

# Thai EFL Undergraduate Engineering Students’ Perspectives on Academic Writing: Challenges and Strategies

Chariya Prapobratanakul\*

Chulalongkorn University Language Institute, Bangkok, Thailand

\*Corresponding author: [chariya.p@chula.ac.th](mailto:chariya.p@chula.ac.th)

Article information	
<b>Abstract</b>	This study investigated the perceived English-language academic writing challenges encountered by Thai EFL undergraduate engineering students and the strategies they employed to overcome these challenges. The data were collected from third-year Thai EFL undergraduate engineering students through a questionnaire and a semi-structured interview adapted from Hyland (2016) and Lin and Morrison (2021). The results revealed that vocabulary, grammar, and structure were the most challenging aspects at the sentence level for students. At the paragraph level, they considered summarizing and paraphrasing academic sources and producing a coherent argument the most challenging aspects when writing academic texts in English. Feedback from instructors was reported as the most useful strategy. However, students were most likely to seek online support when encountering problems in English language academic writing practices. The study concludes by discussing implications for teaching academic writing courses.
<b>Keywords</b>	academic writing challenges, academic writing strategies, Thai EFL undergraduate engineering students
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## 1. Introduction

Academic writing in tertiary-level education has been considered one of the major means by which student learning is demonstrated and evaluated, both in tests and examinations and in coursework assignments such as essays and reports (Evans & Morrison, 2018). In addition, to meet academic demands and advance in their academic studies and careers, academic writing is an integral part of the process.

Despite its significance, several studies have demonstrated that academic writing has been a challenge for writers, particularly those who write in their second language (Casanave & Hubbard, 1992; Evans & Morrison, 2018; Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Singh, 2017). Numerous studies focusing on English as a Foreign Language (EFL) have highlighted the multifaceted challenges faced by both EFL undergraduate and graduate students from different first language backgrounds when writing academic texts in English (Casanave & Hubbard, 1992; Huang, 2010; Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Pinetah, 2014). Within this context, several researchers have extended their studies to explore the strategies employed by these students to overcome the identified challenges (Hyland, 2016; Lin & Morrison, 2021; Pessoa, Miller & Kaufer, 2014; Singh, 2017).

In Thailand, there has been an increasing demand for university students to write academic texts in English as part of their studies, and Thai EFL engineering students are no exception. To advance in their academic studies and careers, engineering students are asked to write laboratory reports, technical reports, project proposals, and research papers in English (Berdanier & Zerbe, 2018; Ye, 2020). Recognizing this need, some universities in Thailand have offered English for Academic Purposes (EAP) courses that focus on English-language academic writing to Thai EFL undergraduate engineering students.

While there have been reports and studies addressing the challenges faced by Thai EFL tertiary level students when writing academic texts in English, to the best of the researcher's knowledge, research on Thai EFL undergraduate students' challenges and strategies in their academic writing in English is limited. Furthermore, the specific challenges and strategies faced by Thai EFL undergraduate engineering students remain largely unexplored, although English academic texts in the field of engineering are often considered challenging for EFL students due to the extensive utilization of specialized terminology together with the communication of technical information.

Therefore, this study aimed to fill this gap by examining the perceived English language academic writing challenges faced by Thai EFL undergraduate engineering students and strategies they employed to overcome these challenges. Studying these challenges can yield valuable insights into the writing problems encountered by Thai EFL undergraduate Engineering learners, and understanding the strategies can help provide information on how different resources and support are beneficial to them. Thus, instructors can adjust and improve course contents and teaching methods to promote their students' academic writing ability and better prepare them for future academic advancement.

This paper commences by reviewing related literature on challenges and strategies in academic writing and the institutional context of the study, and then proceeds to explain the questionnaire and semi-structured interview for data collection of the present study. The results are then presented and discussed, followed by the limitations and recommendations for future studies, as well as the conclusion and pedagogical implications.

## **2. Literature Review**

Academic writing for undergraduate and graduate students typically involves reports, academic papers and articles, theses, and dissertations. Several studies have shown that this writing genre is difficult for students, especially those

who write in a second language (e.g., Casanave & Hubbard, 1992; Evans & Morrison, 2018; Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Singh, 2017).

Many researchers have investigated challenges that EFL undergraduate and graduate students encounter in their English language academic writing (e.g., Casanave & Hubbard, 1992; Huang, 2010; Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Pinetah, 2014;) and strategies they use to overcome such issues (e.g., Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Singh, 2017). Some of the challenges include difficulties in language use, specialized vocabulary, organizational patterns, development of ideas, argument construction, and development of confidence and a convincing academic voice (Casanave & Hubbard, 1992; Evans & Morrison, 2018; Huang, 2010; Hyland, 2016; Lin & Morrison, 2021; Pinetah, 2014). The strategies EFL students use to overcome such issues include using academic articles or papers as writing models, peer and instructor support, and machine translation (Hyland, 2016; Lin & Morrison, 2021; Pessoa et al., 2014; Singh, 2017).

Among the research exploring academic writing problems encountered by EFL university students and the strategies they use to overcome such issues, four studies are particularly worth noting as they focus specifically on these two issues. Hyland (2016) conducted a longitudinal study investigating non-native English doctoral students' writing problems and the strategies they developed to address these challenges. From questionnaires and interviews over a two-year period during the participants' doctoral program, the findings suggested that students' most commonly encountered problems when writing academic texts were difficulties associated with expressing complex ideas in English and with developing confidence and a convincing academic voice. As for the strategies they developed to deal with the challenges, the results showed that the strategies used most consistently and successfully were the use of expert writing as models and feedback from other students.

Singh (2017) examined the strategies used by non-native English graduate students to overcome challenges in English language academic writing. Data from semi-structured in-depth focus group interviews suggested that the strategies included enhancing their English language proficiency, referring to non-formal advisory services, and improving their academic writing style.

Evans and Morrison (2018) conducted a large-scale study exploring first-year undergraduate EFL Cantonese-speaking students. Investigating various aspects of challenges in studying at the university level, the data from questionnaires and semi-structured interviews revealed that the most challenging part of academic writing in English was the use of specialized vocabulary. Other difficulties included referring to sources correctly, linking sentences smoothly, using an appropriate academic style, summarizing ideas in sources, organizing ideas clearly and logically, linking ideas from different sources, presenting a detailed argument, and planning long written assignments.

The aforementioned studies—namely Hyland (2016), Singh (2017), and Evans and Morrison (2018)—explored EFL university students from various fields. Lin and Morrison (2021), however, investigated specifically the academic writing challenges encountered by L2 postgraduate students in engineering and the strategies they developed to address these issues. Their study also focused on the faculty members' perspectives on strategies the students should develop to deal with academic writing challenges. From a questionnaire which was modified from that used by Hyland (2016) and Evans and Morrison (2018) and a semi-structured interview, the data revealed that the primary concern of most L2 graduate students was English vocabulary and grammar, whereas most faculty members believed that sentence connection, text organization, argument elaboration, and intertextuality were the issues that required most attention. The study also revealed that students' main strategies for managing academic writing challenges were reading published academic papers and using them as writing models.

Another strategy employed was machine translation, which the faculty expressed concerns about.

The participants in these four previous studies, shared a context similar to that of Thai EFL engineering students as they were required to write academic texts in their second language, English. Notably, the study conducted by Lin and Morrison (2021) closely resonates with Thai EFL engineering students as participants belonged to the same field of study, and the academic texts they were required to produce fell within the same genre, despite a different first language background.

Several studies have also reported on Thai EFL undergraduate students' challenges in English writing. The focus, however, has usually been on more general English writing tasks rather than on those of the academic writing genre (e.g., Boonyarattanasoontorn, 2017; Seensangworn & Chaya, 2017; Suwannaprut, 2022). Seensangworn and Chaya (2017) investigated writing problems Thai EFL English major and non-English major university students had and writing strategies they developed when writing in English. Using a questionnaire and paragraph writing task, the study showed that major problems faced by both groups of students were mostly related to language use, especially on grammar and vocabulary, and development of ideas. English major students were reported to have fewer writing problems and employed strategies of using background and world knowledge to help address such issues. Challenges related to English language use were also supported by Boonyarattanasoontorn's (2017) study. Using a questionnaire, the researcher found that her participants had significant writing problems, those related to English grammar. The results also showed that the strategies they frequently employed were mostly cognitive resourcing strategies. These studies provide evidence that English writing poses challenges to Thai EFL students, even in general English. When it comes to writing academic texts in the field of engineering, the difficulty may escalate for Thai EFL

engineering students due to the extensive use of specialized terminology together with the communication of technical information.

Although there is a relevant body of studies on EFL students and Thai EFL university students' academic writing practices, the review of literature shows that no previous studies were specifically conducted on challenges Thai EFL undergraduate engineering students encounter and strategies they employ to overcome such issues in English language academic writing practices.

## **2.1 Institutional Context**

The present study was undertaken at Chulalongkorn University, Bangkok, Thailand. In 2023, there were over 28,000 undergraduates, and 11,000 postgraduates (Chulalongkorn University, 2023). In order to prepare the students for their academic requirements, various courses on academic English skills are offered to both graduate (e.g., Preparatory English for Graduate Studies, Skills in English for Graduates, Academic English for Graduate Studies, Academic Presentation, and Thesis Writing) and undergraduate students (e.g., English for Academic Purposes (Architecture), English for Academic Purposes (Law), and Foundation English for Medical Profession) (Chulalongkorn University Language Institute, 2023).

Technical Writing for Engineering is an English language academic writing course offered to third-year undergraduate engineering students from various engineering sub-fields (e.g., civil engineering, computer engineering, mechanical engineering, electrical engineering, and industrial engineering). The course generally focuses on writing reports on engineering topics including those of academic studies and experiments.

## **2.2 Research Questions**

1. What are the perceived English language academic writing challenges faced by Thai EFL undergraduate engineering students?

2. What are the strategies Thai EFL undergraduate engineering students employ to overcome English language academic writing challenges?

### **2.3 Objectives of the Study**

The study aimed:

1. to investigate the perceived English language academic writing challenges faced by Thai EFL undergraduate engineering students, and
2. to investigate the strategies Thai EFL undergraduate engineering students employ to overcome English language academic writing challenges.

## **3. Methodology**

To investigate the perceived academic writing challenges encountered by Thai EFL undergraduate engineering students and the strategies they developed to address these issues, the research methodology was designed as follows.

### **3.1 Data Collection**

A questionnaire and a semi-structured interview were used to collect quantitative and qualitative data for the present study. The details of each tool are as follows.

#### **3.1.1 Questionnaire**

The questionnaire used in this study was adapted from Hyland's (2016) and Lin and Morrison's (2021) research. The former study focused on EFL doctoral students, while the latter specifically studied engineering students, who were the focus of the present study. Since the two questionnaires focused on exploring postgraduate students whose English language academic writing included academic reports, research articles, theses, and a dissertation, the present study adjusted the questionnaires to focus only on English language academic reports and research articles.



The questionnaire of the present study was divided into three parts, which were respondent's background information and opinions toward their academic writing ability, their perceived challenges in academic writing, and their strategies to overcome challenges in academic writing.

Excluding the questions in the background and the open-ended question sections, the total number of ratable task statements was 20 items. All participants were requested to rate each item along a continuum from 'very problematic' ('1') to 'not problematic at all' ('5') for questions regarding the challenges in academic writing, and from 'very useful' ('1') to 'not useful at all' ('5') for questions regarding strategies they employed to overcome such challenges. Open-ended questions included, for example: 'what other strategies, which were not included in the questionnaire, did you use to overcome challenges in academic writing, if any?'

From the 15 main questions in Hyland's (2016) questionnaire, four main questions were selected for this study (i.e., general opinions towards English language academic writing, problems in English language academic writing, and strategies in English language academic writing, and useful sources and resources for improving English language academic writing skill). Questions regarding theses and dissertations (e.g., what kinds of writing in English have you done since starting your PhD studies? or how important is the role of your supervisor in helping you to write up your doctorate?) were not selected as they were not applicable to the course content and to the participants of the present study.

For questions regarding the problems the students had when writing in English, eight items from Hyland's (2016) questionnaire were selected for the present study, namely organization and structure, grammar and sentence structure, vocabulary, spelling and punctuation, generating ideas, producing a coherent argument, incorporating ideas from readings, and academic citations. In addition, for this main question, two items from Lin and Morrison's (2021) survey—namely, organizing ideas clearly and logically, and summarizing and paraphrasing

academic sources—were added as these two points were not included in Hyland’s (2016) questionnaire but were specifically taught in the course.

For questions regarding strategies in English language academic writing, nine items from Hyland’s (2016) questionnaire were selected for the present study, namely discussion with peers, discussion with instructors, feedback on writing from peers, feedback on writing from instructors, reading other students’ work, reading articles and books by scholars, courses on academic writing offered at this university, books with advice on academic writing, and websites with advice on academic writing. Two questions that were not selected were library courses and personal exchanges with other scholars as the former was not available at the university, and the latter was not easily accessible by the participants. The word “supervisor” in Hyland’s questionnaire was changed to “instructor” to suit the context of the present study.

For questions regarding strategies in English language academic writing, the participants were also asked to select from the list which strategies they were most likely to use when they had English language academic writing problems. The options were to consult models of writing such as articles and reports, ask the instructor for help, look online for help, use a dictionary or reference grammar book, ask a fellow student or other person for help, and other strategies. These questions were adapted from those in Lin and Morrison’s (2021) study.

### **3.1.2 Semi-structured Interview**

The questionnaire participants were invited to join an interview voluntarily. The interviews were held via an online conferencing platform after they completed the questionnaires. The interviews were conducted in Thai and focused on the two investigated issues in the questionnaire, namely challenges in academic writing and strategies used to deal with these challenges. The interview questions were adapted from Hyland’s (2016) research and were generally based on the questions assessed in the questionnaire (i.e., challenges in academic writing and strategies

for addressing the challenges). Questions regarding theses and dissertations or questions that were not related to those asked in the questionnaire were not selected (e.g., ‘why did you decide to pursue doctoral studies?’ or ‘what excites you most about doing doctoral studies?’) as they were not applicable to the course content and to the participants in the present study. Some immediate questions based on the answers and issues that arose during the interviews were also asked. The interviews were recorded and subsequently transcribed by the researcher.

The questionnaire and the semi-structured interview questions were evaluated by three experts with the Index of Item-Objective Congruence (IOC). A pilot test involving volunteer participants was conducted before administering the full-scale survey. The participants answered the questionnaire online. All the questions were asked using the Thai language to avoid any language barriers.

### **3.2 Participants**

The participants were 120 third- and fourth-year undergraduate engineering students who enrolled in the Technical Writing for Engineering course. Only the third- and fourth-year students were selected for the study to ensure that they already had experience writing academic texts in English. These students were in the Thai program, and all of their courses were conducted in the Thai language except for their English classes. The English writing courses offered during their first and second years of study mostly focused on general English writing tasks, e.g., paragraph or essay writing on general topics. The Technical Writing for Engineering course, which focused on English academic writing, was offered during their third and fourth years of study.

The participants were invited to join the study and were recruited by means of the snowball sampling technique. Participation was entirely voluntary, and all responses were anonymous. Informed consent was obtained before both the questionnaire was administered and the interview was carried out. Participants

were also clearly informed prior to the questionnaire and the interview that the study had no effect on their learning progress or outcome.

The participants were invited to join the research through a poster promoting the survey

. The poster was sent to the course instructors and was shown to the students through the course instructors' convenient communicational channels. Students who were interested in participating in the survey contacted the researcher individually through the contact information provided in the poster. They were given the consent form to read. If they agreed to participate in the research study, they could proceed to answer the online questionnaire. After completing the questionnaire, the participants were invited to join a semi-structured interview. They were informed about the interview through information given at the end of the online questionnaire and were asked to contact the researcher directly if they were interested. There were 30 participants who were interested and agreed to participate in the interview. The interviews were held around two weeks after they completed the questionnaire through an online conferencing platform.

### **3.3 Data Analysis**

The participants' demographic characteristics and the quantitative data obtained from the online questionnaires were analyzed in terms of frequency distribution including percentages, means, and standard deviation, using the SPSS computer program.

The qualitative data obtained from the semi-structured interviews were transcribed and translated from Thai to English by the researcher and were analyzed by means of conventional content analysis using a systematic classification process. Open coding was applied to identify concepts, themes, and patterns found in the data. QSR NVivo software was used to organize, categorize,

annotate, and code data. Quotations that reflected the thinking of many participants were selected and are presented in the results section as examples.

### 3.4 Protection of Participants' Rights

This research was approved by the Office of Research Ethics Review Committee for Research Involving Human Subjects of Chulalongkorn University with the Certificate of Research Approval number 263/2564. The researcher explained the protection of informants' rights in a written form on the first page of the research questionnaire and in a verbal form prior to the semi-structured interview. The data were collected only from the sample group who agreed in the consent form to participate in the study.

## 4. Results

### 4.1 Demographic Data

The first section of the questionnaire asked the participants about their demographic data. Table 1 presents the details of the participants' characteristics in frequency and percentage.

**Table 1**

*Characteristics of Participants Shown in Frequency and Percentage*

Characteristic	Frequency <i>n</i> = 120	Percentage
Age		
20 years old	15	12.5
21 years old	44	36.7
22 years old	61	50.8
Academic year		
Third year	57	47.5
Fourth year	63	52.5

Characteristic	Frequency <i>n</i> = 120	Percentage
Department		
Industrial engineering	26	21.7
Mechanical engineering	20	16.7
Chemical engineering	22	18.3
Computer engineering	16	13.3
Electrical engineering	15	12.5
Civil engineering	8	6.7
Environmental engineering	8	6.7
Survey engineering	5	4.2
Perceived English academic writing ability		
Very good	2	1.7
Good	23	19.2
Moderate	65	54.2
Fair	25	20.8
Need to improve	5	4.2

Participants were third- and fourth-year students from eight engineering departments and aged between 20 and 22 years old. More than half of them rated their English proficiency at “moderate” (54.2%), followed by “fair” (25%) and “good” (23%). Only a few participants selected “need to improve” (5%) and “very good” (2%).

## 4.2 Questionnaire

### 4.2.1 Perceived Challenges in English Language Academic Writing

The second section of the questionnaire asked the participants to indicate the degree of perceived challenges of English language academic writing. They were asked to rate ten aspects of the challenges using a 5-point Likert scale. Results are presented in Table 2.

**Table 2**

*Mean Level Ratings of Perceived Challenges in English Academic Writing (5-point Likert scale: 1 = most challenging; 5 = least challenging)*

<b>Aspect</b>	<b><i>M</i></b>	<b><i>SD</i></b>
Organization and structure	2.80	.87
Grammar and sentence structure	2.40	.99
Vocabulary	2.29	.97
Spelling and punctuation	3.56	.85
Generating ideas	2.78	.99
Organizing ideas clearly and logically	2.68	1.06
Producing a coherent argument	2.66	1.00
Incorporating ideas from readings	3.03	1.02
Summarizing and paraphrasing academic sources	2.52	.94
Academic citations	3.23	1.01

The data showed that vocabulary ( $M = 2.29$ ,  $SD = .97$ ) was perceived as the most challenging aspect, followed by grammar and sentence structure ( $M = 2.40$ ,  $SD = .99$ ), and summarizing and paraphrasing academic sources ( $M = 2.52$ ,  $SD = .94$ ), respectively. However, the aspects that the participants found least challenging were spelling and punctuation ( $M = 3.56$ ,  $SD = .85$ ), academic citations ( $M = 3.23$ ,  $SD = 1.01$ ), and incorporating ideas from readings ( $M = 3.03$ ,  $SD = 1.02$ ), respectively.

#### **4.2.2 Strategies to Overcome Challenges in English Language Academic Writing**

The third section of the questionnaire asked the participants to indicate the degree of usefulness they perceived of strategies used to overcome challenges in English language academic writing. They were asked to rate the usefulness of ten strategies using the 5-point Likert scale, and the results are presented in Table 3.

**Table 3**

*Mean Level Ratings of Strategies to Overcome Challenges in English Academic Writing (5-point Likert scale: 1 = very useful; 5 = not useful at all).*

<b>Strategies used</b>	<b><i>M</i></b>	<b><i>SD</i></b>
Discussion with peers	2.30	.81
Discussion with instructors	1.82	.85
Feedback on writing from peers	2.50	.86
Feedback on writing from instructors	1.56	.77
Reading other students' work	2.68	.93
Reading articles and books by scholars	2.16	.80
Courses on academic writing offered at this university	1.92	.75
Books with advice on academic writing	2.22	.78
Websites with advice on academic writing	2.08	.77
Using articles or reports as models for own writing	1.83	.69

The data showed that the most useful strategies in the participants' views were feedback on writing from instructors ( $M = 1.56$ ,  $SD = .77$ ), discussions with instructors ( $M = 1.82$ ,  $SD = .85$ ), and using articles or reports as models for their own writing ( $M = 1.83$ ,  $SD = .69$ ), respectively. However, the participants viewed discussion with peers ( $M = 2.30$ ,  $SD = .81$ ), feedback on writing from peers ( $M = 2.50$ ,  $SD = .86$ ), and reading other students' work ( $M = 2.68$ ,  $SD = .93$ ) as least useful among all the strategies listed.

The participants were also asked which strategies they were most likely to use when they had English language academic writing problems. The results are presented in Table 4.



**Table 4***Strategies Used by Students to Overcome English Academic Writing Challenges*

<b>Strategies used</b>	<b><i>n</i></b>	<b>Percentage</b>
Consult models of writing such as articles and reports	37	30.83
Ask the instructor for help	9	7.5
Look online for help	56	46.67
Use a dictionary or reference grammar book	7	5.83
Ask a fellow student or other people for help	6	5
Other strategies	5	4.17

The data showed that the strategies used most by the participants was looking online for help (46.67%), followed by consulting models of writing such as articles and reports (30.83%), whereas asking a fellow student or other people for help (6%) was used the least by the participants. The participants were also asked to specify in their remarks if they chose other strategies. The answers given were names of specific computer programs they used when encountering difficulties in English language academic writing (e.g., grammar checking, translating, or paraphrasing programs etc.) and a combination of more than one strategy specified in the list.

### **4.3 Semi-structured Interview**

To gain further insight into the participants' perceptions of English language academic writing challenges and strategies they used to overcome the problems, data collected from the semi-structured interview were examined and thematically analyzed.

#### **4.3.1 Perceived Challenges in English Language Academic Writing**

From the analysis of the participants' answers to the semi-structured interview questions, four subcategories related to the perceived challenges in English language academic writing were identified: (a) vocabulary, (b) grammar

and sentence structure, (c) organization and structure, and (d) summarizing and paraphrasing academic sources.

Most participants reported that the problem they were most concerned about when writing English language academic texts was English vocabulary. The difficulties were associated with both general vocabulary and technical vocabulary related to the engineering field. For general vocabulary, the participants reported that they felt they neither had sufficient nor appropriate vocabulary for their context. They were also concerned about insufficient knowledge of technical engineering vocabulary as illustrated in the excerpts below:

Academic and general vocabulary are different. I am not sure which words are appropriate for the situation. (Interviewee #24).

For academic writing, vocabulary is quite technical. I have problems with technical vocabulary. (Interviewee #3)

I cannot think of appropriate vocabulary to use. Academic writing needs formal words, and they should not be repeated that much so I have to find other words to use. (Interviewee #5)

Many participants also stated that grammar and sentence structure were difficult for them. Most of them did not specify any particular grammatical aspects but rather referred to the overall English grammatical knowledge needed for the academic writing tasks. Some, however, stated specific grammar points of their concern, such as tenses or active and passive voices, as demonstrated in the quote below:

I am not sure which tense to use for each step whether it be past or future tenses. (Interviewee #3)

Some participants also revealed their struggle with organization and structure when writing academic texts in English, as illustrated in the quote below:

I have problems about organization and rearranging the stories.  
(Interviewee #10)

Summarizing and paraphrasing academic sources was also mentioned by a few participants as a problematic aspect in their English language academic writing, as can be seen below:

I have problems with paraphrasing. I can just modify sentences, but I cannot write the whole new sentences by myself. I have to use sentences and words from the original text. (Interviewee #22)

#### **4.3.2 Strategies to Overcome Challenges in Academic Writing**

From the data analysis of the participants' answers for the semi-structured interview questions, five subcategories related to the strategies students used to overcome challenges in English language academic writing were identified: (a) looking online for help, (b) consulting models of writing such as articles and reports, (c) using a dictionary or reference grammar book, (d) asking a fellow student or other people for help, and (e) asking the instructor for help.

Most participants revealed that they relied on different sources on the Internet for assistance. These included online search engines, online dictionaries, online translation programs, online tools for checking grammatical mistakes, and online paraphrasing tools, as illustrated in the excerpts below:

Ninety-five per cent of the time, I search on Google. I think of easy words and find synonyms for those words. I also search for sentence examples and use paraphrasing programs. (Interviewee #7)

I search for words and technical terms in Google. I find synonyms or sentence examples and see how they are used. I also find words specific to the topic I have to write about. If I come across words

that I do not know, I will search for information about that word on Google as well. (Interviewee #8)

Some participants stated that they used articles and reports as models for writing. They reported that these model articles and reports were useful sources of content, organization, vocabulary, grammar, and sentence structure, as shown in the quote below:

For vocabulary, I look for related articles. For example, if I have to write about boiling water, I will search for articles related to the topic and use the words I find in the articles. For grammar, before class, I will search in Google for sample articles which have similar situations or processes. (Interviewee #3)

Dictionary and reference grammar books were also mentioned by some participants as strategies they relied on especially when encountering problems about vocabulary and grammar, as demonstrated below:

For vocabulary, I find the meaning of a word and its usage from resources recommended by my teacher such as Macmillan dictionary. (Interviewee #24)

Some participants reported that they resorted to their classmates or other people for assistance, e.g., their high school friends or family members with high levels of English proficiency, as shown in the quote below:

I ask friends who are good at English for help. We also help each other check our work. (Interviewee #25)

Some participants also revealed that they relied on their instructors for assistance. Their inquiries included asking the instructors about specific grammar points or vocabulary and recommendations for useful resources to improve their

writing, and also to give them feedback on their writing assignments, as demonstrated in the quote below.

For me, consulting teachers is the best solution. I write drafts and ask teachers to check. (Interviewee #29)

## **5. Discussion**

This study was designed to investigate the perceived English language academic writing challenges faced by Thai EFL undergraduate engineering students and the strategies they employed to overcome such challenges.

One major finding from the present study was that vocabulary was considered the most challenging aspect by Thai EFL undergraduate engineering students when they wrote an academic text in English. The problem was associated with both general and technical vocabulary used in the Engineering field. The results are in line with the findings reported in numerous previous studies (Bitchener & Basturkmen, 2006; Evans & Morrison, 2018; Qian & Krugly-Smolka, 2008) that lexical use was a major obstacle encountered by L2 undergraduate academic writers. Apart from vocabulary, grammar and sentence structure was another aspect perceived as a major challenge to students in the present study. The findings, i.e., problems with vocabulary, grammar, and sentence structure, are also in line with the results of a study by Qian and Krugly-Smolka (2008) which investigated Chinese students in a Canadian university and found that their main writing challenges were related to linguistic problems, specifically with vocabulary, grammar, and sentence structure. Challenges with vocabulary, grammar, and sentence structure have also been reported in studies of Thai EFL students' writing in general English (Boonyarattanasoontorn, 2017; Seensangworn & Chaya, 2017). The result of this study further confirms that they are particularly challenging in academic English writing as well.

Possible reasons why vocabulary, grammar, and sentence structure were especially difficult for EFL writers in the present study might have stemmed from the students' insufficient exposure to English and the differences between their native and target languages (Thornbury, 2002; Qian & Krugly-Smolska, 2008). Thornbury (2002) postulates that words or grammatical structures that do not have direct equivalents in EFL learners' native language appear more challenging to them than those that are close to their first language. Apart from that, in this study, the students' limited exposure to authentic academic materials and limited opportunities to practice writing in an academic context might result in their difficulties in using academic vocabulary and complex grammatical structures required for the academic writing genre.

The aforementioned aspects, i.e., vocabulary, grammar, and sentence structure could be regarded as challenges at the sentence level. For language skills at the paragraph level, summarizing and paraphrasing academic sources and producing a coherent argument were perceived as the most challenging by the students. They were ranked as the third and fourth most challenging aspects behind those two aspects at the sentence level. The findings contrast with those of Hyland (2016) whose participants considered skills at the paragraph level to be more challenging compared to language skills at the sentence level, yet producing a coherent argument was considered the most challenging aspect rather than summarizing and paraphrasing academic sources. Hyland's (2016) study was conducted with postgraduate students whose academic writing tasks focused on research writing genres. The undergraduate course under investigation in the present study focused rather on academic tasks in general which included both academic paragraphs or essay writing and research writing tasks. These might explain some differences in the results between the present study and Hyland (2016).

Summarizing and paraphrasing academic sources can be challenging for EFL engineering students as they may still be developing their language

proficiency, and summarizing and paraphrasing require a deep understanding of the content, which can be hindered by language limitations. Loh (2013) and Injai (2015) reported in their studies that EFL students who had lower English proficiency tended to have difficulties when paraphrasing in the English language. The limited linguistic knowledge resulted in the students' struggle in grasping and producing the main ideas and key concepts necessary for effective summarization and paraphrasing. Summarizing and paraphrasing academic sources might be particularly challenging to EFL learners in the present study as academic engineering texts often contain specialized terminology, and students may struggle to understand and accurately convey these technical terms, impacting their ability to summarize or paraphrase effectively. Similar reasons can also apply to the challenges in producing a coherent argument in academic English. Developing a cohesive argument requires effectively linking ideas and maintaining logical flow between sentences and paragraphs. Students who are not familiar with or have not yet mastered the grammar and structure needed might struggle to apply them appropriately.

Regarding the strategies the students employed to overcome challenges in English academic writing, one major finding was that feedback from instructors was perceived as the most useful strategies by the students. This was followed by discussion with instructors, using articles or reports as models for their writing and courses on academic writing offered at the university, respectively. The results are in line with those of Lin and Morrison (2021) which have reported that seeking external assistance, i.e., peer support, faculty feedback and writing courses, reading, and following exemplary academic papers were considered the most effective strategies for their participants. The findings of the present study also reflected those of Hyland (2016), which indicated that their participants most likely used the strategies of using journal articles and past theses as writing models and templates and looking online for assistance when encountering writing problems.

Several studies have explored EFL students' perception towards teacher's feedback and found that students see teachers as the expert in the subject matter and language skills required for academic writing. As a result, students perceive feedback from instructors as valuable to them for improving their writing because it comes from someone with authority and knowledge in the field (Carnell, 2000; Zhan, 2016).

The last interesting finding worth discussing was that although the students ranked seeking assistance from their instructors as the most useful strategy, they elected to rely on online resources and using writing models to improve their writing. This phenomenon has been explored in great detail in numerous previous studies (e.g., Kitsantas & Chow, 2007; Mahasneh et al., 2012; Rahman, 2020) that have reported students' avoidance of seeking help from other people. Mahasneh et al. (2012) concluded in their study that students tended to avoid seeking help when a social interaction between the students and another person (e.g., instructor or peer) was required. Mahasneh et al. (2012) postulated that the students might consider their roles as the ones answering questions rather than asking questions or that they might prefer to rely on themselves to find answers rather than asking for assistance from others. Another explanation is related to the learning environment. Students might feel more comfortable asking questions when the learning environment is more encouraging. Apart from that, they might not want to appear incapable in front of others, particularly their classmates and instructors. Online resources may be considered a more attractive option, as these tend to be perceived positively by EFL students. This was evidenced in Rahman's study (2020) which conducted a questionnaire survey with tertiary EFL students on their perception of online learning during the Covid-19 pandemic. The data showed that the students viewed online resources as useful to them due to their flexibility both in terms of timing and accessibility. They could access materials at any time and from anywhere, allowing them to work at their own pace and schedule.



However, as the present study did not conduct any in-depth investigation into the underlying reasons for the identified challenges and the students' preferences pertaining to the selected strategies, specific conclusions could not be drawn, and further investigations would be required regarding their causes.

## **6. Limitations and Recommendations**

The data of the present study were collected from a group of Thai EFL undergraduate engineering students, which makes the findings most relevant to this setting. While the data may provide in-depth understanding of the perceived challenges in English language academic writing and the strategies used to address them, it is essential to consider other contextual factors when applying these insights in different settings. Therefore, it is recommended that future studies be designed to incorporate larger samples of participants for a more comprehensive understanding of Thai EFL undergraduate engineering students' perceived challenges in English language academic writing and the strategies they employ.

Another limitation relates to the voluntary participation of the participants, potentially introducing a self-selection bias although they varied in age, year of study, and departments. Utilizing the purposive sampling technique in future studies might provide more insightful findings. It is also recommended that future research is conducted longitudinally or with a follow-up study to understand the long-term impact of the strategies the students use to improve their academic writing skills as well as how students' perceptions and strategies change over time as they gain more exposure to and have more experience with academic English.

Additionally, further investigations into students' educational backgrounds, previous exposure to the English language, and sociocultural contexts are also suggested, together with data collection from additional sources, such as analysis of actual student writing. These would be beneficial to validate the findings from self-reported data. Lastly, a comparative analysis study comparing the experiences

of Thai EFL engineering students with those in other disciplines or cultural contexts is also suggested as it would provide valuable insights into the problems the students are facing in writing academic texts in English and the strategies they use to overcome such challenges.

## **7. Conclusion and Implications**

This study examined Thai EFL undergraduate Engineering students' perceived challenges in academic writing and the strategies they used to overcome such issues. The results indicated that language skills at the sentence level, specifically vocabulary, grammar and sentence structure, were the most challenging aspects in their English language academic writing tasks. For the skills at paragraph level, students viewed summarizing and paraphrasing academic sources and producing a coherent argument to be most problematic for them. Furthermore, the findings revealed that students considered seeking assistance from their instructors most useful to them, yet they preferred to look online for help and consult models of writing such as articles and reports.

Based on these findings, some pedagogical implications can be suggested. First, according to Lin and Morrison (2021), to effectively manage students' difficulties, the aspects which are considered challenging to the students should at least be acknowledged and addressed in more detail in writing courses offered to EFL students. To address the problems, targeted grammar and sentence structure exercises focusing on common problem areas might be provided along with activities focusing on summarizing and paraphrasing academic sources and producing a coherent argument. Diagnostic assessments at the beginning of the course might also be useful to identify specific problematic linguistic issues among students. Moreover, to better prepare students for academic vocabulary, academic wordlists (e.g., Coxhead's (2000) Academic Word List) or discipline-specific vocabulary lists including terms commonly used in the students' coursework and research might be provided to students along with vocabulary-building activities or exercises within the context of engineering topics based on the lists provided.

Second, as support from their instructors was viewed as highly beneficial by students, in-class activities or consultation sessions focusing on encouraging students to discuss their work individually or as a group with their instructors in an environment that is most comfortable to them should be organized.

Third, appropriate writing models such as articles and reports should be provided to students. Using writing models as a strategy has been widely discussed and promoted in previous studies (e.g., Hyland, 2016; Lin & Morrison, 2021). Hyland (2016) concluded in his study that using academic articles as models was valuable in the students' process of learning to be academic writers. This was also supported by Lin and Morrison (2021), who encouraged instructors to select and provide writing models or examples to students as a starting point. They recommended instructors to select articles which were highly regarded in the students' own discipline in terms of the content and academic writing style. This would ensure that the students follow appropriate models. Lin and Morrison also suggested that instructors might also consider preparing lists of appropriate and reliable sources for students so that they have resources to find model articles for their future studies.

Fourth, among all the strategies under investigation in this study, students are most likely to seek help online due to its convenience and effectiveness. Therefore, recommending and facilitating students with appropriate online tools and providing training on how to employ such resources effectively might be introduced to students in English academic writing courses. Specifically, teachers might provide a list of reputable websites and online resources that offer guidance on academic writing.

Other useful strategies students might not be aware of but can benefit from (e.g., discussions with or feedback on writing from peers) should also be introduced to students. These strategies were highly evidenced in previous research as beneficial to both EFL writers (e.g., Diab, 2010; Hu, 2005; Ruegg, 2014)

and the feedback givers (e.g., Lundstrom & Baker, 2009; Berggren, 2015). The instructors might provide separate sessions or assign tasks for students to practice using such strategies and train them on how to appropriately deploy such strategies in their learning.

By anticipating and acknowledging possible challenges that students encounter, both instructors and students may be better prepared to effectively complete their academic writing tasks. Some students might not be aware of the possible strategies they can employ, or some students might know what strategies are most useful to them, but it might take considerable time to find the appropriate tools without guidance from instructors. Therefore, the results of this study might provide information as a starting point for the instructor to design course materials for Thai EFL engineering students to write academic texts in English.

## **8. About the Author**

Chariya Prapobratanakul is a lecturer at Chulalongkorn University Language Institute, Bangkok, Thailand. She holds a Ph.D. in English as an International Language from Chulalongkorn University. Her research interests include second language acquisition and English for specific and academic purposes.

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