

## L2 Writing Processes of Thai Graduate Students

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### Abstract

This research aims to discover L2 writing processes of Thai graduate students using the model of composing processes by Chenoweth and Hayes (2003). Participants were six graduate students from Graduate School of Language and Communication. The participants were given an English argumentative writing task to complete while being observed through the use of think-aloud protocol (TAP). The participants were interviewed immediately after finishing the writing task. The finding validates the model of composing processes that Thai students employed were proposing, translating, evaluating/revising, and transcribing process simultaneously. Besides the composing processes, the findings show that there are two main factors (non-language and language factors) influencing the writing processes. Moreover, the result suggests that mentally employing Thai does not obstruct the writing processes; rather, it facilitates the writing activities. It is hoped that this research would shed some light on how Thai L2 students complete text production, and the findings could contribute to a more insightful understanding of Thai graduate students' cognitive processes.

**Keywords:** writing processes, cognitive language switching, think-aloud protocol (TAP)

### Introduction

Writing is one of the language skills which plays an important role in education (e.g., writing a research study, report, academic essay) and in business (e.g., business correspondence). However, good writing is difficult to accomplish. This is because a writing process is complicated and “not only involve[s] the act of writing itself, but prewriting and rewriting, all of which are interdependent” (Zamel, 1982, p. 196).

Research on cognitive processes involved in writing appeared when Hayes and Flower (1980) applied cognitive psychology methods to the study of writing expertise. One of the aims of cognitive research is to better understand “human performance, learning and development, and individual differences by analyzing cognitive processes” (MacArthur & Graham, 2016, p. 25). To understand thinking or cognitive processes, researchers tried to develop models generalized from previous results. These models can yield empirical findings that explain cognitive processes which are useful for understanding individual performance.

Most research on these cognitive writing processes has been developed based on one of the three most influential cognitive models of writing by Hayes and Flower (1980), Wang and Wen (2002), and Zamel (1982). According to Hayes and Flower (1980), there are three basic components in composition: task environment, cognitive processes, and long-term memory. However, the current study only focuses on the second component, the cognitive processes of writing.

In writing or composing processes, it has clearly been indicated that writers plan, translate (write), and review recursively (Flower & Hayes, 1981; Kellogg, 2006). Thus, writing processes in the late 19<sup>th</sup> century mostly refer to each process as planning (Silva, 1992; Storch, 2005), translating (Storch, 2005; Zamel, 1982), and reviewing process (Sakontawut, 2003; Uzawa, 1996; Zamel, 1982). Later, L1 writing processes have been categorized into four processes which are: 1) proposing, 2) translating, 3) revising/evaluating, and 4) transcribing (Chenoweth & Hayes, 2003). Many studies on composition have found that both L1 and L2 writers have to go through these similar writing processes (Chenoweth & Hayes, 2003; Khongpun, 1992; Manchón, de Larios & Murphy, 2000; Shi, 2012; Uzawa, 1996; Wang & Wen, 2002).

However, there are slight differences between L1 and L2 composing processes (Bennui, 2008; Khongpun, 1992; Pongsiriwet, 2001; Thep-Ackrapong, 2005) which arise due to writing expertise (Sevgi, 2016), writing context (Sasaki, 2004), given time (Johnson, Mercada, & Acevedo, 2012), familiarity with the topic (Fitzsimons, 1983), writer-reader relationship (Glass, 2007), writing genre (Van Weijen, Van den Bergh, Rijlaarsdam & Sanders, 2009; Woodall, 2002) and awareness of correction (Manchón et al., 2002; Sakontawut, 2003). Because of these factors, L2 writers tend to face more difficulties when composing in L2. Therefore, L2 writers tend to employ L1 (L1 thinking strategy and cognitive language switching) to cope with these difficulties. Because of the L1 use, L1 interference occurs in a composing practice especially in written products, that is, grammar and vocabulary use. Given this point, this study not only explores the writing processes, but also tries to understand whether or not these difficulties can be found in Thai graduate students.

Since L1 is normally employed by L2 writers during the composition, the use of L1 has been investigated for several decades. Although the use of L1 has been viewed as something that influences the writing outcome, it has been viewed differently from one research study to another. In the past, many research studies viewed L1 interference and cognitive language switching as negatively affecting the L2 writing processes (de Larios, Murphy & Manchón, 1999; Kaplan, 1966; Shi, 2012). Later, it was viewed as either facilitating or impeding L2 text production (Cumming, 1989; McLaughlin, 1990; Van Weijen, et al., 2009; Woodall, 2002). On the one hand, it is viewed as a tool to solve task difficulties (Qi, 1998; Zarei & Amiryousefi, 2001); on the other, it is viewed as time-consuming for writing processes (Silva, 1992).

For Thai students, they have often been found to experience difficulties during their writing processes because of writing expertise and writing genre (Bennui, 2008; Thep-ackrapong, 2005; Pongsiriwet, 2001). Therefore, these Thai students tend to employ Thai, as their L1, for conceptualizing ideas and linguistic purposes while composing L2 (English) texts. The use of L1 led to L1 interference which can be detected in the writings. Therefore, the language factors and the purpose of their L1 use will also be examined in this research in order to understand the reasons and advantages (or disadvantages) behind its usage.

Given these points, this study seeks to examine not only the L2 (English) composing processes of Thai graduate students, but also factors influencing them to think in a particular way. Consequently, this study aims to answer these following questions:

1. What are the writing processes of graduate students with higher and lower scores when writing in English?
2. What factors influence the participants' writing performance in each writing process?

## Literature Review

### *Chenoweth and Hayes' (2003) Model of Text Production Process*

The model of text production includes four processes: 1) proposing, 2) translating, 3) revising or evaluating, and 4) transcribing (Chenoweth & Hayes, 2003). In order to create a text, working memory (temporary memory resources), long-term memory, or critical reading also need to be activated (Horning & Becker, 2006). This model will be used to examine L2 writing process (see Figure 1) which are the main focus of this present study. Each writing process will be explained as follows:

#### *Proposing Process*

According to Chenoweth and Hayes' (2003) model, at the beginning of the text production, the proposer proposes ideas for expression which include goal, content, order, audience, genre, and so forth. This is called an initial package, or an idea package (Galbraith, 2009), which could be in either linguistic or nonlinguistic form. During this process, the writer may have to access some information from memory or an external source to complete the task (Chenoweth & Hayes, 2003; Horning & Becker, 2006). This initial package will then be passed to the translator.

#### *Translating Process*

Translating process is a process in which writers put their idea into word strings before the form is evaluated if it is acceptable (Chenoweth & Hayes, 2003). That is, after the translator receives the initial package, they translate ideas into a linguistic form by choosing lexical units, putting them in order,

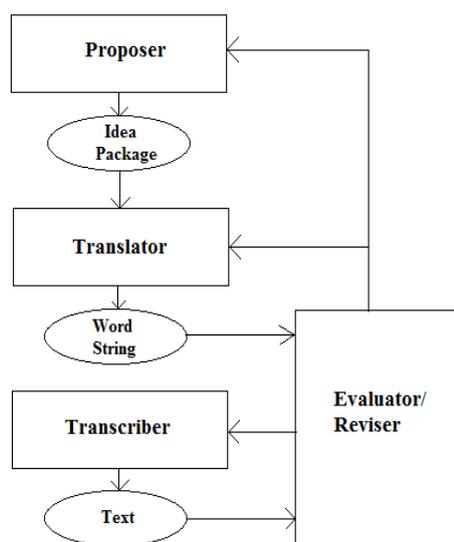
and applying inflection of verbs to make the information consistent (Chenoweth & Hayes, 2003). This process, involves long-term memory, short-term storage, and the articulatory rehearsal or inner voice (Chenoweth & Hayes, 2003). In other words, all the ideas are put together into words with cautious attention by putting them into well-organized linguistic form, a so-called “word string” (p. 113).

#### *Revising or Evaluating Process*

The word string or translated package is then passed to the reviser or evaluator to be scrutinized whether or not it is acceptable (Chenoweth & Hayes, 2003). The revising process is considered a procedure for fixing the text problem (Horning & Becker, 2006). Horning and Becker (2006) explained that this revising process occurs when the writers find other information or add “a new dimension or element to their previous texts, prompting them to view the subject or issue in a new light” (p. 113). Moreover, they further advise that knowing when to revise the already written text is necessary, but what steps can be taken in order to improve the documents remain problematic for some students. The evaluator/reviser is able to request other processes to produce another version of the text (Galbraith, 2009) and this can occur several times during the text production and before the text is completely written.

#### *Transcribing Process*

After the evaluation/revision process, Chenoweth and Hayes (2003) explained that the package is then sent to the transcriber in which the writer begins to write the text and the production process starts again. This process is called the transcribing process, where the actual text is being written with the selection of the idea packages. When the text is being written, the text can lead back to two stages: proposing and revising process. First, after the writer transcribes (physically writes) the word string into text, the writer is triggered to support the written text with the next segment, or the writer is triggered by the reviser to evaluate the already written text.



**Figure 1. Chenoweth and Hayes' (2003) Model of Text Production Process**

Chenoweth and Hayes (2003) developed the text production model revealing that L1 and L2 have the same writing processes which include planning, translating, reviewing and transcribing; but L2 may pause or take more time during the text production. Similarly, according to Khongpun (1992), L2 students, that is, Thai students, have the same writing processes when composing in Thai and English, including planning, transcribing, and revising. However, Thai students tend to revise more often in order to correct grammatical errors, (misspelled) vocabulary, and ideas (Khongpun, 1992; Sakontawut, 2003). Nonetheless, these processes do not take place stage by stage; they are rather “transactional and overlapping” (Zamel, 1982, p. 201).

#### *Factors Influencing Writing Processes*

Previous research on L2 writing process indicated that L2 writers follow L1 composing processes including planning/proposing (Sasaki, 2000; Silva, 1992; Storch, 2005), translating (Khongpun, 1992; Storch, 2005; Zamel, 1982), revising/evaluating (Sakontawut, 2003; Uzawa, 1996; Zamel, 1982) and transcribing (Chenoweth & Hayes, 2003). However, according to Leki, Cumming, and Silva (2010), it is suggested that “L2 composing behavior was similar to that of L1 writers in some respects, but language was still a factor that limited performance” (p. 126); therefore, there are some factors influencing the writers’ performance in each process. These factors are non-language factors and the language factor. The non-language factors are: 1) writing expertise, 2) writing context, 3) given time, 4) familiarity with the topic, 6) awareness of correction, 7) writer-reader relationship, and 8) writing genre. Also, the language factor influences the writing process. This section will discuss these factors within each of the four processes of text production developed by Chenoweth and Hayes (2003) as presented above.

### *Non-language Factors*

This section discusses the non-language factors that influenced each writing process.

#### *Proposing Process*

With regard to planning/proposing process, which includes generating, organizing and goal-setting, L1 and L2 planning patterns were seen as similar (Sasaki, 1994). However, L2 writers tend to spend more time in proposing idea (Zamel, 1982) because the L2 writers require more mental capacity than in L1 planning process (Leki, Cumming, & Silva, 2010). When compared to other L2 English writers, each writer may spend more or less time in the proposing process because of writing expertise, given time, familiarity with the topic, and writing genre.

#### *Writing Expertise*

Sasaki (2000) found that higher L2 skilled writers spent more time planning in overall organization than less skilled writers. Even though L2 writers usually follow traditional academic organization, including topic sentence, supporting detail, and conclusion (Sevgi, 2016), they devote their attention to drafting the overall structure and finding appropriate words, which restrain their concentration from generating complex ideas, and extending their writing plan (Berman, 1994; de Larios et al., 1999). Moreover, Cumming (1989) found that writing performances differ according to L1 writing expertise and types of the designed tasks (Cumming, 1989).

#### *Given Time*

Another factor that affects the composition is the time given. That is, the planning time given to lower proficiency L2 learners has an effect on fluency and lexical complexity. For example, Ong and Zhang (2010) found that the no time condition leads to a higher score when compared to planning before writing. This result is contrary to a study conducted by Johnson et al. (2012) which found that given time for planning before writing does not affect grammatical or lexical complexity of L2 writers.

#### *Familiarity with the Topic*

The familiarity of the L2 writer with the topic is also a factor that makes L2 writers spend more time on this process. That is, the L2 writers take more time on the planning or proposing process if the writers are unfamiliar with the topic. According to Ong (2014), topic significantly affects the frequencies of generating new ideas and organizing overall content. Similarly, Fitzsimons (1983) found that topic directly affects the planning or proposing processes because the writers take more time to decide how to begin writing when the topic is unfamiliar.

#### *Writing Genre*

The last factor is the writing genre. Most tasks require participants to write a text in paragraph or essay form in a particular genre (Van Weijen et al., 2009; Woodall, 2002), such as a personal letter and a persuasive essay (Woodall, 2002), and a short argumentative essay for a contest (Van Weijen et al., 2009). Thus, the results appear to be questionable since it depends on second-language writer's proficiency, topic knowledge (Krapels, 1990; Woodall, 2002) and writing genre. For example, Ka-kan-dee and Kaur's (2014) participants indicated that they do not know how to compose an argumentative essay because they do not know the structure. Therefore, it is difficult for them to organize the structure.

### *Translating Process*

The translating process normally involves the act of translating their ideas into written form. While L1 writers go through the act of putting their thoughts directly into their writing, L2 writers need to translate from L1 into L2 because most L2 writers think in their native language before putting down their idea textually into L2 written form. The act of translating from one language to another is seen as a helpful strategy for L2 writers because the writing is more vivid when it comes from translating (Uzawa, 1996). In the translating process, writing expertise and writing context can lead to different writing processes when comparing L1 with L2 composition.

### *Writing Expertise*

The first aspect to be discussed is writing expertise. Sasaki (2004) found that less L2 skilled writers often stop writing to translate their ideas (in L1) into English; whereas more skilled L2 writers stopped to refine English expression (Sasaki, 2000). Also, Zamel (1982) found that some students write the entire paper in their L1 before translating directly into L2 because it is easier for them to translate than compose in L2. For example, one graduate student in Zamel's (1982) study expressed that she can create more thoughts and ideas into the text when she composed in L1, and if she has to compose her writing in L2, she may feel nervous when she lacks some vocabulary.

### *Writing Context*

The last aspect to be discussed is writing context. One study found the differences between writers in ESL and EFL contexts. According to Sasaki (2004), a longitudinal study revealed that most ESL writers did not rely on translation from their L1 into L2 because they were more experienced and confident in writing, so they tend to focus more on the content. By contrast, EFL writers are more likely to rely on translation because their vocabulary is limited and they are not concerned with content (Sasaki, 2004). Briefly, writers from different contexts, that is, ESL and EFL, might have different writing focuses, especially in terms of vocabulary and content.

In sum, for L2 writers, the translating process does not only involve the act of transcribing their ideas into written form, but it also involves the act of translating from L1 to L2 if they have an L1 thinking strategy. That is to say, less skilled L2 writers may pause or stop during the composition to translate their thought into L2. Therefore, this L1 interference could affect the target language due to the translation. In addition to writing expertise and L1 interference, the writing context can lead to different translating process as well. That is, unlike EFL writers, most ESL writers do not rely on translation.

### *Evaluating or Revising Process*

In the revising process, Zamel (1982) indicated that revising was done throughout the composition, including drafting, between-essay changes, and after the ideas are transcribed. Generally, both L1 and L2 writers revise their texts in order to refine and enhance the quality of the writing (Horning & Becker, 2006). However, the amount of revision is different from one writer to another depending on their awareness of correction (Manchón et al., 2000; Sakontawut, 2003), and writer-reader relationship (Glass, 2007), especially for Thai students.

### *Awareness of Correction*

Previous research studies have discovered that different writers may or may not revise their writing depending on their judgments. According to Khongpun (1992), Thai students go through the same writing processes when composing in Thai and English including planning, transcribing, and revising. However, Khongpun (1992) and Sakontawut (2003) found that Thai students generally revise their L2 writing many times for different reasons because of their awareness of correction, such as revising grammatical and lexical errors due to L1 interference. Moreover, revising is considered difficult because they have to avoid redundancy and use unfamiliar words. Therefore, some Thai writers prefer using Thai first and translate it into English, whereas others avoid using their native language because they were concerned if the L1 interference would affect the content (Khongpun, 1992).

According to Sakontawut (2003), Thai high school students are aware that revising ideas was the most important feature of this process; revising grammar was secondary; and revising vocabulary, punctuation, and spelling were not considered as important. The main reason why Thai students revise the text while composing is because they are concerned with inconsistent ideas with the previous information. The researcher further stated that the amount of revising process for Thai students was rated high because they could not finish their first draft in which they aim to organize or reorganize their ideas.

The reasons why Thai students revise are similar to most ESL writers, which Horning and Becker (2006) attributed to the four aspects of revision. In accordance with the first aspect which is the revision for correction (Horning & Becker, 2006),

Zamel (1982) found that ESL writers tend to make changes at lexical and syntactical levels of their drafts, whereas they made some changes at the structure level more frequently as they progressed closer to the final product.

Unlike Thai writers, Uzawa (1996) discovered that in the L2 revising process, most Japanese students did not reread their texts after finishing writing in English. Those who reread were likely to be rigid in reviewing because they correct only minor points and seldom revised beyond the word level; also, those who found grammatical mistakes did not correct them since they did not know what should be edited. Moreover, in a study conducted by Manchón et al. (2000), the Spanish participants had different behaviors when rescanning the written text. They suggested that these different behaviors were related to the writer's dominant language and another variable that could be the subject of future research.

The results mentioned above are somewhat different from Sze (2002) who found that high school Chinese L2 writers do not see a revising process as an important strategy unless they were required to do so. Therefore, it could be assumed that different L2 writers may have different awareness of correction depending on their judgments.

#### *Writer-reader Relationship*

The writer-reader relationship can also affect cognitive processes and writing outcomes. A study conducted by Glass (2007) found that most Thai participants have written in English since they were students for Thai readers such as teachers, friends, co-workers, and employers rather than other nationalities. Some of them reported feeling that they were more grammatically relaxed when composing English texts for other L2 users because they were likely to make the same mistakes and could understand their intended meaning (Glass, 2007).

In sum, the revising process can occur at any point of composing when the L2 English writers reread for new ideas, or it could happen when the writer is stimulated by an evaluation of the grammatical or lexical errors (Hayes & Flower, 1980; Hayes, 2012; Kellogg, 2006; Manchón et al., 2000). However, L1 interference could affect the content of L2 writing for Thai students. Therefore, they often spend time revising their written texts in order to correct some defects, including inconsistent ideas and incompatible segments, such as grammatical and lexical usage. Moreover, the amount of revision might vary depending on the writer-reader relationship.

#### *Transcribing Process*

Lastly, both L1 and L2 writers have to similarly go through the transcribing process in which the text is physically written (Chenoweth & Hayes, 2003). That is, when the text is being written, it can lead back to two stages: proposing process and revising process. First, after the writer transcribed (physically wrote) the word string

into text, the writer is triggered to support the written text with the next segment. Or, the writer is triggered by the reviser to evaluate the already written text (Chenoweth & Hayes, 2003).

### *Language Factor*

Writers sometimes employ L1 as a natural specific behavior of L2 writers (Zarei & Amiryousefi, 2011) to counter the difficulties mentioned in the previous section. Therefore, some L1 interference has appeared as the outcome. This behavior leads to slight difference in the L1 and L2 writing and thinking, not the processes. That is, the use of L1 may influence the way L2 writer thinks; therefore, it influences the L2 writing. Two factors that make L1 and L2 different in terms of writing and thinking are the use of L1 and cognitive language switching that arise during composition. This section will review L1 thinking strategy, and L1 linguistic interference.

### *L1 Thinking Strategy*

Wang and Wen (2002) stated that writers tend to use their L1 when writing in L2 to conceptualize their ideas rather than emphasize the linguistic process because conceptual activities require more cognitive strategies to help the writers fulfill the demand of text production (Kellogg, 1994; 2006). Similarly, Van Weijen et al. (2009) found that every participant in their study occasionally used their L1 thinking strategy to organize their ideas while writing in L2. This strategy was suggested in connection with L2 proficiency, that is, less skilled L2 writers tend to revert to their L1 when experiencing cognitive overload or when doing an advanced task. However, Khongpun (1992) found that writing in L1 first might help the writer compose better English writing only if the writer's translating ability is skillful.

The perception toward writing expertise and the amount of L1 use during L2 composition is still debatable in the L2 writing field. Wang and Wen (2002) found that L2 writers with more L2 expertise employ less L1 while composing texts. To put it differently, L2 writers who use L1 while composing L2 writing could be viewed as less skilled writers. However, some recent research has indicated that using L1 could benefit L2 writing processes. For example, Woodall (2002) considered it as a tool to facilitate the writing tasks as it can cope with cognitive overload (Woodall, 2002) and sustain the writing process (Cumming, 1989).

Briefly, it is clear that most L2 writers employ L1 during the composition processes. However, the perception toward writing expertise and the amount of L1 use is still unclear. That is, on the one hand, the use of L1 is considered related to less L2 skilled writers because they experience cognitive overload. On the other hand, the use of L1 is an assisting tool for L2 writers to facilitate the writing tasks.

### *Linguistic Interference*

Kaplan (1966) explained that each language and culture has a unique rhetorical convention such as how and where to present main ideas, how to organize information, and how to express thoughts and feelings in writing convention. Therefore, this convention also plays a role when composing L2 texts because the extent of writing does not only involve using a different language, but also applying different linguistic conventions which implies different ways of thinking (Galbraith, 2009). However, different L2 writers may have different L1 interference depending on their L1. Thus, this section will provide one example on Chinese L2 writers and other examples on Thai L2 writers.

As mentioned above, when composing in L2, writers need to be accustomed to the writing convention. However, some L2 writers might find it difficult to do so because L2 writers have to adapt to the L2 discursive conventions. This is because writing not only involves the linguistic convention, but also the L2 discourse as well. Kim and Lim (2015) found that the main problem with L2 learners is that they are not only learning a second language, but also new cultures. Thus, the participants find themselves between their own language and the new cultures and the new pattern of their target language (Kim & Lim, 2015). Therefore, some linguistic features can be reflected in L2 writing, such as the use of modal verbs in Chinese L2 writers (Kim & Lim, 2015; Yang, 2013).

For example, one study shows that Chinese writers used more modal verbs to express their strong personal opinions such as “can” and “could” because they are taught to be rigorous when making claims. The study pointed out that changes in modals in L2 speakers might indicate different degrees of hedges. That is, Chinese writers interchange “will” and “would” because they use the same lexicon in Chinese. Whereas, for L1 English speakers, “will” conveys a much surer prediction than “would” when using it in the same context (Yang, 2013).

Similar to Chinese students, Thai students also find it difficult to adapt to the English writing convention. Although English is a required subject in the entrance examination at different educational levels from primary to tertiary levels and it plays a significant role in Thai education since it is a compulsory or an elective subject (Bennui, 2008; Nomnian, 2013; Wiriyaichitra, 2002), Thai students still use the Thai language to mediate their cognitive process while writing, thus, making it difficult for Thai students to think in English while composing L2 (English) writing (Bennui, 2008). Consequently, L1 interference occurs broadly in their writing processes, especially the use of L1 while carrying out conceptual activities (Zarei & Amiryousefi, 2011). Therefore, some characteristics appear in the L2 writing.

The first characteristic is L1 lexical interference which occurs when writers who have words form in L1 might not have the same access to L2 (de Larios et al., 1999) so they tend to restate L1 into L2 vaguely. For example, Shi (2012) found that L2 writers tend to paraphrase the source text roughly when restating L1 original

information into their L2 because the writers may not understand the original text profoundly in terms of language and content.

Another case in point is found in translation work. That is, Thai students or writers tend to translate (cross-linguistic change) some words directly. This direct translation of Thai words into English could affect the meaning of the text because the translated words do not belong in the sentence. According to Bennui (2008), incorrect vocabulary use due to L1 lexical interference directly affects the text meaning. That is, Thai students violate some collocation restriction when composing text in English. For instance, they compose a sentence “I play computer” instead of “I work on the computer,” and “I close the radio” instead of “I turned off the radio” (Thep-Akrapong, 2005) as they translated directly from their L1. Moreover, Thai students’ vocabulary seems to be limited, thus it is suggested that a dictionary should be allowed in writing tasks. From this it can be assumed that students were not familiar with writing prompts so they could not fulfill the task as expected; therefore, a dictionary should be allowed while L2 students compose their writing tasks.

Another problem of L1 lexical interference in translation is that the writer cannot cover all the content they need because the translation deviates wording (Khongpun, 1992). One Thai high school student indicated that when s/he composes an English writing, the major problem is translating words from Thai into English in which s/he could not cover all the information and content that needed to be written (Khongpun, 1992). For example, a phrase “สวมหน้ากากเข้าหากัน” (“wearing masks facing each other”), which means to pretend to be nice to each other, is difficult to express in English. Therefore, for Thai students, L1 lexical interference definitely takes times to recall and think when one wants to compose in L2 (Khongpun, 1992).

Besides the lexical interference, syntactic interference is also a problem for Thai students. That is, the grammatical structure is one of the most difficult aspects when composing an L2 (English) essay, especially in an argumentative essay (Ka-kan-dee & Kaur, 2014). Thus, grammar seems to obstruct the way they express their opinions. Pongsiriwet (2001) and Thep-Akrapong (2005) found that the use of subject and verb agreement, verb formation, and tense is problematic for Thai students because the grammatical errors in written English are influenced by Thai sentence structures. That is, some verb tenses are nonexistent in the Thai language (Bennui, 2008). Similarly, Angwatanakul (1975) found that Thai students’ most frequent errors in English composition are grammatical errors. The author indicates that the most frequent errors in writing are verb forms; while tense, articles, nouns and preposition appear every once in a while.

The last characteristic of L1 interference is at the discourse level which could influence the text meaning or quality of the text. Specifically, Thai writers cannot differentiate the writing styles between Thai and English writing. According to Ka-Kan-dee and Kaur (2014), Thai students find L1 English essay patterns difficult to follow. For instance, Thai students tend to start writing by asking questions and

answering them (Thep-Ackrapong, 2005). This style of writing makes English-native readers confused about the point the writers are trying to make. To be specific, Thai students would answer the question in the beginning of the text. Also, they tend to state the writing purpose of writing in the conclusion; whereas English readers would expect to read the purpose at the beginning of the text. Moreover, in the conclusion, Thai students tend to show more repetition, which is due to the statements in Thai writing (Grabe & Kaplan, 2014). That is, they repeat all of what has already been discussed in the conclusion part. This implies that if the students understand the writing pattern, the organization of the essay would not be a barrier for them to produce a good piece of writing.

Another aspect of L1 discourse interference lies in the narrative component. For instance, Indrasuta (1988) explained that when Thai students wrote in L2 (English), they use their L1 rhetorical style in which they put moral themes and moral values into narrative writing. That is to say, Thai L2 writers follow a Thai rather than a Western narrative model (Indrasuta, 1988). In another study, Bennui (2008) pointed out that the contrastive rhetoric of Thai students, minoring in English, has a positive view of L1 discourse interference, especially when writing supporting details. For example, Thai students expressed their values and thought patterns specific to Thai culture by using Thai proverbs in their English content (Bennui, 2008).

Based on this discussion, lexical, syntactic, and discourse interferences generally influence the writing outcomes in terms of content and organization of writing. Consequently, it might be difficult for L2 writers to adapt their writing processes to the unaccustomed writing styles. Therefore, in many cases, if they are allowed to use a dictionary, and given the exact instruction on essay organization, they should be able to produce a good essay.

## **Research Methodology**

### *Participants*

This present study collects data from six Thai learners of English studying in an international program. The participants are graduate students from the Graduate School of Language and Communication (GSLC), National Institute of Development Administration (NIDA) in Thailand. The criteria for selecting these participants are that they have attained at least a B grade from English academic writing classes at GSLC to ensure that they can compose the writing task within a specified time frame. The reason behind the selection of university level is that being a graduate student with previous experience in academic writing is an indicator of writing proficiency. The participants' English proficiency levels are different according to their grades from academic writing classes. They will be categorized as higher or lower proficiency according to their writing performance which will be scored (rated from 49-100 score) by two English native teachers/professors.

### *Data Collection*

For data collection, the main data sources were from a writing task, audio-recorded data, and interview data from semi-structured interviews. The procedures were as follows:

- 1) The participants were asked if they are interested in smartphones or not because it is the topic of the writing task. If they are, they will be selected for the study.
- 2) The participants were given instruction on how to complete the argumentative essay task. In the instruction, participants were told how to verbalize their thoughts while they were writing. A writing task was used to demonstrate this, e.g., another writing topic: “Do you agree or disagree that social network makes us stay connected but neglect the real world?” Moreover, the researcher briefly explained the four writing processes. It is important to note that the participants could freely switch between L1 and L2 throughout the composing processes since the use of L1 and cognitive language switching behaviors can be used to determine whether or not they influence writing processes and writing outcomes.
- 3) They were given a writing topic and asked to finish the writing task within 45 minutes. The participants were allowed to use a print dictionary during the composition because their ideas should not be paused or interrupted by limited vocabulary. Also, the participants were asked to complete the writing task in a controlled setting where there are only the participant and the researcher, thus they could not access outside sources, such as the Internet or other people. This is because it would “reduce the effect of uncontrolled variables and ensure the internal validity of the study” (Polio, 2011, p. 151).
- 4) During the composition processes, the participants were audio-recorded for further analysis. In order to do so, the participants were asked to think aloud about what was going on in their mind whether or not it related to the writing topic.
- 5) After collecting the writing task, the researcher asked two English native teachers or professors to grade the English writing to score the written paper. The two English native teachers or professors are from well-known universities in Thailand. The “ESL Composition Profile” scoring rubric (Jacob, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981) was used as a guide for scoring the content, language use, vocabulary, organization, and mechanics (mastery of spelling, punctuation, and capitalization) with a

total of 100 score. As such, the researcher was able to label the participants according to performance levels for further analysis.

- 6) After the writing task and think-aloud protocol, an interview with open-ended questions adapted from Khongpun (1992), was carried out immediately before the participants forgot their writing experience. The reason for the semi-structured interview was that it allowed the researcher to go into detail when needed. Also, it ensured that the participants fully understood the questions so the researcher could gather a substantial body of information. Therefore, the semi-structured interview was selected as a research instrument to allow the researcher to examine why they spend more or less time in a particular process (proposing, translating, evaluating, and transcribing); and why they use L1 when composing L2 writing. It was noted that all answers from the semi-structured interview were listed in order to categorize the purposes of the L1 use.

### *Coding Schemes and Data Analysis*

All the data was transcribed by the researcher. The think-aloud data was divided into sentences according to the written paper. The gathered information of the English composing processes was later categorized into four steps in accordance with Chenoweth and Hayes' (2003) model of text production, which includes proposing, translating, revising/evaluating, and transcribing, as shown in the coding scheme in Table 1. Please note that one sentence can be categorized in more than one process because each process may occur recursively.

Then, the definition or meaning of the think-aloud and transcribed texts was interpreted by the researchers in order to compare the similarities and differences between L1 and L2 writing processes with Chenoweth and Hayes' (2003) model of text production. The coding categories were adapted from Sasaki's (2000) encoded categories model. Later, the percentage of the writing processes in the coding scheme was calculated in order to compare the frequencies of each process. Thus, the researchers could analyze the relationship between the amount of the employed processes and the writing scores.

Furthermore, each occurrence of the use of L1 or L2 was noted in order to discover its frequency and why each participant decided to use L1 or L2 in the task given. If the participants used L1 (Thai) to emphasize overall concepts other than language use, it was placed in conceptual activities. If the participants used L1 to focus on the language itself, it was placed in linguistic activities.

Moreover, the percentage of Thai words involved in each category of the writing processes was obtained, that is, the number of Thai words in a particular type of process was divided by the total number of words in this type of process (Wang & Wen, 2002). Therefore, the researchers could discover whether or not it facilitates

or impedes the text production when comparing the amount of L1 use to the writing scores.

After the writing and audio-recorded data were gathered, all the think-aloud data were placed into a table with their meaning, the use of L1/L2 and the activities that L1/L2 was used for the analysis. For the interview data, it was recorded to analyze the relationship between writing experience (from the interviews) and the writing outcome (from the writing task).

## **Findings and Discussion**

The results will be discussed based on the two research questions.

*RQ1: What are the writing processes of graduate students with higher and lower scores when writing in English?*

The results confirm that all participants followed Chenoweth and Hayes' (2003) model of composing processes in English composition. Their writing processes, consisting of proposing, translating, evaluating/revising, and transcribing, operated simultaneously which were the same as English adults writers. However, they went through each process differently, which can be discussed according to their writing proficiency levels, that is, higher and lower-skilled writers.

### *Writing Processes of Writers with Different Writing Proficiency Levels*

This section would therefore focus on comparing two groups according to the writing scores: higher-skilled writers (Participant E and F) and lower-skilled writers (Participant A, B, C, and D). Also, this section will be discussed according to the three processes.

#### *Proposing Process*

In the proposing process, the findings show that all participants employed it for proposing an idea that was not related to previous ideas and generating an idea related to earlier sentences. However, some participants employed it for other reasons. For example, according to the data analysis, Participant C and E employed the proposing process for five reasons; whereas other participants employed it for two to four reasons (see Table 1). This might be why their writing scores were rated differently.

Participant E and F's writing were rated good to average. In this study, they are referred to as higher-skilled writers. Even though these two participants' writing have been rated at the same level, they did not entirely employ the four processes similarly. In the proposing process, Participant E and F generated an idea that was

not related to previous ideas and which was related to previous sentences. They were able to propose facts and viewpoints based on their experience. Therefore, in terms of content, two raters commented that they showed good background knowledge related to the topic. In terms of organization, there are three other elements that Participant E did in the proposing process, but Participant F did not. That is, Participant E employed the proposing process for planning overall organization, what to write next, as well as the conclusion. Thus, the raters rated Participant E's organization higher than Participant F's. The former's writing was better organized with good logical sequencing due to the three planning stages in the proposing process. This could suggest that if Participant F had executed those three stages in the proposing process, his/her organization may have been scored higher.

For the other participants (Participant A, B, C, and D), they also generated an idea that was not related to previous ideas and proposed an idea related to earlier sentences in the same way as the higher-skilled participants. However, according to the raters' comments, their topic sentences were unclear and their arguments were unbalanced. As a result, their contents were rated 56.7% to 68.3%. In terms of organization, they did not plan overall organization. The raters commented that they were loosely organized and the paragraph sequencing was not fluent. However, Participant A and B planned what to write next and the conclusion, while Participant C and D organized their generated ideas; however, the organization was still rated 70% to 77.5%. This may be because well-organized ideas could partly increase the scores. If they had planned for the overall organization, their writing could have been scored higher.

### *Translating Process*

In the translating process, there are three reasons for employing this process, including translating ideas into written form, choosing lexical units, and applying verb form. The finding shows that it is unavoidable for all participants had to translate their ideas into written form. However, only certain participants employed it for the other two reasons.

According to the findings, higher-skilled participants employed the translating process to choose lexical units, but did not apply verb forms to make the grammar consistent. Even though Participant E and F chose lexical units during this process, Participant E received a better score (17 out of 20 or 82.5%) and better comments on vocabulary use. This is because, according to the raters' comments, Participant F's writing had a fair range of words used.

For the lower-skilled participants, all of the participants chose lexical units during this process. However, Participant A and B received lower scores when compared with Participant C and D because, according to the raters, their vocabulary was limited. Besides choosing lexical units, Participant A and D were the only two who conjugate verb forms to make their grammar consistent. Although they have applied

the verb forms, their language use was rated lower when comparing to others (Participant B and C), that is, Participant A's language use was rated 52% while Participant D's was rated 60%. This is because there were errors of tense. This means that even though the writers conjugate verb forms, tense-related errors can still appear on the writing.

### *Evaluating/Revising Process*

There are three reasons for using the evaluating/revising process, including scrutinizing word strings, rereading text, and evaluating already written text. The findings show that it is unavoidable for all participants to scrutinize if the word strings sent from the translator was acceptable or not. However, the other two reasons were used with only certain participants.

For higher-skilled participants, Participant E both reread and evaluated the already written text during composition. Thus, they could set the writing goal for the next sentences and check their errors at the same time. This might be the reason why they received a higher score. Unlike Participant E, Participant F, who was ranked in second place, did not employ this process to reread or evaluate the text. However, the rates' comments for both appeared to be similar. That is, there was appropriate word use, proper grammar usage with few errors of tense, and there were occasional errors of spelling. This means, employing the evaluating/revising process for rereading and evaluating cannot guarantee a high score because some writers are able to write well in the first draft, such as with word choices, grammar usage, and spelling.

For lower-skilled participants, Participant D was the only subject who reread the already written text to check grammar. However, they committed frequent errors of tense and word order as did other participants. This means simply rereading for grammatical mistakes might not increase the writing scores.

To conclude, in this study, in order to achieve a higher score in writing, participants may not have to employ each process for every reason. As can be seen from the case of Participant E and F who were rated as higher-skilled, they did not employ each process for all its functions. However, they still received good scores and comments. Briefly, they provided good logical content, well-structured essay organization, appropriate word choices, correct language use, and correct mechanics.

*RQ2: What factors influence the participants' writing performance in each writing process?*

According to the coding scheme and data analysis, all participant employed every writing process in different functions in relation to Chenoweth and Hayes' (2003), and Horning and Becker's (2006) study. The finding showed that there are two main

factors, that is, non-language and language factors, influencing participants' writing performance in each process.

### *Factors Influencing Each Process*

These factors can be divided into two categories: non-language factors and language factors. However, these two categories will be discussed in the different aspects. That is, the non-language factor will be discussed according to the writing processes; whereas the language factors will be discussed as a facilitating and an interfering factor. In addition to these two factors, the relationship between experience on academic writing and the writing outcome will be discussed at the end of this section.

### *Non-language Factors*

Based on the interviews, there are five non-language factors: 1) time, 2) familiarity with topic, 3) writing genre, 4) linguistic translation, and 5) writer-reader relationship, which influenced the writing processes. This section will divide the discussion according to the writing processes. Please note that each factor influenced only some processes.

### *Proposing Process*

In the proposing process, the data has shown that time, familiarity, and writing genre were the factors that influenced participants' writing performance in the proposing process.

According to the interview and writing scores, time constraints were found to be the main reason for lower scores because participants had insufficient time in the proposing process. That is, if they had been given more than 45 minutes, some participants would have spent it on planning and organizing, as revealed in Participant C and D's interviews and by their writing scores. In the case of Participant C, they were worried that they would run out of time before finishing the paper, so proposed new ideas as soon as they finished the previous sentences instead of doing other activities, such as planning overall organization, and planning for the audience. Therefore, their content was rated 17 out of 30 (56.7%) and organization was rated 15.5 out of 20 (77.5%). Similarly, Participant D completed the task as if it was their first draft because of limited time. They stated that if more time had been provided, they would have spent it on rearranging content and organization. Their content was rated 20.5 out of 30 (68.3%) and organization was rated 15.5 out of 20 (77.5%). According to the raters' comments, both participants' content was reviewed that there was only some background knowledge related to the subject presented; however, the linking of ideas was not clear, and the writing was loosely organized. That is to say, if the participants had been provided with more time, they would have spent it on proposing content and organization, which may lead to better

writing quality and hence higher scores. This confirms Ong and Zhang's (2010) results that the time condition leads to a higher score, especially in the content and organization parts.

Another factor that influenced the proposing process was familiarity with the topic. Some participants proposed faster than others because they were more familiar with the topic. That is, Participants A and F found the topic easy because they were familiar with smartphones. Therefore, they did not experience any difficulties when proposing ideas. For example, according to the interview, Participant A admitted that she had ideas in full sentences along with an organization before translating and transcribing into the text because the topic was easy. In contrast to Participant A and F, Participant C explained that the topic was difficult and challenging, so they would like to plan more than they had done.

In addition to time and familiarity, the writing genre was another factor which influenced participants' writing performance. Since every writing genre is varied depending on the writing form and its purpose, the participants may find some writing genres easier or harder than the others. In this study, the argumentative essay was chosen to be the writing task; thus, some participants found it quite challenging to complete. For example, Participant C and D reviewed that there were various possible ways to answer, so it was difficult to clearly organize ideas. Therefore, both participants' organization was rated 15.5 (77.5%) because their writing was loosely organized. The result was congruent with Ka-kan-dee and Kaur's (2014) findings which showed that the argumentative essay's structure could be difficult to organize if participants were not skilled with this writing genre.

### *Translating Process*

The factor involved in the translating process is the act of translating ideas into written form. In so doing, some participants mostly relied on the linguistic (L1-L2) translation to facilitate their writing while others formed ideas in L2 and produced sentences straight into L2. This linguistic translation will be further discussed in the next section.

### *Evaluating or Revising Process*

In the evaluating/revising process, the findings from the interviews show that the time factor and writer-reader relationship influenced participants' writing performance in the evaluating/revising process. With regard to time factor, some participants explained that they would have spent time on revising if there had been more time provided. Some participants indicated they would like to revise for different reasons, including content, organization, grammar, and spelling. In the case of Participant D, they said they normally revise content after finishing the first draft. However, 45 minutes was limited, so they could not revise their content. Therefore, their content was rated 20.5 out of 30 (68.3%) because there was only some

knowledge related to the topic presented. Similarly, Participant F normally revises content and organization one or two days after finishing their first draft. Their content was rated 23.5 out of 30 (78.3%), and organization was rated 13.5 out of 20 (67.5%), but they believe that they could have been rated higher than this if they had had more time. In addition to Participant D and F, Participant E also said that they would like to revise for grammar and vocabulary. However, they did not do so because they ran out of time, but their language use was rated 22 out of 25 (88%), and vocabulary was rated 4 out of 5 (80%). This shows that having more time to evaluate/revise the writing may increase the score, but some participants might have done great writing on their first drafts.

In addition to the time factor, the writer-reader relationship also influenced one participant's writing performance. That is, Participant A rarely evaluated or revised their writing because of their friendly relationship with the researcher. According to the interview, they said that the researcher would understand the intention of the message they were trying to convey even if the grammar was incorrect. Therefore, when they finished writing, they did not evaluate nor revise the text, although they knew there were some grammatical mistakes. As a result, their language use was rated 13 out of 25 (52%) because there was some misuse of prepositions, articles, and capitalization. This means that if the participant had evaluated/revise their draft, their language use could have been rated higher. The finding is therefore congruent with Glass's (2007) study that if the writers have a close relationship with readers, they tend to be grammatically relaxed.

To conclude, the time factor was one of the factors that influenced the amount of proposing and evaluating/revising processes because most participants would like to propose and evaluate/revise more if there was no time constraint. Another factor was familiarity. That is, when participants were familiar with the topic, they tended to propose fluently. Next, some writing genres could be more challenging than others. In this study, the participants found the argumentative essay to be quite challenging. Besides time, familiarity, and writing genre, the linguistic translation was found to facilitate the translating process. Last, friendly writer-reader relationship may make the writers less aware of grammatical mistakes. Briefly, the time factor was the most influencing factor that impeded participants' evaluating/revising process. Without the time constraints, some participants may have received higher scores because they would have done more proposing and evaluating/revising. However, the familiarity factor facilitated participants' proposing process the most because they can propose ideas fluently.

**Table 1. Influencing Factors on Each Process**

| Influencing Factors              | Affected Process                     |
|----------------------------------|--------------------------------------|
| <b>1. Familiarity with topic</b> | <b>Facilitated proposing process</b> |

|  |  |
|--|--|
| 2. Time constraints                    | Obstructed <b>proposing process</b> and <b>evaluating/revising process</b> |
| 3. Writing genre (argumentative essay) | Challenged <b>proposing process</b>  |
| 4. Linguistic translation              | Facilitated <b>translating process</b>                                     |
| 5. Friendly writer-reader relationship | Impeded <b>evaluating/revising process</b>                                 |

### *Language Factors (L1 Use)*

The results show that mentally using more or less L1 while writing did not obstruct all the participants' writing process because it flowed continuously. However, it could influence the writing outcome in terms of the writing convention as can be seen in the case of Participant E.

Based on the data analysis, Participant E was one of the participants who cognitively employed L1 more than L2 while writing. Therefore, according to the interview, Participant E explained that they composed every English writing task the same way as in Thai. That is, their essay always consists of three paragraphs: introduction, body, and conclusion. Their content is well organized beforehand because they have been taught to do so in Thai writing. Also, they always ends their essay with a proverb in Thai writing, thus they did the same thing when composing English writing. This confirms Galbraith's (2009) study that L1 writing convention plays a role when composing in L2. Moreover, it is congruent with Bennui's (2008) study that Thai students expressed their Thai culture by using Thai proverbs in English content.

Briefly, employing L1 while writing in L2 can influence writing outcome in terms of discourse interference. Thai is, when the participant mentally used Thai while writing the essay, they put moral themes in the writing due to Thai rhetorical style.

### **Conclusion**

This study offers a better understanding of Thai graduate students' writing processes and the use of L1 during composition. In terms of writing processes, the most significant finding is that most participants mentally followed Chenoweth and Hayes' (2003) model which consists of proposing, translating, evaluating/revising, and transcribing recursively. Based on the results, five non-language factors increased or limited the amount of each process. Familiarity with the topic helped participants propose and organize ideas faster; while linguistic translation also helped in the translating process because participants were able to translate ideas into written form easily. Differently, writing genre limited a participant's proposing process since it was challenging their writing ability in generating ideas on this topic.

Additionally, the friendly writer-reader relationship reduced the amount of evaluating/revising process. Last, the time constraints obstructed both proposing and evaluating/revising process. Even though the use of each process did not entail high scores, it is still unavoidable to go through these processes while writing.

In addition to the factor influencing each process, some aspects needed to be aware of while writing. In order to achieve good scores and comments, writers may not need to employ all functions of each process. However, during the proposing process, writers should remind themselves to provide good content and essay organization in order to increase the writing score. In the transcribing process, writers may need to be careful when conjugating verb forms, tenses, and other grammar errors. Moreover, even though the findings show that reliance on the evaluating/revising process could not guarantee a higher score, for those unable to write well in the first draft, evaluating/revising would partly increase writing scores in vocabulary, language use, and mechanics.

The other aspect is L1 influence. During the writing process, all participants mentally used L1 while writing. According to the interview, all participants agreed that mentally using L1 helped them complete the writing in both conceptual and linguistic activities. Even though the finding indicated that this facilitated the writing process, it interfered with writing outcomes, especially in syntactic and lexical use. This suggests that using L1 may lighten the participants' cognitive load; however, they should be aware of some linguistic interference that can lower their writing quality.

## **Recommendations**

The research recommendations are as follows:

First, researchers should consider pre-writing and post-writing stage to observe if there are more processes at work. Questions worth being investigated would include: 1) what are the writing processes during the pre-writing stage?; and 2) what are the writing processes during the post-writing stage?

Second, more time should be provided for participants to complete the tasks thoroughly. Based on the interviews, one hour would be enough for them to cover all aspect they want to revise.

Third, a larger number of participants, and participants at other educational levels as well as participants from other contexts should be examined. Questions that should be included could be, for example, "What are the writing processes of high school students in ESL context?"

Last, further research could focus on other writing genres, which could shed some lights on the writing processes and writing performance when dealing with different types of writing.

## References

- Bennui, P. (2008). A study of L1 interference in the writing of Thai EFL students. *Malaysian Journal of ELT Research*, 4(2), 72-102.
- Berman, R. (1994). Learners' transfer of writing skills between languages. *TESL Canada Journal*, 12(1), 29-46.
- Chenoweth, N., & Hayes, J. (2003). The inner voice in writing. *Written Communication*, 20(1), 99-118.
- Cumming, A. (1989). Writing expertise and second-language proficiency. *Language Learning*, 39(1), 81-135.
- de Larios, J., Murphy, L., & Manchón. (1999). The use of restructuring strategies in EFL writing: A study of Spanish learners of English as a foreign language. *Journal of Second Language Writing*, 8(1), 13-44.
- Fitzsimons, J. T. (1983). *Task and audience: Effects of planning processes and communicative effectiveness of competent writers (Doctoral dissertation)*. Fordham University.
- Flower, L., & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387.
- Galbraith, D. (2009). Cognitive models of writing. *German as a Foreign Language Journal*, 2(3), 6-22.
- Glass, T. (2007). *The nature of English writing done by graduates of a university in Thailand (Doctoral Dissertation)*. Purdue University Graduate School.
- Grabe, W., & Kaplan, R. (2014). *Theory and practice of writing: An applied linguistic perspective*. London: Routledge.
- Hayes, J. R. (2012). *Handbook of writing research*. New York: Guilford Publication.
- Hayes, J. R., & Flower, L. (1980). Identifying the organization of writing processes. (L. Gregg & E. Steinberg, Eds.) *Cognitive processes in writing*, 3-30.
- Horning, A., & Becker, A. (2006). *A review of writing model research based on cognitive processes*. Indiana: Parlor Press LLC.
- Indrasuta, C. (1988). Narrative styles in the writing of Thai and American students. In A. Purves, *Writing across languages: Issues in contrastive rhetoric* (pp. 206-227). Newbury Park, CA: Sage.
- Johnson, M., Mercado, L., & Acevedo, A. (2012). The effect of planning sub-processes on L2 writing fluency, grammatical complexity, and lexical complexity. *Journal of Second Language Writing*, 21(3), 264-282.
- Ka-kan-dee, M., & Kaur, S. (2014). Argumentative writing difficulties of Thai English major students. *West East Journal of Social Sciences*, 3(2), 56-70.
- Kaplan, R. (1966). Cultural thought patterns in intercultural education. *Language Learning*, 16(1-2), 1-20.

- Kellogg, R. (1994). *The psychology of writing*. New York: Oxford University Press.
- Kellogg, R. (2006). *Professional writing expertise*. (K. A. Ericsson, P. J. N. Charness, & R. R. Hoffman, Eds.) New York: Cambridge University Press.
- Khongpun, S. (1992). *Composing processes of Thai high school students: A protocol analysis (Doctoral dissertation)*. Ball State University.
- Kim, L. C., & Lim, J. M. (2015). Hedging in academic writing: A pedagogically-motivated qualitative study. *Procedia-Social and Behavioral Sciences*, 197, 600-607.
- Krapels, A. R. (1990). An overview of second language writing process research. *Second Language Writing: Research Insights for the Classroom*, 28, 37-56.
- Leki, I., Cumming, A., & Silva, T. (2010). *A synthesis of research on second language writing in English*. New York: Routledge.
- MacArthur, C., & Graham, S. (2016). Writing research from a cognitive perspective. In C. MacArthur, S. Graham, & J. Fitzgerald, *Handbook of Writing Research* (Vol. 2, pp. 24-40). New York, NY: Guilford Press.
- Manchón, R. M., de Larios, J. R., & Murphy, L. (2000). An approximation to the study of backtracking in L2 writing. *Learning and Instruction*, 10(1), 13-35.
- McLaughlin. (1990). Restructuring. *Applied Linguistics*, 11(2), 113-128.
- Nomnian, S. (2013). Review of English language basic education core curriculum: Pedagogical implications for Thai primary level teachers of English. *Kasetsart Journal of Social Sciences*, 34(3), 583-589.
- Ong, J., & Zhang, L. J. (2010). Effects of task complexity on the fluency and lexical complexity in EFL students' argumentative writing. *Journal of Second Language Writing*, 19(4), 218-233.
- Polio, C. (2011). How to research second language writing, in *Research Methods in Second Language Acquisition: A Practical Guide*. In A. Mackey, S. Gass, A. Mackey, & S. Gass (Eds.). Chichester, UK: Blackwell Publishing Ltd.
- Pongsiriwet, C. (2001). *Relationships among grammatical accuracy, discourse features, and the quality of second language writing: The case of Thai EFL learners (Doctoral dissertation)*. West Virginia University.
- Qi, D. (1998). An inquiry into language-switching in second language composing processes. *The Canadian Modern Language Review*, 54, 413-435.
- Sakontawut, N. (2003). *Functional sentence perspective and second-language composition: A study of revision process in a writing workshop for Thai college students (Doctoral dissertation)*. Indiana University of Pennsylvania.
- Sasaki, M. (2000). Toward an empirical model of EFL writing processes: An exploratory study. *Journal of Second Language Writing*, 9(3), 259-291.
- Sasaki, M. (2004). A multiple-data analysis of the 3.5-year development of EFL student writers. *Language Learning*, 54, 525-582.
- Sevgi, E. (2016). A comparison of the cognitive processes involved in L2 learners' writing process when they are composing in English and in their L1. *Procedia-Social and Behavioral Sciences*, 232, 346-353.
- Shi, L. (2012). Rewriting and paraphrasing source texts in second language writing. *Journal of Second Language Writing*, 21(2), 134-148.

- Silva, T. (1992). L1 vs L2 writing: ESL graduate students' perceptions. *TESL Canada Journal*, 10(1), 27-47.
- Storch, N. (2005). Collaborative writing: Product, process, and students' reflections. *Journal of Second Language Writing*, 14(3), 153-173.
- Sze, C. (2002). A case study of the revision process of a reluctant ESL student writer. *TESL Canada Journal*, 19, 21-36.
- Thep-Ackrapong, T. (2005). Teaching English in Thailand: An uphill battle. *Journal of Humanities Parithat, Srinakharinwirot University*, 27(1), 51-62.
- Uzawa, K. (1996). Second language learners' processes of L1 writing, L2 writing, and translation from L1 into L2. *Journal of Second Language Writing*, 5(3), 271-294.
- Van Weijen, D., Van den Bergh, H., Rijlaarsdam, G., & Sanders, T. (2009). L1 use during L2 writing: An empirical study of a complex phenomenon. *Journal of Second Language Writing*, 18(4), 235-250.
- Wang, W., & Wen, Q. (2002). L1 use in the L2 composing process: An exploratory study of 16 Chinese EFL writers. *Journal of Second Language Writing*, 11(3), 225-246.
- Wiriyachitra, A. (2002). English language teaching and learning in Thailand in this decade. *Thai TESOL Focus*, 15(1), 4-9.
- Woodall, B. R. (2002). Language-switching: Using the first language while writing in a second language. *Journal of Second Language Writing*, 11(1), 7-28.
- Yang, Y. (2013). Exploring linguistic and cultural variations in the use of hedges in English and Chinese scientific discourse. *Journal of Pragmatics*, 50(1), 23-36.
- Zamel, V. (1982). Writing: The process of discovering meaning. *TESOL Quarterly*, 16(2), 195-209.
- Zarei, G. R., & Amiryousefi, M. (2011). A Study of L2 Composing task: An analysis of conceptual and linguistic activities and text quality. *Procedia-Social and Behavioral Sciences*, 30(1), 437-441.