Google Translation to translate the whole Thai script. S21*

d. Knowledge of Rehearsing Strategies

The students were found to understand that practice was the best policy to perform a speaking. However, this knowledge was applied in different ways by two groups. To clarify, high-proficient students employed strategies that are applicable for the actual speaking when they practiced. For instance, only keywords were emphasized in the rehearsal although rote memorization of the full scripts was another option. In contrast, low-proficient students were found to be generally overwhelmed with memorizing the full scripts, despite the fact that some of them tried to focus on keywords.

high-proficient students *When I practiced, I memorized keywords. After that, I tried to recall details about that picture. S16*

low-proficient students *When I practiced, I memorized the script and practiced a lot. S19*

e. Knowledge of Evaluating Strategy

Lastly, university students were found to have knowledge of evaluating the effectiveness of their speaking strategies. Self-evaluation can impact levels of self-confidence or self-efficacy in achieving the task. The findings showed that revision and source of vocabulary use in the speaking allowed high-proficient students to evaluate how successful the task attainment is. In contrast, one of the low-proficient students mentioned that the details in some pictures were not clear enough, so there was a limited degree of certainty that their description would be reasonably understandable.

high-proficient students *I would say I was 70-80% confident about the vocabulary that I used to describe this picture. I think it was comprehensible because some of it was from the course book. S17*

low-proficient students *When I prepared the task, I would say about 60-70% of my description is understandable. This is because I felt that there is not enough information to talk about in this picture. S19*

V. DISCUSSION

This section discusses types of metacognitive knowledge used in performing a speaking task by high-proficient and low-proficient students. The discussion starts with person knowledge, task knowledge and strategy knowledge respectively.

A. Person Knowledge

Studies of Drożdżal-Szelest (2011) and Putri (2019) suggested that proficient learners were able to assess their speaking ability, difficulty, confidence and nature of speaking tasks. In this study, both high-proficient and low-proficient students were able to assess person knowledge in three different aspects: knowledge of self-proficiency, self-beliefs and attitudes, and knowledge of one's own and others' cognitive ability. These aspects of person knowledge influence vocabulary selection for their speaking performance. To clarify, when students were able to assess their language proficiency in terms of English language learning and speaking, they realized what vocabulary they already know and what words they need to gain in order to accomplish the task. In addition, beliefs and attitudes towards language learning and speaking influence word choices for speaking. One possible explanation is that, if the students find English language and speaking difficult, they are likely to select vocabulary that they think could help gain a higher score. This alternative can be affected by another aspect which is understanding of cognitive ability. That is when the students understand that their own cognitive ability differs from their friends, those students relatively select vocabulary based on their cognitive memory, which is to avoid using unknown or unfamiliar words. However, the findings of this current study show different perspectives of person knowledge between high-proficient and low-proficient students. To elaborate, high-proficient students could assess themselves in the ways that person knowledge facilitated their learning and speaking. For example, one student expressed that he/she understood that using difficult words in their description was uncomfortable because there is a possibility to otherwise forget them. In another example, one student recognized that their learning style was different from that of their friends, so when they prepared the speaking task, he/she employed strategies that matched his/her learning style and facilitated task achievement. On the other hand, albeit low-proficient students were able to be aware of themselves as English language learners, depictions of their language proficiency, beliefs about learning, and factors are found to relatively inhibit them from learning and speaking. In their reflections, they depicted themselves to be overwhelmed with cognitive-affective variables such as a low level of self-efficacy due to limited vocabulary knowledge and grammatical deficiencies. For instance, one addressed that he/she was not good at speaking English, and another admitted that he/she was uncertain to be able to perform the one-minute speaking.

B. Task Knowledge

Among the three types of metacognitive knowledge, task knowledge could be noticeable to differentiate high-proficient students from low-proficient students. It is necessary to highlight how high-proficient students employ task knowledge to manage their learning outcomes. The results were in line with Tan and Tan (2010), that task knowledge was dominantly used in speaking. Based on the findings, high-proficient students were found to be more knowledgeable regarding the purpose and nature of the speaking task, and difficulties of speaking task and when a deliberate effort is needed to accomplish the task. In other words, high-proficient students appeared to comprehend the task's content such as an accident in the workplace, safety and prevention, vocabulary such as *laboratory*, *contaminate*, and *fatal* and their relationship to the task's topic or purpose. In addition, understanding levels of task difficulty made them realized that vocabulary choices are shape by their context. For example, they expressed that they needed to supply themselves with a range of technical words such as *circuit*, *chainsaw*, *screwdriver* and *hazard* to serve the meanings and clarification of the description. Unlike high-proficient students, low-proficient students were found to understand and employ task knowledge superficially. Even though they could address the purpose of the task, they were not able to describe a deep understanding of nature or the difficulty of the task. For example, one student expressed that he/she was trying not to memorize the script when speaking. Another student reported that he/she encountered vocabulary difficulty in speaking, but did not explain the relationship between the task and vocabulary in context.

C. Strategy Knowledge

The findings revealed that strategy knowledge is prominently used in the speaking task as previous studies reported in the literature (see Drożdżal-Szelest, 2011; Karim, 2019; Putri, 2019). This could be explained by the nature of the task. As the task requires the students to describe situations relating to safety in the workplace within one minute, students must perform the speaking purposefully and meaningfully. To serve the task meaningfully, students should have sufficient resources/sources of strategies for effective speaking performance. In addition, they have to understand how and when such strategies should be used. One strategy includes using the first language (Thai) to plan the content of the talk and frame details of speaking. Another is selective attention, which helps students understand the purpose of a task before opting for key information to perform the speaking. Consequently, the students make use of technology to ascertain the appropriateness of vocabulary use. They increased the level of their vocabulary accuracy and precision by cross-checking their meanings from different sources. However, preparing the speaking for five different pictures, one of which they would randomly pick up, can affect their cognitive load. Thus, recognition of strategy knowledge aids students in managing the task more effectively by spending less (saving) time on some pictures or choosing familiar words to reduce cognitive loads. Finally, a variety of rehearsal strategies helped establish fluency in their speaking. The findings of the current study are in line with Cerón Sánchez et al. (2015) that strategy knowledge about speaking involves direct analysis, transformation, or synthesis of the target language, and at the same time, the use of these strategies helps them acquire the target or needed vocabulary.

VI. CONCLUSION AND IMPLICATIONS

This study examined the use of metacognitive knowledge in speaking among Thai university students. Metacognitive knowledge plays a critical role in accomplishing a learning task. Person knowledge provides the students with different angles of language learners, and it can help reflect the distance between the task and their ability to reach it. At the same time, strategy knowledge can be used to direct choices of task management such as planning, problem-solving and rehearsing based on available sources. Nonetheless, task knowledge seems to be a key for successful task attainment among the high-proficient students as this type of knowledge helps them place their concerns on what kind of task they were going to perform, what kind of vocabulary they need to use in the task, and what difficulties they are going to meet.

The findings of this study imply raising awareness of the use of metacognitive knowledge to accomplish a speaking task successfully. Despite the fact that both high-proficient and low-proficient students were able to use metacognitive knowledge as resources of information for accomplishing the speaking task, it is essential for the low-proficient learners to promote task knowledge in order to attain it successfully. To do so, metacognitive awareness should be trained at the very first stage of a learning task. As suggested by Goh and Burns (2012) and Burns (2019), teachers may need to highlight the importance of task preparation, thus students have enough time to prepare themselves to meet requirements of a learning task. This provides opportunities for learners to reflect upon their proficiency, beliefs, cognitive ability, the task they are going to perform, and the strategies needed for approaching the learning task. In addition, task knowledge should be raised in order to help students engage with the context and language use in a task. For specialized contexts, they are expected to demonstrate a fluent use of language, which is relatively technical (Coxhead, 2013). Therefore, they need a precise and deep understanding of vocabulary and language patterns to attain their academic and professional goals.

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Thiwaporn Thawarom is a Ph.D. candidate in Applied Linguistics, School of Liberal Arts, King Mongkut's University of Technology Thonburi. Her research interests include vocabulary learning and assessing, Content and Language Integrated Learning (CLIL) and learning strategies.

Jeffrey Dawala Wilang is a lecturer at the Department of Language Studies, School of Liberal Arts, King Mongkut's University of Technology Thonburi. He received his Ph.D. in Applied Linguistics from King Mongkut's University of Technology Thonburi. His research interests include language anxiety, English as a Foreign/Second Language, World Englishes, and research methodology.

Wareesiri Singhasiri is an associate professor at Faculty of Humanities and Social Sciences, Khon Kaen University. Her research interests cover learning strategies, learning styles, and research methodology.