An Analysis of Effective and Less Effective EFL Writers' Processes and Products for a Reading-to-Write Task

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Abstract

The study investigates the reading-to-write process of both effective and less effective EFL writers and their written products. The participants were three effective and three less effective EFL college writers from Taiwan. The data included think-aloud protocols, retrospective interviews, and the participants' written texts for a reading-to-write task. The data from verbal protocols were analyzed to investigate the strategy use during the reading-to-write process, while the written texts were examined for text features and critical thinking. A total 24 strategies were identified. The results revealed that the effective writers engaged in more strategic activities in terms of varieties and frequencies throughout the reading-to-write process. The analyses of text features of the written products showed clear differences in the mean length and scores of grammatical accuracy between the two groups of writers. Although the analyses of critical thinking showed low critical thinking scores for all the writers, the effective writers were found to be better at identifying problems and presenting clear perspectives. An analysis of the writing process and the written products revealed some interesting patterns between the strategy use and the quality of the products, which may indicate possible impacts of strategy use on writing performance and directions for future studies.

1 Introduction

A reading-to-write task requires writers to read one or several source texts before writing. The writing task can vary from writing summaries to writing more structured critiques and essays depending on teachers' pedagogical goals (Dobson & Feak, 2001; Hirvela, 2004). Researchers and practitioners are interested in employing reading-to-write tasks that incorporate both reading and writing skills to encourage more authentic and integrative language use. Such tasks are considered fairer than writing-only tasks because the source texts used for the tasks provide content and knowledge for the writers who may have different cultural or educational backgrounds (Plakans, 2008). In addition, the types of reading-to-write tasks that require students to respond to reading, such as response essays and critiques, are found to be more effective in engaging students in critical thinking than writing-only tasks do (Asención, 2008; Tierney, Soter, O'Flavahan, & McGinley, 1989). The source readings for these types of assignments provide students with information to be questioned, analyzed, and evaluated. Such tasks involve students in analytical reading, thinking, and transforming reading and thinking to writing which is constructive in inducing critical thinking (Asención, 2008; Tierney et al., 1989).

In the field of L2 writing, many studies have been conducted to investigate the process and

products of writing-only tasks. However, relatively few studies have focused on Asian EFL writers' strategy use in the reading-to-write process or have examined the written texts for reading-to-write tasks. Reading and writing strategies for writing-only tasks may not be sufficient to perform reading-to-write tasks successfully. Reading-to-write tasks may engage writers in using different strategies that are essential to successful writing. In addition, even fewer studies have analyzed Asian EFL writers' written texts for reading-to-write tasks (Cumming, et al., 2005; Gebril & Plakans, 2009). Studies of Asian EFL writers' reading-to-write processes and written texts for such tasks can shed light on how Asian EFL writers respond and engage in the tasks. Therefore, proper pedagogy can be designed to enhance Asian EFL students' awareness of strategies for reading-to-write tasks and improve their writing quality.

2   Literature review

2.1   *Reading-writing connection: Theoretical models of reading-to-write process*

L2 writing research has a long history in relation to the research of writing process (Cumming, 2001; Plakans, 2008). The first L1 cognitive model of a writing process proposed by Flower and Hayes (1981) delineates a recursive and goal-oriented writing. This model changes the teaching of L1 and L2 writing from a previous product approach to a process approach. Another cognitive model often cited is constructed by Bereiter and Scardamalia (1987). They propose that novice writers tend to employ a knowledge telling model which involves more "telling" of writers' thinking, while the expert writers tend to employ a knowledge transforming model which requires more reflection skills. This framework is useful in describing how novice and expert writers use information from source texts. A modified cognitive-affective model (Hayes, 1996) identifies three types of reading: reading to gather information for writing, reading to understand the writing, and reading their texts to make revisions. This model is relevant to the present study, because it describes the types of reading that writers engage in during the composing process, although how writers select and integrate the information in the source text into their own writing is not clear.

Two concepts developed by Kucer (1985) and Spivey (1990) may help to fill this gap. Both concepts were developed from the constructivist perspective with an attempt being made to explain the process of meaning construction by connecting reading and writing together. Kucer (1985) identifies two strategies, macro-generating and micro-generating, which are crucial to text comprehension and text construction. The macro-generating strategy produces global conceptual units of meaning, which Kucer (1985) identifies as macropropositions that support overall meaning organization in text production. They are linked with one another in the process of the macro-integration strategy to produce a macrostructure. The function of this structure is equivalent to that of goals and plans in the writing process. On the other hand, the micro-generating strategy produces micropropositions which provide local particulars for being "woven" into the text (Kucer, 1985, p. 330). The integration of micropropositions produces a microstructure – the organized local information of the text. Through the use of these generating and integrating strategies, a writer can create a meaning structure for written texts. Spivey's (1990) theoretical framework of reading-to-write process shares some similarities with Kucer's (1985) concept. Spivey (1990) identifies three key approaches – organizing, selecting and connecting – that are involved in constructing and transforming meaning from sources. Organizing strategies refers to how writers comprehend the source texts and compose their own writing according to the task goals. Selecting refers to how writers select important information to meet the task goals. Finally, connecting refers to how writers connect the source texts with prior knowledge to form their perspectives.

Both Kucer's (1985) and Spivey's (1990) concepts are useful in identifying the interaction between the source texts and the writers and recognizing the importance of reading and thinking processes for meaning construction and transformation (Asención, 2004; Dovey, 2010). However, their concepts are not presented as models of the writing process. As to what reading, thinking and

writing activities take place in the reading-to-write process and when, there is no clear answer. To capture the activities that writers engage in and position them in the sequence of the writing process, Plakans (2008) develops a working model for explaining reading-to-write processes. She identifies two stages of writing: preparing to write and writing. In the preparation phase, writers follow a linear process of reading prompt, interacting with source texts, planning and organizing content. At this stage, writers use various strategies to comprehend the task and the source text. In the writing phase, writers follow a non-linear process between the acts of using source texts, planning, rereading, writing, and evaluation. Throughout this stage, the writers reread their written texts to evaluate their writing. The model is useful in describing how recursive reading takes places in the reading-to-write process and how writers interact with source texts for the purpose of writing. The models discussed above focus on different aspects of the reading-to-write process. For researchers, choosing a single model is difficult because no model is sufficiently comprehensive. The decision should be made depending on the main focus of the particular study.

2.2 Studies on L2 reading-to-write process

A body of literature has investigated the differences in writing processes and strategy use between skilled and less skilled writers (Bosher, 1998; Cumming, 2001; Sasaki, 2000). The results have painted a consistent picture. Skilled writers use a variety of strategies for generating ideas and texts, problem solving, and completing the task. They tend to plan their writing task in a recursive manner and plan more globally, while less skilled writers tend to spend less time planning and plan more locally. The skilled writers are better at monitoring their process, and evaluating their work by making larger discourse revisions. By contrast, the less skilled writers spend more time revising words and phrases. However, most of the past studies focused on writing-only tasks. Little has been done to investigate L2 writers' composing process for reading-to-write tasks. Only a few recent studies of L2 students' test-taking strategy use have emerged to make up for the discrepancy.

Following Spivey's (1990) constructive approach, Ascención (2004) divided the composing process into planning, monitoring, organizing, selecting and connecting, and compared how native, ESL and EFL test takers used these strategies. The results showed that across the three groups monitoring was used the most frequently and planning was second, while selecting, organizing and connecting were the least used strategies. While native and ESL writers spent more time on planning content, EFL writers spent more time on planning the linguistic forms. EFL writers were more aware of the language aspects and difficulties while writing, whereas the other two groups of writers were more aware of their personal reactions to the source text. Ascención's (2004) findings echoed the results reported in past studies regarding the effect of L2 proficiency on the process of writing (Bosher, 1998; Cumming, 2001; Sasaki, 2000). Writers with higher proficiency were found to be concerned with macro aspects of writing, while less proficient writers were more concerned with forms and linguistic difficulties. Besides L2 proficiency, writing expertise was also found to have a strong impact on the L2 writing process. Plakans' (2008) process study in the reading-to-write context reported difference in strategy use between experienced and less experienced writers. She compared ten L2 participants' processes in composing reading-to-write and writing-only test tasks. She found that while the more experienced writers interacted more with source texts and spent more time planning, the less experienced writers tended to follow a linear process and had less interaction with the source text. She concluded that the interaction of reading and writing strategy is key to the experienced writers succeeding in the reading-to-write tasks.

Some studies found that the writers' strategy use in reading-to-write tasks relied heavily on reading (Esmaeili, 2002; Plakans, 2009). Esmaeili (2002) investigated 34 ESL engineering students' strategy use in reading-writing test tasks. He found writers' writing strategies such as mining, borrowing words/phrases, and recalling text content relied heavily on writers' reading abilities. Plakans (2009) also found that reading strategies played an important role in her study of writers'

strategy use in reading-to-write tasks. Five categories of reading strategies were used by twelve L2 writers in reading-to-write tasks. They were goal setting for reading the source texts, cognitive processing for comprehension, global strategies, metacognitive strategies, and mining the source text. Differences were found in the choice and the frequency of the strategy among the writers of three levels of mean composition scores. The writers for the highest score level used more strategies than the writers for the lowest score level. In terms of the choice of strategy, the writers for the highest score level used more global strategies such as goal setting, skimming, and asking questions than those for the lowest score level.

However, different reading-to-write tasks require different degrees of cognitive abilities. Reading for basic comprehension may not be sufficient for writers to effectively complete the more cognitively demanding tasks such as response essays (Asención, 2008; Lo, 2011). Response essays demand more complex cognitive abilities than summaries as writers need to be evaluative readers first by recognizing the author's purpose, distinguishing opinions and fact, making inferences, and forming judgment (Cervetti, Pardales, & Damico, 2001). To complete response essays successfully, strategic readers/writers not only read for comprehension but also look for knowledge of specific features of writing, or *writerly reading* (Hirvela, 2004, p. 118). These types of purposeful reading prepare writers to compose quality response essays that are analytical and related to meaningful contexts (Dobson & Feak, 2001).

2.3   *Studies on L2 students' written products for reading-to-write tasks*

Researchers have long been interested in studying L2 students' written texts. A great number of studies on L2 written texts focus on features of the written text. One major purpose of such studies is to help L2 students produce better texts (Cumming et al., 2005; Polio, 2003). Polio (2001) summarized a variety of features often used for studying L2 texts, including linguistic accuracy, syntactic complexity, lexical features, content, and coherence and discourse features, and fluency. Past studies found differences in the text features produced by L1 and L2 writers. In general, L2 writers produced shorter texts, and had more errors and poorer quality. In terms of structure, L2 writers had different text structures and logical relationships between parts of texts. It was also found that L2 writers used less data to support their claims and had fewer claims, warrants and rebuttals (Chenoweth & Hayes, 2001; Hinkel, 2003; Silva, 1993). Results from the studies comparing the text features between high-proficiency and low-proficiency L2 writers' written products revealed that high-proficiency writers shared some of L1 writers' characteristics of text features (de Haan & van Esch, 2005; Grant & Ginther, 2000; Jarvis, Grant, Bikowski & Ferris, 2003). High proficiency writers tended to write longer texts, use a greater diversity of words, and reveal fewer grammatical errors.

While numerous studies have analyzed the text features of written products from writing-only tasks in the L2 context, relatively fewer studies have examined the features from that of reading-to-write tasks (Cumming et al., 2005; Gebril & Plakans, 2009; Watanabe, 2001). To examine the differences in text features in writing-only and integrated (reading-to-write and listening-to-write) tasks for the new TOEFL, Cumming et al. (2005) studied 216 compositions written by 36 test takers in the Field Test. The findings revealed that L2 written products of integrated tasks differed significantly from writing-only tasks in terms of their lexical, syntactic, and rhetorical features. The test takers tended to use longer words, use different words, and write more clauses for the integrated tasks. Cumming et al. (2005) maintain that the differences across the task types are crucial to validate the value of integrated writing tasks, especially when they are used for assessing writing ability. Another study conducted by Gebril and Plakans (2009) examined the text features of 139 EFL undergraduate students' reading-to-write products across three proficiency levels. Significant differences were found in fluency, grammatical accuracy and source use across all three levels. The writers with the highest proficiency produced longer and more accurate essays than those in the two lower proficiency groups. In terms of source use, significant differences were

found in indirect source use and the total amount of source use. The writers in the lowest proficiency group employed indirect source use least frequently, followed by the total amount of source use. The differences in fluency and grammatical accuracy indicate that the low proficiency writers may have been prohibited by general L2 proficiency.

From the pedagogical perspective, studies of text features of integrated tasks can provide great insights for language teachers to understand how L2 writers respond to such tasks (Cumming et al., 2005; Watanabe, 2001). Therefore, language teachers can design proper pedagogy to improve writers' quality of writing. However, examining the text features of the L2 students' written products is not sufficient to judge the quality of content. Content is intended to measure different features such as communicative quality, interest, references, argumentation and critical thinking (Condon & Kelly-Riley, 2004; Connor & Mbaye, 2002; Polio, 2001). Among the different features of content, critical thinking has been considered to be an important feature. Despite the fact that critical thinking as a concept has been contentions to define (Jones, 2005), it generally refers to cognitive competencies and skills that an individual uses to process and utilize information, reason objectively and draw conclusions, evaluate arguments and claims critically, identify and solve problems, and make reasonable decisions (Ennis, 1989; Paul, 1992). Developing students' critical thinking skills has been a recurrent concern for Eastern and Western educators (Phillips & Bond, 2004). In the era of globalization, university graduates' critical abilities have been highly valued by employers. Critical thinking is of particular importance for EFL students in the EAP area as students are often required to describe, question, reason, and make judgment in English (Liaw, 2007; Pally, 1997). Critical thinking skills would certainly help students to meet the demands of academic work.

Among a variety of instructional activities, writing has been found to be an effective approach to promoting critical thinking (Tsui, 1999, 2002). To measure critical thinking in writing, researchers tend to adopt analytic scales (Condon & Kelly-Riley, 2004; Lo, 2011; Stapleton, 2001). Condon and Kelly-Riley (2004) used a seven-item analytic scale to measure the students' quality of critical thinking in writing. They found the students' critical thinking score was low. After the rubric was integrated in the designated courses, the students' critical thinking scores in these courses significantly improved. They argued that writing does not equate to critical thinking and students need to be taught critical thinking skills in order to present them in writing. Stapleton (2001) used a five-element guide to measure forty-five Japanese college students' reading responses to two provocative essays. One was considered to be a topic familiar to the students, while the other was not. The results showed that the Japanese participants presented argument, provided evidence and identified opposition, but were weak in refutation. When comparing responses to the two essays, students presented more elements of critical thinking in relation to the familiar topic than the unfamiliar topic. The findings indicated that the quality of critical thinking was correlated with the familiarity of the topic content. Lo (2011) modified Condon and Kelly-Riley's (2004) scale to a six-item scale to measure 108 Taiwanese students' critical thinking in a reading-to-write task. The results showed that the students' strengths were in identifying problems and presenting perspectives. The students' weaknesses were in recognizing other perspectives, and considering evidence/facts. The findings suggested that the students tended to focus on the expressive mode of responses, citing personal feeling and opinions without using support from the source text. Similar to what Stapleton (2001) found, few students included counterarguments. The explanations include the students' unawareness of the need to present alternative perspectives to reinforce their own views (Nussbaum & Kardash, 2005), the lack of high cognitive skills (Qin & Karabacak, 2010), and the lack of relatively advanced knowledge for a particular issue.

Although the studies presented here provide valuable insights into the composing process and features in the written texts of the reading-to-write tasks, little is known about the process of Asian EFL writers with different degrees of writing proficiency in terms of approaching the reading-to-write tasks and its relation to the writers' written products. A comparison of the process and products among Asian EFL writers with different degrees of writing proficiency may provide use-

ful information for writing instructions. For the teachers who use reading-to-write tasks such as response essays or critiques for inducing critical thinking, assessing Asian EFL writers' quality of critical thinking presented in the written text is crucial for diagnosing the students' strengths and weaknesses in critical thinking. However, little has been done to investigate the quality of critical thinking in Asian EFL writers' written texts for reading-to-write tasks. Analyses of the students' critical thinking can help teachers to diagnose Asian EFL students' strengths and weaknesses in critical thinking and design proper instructional activities accordingly.

Thus, the present study sets out to investigate Asian EFL college students' composing processes for producing written products for a reading-to-write task. Although the Taiwanese participants in this study do not represent all Asian EFL writers, studying this group of students may shed light on how Asian EFL writers approach reading-to-write tasks. Specifically, this study attempts to answer the following research questions:

1. What strategies did the Taiwanese college writers in the study use for the reading-to-write task?
2. How did the use of strategy differ between effective and less effective Taiwanese college writers?
3. How did the written products differ between these two groups of Taiwanese writers?

3 Methodology

3.1 Participants

The participants, three effective and three less effective writers, were recruited from a reading course at a public university in Taiwan. The six participants were all female, third-year English majors aged 21. The three effective writers, chosen from the 75th percentile based on their final scores for the writing class in the previous semester, were referred to as E1, E2 and E3. The three less effective writers, chosen from the lowest 25th percentile, were referred to as L1, L2 and L3. All the participants had taken the Test of English for International Communication (TOEIC) as a requirement for graduation by the university. The TOEIC scores for E1, E2 and E3 were 710, 810 and 675, and for L1, L2 and L3 were 503, 447, and 460 respectively.

3.2 The reading-to-write task

All students of the course, including the participants, were required to complete the reading response assignment by responding to an English news article. The students were informed by the instructor of the course that the purpose of the task was to use authentic materials to motivate students to read, instill in them the habits of reading English news, broaden their world views, and develop their critical thinking by writing the reading response. Since the students did not receive training in critical thinking, the researcher could examine the students' strengths and weakness in critical thinking featured in their writing when no training was provided. The source text for the reading response was an assigned English news report about the difficulties of inspecting imported lead-tainted goods because these products were sold to different companies under different brands. The article was chosen because concerns for product safety often seized the news headlines in Taiwan. Therefore, the students were aware of the safety concerns and the effect of unfamiliarity with the subject could be minimized. The source text was given to the students a week before the writing session for previewing purpose because of the length of the source text. The six participants composed their reading responses in designated rooms with computers and recording devices. During the writing session, each participant was provided with a writing prompt. They were instructed to write a summary of the news article, express their thoughts and ideas, and use examples from the source reading

3.3   Think-aloud protocols and retrospective interviews

Think-aloud protocols were employed to record the participants' thoughts during the writing process. Problems with think-aloud protocols have been reported by researchers (Polio, 2003; Sasaki, 2000). Being sensitive to these problems, the think-aloud protocols were conducted, adopting the precautions suggested by Green (1998) and Plakans (2008). The participants were asked to keep talking during the time they wrote the reading response. They were instructed to verbalize rather than interpret their thoughts. To allow the students to complete their writing, no time limits were set for the task. All the participants conducted the think-aloud protocols in Chinese. Their think-aloud protocols were recorded and transcribed for analysis.

To gain further information on the writers and the strategies they used during their writing process, semi-structured interviews were conducted after the think-aloud protocols. An interview guide was used (Appendix 1). The questions focused on the participants' processes of writing, strategy use, perception for the writing task, and perceived difficulties. Each interview session lasted 30 to 60 minutes. All the interviews were conducted in Chinese. They were recorded, transcribed, and translated into English.

3.4   Data analysis

3.4.1   Think-aloud protocols and interview data

The transcribed texts from the think-aloud protocols and interviews were segmented using idea units or sentences for initial coding following Green's (1998) approaches. An initial list of reading-to-write strategies was compiled based on previous strategy studies concerning reading-to-write tasks (Esmaeili, 2002; Gebril & Plakans, 2009; Plakans, 2008, 2009; Spivey, 1990). The list was used as a guide for coding the data. A co-rater coded the segments, compared and contrasted the codes for emergent patterns. Although the list of strategies reflected the general patterns in the data, the strategies in the list were not used prescriptively (Plakans, 2009) because most of them were identified from the test-based reading-to-write tasks, which were different from the context of the present study. New strategies were identified from the data which were not included in the list. Following Plakans's (2009) refining process, strategies from the list that were not found in the codes were eliminated. The next step was to identify new strategies based on the codes. Finally, a new coding scheme containing 24 strategies was completed. The two raters then rated 30 percent of the segments (Esmaeili, 2002). Agreement between the two raters was at 90%. The rest of the segments were coded by the researcher. Frequency counts were used to reveal the patterns of strategic activities.

3.4.2   Written products

The written texts were evaluated for four text features using the selected indicators suggested by Cumming et al. (2005) to investigate the differences in the written texts produced by the two groups of writers. The indicators were lexical sophistication, syntactic complexity, grammatical accuracy and fluency. Lexical sophistication is defined as the average word length (the number of characters divided by the number of words per composition). Syntactic complexity measures the mean number of T-units per sentence (the number of T-units divided by the number of sentences). The T-unit can capture the number of ideas presented in the written products (Tierney et al., 1989). Grammatical accuracy is coded based on the holistic scale developed by Cumming et al. (2005) as follows: (1) many severe errors, often affecting comprehensibility; (2) some errors but comprehensible to a reader; and (3) few errors, and comprehensibility seldom obscured for a reader. Finally, fluency is determined through word count. The features were selected because they (1) covered a range of features, (2) could be applied reliably and meaningfully as the selected measures

were used in a range of previous studies and produced reliable results and had clear operational definitions (Cumming et al, 2005; p. 9), and (3) were relevant to the assessment of critical thinking. Lexical sophistication and fluency were calculated with Microsoft Word. Syntactic complexity and grammatical accuracy were rated by two raters. The inter-rater reliability was .97 for syntactic complexity and .95 for grammatical accuracy.

Students' written products were also evaluated for critical thinking scores using Lo's (2011) rubric of rating critical thinking in reading responses for news (Appendix 2). The revised rubric was adapted from Condon and Kelly-Riley's (2004) guide for rating critical thinking. Condon and Kelly-Riley (2004) developed the guide based on scholarly work, featuring seven dimensions of critical thinking across disciplines. The guide has been used since the late 1990s and the reliability has been established. Lo's (2011) revised rubric differed from the original guide due to the following revisions. First, the wording for each category was revised to reflect the nature of the study. Second, the operational definition of each category was revised based on assessing students' writing samples in the present study and the findings of past studies (Lo, 2011). The rubric contained six categories with a six-point scale for each category: identifying problems, presenting clear perspectives, recognizing other perspectives, identifying contexts, using evidence, and identifying potential consequences and solutions. Two raters rated the critical thinking score independently. The inter-rater reliability was .82.

4   Results

4.1   Strategies used in the reading-to-write process

Based on the verbal protocols, the 24 strategies were grouped into three stages of the reading-to-write process. Table 1 shows how frequently each strategy was used during the three stages. Clearly, more activities occurred during the writing stage. However, it should be noted that the students in the present study had read the source text before composing. The information about the activities they engaged in before composing was collected mainly from the retrospective interview data. The students' memory could have affected their recall on the varieties of activities they actually engaged while reading.

In terms of the number of strategies, the effective writers employed all 24 strategies, while the less effective writers used 22 strategies. In terms of frequency counts, the effective writers engaged in more strategic activities than the less effective writers throughout the whole writing process (Table 1 & Table 2). The ratio of the total frequency counts between effective and less effective writers was 1.6:1, showing that effective writers used one and a half times the strategies of the less effective writers. More revealing are the differences in terms of the ratios of the frequency counts between the two groups of writers during the different stages of the reading-to-write process. The ratios between the effective and less effective writers' strategy use were 1.6:1 during the prewriting stage, 1.4:1 during the writing stage, and 2.6:1 during the post writing stage, indicating that the less effective writers engaged in proportionally far fewer strategic activities than the effective writers during the post writing stage. However, some strategies were compensatory strategies used by writers when they encountered difficulties (Plakans, 2009), such as consulting dictionaries and re-reading the text for comprehension. The more frequent occurrence of such activities does not necessarily mean the writers are more strategic. Therefore, comparisons of the frequencies should be performed with cautions.

Writing stage	Strategy	Effective writers	Less effective writers	Subtotal
	1. Reading the text for comprehension	5	5	10
Before writing	2. Identifying main ideas	5	5	10
	3. Interacting with the text	11	5	16
	4. Mining the text for words/phrases/ideas to use in writing	8	5	13
	5. Reading additional texts for generating ideas	4	1	5
	6. Making outlines	2	1	3
	7. Consulting an on-line dictionary	4	3	7
Subtotal		39 (20.3%)	25 (13.02%)	64 (33.33%)
	1. Checking the purpose of writing	2	1	3
	2. Summarizing main ideas	5	4	9
Writing	3. Re-reading phrase/sentences for comprehension	2	4	6
	4. Recalling content from the text	4	1	5
	5. Using words/phrases from the text	5	3	8
	6. Deciding information/ideas from the text for supporting view points	8	4	12
	7. Searching for lexical expressions	6	7	13
	8. Consulting an on-line dictionary	5	8	13
	9. Paraphrasing	3	0	3
	10. Reading own writing	5	3	8
	11. Checking/editing/revision	5	3	8
	12. Monitoring the writing process	7	4	11
Subtotal		57 (29.69%)	42 (21.87%)	99 (51.56 %)
	1. Reading own writing	4	1	5
After writing	2. Local revisions	10	4	14
	3. Global revisions	2	0	2
	4. Checking task requirements	4	1	5
	5. Assessing own writing	1	2	3
Subtotal		21 (10.94%)	8 (4.17%)	29 (15.11%)
Total		117 (60.94%)	75 (39.06%)	192 (100%)

Table 1: Frequency counts of strategies used during the reading-to-write process by groups

Writing stage	Effective writers	Less effective writers
Before writing	13	8.33
Writing	19	14
After writing	7	2.66
Total	39	25

Table 2: Strategy means by groups

Investigating individual strategies at each stage reveals more information. The seven strategies used by the writers at the prewriting stage centered on reading for the purpose of writing by comprehending, mining, and interacting with the source text. The major differences between the two groups were found in the three strategies, all related with the reading for the purpose of writing. The three strategies were interacting with the source text, mining the text, and reading additional

texts for generating ideas. The effective writers seemed to spend more time on responding to the text with personal experience and knowledge. They underlined the sentences or passages and took notes of their responses and reflections for the later use. The effective writers also engaged more in 'writerly reading' (Hirvela, 2004) by paying attention to the words/phrases/ideas used in the text and making notes of them for the writing purpose. One interesting strategy used by the effective writers was reading additional texts. All the three effective writers searched for and read related articles in Chinese in order to generate ideas for writing. One of them read both Chinese and English news reports for the purpose, while only one less effective writer did so.

Twelve strategies were identified and grouped into the writing stage. Strategies 2 to 6 at this stage involved returning to the text for comprehension and determining what could be used from the source text. The effective writers engaged in more activities than the less effective writers for these strategies except re-reading phrases/sentences for comprehension. This may indicate that the less effective writers had not fully understood the source text before writing. The effective writers may have comprehended the source text better. Therefore, they were able to recall the content and use words/phrases/ideas from the source text more often. The most used strategies at this stage were strategies 8 and 9, which occurred when writers tried to search for lexical expressions for writing. A comparison of the frequencies showed that the less effective writers were involved in more activities than the effective writers in relation to these two strategies. The less effective writers relied more on online Chinese-English dictionaries by typing the Chinese characters for the needed words to get the equivalent words in English. This might be due to the fact that they had relatively limited provisions of English vocabulary and expressions than the more effective writers. The least used strategy was paraphrasing. Only two effective writers tried to paraphrase the sentences from the source text. Some editing and revisions occurred at this stage when the writers read their own writing. The last strategy that the writers engaged in was monitoring their writing process, such as checking the time and making sure they followed their outlines.

Five strategies were identified during the post writing stage. The most frequently used strategy was local revisions. However, there were big differences in the frequencies of this strategy between the two groups of writers. The effective writers corrected more errors and made more revisions than the less effective writers. It should be noted that more frequent use of this strategy by the effective writers does not necessarily mean they made more mistakes. Instead, it may indicate they were more capable of evaluating their writing and detecting errors. Overall, the frequency counts of the strategies used by the less effective writers were much smaller proportionately than those of the effective writers. They showed little interests in re-reading their finished products. They made fewer revisions and did not double check whether their written products met the task requirements.

4.2   Analysis of text features and critical thinking

Table 3 shows the results from the analysis of the text features of the writers' written products. There are clear differences in the means of fluency and grammatical accuracy. Fluency was estimated based on the text length of the writers' written products. The effective writers wrote 60% more than the less effective writers. The effective writers' mean scores for grammatical accuracy were also nearly 60% higher than those of the less effective writers. Comparisons of the means of lexical sophistication and syntactic complexity also revealed differences between the two groups of writers. The effective writers used longer words and wrote more complicated sentences. However, these differences were less decisive when considering the small range of the numbers across individuals and the small numbers of writers in each group (Plakans, 2009).

Text features	Effective writers				Less effective writers			
	E1	E2	E3	Mean	L1	L2	L3	Mean
Lexical sophistication	6.8	5.08	5.43	5.77	4.92	5.4	5.33	5.22
Syntactic complexity	1.4	1.61	1.73	1.58	1.28	1.05	1.22	1.18
Grammatical accuracy	3	2	3	2.67	2	1	2	1.67
Fluency	674	623	562	619.7	350	390	402	380.67

Table 3: Analysis of text features by groups

The total scores for all six categories showed a low degree of critical thinking scores across the two groups, with the highest score at 20.66 and the lowest score at 12 (Table 4). When comparing the means of the total scores between the two groups of writers, the effective writers had higher critical thinking score means than those of the less effective writers. The same pattern was found across the six elements, showing that the effective writers scored higher than the less effective writers. The analytic scores for each element of critical thinking showed the writers' strengths and weaknesses in critical thinking. The effective writers were better at presenting the main problem, which could be an indication of better comprehension of the source text (Hirvela, 2004). The effective writers were also better at presenting their perspectives by connecting their viewpoints with the source text and their experiences and knowledge, while the less effective writers presented their perspectives by citing their personal feeling and opinions spontaneously. This expressive mode of their responses demonstrated in some ways that they had read the text. However, it revealed little connection with the source text and had little value for critical thinking (Dobson & Feak, 2001; Hirvela, 2004).

Critical thinking element	Effective writers				Less effective writers			
	E1	E2	E3	Mean	L1	L2	L3	Mean
Identification of a problem or issue	4.33	4	3.33	3.88	2.67	2	3.33	2.67
Presentation of a clear perspective	4	4	**5**	4.33	2.33	3	2	2.43
Recognition of other perspectives	1.33	2.33	1	1.55	1	1	1	1
Identification of the context(s)	4	2.33	3.67	3.33	1.67	1.33	2.33	1.78
Consideration of evidence/facts	3.33	2.67	2.67	2.89	1.67	1.67	1.33	1.56
Identification of potential consequences	3.67	3.33	3	3.33	2.67	3.33	1.67	2.56
Total	20.66	18.66	18.67	19.33	12.01	12.33	11.66	12

Table 4: Critical thinking scores and means by groups

Identifying the influence of a particular context on issues or connecting issues with other contexts is considered to be one of the criteria of critical reflection (Condon & Kelly-Riley, 2004; Lyle & Hendley, 2007). The effective writers were better at showing their recognition for the influence of a particular context – mostly drawing from their understanding of personal and political contexts – at least to a certain extent. They were also better at synthesizing the information from

the source text and identifying potential consequences. One of the elements of critical thinking is to recognize different perspectives other than one's own or to analyze both sides of an issue (Stapleton, 2001). The scores for this element indicated that both groups of writers were unaware of the need to present alternative perspectives to reinforce their own views. However, due to the small numbers of writers in each group, comparisons of these means should be viewed with caution.

5   Discussion

The results of the study have shown that effective writers used more strategies than the less effective writers. Such results are consistent with those of past studies (Bosher, 1998; Cumming, 2001; Esmaeili, 2002; Plakans, 2009). The constructivist view of the reading-to-write process is useful in explaining what strategies differentiate the effective writers from the less effective writers. Clear differences between the two groups of writers were found in the strategies of interacting with the text, mining the text, deciding on information/ideas from the text, monitoring the writing process, and making revisions. The strategies of interacting with the text and mining words/phrases/ideas are similar to what Kucer (1985) described as micro-generating strategies. These strategies helped the effective writers to search for local information in the text (Kucer, 1985, p. 330). The writers then decided what information they needed to integrate into writing to construct meaning. This process is similar to what has been described as macro-integration (Kucer, 1985) or meaning transformation (Spivey, 1990). The use of these generating and integrating strategies differentiate the effective writers from the less effective writers. The differences in the frequency counts suggest that these strategies are effective for reading-to-writing tasks.

When the process is examined with the writers' written products, some patterns arguably exist between the strategy use and the quality of the products. These patterns may suggest there are possible impacts of strategy use on writing performance. For instance, the effective writers made more revisions, which may have resulted in better grammatical accuracy. The effective writers engaged in more activities in interacting with the source text and mining the source text for words/phrases/ideas, which may have resulted in using longer words and producing longer texts. In addition, the effective writers interacted more with the source text, reading additional texts for ideas, and adopted more information from the source text, which may have resulted in higher critical thinking scores. However, the strategies and writing performance were also affected by the writers' L2 language proficiency. It is not clear in this study how L2 language proficiency affected the writers' strategy use and their writing performance. Critical thinking is tied to individuals' predispositions. The effective writers may be better thinkers by nature. The study did not attempt to investigate whether the effective writers' critical thinking scores were affected by their dispositions. More research with different designs is needed to provide more understanding on the issues mentioned above.

Consistent with the findings in Plakans' (2009) study, reading appears to be essential in the reading-to-write task. Four types of reading were identified in this study – reading the source text for comprehension, reading the source text for writing or writerly reading (Hirvela, 2004), reading additional texts for generating ideas, and reading produced texts for revisions (Hayes, 1996). While these types of reading are vital for the reading-to-write tasks, they may not be sufficient for writers to effectively complete the more demanding tasks such as response essays (Ascención, 2008). To approach response essays, writers need to engage in evaluative reading. However, the findings showed that the writers in the study did not engage in such reading. They generally adopted the stance of agreeing with the perspective presented in the source text. Grabe (2003) argued that in reading-to-write tasks, taking a stance in relation to the source text is vital in writing. Therefore, it is important to teach writers evaluative reading skills, especially Asian EFL writers who tend to value the work of scholars or experts (Chiu, 2006; Dobson & Feak, 2001).

6   Conclusions and implications

This study is descriptive in nature. The results are limited to participants in similar research contexts and are not suitable for generalization. Moreover, the strategies used by the effective writers cannot necessarily be applied equally to the less effective writers because the complexity of learners' differences may affect the results of application (Cotterall, 2008). Nevertheless, the study sheds light on how effective and less effective Asian EFL writers respond to and compose the reading-to-write tasks. Implications for instructions and further studies are discussed below.

In terms of instructions, Asian EFL writers need to be first taught critical reading and thinking skills for the reading-to-write task which requires complex cognitive skills. They need to understand what constitutes critical reading and thinking in order to produce evaluative and meaningful, rather than descriptive or expressive writing (Dobson & Feak, 2001). The writers need to be made aware of the strategies for completing such tasks (Grabe, 2001), especially the strategies to interact with the source text, to mine the text, and to integrate the information. One particularly important strategy is paraphrasing. Studies have shown that Asian EFL writers are less aware of the text borrowing strategies and the danger of plagiarism (Bark & Watts, 2001). It is suggested that instructors provide specific examples to EFL students and allow them time and opportunities to practice text borrowing strategies.

Some suggestions are made for future research. First, the present study examines only a small number of Asian EFL writers. Research with a quantitative design can reveal more information regarding the patterns of strategy use of Asian EFL writers. Second, how the source text was synthesized into the text was not investigated in the study. Analyzing the text features to investigate the student's discourse synthesis can provide more information on the strategies of text borrowing employed by the EFL writers. Finally, individual and contextual factors affecting the Asian EFL writers' processes and products need further investigation. Such research will generate more understanding as to how Asian EFL writers approach reading-to-write tasks and hopefully bring about more effective practice.

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Appendices

Appendix 1

Interview Guide

I. Preparing to write

1. How did you approach this writing task?
2. How did you read the news article in relation to the writing task?
3. Did you set a schedule for writing before the deadline?
4. Did you write an outline before writing?
5. Overall, what problems did you encounter before writing?
6. What did you do to solve the problems?

II. Writing

1. How did you use the news article in the writing task?
2. Did you follow your outline, if you had one?
3. Did you stop often? Why did you stop?

4. Overall, what problems did you encounter while writing?
5. What did you do to solve the problems?

III. Evaluation and revision

1. How did you know you were done with the writing task?
2. Did you read your own writing after finishing it? What were the main components of writing that you paid attention to while you read your finished product?
3. Did you revise your writing? Why did you make this particular revision?
4. Did you go back to read the news article?
5. Did you ask someone to read your writing?
6. Overall, what problems did you encounter while writing?
7. What did you do to solve the problems?

Appendix 2

Rubric for Critical Thinking in Reading Response for News

Element	Definition
Identification of a problem or issue reported in the news	Clearly identifies the main problem and embedded or implicit aspects of the problem.
Presentation of a clear perspective on the issue reported in the news	Identifies one's perspective and position as it is important to the analysis and draws support from experience or various resources.
Recognition of other perspectives on the issue	Identifies other perspectives and positions that are important to the analysis of the issue.
Identification of the context(s)* where the issue is located	Identifies and explains the influence of the context(s)* on the issue. Analyzes the issue with a sense of scope and context(s).
Consideration of evidence/facts presented in the news report	Considers or uses evidence/data to support the analysis of the issue or examines the evidence or distinguishes between facts and opinions of a news report.
Identification of potential consequences and possible solutions for the issue	Identifies and discusses implications, consequences, or possible solutions of the issue reported in the news

*Contexts for consideration

Cultural/social	**Scientific**
Group, national, ethnic behavior/attitude	Conceptual, basic science, scientific method
Educational	**Economic**
Schooling, formal training	Trade, business concerns costs
Technological	**Ethical**
Applied science, engineering	Values
Political	**Personal Experience**
Organizational or governmental	Personal observation, informal character

Adapted from the *Washington State University Guide to Rating Critical Thinking* (Condon & Kelly-Riley, 2004).