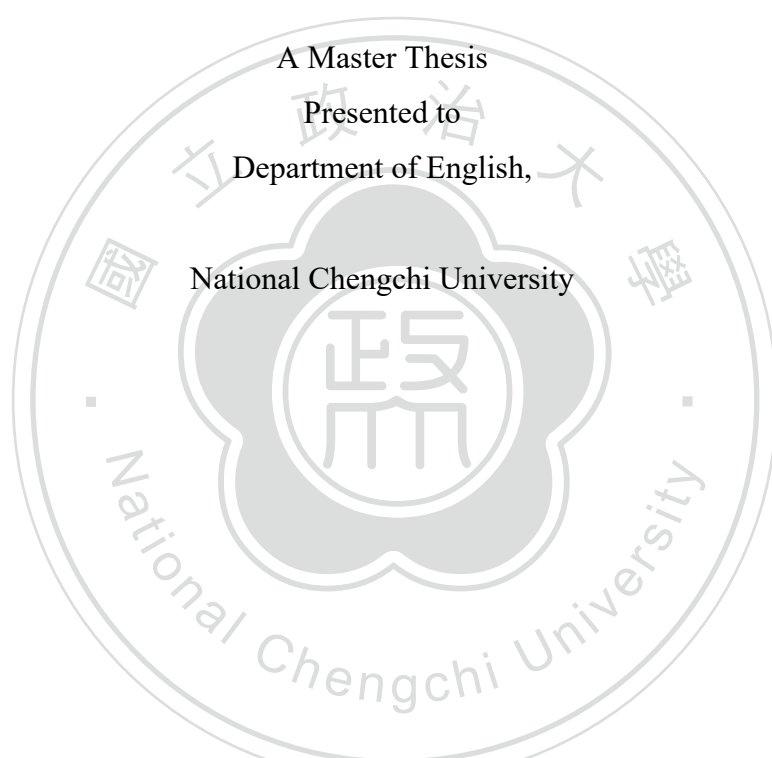國立政治大學英國語文學系

英語教學碩士在職專班碩士論文

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台灣高中生在閱讀不同文體時閱讀策略之使用

A Study on Taiwanese Senior High School Students' Use of

Reading Strategies Across Text Types

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國立政治大學英國語文學系英語教學碩士在職專班

碩士論文提要

論文名稱：台灣高中生在閱讀不同文體時閱讀策略之使用

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論文提要內容：

　　本研究旨在瞭解不同文體對台灣高中生閱讀策略使用之影響。特別是閱讀不同文體時閱讀策略之使用程度、差異性以及相關性。本研究的研究對象為六十七位新北市某高中高三學生。研究工具包含十篇閱讀文章以及五份閱讀策略問卷。閱讀文章涵蓋五種文體，包含敘述文、流程文、說明文、論說文及敘事文，每種文體分別涵括兩種子文體。實驗中，研究對象需讀完兩篇相同文體的文章，緊接著回答閱讀策略問卷。資料分析方式包括描述統計以及推論統計。本研究結果顯示，整體而言，學生不論閱讀任何文體都使用相似的閱讀策略，且使用頻率高。然而，閱讀策略的三大類中，學生最常使用的閱讀策略是問題解決策略，接者是整體性策略及支持性閱讀策略。雖然閱讀策略之使用整體呈現高度一致性，但仍可觀察到些許差異。其中，學生閱讀敘述文時，整體性閱讀策略之使用頻率略為其他文體低。此外，學生閱讀敘述文及敘事文時，其中一個整體性策略亦有顯著差異。最終，根據以上研究結果，本研究提出相關的教學建議，並說明本研究之限制，作為未來相關研究之參考。

關鍵詞：閱讀策略、文體、以英語為外語之學習者

ABSTRACT

The purpose of the present study is to probe into Taiwanese senior high school students' use of reading strategies when they read different types of text. Specifically, the researcher investigated the extents, differences, and correlations of reading strategies applied when the students approached five different types of text (i.e., narrative, procedural, expository, persuasive, and recount texts).

Sixty-seven 12th graders from New Taipei City participated in the study. The instruments of the study included ten reading texts and a modified Survey of Reading Strategy (SORS) (Mokhtari & Sheorey, 2002). The five types of texts were selected and each type included two subgenres of reading texts. In each reading task, the participants read two texts of the same genre and then immediately responded to the SORS. In the end, five questionnaires for different text types from each participant were collected and analyzed. Both descriptive and inferential statistics were adopted to analyze the data collected.

The findings reveal that Taiwanese senior high school students applied overall reading strategies consistently to a high extent across text types. In addition, among the three main categories of reading strategies, the problem-solving reading strategy was used most frequently, followed by global and support reading strategies across text types. Despite the uniformity, some inconsistencies were observed. First, students applied global reading strategies at a lower frequency when reading narrative texts than when reading other genres. The finding also suggests that one of the global reading strategies was used significantly more when the students read recount texts than when they read narrative texts. Based on the findings of the present study, pedagogical implications, limitations, and suggestions for future studies are also presented in this study.

Keywords: reading strategy, text type, EFL learners

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CHAPTER ONE

INTRODUCTION

1.1 Background and Motivation

Reading is an interactive process between the readers and the texts read, which requires simultaneous strategy use (Grabe, 1991). The importance of reading strategies is being growingly recognized (McNamara, 2009). Good readers have a repertoire of strategies to help them with reading comprehension, and they usually know when and how to use those strategies in different contexts. In fact, good reading comprehension often leads to successful academic performance at school. For this reason, researchers investigated the factors that influenced learners' choice of reading strategies, such as age, gender, proficiency level, learning style, reading anxiety level, and so on (Anderson, 1991; Denton et al., 2015; Oxford, 1989; Zimmerman & Martinez-Pons, 1990). Another factor that might influence learner's reading process and choice of reading strategy is text type. It is vital for language learners to understand the organization and convention of different types of text. Therefore, when reading texts of different genres, language learners should know which reading strategies to apply to facilitate their reading comprehension if they want to read effectively.

Many studies had been carried out to observe the relationship between text types and reading strategies. Some of the research showed obvious effects of text types on participants' choice of reading strategies, while other research indicated that learners used reading strategies consistently among different types of texts. For instance, Shen's (2003) study delved into EFL junior high school readers' adoption of reading

strategies when they read a collective expository text and a comparative expository text of the same content. The result showed that proficient readers tended to use more strategies when they encountered the collective expository text than when they approached the comparative text. Along the same line, Lei (2009) explored the impact of collective expository texts and problem/solution expository texts on EFL college students' reading strategy employment. The finding suggested that students used more reading strategies when they read collective expository texts than when they read problem/solution expository texts. Moreover, Çakir (2008) discovered that Turkish children's comprehension strategies used when they read expository texts were different from those when they read narrative texts. In contrast to Çakir's study, Chomphuchart (2006) revealed that ESL readers' application of reading strategies on academic texts and that on literary texts were not significantly different. More recently, Barrot (2006) suggested that college-level ESL learners in the Philippines generally employed a wide range of reading strategies extensively regardless of the types of texts read. Due to the inconsistency of current literature, more research should be done to further understand the influence of text types on reading strategy selection. The current study aimed to probe into Taiwanese senior high school students' use of reading strategies while they read different texts of different types.

1.2 Purpose of the Study

The present study aimed to explore the effects of text types on Taiwanese senior high school students' choice of reading strategies. First, the study explored the extent of reading strategies used by Taiwanese senior high school students when they read different text types. Furthermore, the study looked into the differences among reading strategies used across text types. Finally, the study investigated the relationships of the reading strategies while learners read across different text types in Taiwanese EFL

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context. Hopefully, the understanding of reading strategies applied among different text types could help senior high school language teachers in Taiwan design reading activities that enable students to raise awareness of their own reading strategies used when reading different text genres. Therefore, the research question was proposed: What effects do text types have on Taiwanese senior high school students' use of reading strategies in terms of the extents, differences, and relationships of reading strategies used?

1.3 Significance of the Study

The finding of the current study could benefit Taiwanese senior high school students, teachers, and researchers who are interested in the application of reading strategies. It is hoped that the present study could raise students' awareness of their choice of reading strategies when they encounter texts of various types, and thus facilitate their reading competence. Moreover, through the study, EFL teachers could have a better understanding of students' preference of reading strategies and integrate different reading strategies into their reading instructions implicitly and explicitly according to different types of texts taught. Also, through the present study, researchers could have more information about the effect of text types on reading strategies. Finally, the researcher hoped to further delineate the factors that influence students' use of reading strategies, especially when they approach different text types.

1.4 Organization of the Study

The present study is comprised of six chapters. The first chapter is the introduction of the study, which includes the background and motivation, purpose, significance, and organization of the study. The second chapter deals with the literature regarding the topic of the study. There are four parts in this chapter,

including literature on text types, schema theory, reading strategies and factors that influence reading strategy usage, and finally the effect of text types on reading strategy used. The third chapter describes the participants, materials, instruments, procedure and data analysis of the study. The fourth chapter focuses on the results of the study. The fifth chapter discusses the results of the previous chapter based on literature in the field. Finally, the last chapter concludes the study with the summary of major findings, and provides pedagogical implications, limitations, and suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

This section presents an overview of literature relevant to the present study. The first part reviews text types in order to provide different classification of texts. The second part reviews schema theory in reading to explain the cognitive process of reading comprehension. The third part reviews reading strategies, which informs the importance of reading strategies, the taxonomy of reading strategies, the instruments used to measure reading strategies, and the factors affecting choice of reading strategies. Finally, the last part reviews several studies that looked into the effect of text types on reading strategies used, which is the main focus of the present study.

2.1 Text Types

Text type refers to the classification of texts in terms of communicative intentions and rhetorical purposes (Trosborg, 1997). The term, text type, has been used interchangeably with other terms such as discourse structure, rhetorical organization, and top-down level structure" (Jiang & Grabe, 2007, p.36). There is no standard classification of text types. The classification can be based on the writer's purposes of communication, organizational structures, and language features (Jacob & Yong, 2004).

The classification of genres varies among scholars in numbers and labels according to communication purposes and text structures. For instance, Werlich (1976) analyzed five types of text, including narration, description, exposition, argumentation and instruction. Werlich's typology was later adopted by Hatim and

Mason (2014) for translation purpose. Later, Beaugrande and Dressler (1981) suggested seven types of text, which involved descriptive, narrative, argumentative, scientific, didactic, literary and poetic types. Furthermore, Hedge (1988) introduced nine categories of text, inclusive of static description, process description, narrative, cause and effect, discussion, comparison and contrast, classification, definition, and review. Although there is no clear-cut classification of text types, recount, narrative, persuasion, procedure, exposition, and transaction are the typical genres (Fludernik, 2000; Barrot, 2016).

The present study adopted Barrot's (2016) model, which tested students' reading strategy choices across the six types of texts (i.e., recounts, narratives, persuasive texts, process descriptions, expository texts, and transactional texts), since no other researcher had explored the effect of those five text types on reading strategies used in Taiwanese context. However, transactional text was excluded because it is the only type that is not considered academic. The features of each text type are discussed in the following paragraph.

First, recount and narrative both tell a past event or story. However, narrative begins with the relationship of characters; moreover, it follows a storyline which includes exposition, rising action, climax, falling action, and resolution. On the other hand, recount discloses the story with its setting, informing readers of the characters involved, the main event, the time, and the place where it happened. Recount records a sequence of events and evaluate their significance (Nunan, 2008). The second type of text commonly seen is exposition, which is used to describe and explain ideas or concepts. The structural organizations of expository texts include comparison, problem/ solution, description, causation, and collection (Meyer & Freedle ,1984). Third, persuasive texts are used to convince readers of the idea the writer possesses. Finally, process descriptions are procedural texts that aim to instruct or direct readers

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for completing tasks. They usually follow a sequence with sequential signal words, such as first, next, and finally.

Recent research on reading has demonstrated that discourse comprehension skills are closely related to effective reading (Grabe, 2004; Kintsch & Rawson, 2005). Furthermore, text structure awareness could improve reading comprehension and retention (Carrell, 1984; Meyer & Poon, 2001; Snow, 2002). For instance, Carrell's (1984) study investigated the recall of reading different text structures and found that highly structured texts had a more facilitative effect on the recall of the texts for non-native learners. In addition, Meyer & Poon's (2001) study reported that structure strategy training increased the amount of information memorized in reading five expositions. Moreover, Zhang (2008) investigated the effect of formal schemata on students' reading comprehension and discovered that structured reading materials significantly facilitated students' performance on cloze tests and recall of the texts read. The above findings indicated that the more organized the text is, the more likely it is for the readers to recall information in the text read. Similarly, some research has shown that text types and text structures have an effect on learners' choice of reading strategies (Çakir, 2008; Lei, 2009; Sun, 2003).

2.2 Schema Theory in Reading

The concept of schema originated from Bartlett (1932), who believed that past experiences and relevant prior knowledge contribute to understanding and recall. Bartlett referred to schema as background knowledge and experience. Schema theory was later applied in cognitive psychology. One of the fields that has received much attention in language teaching and learning is the relationship between students' schemata and the texts they interact with (Nassaji, 2002). When students process reading texts, they usually use their schemata to interact with the newly received

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information in the texts to understand the meaning of the texts. Previous research demonstrated that schemata play an important role in students' reading comprehension and how they store information read (Anderson & Pearson, 1984; Carrell, 1992; Gilakjani & Ahmadi, 2011). Schemata can be distinguished into two types: content schema and formal schema (Carrell, 1984). Content schema is world knowledge, cultural knowledge, or knowledge of subject matters. On the other hand, formal schema includes knowledge about text genres and rhetorical structures of texts. The following two paragraphs respectively review studies related to these two schemata.

Content schema could determine readers' understanding and recall of texts read. Previous research has shown that to understand reading texts, readers have to activate their background knowledge of the content of the texts read (Bransford et al., 1984; Rumelhart, 1985). Readers' familiarity to the content of the texts could affect their comprehension and recall of the texts. Cultural background knowledge can be one of the factors that influences readers' comprehension. Thus, many previous studies has demonstrated that texts with cultural background knowledge that students are familiar with are prone to facilitate better comprehension and recall. For instance, Johnson's (1982) study reported that students recalled more accurately and cohesively after they read texts with content of familiar culture than after they read texts with unfamiliar aspects of the custom. Similarly, Steffensen, Joag-dev, and Anderson's, (1979) study demonstrated that students approached texts with their familiar cultural background more effectively and could recall content of the texts more elaborately. In addition, students' selection of reading strategies is also highly associated with their familiarity to the texts. According to Afflerbach (1990), readers' content schemata significantly influenced their use of prediction strategies. In his study, participants reported using significantly more prediction strategies when they read texts with familiar content,

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regardless of the text genres. In sum, content schemata play a prominent role in students' reading comprehension and memory retention.

Aside from content schema, formal schema also has an impact on readers' comprehension and memory retention. It has been proved that structural knowledge has connections with reading process (Perfetti, 1989). Several studies have investigated the effects of formal schema on reading. Carrell's (1992) study, which looked into the relationship between students' attention on text structure and their recall after they read texts arranged differently. The result of the study showed that those who were keenly aware of text organizations performed significantly better in written recall tests than those who did not pay as much attention to text organizations. Furthermore, Meyer and Freedle (1984) found that skillful readers usually possess a repertoire of formal schemata and process reading texts with proper formal schemata that best facilitate their reading comprehension and recall. They also examined five different discourse types of similar content and found that the more organized the structures were, the better recall of text information were yielded. Similar findings were revealed in Zhang's (2008) study. The study explored the effect of textual schema on EFL readers' recall of reading texts and found that the learners collected the memory of well-organized texts better. Pedagogically, explicit instructions on text structures may help facilitate reading comprehension (Dickson et al., 1995). In conclusion, readers' understanding and recall of texts can be affected by the formal schemata they possess.

2.3 Reading Strategy
Importance of Reading Strategy

Reading strategies have been of great importance in learning to read L2 text in recent decades. According to N. J. Anderson (2005) strategies are defined as the

conscious actions that learners take to facilitate their language learning. Additionally, Afflerbach et al. (2008) stated that reading strategies are "deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meanings of text" (p. 368). In fact, scholars have reported that strategy use is one of the major keys to the success of language learning (Cohen, 1998; Cohen & Macaro, 2007; Griffiths, 2008). Research has also suggested that good readers employ a wide range of strategies to assist them with the acquisition, storage, and retrieval of information read (Huang et al., 2009).

Taxonomies of Reading Strategies

The importance of reading strategies has prompted researchers to investigate the field of reading strategies in L2 reading. The taxonomies of reading strategies can be generally divided into "top-down" and "bottom-up" (Huang et al., 2009, p. 14). Top-down reading strategies are strategies that readers apply to plan, monitor, or evaluate their reading process in a more global way. These top-down reading strategies are also called metacognitive reading strategies (Oxford, 1990), general reading strategies (Block, 1992), or global reading strategies (Mokhtari & Sheorey, 2002). On the other hand, bottom-up reading strategies are strategies that readers employ to cope with difficulties of words and sentences, which are lower level of linguistic units. Bottom-up reading strategies are also known as local reading strategies (Block, 1992), cognitive reading strategies (Oxford, 1990), or problem-solving and supportive reading strategies (Mokhtari & Sheorey, 2002).

Survey of Reading Strategies (SORS)

To unveil the mystery of readers' choice of reading strategies, many constructs had been developed in the previous studies to assess readers' reading strategy preference while they read (Jacob & Paris, 1987; Pereia-Laird & Deane, 1997; Schmitt, 1990). One of the instruments widely adopted by numerous previous studies

on reading strategy is Mokhtari and Sheorey's (2002) Survey of Reading Strategies (SORS) (Barrot, 2016; Huang et al., 2009; Lee, 2006; Zhang, 2009). The survey was designed for the purpose of measuring adolescents or adults ESL readers' perceived employment and awareness of reading strategies while they approached academic reading materials or school-related texts. SORS was adapted from Mokhtari and Reichard's (2002) Metacognitive Awareness of Reading Strategy Inventory, developed to assess English native readers' choice of reading strategies. Two items, *translating from English into my native language* and *thinking about information in both English and my mother tongue,* were included in SORS for readers literate in at least two languages.

There are totally 30 items of reading strategies in SORS, and the items were grouped into three main categories or subscales. The first category is global reading strategies (GLOB), containing 13 items. GLOB is oriented to reading strategies that are more generalized and intentional. Reading strategies of this category are often used to plan, monitor, and evaluate readers' reading process. Five of the GLOB focus on planning strategies: item 1 (*having a purpose)*, item 3 (*thinking about what I know*), item 4 (*taking an overview before reading it)*, item 8 (*noting the text characteristics like length and organization before reading*), and item 24 (*guessing what the content of the text is about*). Furthermore, other three of the GLOB are oriented to monitoring strategies: item 6 (*thinking about whether the content of the text fits the reading purpose*), item 12 (*deciding what to read closely and what to ignore*), and item 27 (*checking to see if the guesses are right or wrong*). Also, one of the GLOB is used to evaluate the texts read: item 21 (*critically analyzing and evaluating the information presented in the text*). Finally, two of the GLOB, item 17 (*using context clues to facilitate reading*) and item 20 (*using typographical features*

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like bold face and italics to identify key information), can be employed to facilitate

text comprehension with context clues and typographical features.

The second category is problem-solving reading strategies (PROB), inclusive of

8 items of reading strategies helpful for readers when texts become difficult to read.

These localized, focused reading strategies are often deployed when readers are

attempting to focus on the textual information to comprehend or memorize the texts

read. Six of the PROB are focusing strategies: item 7 (*reading slowly and carefully to*

confirm understanding), item 9 (*trying to get back on track when losing*

concentration), item 11 (*adjusting reading speed according to what is being read*),

item 14 (*paying closer attention the text when it becomes difficult*), item 16 (*stopping*

from time to time and thinking about the reading content), and item 25 (*re-reading the*

text to increase understanding). In addition to the focusing reading strategies, item 19

(*picturing or visualizing information to help remember the text*) helps facilitate

reading through visualizing the information. Finally, when encountering unknown

words or phrases, students could apply item 28 (*guessing the meaning of unknown*

words or phrases).

The third category is support reading strategies (SUP), consisting of 9 items.

Reading strategies in SUP are considered practical, complementary actions that

readers often take to facilitate their understanding of the overall text or linguistic units

of the texts. In SUP, assisting strategies which involve extra actions to facilitate

comprehension and recall of the texts are item 2 (*taking notes while reading to help*

comprehend the text), item 5 (*reading aloud to help comprehend the text*), item 10

(*underlining or circling information in the text to help remembering*), item 13 (*using*

dictionary), item 18 (*paraphrasing to better understand the text*) and item 26 (*asking*

oneself questions). Furthermore, translation-related reading strategies include item 29

(*translating from English into native language*) and item 30 (*thinking about*

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information in both English and native language). Lastly, item 22 (*going back and forth in the text to find relationships among ideas in it*) helps readers connect the information read.

The present study adopted the SORS to investigate students' preference of reading strategies when they encountered different text types. Since the survey was academically oriented, and was designed for non-native learners, it was considered appropriate to apply the survey in the context of the present study.

Factors Affecting Reading Strategies Used

In addition to the instruments developed, various factors related to EFL learners' choice of reading strategy are worth studying, such as gender, proficiency level, learning style, reading anxiety, reading mode, and text types.

One of the factors that influences readers' choice of reading strategy is gender. In general, girls seem to employ reading strategies more often than boys. For instance, Zimmerman and Martinez-Pons (1990) found that girls used a greater extent of self-regulatory strategies such as goal-setting, planning, and monitoring than boys did in their study. Likewise, Cantrell and Carter (2009) discovered that girls tended to employ strategies more often than boys, using Metacognitive Awareness of Reading Strategy Inventory. In addition, the study of Denton et al. (2015) indicated that adolescent girls made use of more reading comprehension strategies, especially the note-taking, than adolescent boys.

Another factor that is widely discussed is readers' proficiency level. Readers with higher proficiency level tend to implement a wider extent of reading strategies and know how and when to use them in the right contexts. Studies has shown that, by and large, proficient readers are more flexible than lower achievers when choosing among reading strategies (Anderson, 2000; Pressley & Afflerbach, 1995). For instance, the study of Mokhtari and Reichard (2002) and the study of Cantrell and

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Carter (2009) both discovered that students with higher achievement in reading tended to use more global and problem-solving strategies than lower achievers. In general, higher achievers tend to have purposes in mind when reading and their reading process are less likely to break down when encountering difficulties. Moreover, proficient readers apply a variety of metacognitive reading strategies, which are the awareness and monitoring of reading strategies and reading comprehension. As suggested by Cohen (2003) and Koda (2005), metacognitive reading strategies correlate highly with reading comprehension. That is, proficient readers not only possess more knowledge of reading strategies, but also are more conscious of the effect of reading strategies used in their reading process.

Readers' learning style is also one of the possible variables that determines their choice of reading strategies. Brown (2001) observed that field-dependent learners tended to rely on top-down or global reading strategies, while field- independent learners were more likely to use bottom-up or local reading strategies. Additionally, students' cultural background could affect not only their learning styles but also their choice of reading strategies. For instance, Kinsella (1995) reported that Asian students were usually visual learners, while Hispanics tended to be auditory learners. Moreover, Angelo-American students favored global-oriented learning, which might lead to their preference for analytical and planned reading.

Previous studies have also revealed that reading anxiety may have an effect on readers' use of reading strategies. Unfamiliar content and cultural background information may lead to higher level of reading anxiety (Saito et al., 1999). According to previous studies (Ghonsooly & Loghmani, 2002; Lien, 2011; Seller, 2000), regardless of proficiency level or gender, readers' reading anxiety usually tended to have a negative correlation with their implementation of reading strategies. In other words, readers with higher reading anxiety level apply fewer reading strategies,

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whereas readers who are less anxious use reading strategies more frequently. For instance, Lien's (2011) study looked into the relationship between reading anxiety level and reading strategies used of Taiwanese intermediate proficiency learners. The result of the study indicated that learners of lower anxiety applied global and problem-solving reading strategies at a higher degree.

Aside from the internal factors mentioned above, an external factor discussed recently is reading mode. With the advance of technology, studies have investigated differences between reading printed texts and online hypertexts. Studies found that in comparison with printed texts, online hypertexts require readers to be more sensitive on the quality and coherence of the texts read (Burbules & Callister, 1999). Therefore, strategies used when reading online hypertexts tend to be more complex than those used when reading printed texts (Corio & Dobler, 2007).

Finally, text type is another factor that could affect learners' employment of reading strategies (Barrot, 2016; Çakir, 2008; Chomphuchart, 2006; Kucan & Beck, 1996). The influence of text types on reading strategies is discussed in the following section.

2.4 Reading Strategy Usage Affected by Text Types

One line of investigation on the use of reading strategies has directed attention to the influence of the text factors. More specifically, studies have suggested that the organization of texts and text types could influence readers' choice of reading strategies.

In Taiwanese context, some researchers delved into the effect of different text organization on learners' strategy usage. For example, Shen & Min (2003) investigated how EFL junior high school students processed a collective expository text and a comparison and contrast expository text with reading strategies. The result

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indicated that students had more difficulties reading collective text than reading comparison/contrast text. Therefore, when encountering the collective text, high proficiency students tended to adopt a wider range of strategies, whereas low proficiency students tended to skip the parts that they did not understand and were unable to utilize reading strategies. In a similar manner, Lei (2009) looked into the effect of discourse types (i.e., collection and problem/solution) on global reading strategies. Two hundred and eighty intermediate college students were instructed to read the same passage arranged in two different structures. To elicit the information of strategies used, the researcher applied a mixed method. The result showed that the participants used significantly more global reading strategies when they read collective expository texts. In addition, Lee (2006) investigated Taiwanese college students' employment of reading strategies when they read inductive and deductive expositions with Mokhtari and Sheorey's (2002) Survey of Reading Strategies. Although the metacognitive reading strategies used on two types of expository texts were not significantly different among all participants, proficient students in the study preferred global reading strategies. As the most of the research conducted in Taiwanese context has shown, when reading less structured expository texts, participants tended to apply a wider range of reading strategies to facilitate their comprehension.

Apart from Taiwanese context, other researchers looked at the differences of reading strategies used while the readers read different types of texts. For instance, Kucan and Beck (1996) investigated the possible effects of text genres (i.e., narrative and expository) on reading strategy employment of four fourth-graders. Using think-aloud protocols for analysis, the researchers found that when the participants read narrative texts, they made more inferences, predictions, and interpretations. On the other hand, when reading expository texts, the participants focused more on personal

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knowledge and experiences, and responded to more details and local text information. In a similar vein, Çakir (2008) examined Turkish eleventh-graders' use of different processing strategies when they read different expository and narrative texts in L2. The researcher adopted the think-aloud method to elicit cognitive process of the participants while they read different types of texts. The researcher also measured the participants' recall of the contents after they read. The finding exhibited that the Turkish students used more monitoring strategies when they were processing texts with familiar background knowledge and obvious linguistic clues. Adopting a survey method, Chomphuchart (2006) explored the differences of Thai graduate students' reading strategies used when they read academic texts and literature texts. The researcher concluded that participants reported limited differences of reading strategies used between two text types.

More recently, Barrot (2016) examined whether ESL college students' use of reading strategy was related to the types of texts read. The participants read six types of texts, including recount, narrative, persuasive, expository, procedure, and transactional texts, and then were directed to answer the metacognitive reading strategy questionnaire, adapted from Mokhtari and Sheorey's (2002) survey. The result indicated that ESL learners applied reading strategies consistently across text types, which could be explained by formal schema theory. According to Barrot(2016), since the participants possessed the ability to apply a wide range of reading strategies, they would use the strategies when processing every types of texts. Also, ESL college students in the study favored global reading strategies, followed by problem-solving reading strategies and support reading strategies, which were attributed to the participants' proficiency level. Proficient readers tend to apply more metacognitive strategies. Despite the consistency of reading strategies used across text types, when the participants encountered expository and persuasive texts, which usually contain

more abstract concepts or complex logical relationships, they tended to apply support reading strategies more extensively.

The present study was inspired by Barrot's (2016) study. There are a few studies (Lee, 2006; Lei, 2009; Shen, 2003) touching upon reading strategies used with emphasis on structural differences of the texts read. However, those studies only focused on one text type with different organizations, which is the micro-level of structural differences. The present study aimed to explore reading strategies used across five difference text types (i.e., recount, narrative, exposition, argumentation, and procedure), which consists of macro-level differences among different text genres, similar to what Barrot (2016) had investigated in his study. To the best of the researcher's knowledge, there is no study investigating reading strategies used across text types in Taiwanese senior high school context. Therefore, the research was carried out to further understand the extents, the differences, and the relationships of reading strategies used by Taiwanese senior high school students when they read different types of texts.

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CHAPTER THREE

METHODOLOGY

There are four parts in this section. In the first part, the participants in the research are described. In the second part, the instrument and materials adopted are introduced and further explained. The third part illustrates the procedure of the study. Finally, the fourth part describes the data analysis of the study.

3.1 Participants

Sixty-seven twelfth graders participated in the present study. They were drawn from two senior classes in a public senior high school in New Taipei City. All of the participants were native Taiwanese who had been studying English for at least five years through formal English instruction in Taiwan. Among the participants, there were 45 females (67%) and 22 males (33%). One of the classes chosen was music talent class with 26 students, including 19 females and 7 males. The students were placed in this class according to their performance on music, instead of IQ test or English proficiency test. Therefore, their English proficiency level was about the same as other general classes. The other class chosen consisted of 41 students, including 26 females and 15 males. They enrolled in the group of liberal arts in the eleventh grade. All of the participants selected in the study were under the instruction of the same English teacher for one year before the experiment. Also, they had the same amount of English instruction before the experiment, which was 6 periods per week and 50 minutes for each period. Most of the participants were intermediate English learners. Prior to the study, they had been exposed to various types of reading

materials on their textbooks or outside reading practices, including narrative, recount, procedure, expository, and persuasive texts. Additionally, they had been instructed implicitly or explicitly several reading strategies, ranging from guessing meaning from the context to recognizing signal words. Finally, the socioeconomical status of the participants were various.

3.2 Materials and Instruments

Survey of Reading Strategies (SORS) and adaptation

As mentioned in the previous chapter, SORS (Mokhtari & Sheorey, 2002) was developed to assess ESL or EFL learners' reading strategy use when they read textbook materials (see Appendix A for the original SORS). The survey contains totally 30 items of reading strategies. The 30 items in the survey fall into three categories: (a) Global reading strategies (13 items), (b) Problem-solving reading strategies (8 items), and (c) Support reading strategies (9 items). First, global reading strategies are what readers intentionally use to plan, monitor, and evaluate their reading process. Examples of global reading strategies are having a purpose in mind, taking an overview of the text before reading, using context clues to better understand the texts, and critically analyze and evaluate the information in the texts. Second, problem-solving strategies are the actions that readers take when they need to clear up misunderstanding or difficulties in texts, such as picturing or visualizing information in the text, getting back on track if the reader lose concentration, adjusting reading speed, and re-reading to increase understanding. Finally, support strategies are used to aid reader's comprehension. These include lower level strategies such as note-taking, reading out loud, looking up the unknown words in the dictionary, and translating texts into L1. The survey was measured on five-point Likert scale, ranging from 5 points indicating that the participants used it to a very great extent to 1 point

indicating that the participants never or almost never used it. The points represented the frequency of individual reading strategy used when the participants read different texts.

The present study employed the Chinese version of Survey of Reading Strategies (SORS) translated by Yu (2013). The reason that the present study employed the Chinese version was that the participants were more familiar with Chinese, since it is their first language. Therefore, reading statements in native language could lower the students' cognitive burden and their anxiety (Hinkin, 1998). Also, since the present study examined the use of reading strategies in reading particular types of texts, some minor changes of the survey were necessary. For example, the researcher changed *when I read* into *when I read this type of articles* and replaced *what I read* with *what I read in this type of articles* to help respondents focus on the particular types of texts read (see Appendix B for the adaptation of Chinese SORS). Finally, one of the global reading strategies, item 15 (*using tables, figures, and pictures in text to increase my understanding of the texts*) was omitted because there were no table, figure, or picture in the ten selected texts. Thus, the participants would not have had a chance to apply it.

Since the present study was a self-report study, there were two problems that needed to be addressed beforehand. First, participants tend to overrate or underrate their use of certain strategies due to their misunderstanding of the reading strategy descriptions or the scales on the questionnaires (Cohen, 1998). Second, the statements on the questionnaire might be variously interpreted by the participants (Oxford et al., 2004). To address these two problems, the researcher explicitly explained each statement in the questionnaire to all the students in their L1 before conducting the study. Additionally, students filled out the SORS sheet immediately after reading the text assigned (Cohen, 1998). This gave the participants a chance to scrutinize their

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reading strategy use "in a more detailed and contextualized way" (Barrot, 2016, p. 886).

Text selection criterion

The texts of different types were carefully selected under the criteria suggested by Oxford et al. (2004) and Kintsch and Greene (1978). First, according to Oxford et al. (2004) the texts should be unfamiliar to the participants. That is, the researcher made sure none of the participants had read the text before by inquiring about whether the participants had read the texts before the experiment. Second, the texts selected should be appropriate for the participants' level (Oxford et al., 2004). They should not be too difficult or too easy, or cause too much cognitive burden for the participants. According to Kletzien (1991), both advanced and less proficient learners would use almost the same range of strategies if the texts are too easy. Finally, the texts should not contain culture-specific knowledge, which might hinder students' reading comprehension and affect their employment of reading strategies (Kintsch & Greene, 1978).

These genres were chosen based on Barrot's (2016) study, since the text types in the study were mostly academic texts. The texts in the present study involved five different types (i.e., recount, narrative, expository, persuasion, procedure). As suggested by Kletzien (1994), using a single text in one text type is not representative enough. To address this problem, each text type in the current study included two reading texts from different subgenres. The subgenres were selected based on level appropriateness for the students and their reading experiences. All the subgenres selected were of appropriate levels and had appeared in the participants' English textbooks before the experiment. Besides, some divergences existed between the two subgenres selected to differentiate the two texts of the same genre. For instance, in narrative texts, personal narrative was a non-fictional narration, whereas mythology

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was a fictional one. In procedural texts, recipe was a practical procedural text, while experiment was more academic. Two of the well-structured subgenres, contrast and cause/effect, were included in expository texts. In persuasive texts, although opinion and commentary could both persuade their readers on particular topics, the author of the commentary adopted a more aggressive stance. Finally, recount texts were inclusive of biography and news. One was retelling the story of a person, while the other one was retelling the story of an event. Ultimately, there were totally 10 texts selected.

The length of the types ranged from 300 to 400 words, which matched the length of reading comprehension articles in General Scholastic Ability Test (GSAT). The readability and complexity of the texts were examined again by another experienced English teacher to ensure that the texts selected were of similar difficulty and appropriate for the participants to read.

Considering the previously mentioned criteria, ten reading texts were selected. First, the number of words in each text ranges from 280 to 400. Additionally, the Flesch- Kincaid Reading Ease, the indicator for text difficulty, fell into the range of 72.6 to 55.8, which was appropriate for senior high school readers (Stockmeyer, 2009). The titles, numbers of words, Flesch Reading Ease, and Flesch-Kincaid Grade Level of each text are listed in Table 3.1.

Table 3.1 *Comparison of 10 reading texts*

No.	Text Type (genre)	Subgenre	Title	Words	Flesch Reading Ease	Flesch-Kincaid Grade Level
1	narrative	personal narrative	After School Education	357	72.6	7.2
2	narrative	mythology	Racing for Love	368	63.9	7.2
3	procedural	recipe	Chocolate Brownie	400	68.4	6.2
4	procedural	experiment	How You See Yourself	353	64.2	8.2
5	expository	comparison/ contrast	Ebook vs. Pbook	369	66.7	8.7
6	expository	cause/ effect	The warmer, The Worst	364	63.6	8.3
7	persuasive	opinion	Refugee	331	57.1	8.4
8	persuasive	commentary	Drug Legalization	280	54.2	9.1
9	recount	biography	Dancing to Nobody's Tune	320	65	8.6
10	recount	news	NBA	311	55.8	9.5

3.3 Procedure

Prior to the first session of the reading task, the teacher-researcher prepared the students for the following tasks in the orientation session. During the orientation, copies of the SORS questionnaire were presented to every participant. First, the teacher-researcher led them to read each statement on the questionnaire and explicitly explained every statement to the them. Afterward, the teacher-researcher explained the reading task procedure by providing details of the number of the texts, the length of the texts, and the time for the participants to read the texts and answer the questionnaires. Then, the teacher-researcher further reminded the participants that they were not allowed to discuss the texts or the questionnaires while they were doing the reading tasks, so as not to affect the result of the self-report study; however, they were well-informed that they were allowed to use dictionary when encountering unknown words. Most importantly, the teacher-researcher had informed them that the scores on the questionnaires would not represent their reading ability and would not be taken as part of their academic performance; therefore, participants would be encouraged to answer honestly to each statement. They were also encouraged to ask questions about any aspect of the questionnaire. All the questions raised were discussed and replied during the orientation.

After the orientation session, the participants were led to read two texts of the same genre and then answered one questionnaire for the text type read in each session. There were entirely 5 sessions, in which a total of 10 texts were read and 5 questionnaires of each participants were collected. During each session, the participants read the first and the second text of the same text type, and then were immediately directed to answer the SORS questionnaire. Participants had 15 to 20 minutes to read each text and 10 to 12 minutes to answer the reading strategy questionnaire, which was time recommended by Mokhtari and Sheorey (2002). Each

session took around 50 to 60 minutes. Since the classes met two times a week, the participants accomplished the tasks after two and a half weeks from the briefing session. Every questionnaires were collected, scored, and analyzed. The process of the study is presented in Table 3.2.

Reading comprehension questions were not included in the reading texts lest they influence the participants' choice of reading strategies. In order to make sure the participants had read and comprehended the texts, after each session, the teacher-researcher discussed the content of the texts read with the participants or randomly invited some of the participants to answer reading comprehension questions orally.

Table 3.2 *Process of the study*

Session	Time	Content
session 1 (orientation)	30 minutes	Teacher-researcher explained the task and items on the questionnaire.
session 2	50 minutes	Students read narrative text 1 (personal narrative), narrative text 2 (mythology), and answered the questionnaire for narrative texts. Teacher-researcher collected the questionnaires.
session 3	50 minutes	Students read procedural text 1 (recipe), procedural text 2 (experiment), and answered the questionnaire for procedural texts. Teacher-researcher collected the questionnaires.
session 4	50 minutes	Students read expository text 1 (comparison and contrast), expository text 2 (cause and effect), and answered the questionnaire for expository texts. Teacher-researcher collected the questionnaires.
session 6	50 minutes	Students read persuasive text 1 (opinion), persuasive text 2 (editorial), and answered the questionnaire for persuasive texts. Teacher-researcher collected the questionnaires.
session 7	50 minutes	Students read recount text 1 (biography), recount text 2 (news report), and answered the questionnaire for recount texts. Teacher-researcher collected the questionnaires.

3.4 Data Analysis

The method of data analysis in the present study is in line with the study of Barrot (2016). Both descriptive and inferential statistics were employed to analyze data. For descriptive statistics, the researcher conducted calculation on SPSS statistics software to obtain the mean scores and standard deviations of the reading strategies. The researcher first looked into the mean scores and the standard deviations of the 29

individual items of reading strategies used by the participants when they read five types of texts. And then the researcher further investigated the mean scores and standard deviations of the three main categories of reading strategies used by the participants. Thus, the first part of the research question was answered. The score of each item was interpreted with the following range: High (means of 3.5 or higher), Moderate (means of 2.5 to 3.4), and Low (means of 2.4 or lower). In addition, Analysis of Variance (ANOVA) was conducted to measure whether the significant differences existed in reading strategies applied on each type of text. As a result, the second part of the research question was answered. Lastly, for the third part of the research question, the correlations of different text types in terms of reading strategy required were calculated to determine whether the correlations between reading strategies adopted in different text types were significant.
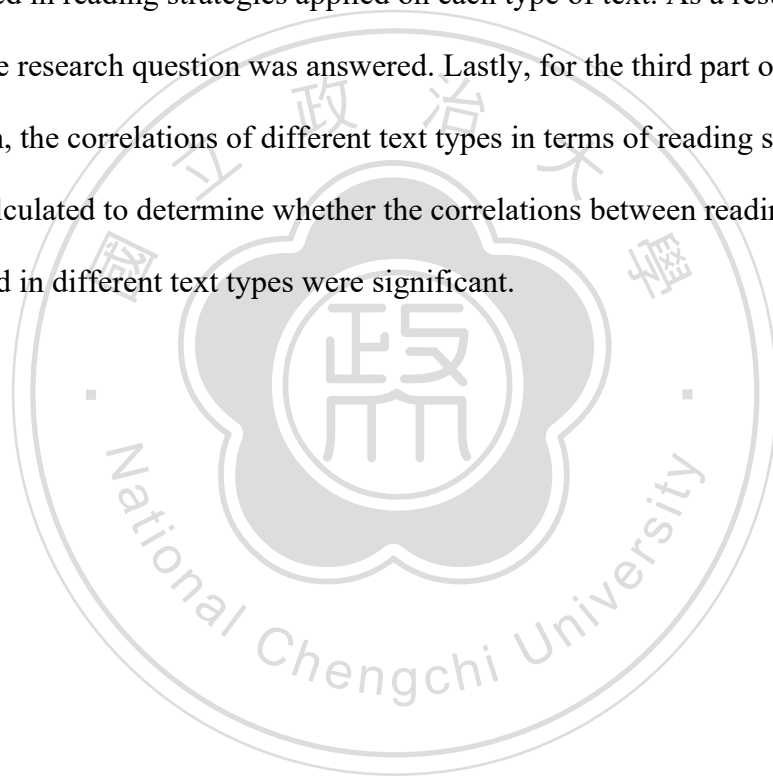
CHAPTER FOUR

RESULTS

The present study aims to investigate Taiwanese senior high school students'
reading strategies used when they approach reading texts of different genres. In this
chapter, the collected data and the analyzed results are presented according to the
research question raised in Chapter One.

There are four sections in this chapter. The first section is in response to the
extents of reading strategies the participants focused on in each text type. Descriptive
statistics were analyzed to show the means and standard deviations of overall reading
strategy usage, the three main categories, and the individual items of reading
strategies. The second section focuses on observing whether there were any
differences of reading strategies used among different text types. Comparisons of
overall reading strategy, the three main categories, and every individual reading
strategy items were conducted with one-way ANOVA test. The third section presents
the relationships of every possible pair of text types. Pearson correlation test was
computed to demonstrate the results of the correlations across text types. Finally, the
fourth section presents a brief summary of this chapter.

4.1 Extents of the reading strategies used across text types
Overall and three main categories of reading strategy used across text types
Table 4.1 presents the mean scores and standard deviations of each category and
overall reading strategy used when the students read different text types. As shown in
table 4.1, generally, the students used reading strategies to a high extent in all genres,

which was 70% in all text types. Additionally, as shown in Table 4.2, the results

demonstrated that the students used problem-solving reading strategies at the highest

level (76%) across text types, followed by global reading strategies, which were also

used at a high level (70%) in all text types. Lastly, support reading strategies were

employed at a moderate level (64%) across all text types, which was relatively less

frequent than the other two categories.

Judging from the classification of reading strategies provided by Oxford (1990),

this result revealed that Taiwanese high school students *usually* employed problem-

solving reading strategies, while *sometimes* used global and support reading strategies

when they read different text types. The three main categories are discussed more

specifically in the following section.

Table 4.1 *Descriptive statistics for overall and three main categories*

Text type	Global		Problem-solving		Support		Overall	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Narrative	3.4 (M)	1.06	3.8 (H)	1.03	3.3 (M)	1.14	3.5 (H)	1.08
Procedural	3.6 (H)	1.04	3.9 (H)	1.05	3.2 (M)	1.17	3.5 (H)	1.07
Expository	3.5 (H)	1.0	3.8 (H)	1.01	3.2 (M)	1.15	3.5 (H)	1.04
Persuasive	3.5 (H)	1.0	3.8 (H)	0.98	3.2 (M)	1.21	3.5 (H)	1.07
Recount	3.6 (H)	1.04	3.8 (H)	0.99	3.3 (M)	1.18	3.5 (H)	1.07
Overall	3.5	1.02	3.8	1.01	3.2	1.2	3.5	1.06
Rank	2		1		3			

Table 4.2 *Employment frequency of the three reading strategy categories*

Strategy Category	Mean	SD	Percentage	Rank	Frequency level
Problem-solving	3.8	1.0	76%	1	High
Global	3.5	1.0	70%	2	High
Support	3.2	1.2	64%	3	Medium

Problem-solving strategies used across text types

The findings indicate that the students' employment of problem-solving reading strategies was highly extensive across all text types. Means and standard deviations of all reading strategy items in the problem-solving category are presented in Table 4.3.

Among all the problem-solving strategies, the students used item 9 (*getting back on track*) and item 25 (*reread*) the most frequently across all text types. On the other hand, item 19 (*picturing and visualizing*) was reported as medium-usage level, which was the least frequently used problem-solving reading strategy across all text types. Although the overall employment of problem-solving reading strategies showed high consistency in all text types, item 16 (*stopping to think about the content*) was moderately used only when the students read expository texts.

Table 4.3 *Descriptive statistics for problem-solving reading strategies used by the students per text type*

Item (Rank)	Descriptions	Text type									
		Narrative		Procedural		Expository		Persuasive		Recount	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
9 (1)	Getting back on track	4.1	0.88	4.2	0.92	4.1	0.88	4.1	0.99	4.2	0.95
24 (2)	Rereading	4.0	1.13	3.9	1.08	4.0	1.06	4.1	0.95	4.1	0.92
7 (3)	Reading slowly and carefully	3.8	1.13	4.0	0.96	3.9	0.91	3.9	0.93	4.0	0.81
11 (4)	Adjusting reading speed	4.0	0.97	3.9	1.08	3.8	0.99	3.8	1.01	3.9	0.90
14 (4)	Paying closer attention	4.0	0.92	4.0	1.02	4.0	0.92	3.9	0.99	3.9	0.95
28 (6)	Guessing unknown words	3.8	0.98	4.0	0.98	3.7	1.03	4.0	0.88	3.8	1.09
16 (7)	Stopping to think	3.6	1.04	3.6	1.05	3.4	1.05	3.7	0.99	3.5	1.07
17 (8)	Picturing or visualizing	3.0	1.22	3.2	1.30	3.1	1.25	2.9	1.13	2.9	1.24
	Subtotal	3.8	1.03	3.9	1.05	3.8	1.01	3.8	0.98	3.8	0.99

Global strategies used across text types

The result reveals that global reading strategies were used at a high level in all text types, except for narrative texts. That is, the students reported using global reading strategies moderately when reading narrative texts. Table 4.4 displays the means and standard deviations of each reading strategy item in the global category.

Among all the global reading strategies, item 16 (*using context clues*) and item 3 (*thinking about what I know*) were the two most frequently employed strategies across text types. In contrast, the least frequently applied global reading strategies was item 21 (c*ritically analyzing and evaluating)*.

Some inconsistencies of individual strategies across text types were observed. For instance, item 12 (*deciding what to read closely and what to ignore*) and item 6 (*thinking about whether the content fits my reading purpose*) were less frequently used when the students read narrative texts. Moreover, item 4 (*taking an overview*) was used more often when the students read procedural texts than when they read other four text types. Despite the inconsistency, the global reading strategies were generally used at a high level in most text types.

Table 4.4 *Descriptive statistics for global reading strategies per text type*

Item (Rank)	Description	Text type									
		Narrative		Procedural		Expository		Persuasive		Recount	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
3 (1)	Thinking about what I know	3.9	0.98	4.0	0.76	4.1	0.78	3.9	0.85	3.9	1.07
16 (1)	Using context clue	4.1	0.87	4.0	0.95	4.0	0.85	4.0	0.87	4.0	0.88
1 (2)	Having a purpose in mind	3.6	1.00	3.9	0.82	3.9	0.73	3.9	0.83	3.9	0.79
24 (2)	Guessing meaning of the content	4.0	0.97	4.0	0.99	3.9	0.88	3.9	0.92	3.9	0.94
23 (3)	Checking my grasp	3.6	0.92	3.7	0.94	3.7	0.94	3.8	0.97	3.8	0.92
12 (4)	Deciding what to read or ignore	3.4	1.04	3.8	1.14	3.6	0.97	3.6	1.10	3.8	1.06
27 (5)	Checking my guesses	3.4	0.92	3.5	0.98	3.4	1.05	3.5	1.06	3.8	0.98
4 (6)	Taking an overview	3.2	1.32	3.5	1.12	3.4	1.20	3.4	1.16	3.3	1.21
8 (7)	Noticing length and organization	3.0	1.23	3.3	0.94	3.4	1.00	3.4	1.08	3.3	1.08

(Table continues)

Table 4.4 Continued

Item (Rank)	Description	Text type									
		Narrative		Procedural		Expository		Persuasive		Recount	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
6 (8)	Thinking about the purpose	2.9	1.07	3.2	1.02	3.3	0.95	3.3	1.12	3.5	0.96
20 (8)	Using typography	3.3	1.26	3.4	1.28	3.1	1.28	3.1	1.25	2.9	1.43
21 (10)	Critically analyzing and evaluating	2.3	1.15	2.4	1.00	2.4	1.04	2.6	1.13	2.5	1.10
	Subtotal	3.4	1.08	3.5	1.04	3.5	1.00	3.5	1.05	3.5	1.06

Support strategies used across text types

Different from the other two categories, support reading strategies were used at a medium level across text types. The means and standard deviations of each reading strategy item in the support category are given in Table 4.5.

Among all the support reading strategies, item 10 (*underling or circling*) and item 26 (*asking myself questions*) were the two most frequently used strategies across text types. On the contrary, the two least frequently employed strategies were item 2 (*taking notes*) and item 5 (*reading aloud*).

One of the support reading strategies revealed inconsistencies across text types. That is, the students tended to use item 30 (*thinking in both L1 and L2)* more often when reading narrative and recount texts than when reading other text types.

Table 4.5 *Descriptive statistics for support reading strategies per text type*

Item (Rank)	Description	Text types									
		Narrative		Procedural		Expository		Persuasive		Recount	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
10 (1)	Underlining or Circling	4.0	1.23	3.5	1.46	3.7	1.28	3.5	1.51	3.6	1.53
26 (2)	Asking oneself questions	3.6	1.00	3.5	0.94	3.6	0.90	3.7	0.92	3.7	0.92
22 (3)	Going back and forth	3.7	1.00	3.5	1.01	3.5	1.01	3.5	1.09	3.5	1.01
29 (3)	Translating to L1	3.5	1.18	3.5	1.15	3.4	1.24	3.4	1.24	3.6	1.13
30 (4)	Thinking in both L1 and L2	3.5	1.26	3.3	1.18	3.2	1.25	3.4	1.28	3.5	1.21
17 (5)	Paraphrasing	3.2	1.10	3.5	1.04	3.3	1.03	3.3	1.14	3.3	1.02
13 (6)	Using reference materials	3.3	1.20	3.3	1.43	3.0	1.31	3.2	1.31	3.2	1.41
2 (7)	Taking notes	2.9	1.24	2.8	1.33	2.9	1.27	2.9	1.35	3.0	1.30
5 (8)	Reading aloud	1.9	1.03	2.0	1.03	2.1	1.06	2.0	1.09	2.1	1.08
	Subtotal	3.3	1.14	3.2	1.17	3.2	1.15	3.2	1.21	3.3	1.18

4.2 Differences in the reading strategies used across text types

Differences in overall strategy used across text types

A one-way between subjects ANOVA was conducted to determine the differences of overall reading strategy employment among five text types. As Table 4.6 demonstrates, the significance is 0.992. This suggests that there were no significant differences at the p < 0.05 level for the students' overall reading strategy employment across text types, $F(4, 145) = 0.992$, $p = .992$. The result reveals that the participants used overall reading strategies consistently across text types.

Table 4.6 *One-way ANOVA for overall reading strategy used across text types*

	SS	df	MS	F	Sig.
Between groups	0.065	4	0.016	0.066	0.992
Within groups	35.778	145	0.247		
Total	35.843	149			

*. The mean difference is significant at the 0.05 level.

Differences in three main categories across text types

To further investigate the differences of the employment of the three main categories across text types, a one-way ANOVA was computed. As presented in Table 4.7, all three categories show no significant differences across text types. Specifically, the students' use of global reading strategies across text type were not significantly different ($p = .225$). In addition, no significant difference was reported concerning problem-solving reading strategies used by the students across text types ($p = .804$). Similarly, no significant difference ($p = .523$) was observed as regard to support reading strategies when the students read different text types. To sum up, it

appears that students of the study used consistent degree of the three reading strategy categories across text types.

Table 4.7 *One-way ANOVA for global, problem-solving, and supportive reading strategies used across text types*

Category		SS	df	MS	F	Sig.
Global reading strategies	Between groups	7.386	4	1.847	1.419	0.225
	Within groups	5137.929	3947	1.302		
	Total	5145.316	3951			
Problem-solving reading strategies	Between groups	1.857	4	0.464	0.407	0.804
	Within groups	2776.206	2432	1.142		
	Total	2778.063	2436			
Support reading strategies	Between groups	5.215	4	1.304	0.804	0.523
	Within groups	4437.592	2736	1.622		
	Total	4442.806	2740			

*. The mean difference is significant at the 0.05 level.

Differences in individual strategy used across text types

Although the previous results show no significant differences in the overall and three main categories of reading strategies used across text types, there is one individual item that showed significant difference across text types. Item 6 (*thinking about whether the content fits my reading purpose*) was reported significantly different among the five text types. A one-way ANOVA was conducted and the result of the reading strategy is displayed in Table 4.8.

As demonstrated in Table 4.8, there was significant difference in the item 6 (p = .02) at the p < 0.05 level across text types. In order to further investigate the differences among the five text types, a post hoc (Tukey HSD) test was run. Table 4.9 displays the result of the Tukey HSD test.

Table 4.8 *One-way ANOVA for individual reading strategies used across text types*

Item	Description		SS	df	MS	F	Sig.
6.	thinking about whether the content fits my reading purpose	between subjects	12.474	4	3.118	2.961	0.02
		within subjects	314.944	299	1.053		
		total	327.418	303			

*. The mean difference is significant at the 0.05 level.

Table 4.9 *Tukey HSD test for item 6 across five text types*

Item	(I)Text type	(J)Text type	Mean Difference (I-J)	Std. Error	Sig
	Narrative	Procedural	-0.28	0.19	0.56
		Expository	-0.43	0.19	0.15
		Persuasive	-0.43	0.19	0.15
		Recount	-.60656*	0.19	0.01
	Procedural	Narrative	0.28	0.19	0.56
		Expository	-0.14	0.19	0.94
		Persuasive	-0.14	0.19	0.94
		Recount	-0.32	0.19	0.41
item 6 *(thinking about whether the content fits my reading purpose)*	Expository	Narrative	0.43	0.19	0.15
		Procedural	0.14	0.19	0.94
		Persuasive	0.00	0.19	1.00
		Recount	-0.18	0.19	0.87
	Persuasive	Narrative	0.43	0.19	0.15
		Procedural	0.14	0.19	0.94
		Expository	0.00	0.19	1.00
		Recount	-0.18	0.19	0.87
	Recount	Narrative	.60656*	0.19	0.01
		Procedural	0.32	0.19	0.41
		Expository	0.18	0.19	0.87
		Persuasive	0.18	0.19	0.87

*. The mean difference is significant at the 0.05 level.

The above table points out the detailed differences among text types for the item 6 (*thinking about whether the content fits my reading purpose*). The reading strategy was reported significantly different when the students read narrative texts and recount texts ($p = .01$). However, the strategy was employed consistently in the other three text types. That is, item 6 (*thinking about whether the content fits my reading purpose*) was the most frequently used strategy when the students read recount texts, while it was the least frequently used strategy when the students read narrative texts.

4.3 Relationships among the reading strategies used across text types

To determine the relationships among reading strategies used in different text types, Pearson correlation was performed to calculate the correlations between the mean scores of the reading strategies used by the students when reading different text types. The analysis examined the relationships among the five text types (i.e., narrative, procedural, expository, persuasive and recount) for $n = 29$ means of each reading strategy items. Table 4.10 illustrates the correlations between pairs of text types.

Table 4.10 *Correlations matrix for the five text types*

Text types	Narrative	Procedural	Expository	Persuasive	Recount
Narrative	-	.921**	.925**	.906**	.862**
Procedural		-	.963**	.958**	.914**
Expository			-	.958**	.931**
Persuasive				-	.965**
Recount					-

**. Correlation is significant at the 0.01 level (2-tailed)

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As shown in Table 4.10, correlations for the data revealed a significant relationship between each possible pair of text types. In general, the correlations between text types were very strong, ranging from $r = 0.862$ to $r = 0.965$. The result indicates that the participants tended to use reading strategies consistently when they read different text types. In addition, the absolute value of r exceeded the critical value (e.g. $0.862 > 0.463$). Therefore, the claim that there were linear correlations between text types could be supported.

4.4 Summary

This chapter reports the findings that respond to research question raised in Chapter One. First, in general, Taiwanese high school students used reading strategies at a high level across text types. In terms of the three main categories, the students reported that they used problem-solving strategies the most frequently, followed by global reading strategies and support reading strategies. Overall, the students used reading strategies consistently across text types.

Secondly, the finding reveals that Taiwanese high school students' reading strategies showed no significant differences among text types. Within each category, significant differences were also not observed across text types. However, a significant difference between narrative texts and recount texts was discovered in one of the global reading strategies (i.e., item 6 *thinking about whether the content fits my reading purpose*).

Finally, the relationships among reading strategies Taiwanese high school students used were studied. The results illustrate that there were strong relationships between each pair of text types. Generally, the students' employment of reading strategies across text types were consistent.

CHAPTER FIVE

DISCUSSION

In this chapter, explanations for the major findings of the study are presented based on the previous literature. The purpose of the present study is to reveal the effect of different text types on Taiwanese senior high school students' choice of reading strategies. The findings of the study demonstrate the extents, the differences, and the correlations of reading strategies used by the students across different text types. The following sections discuss the results of the research question.

5.1 Extents to which Taiwanese senior high school students used certain reading strategies across text types

High extent in overall reading strategies

As suggested in Chapter Four, in general, the students employed reading strategies consistently at a high level (70%) when reading different types of texts. This finding corresponds with that of Barrot's (2016), suggesting that participants often applied a wide range of reading strategies frequently across text types. High extent of reading strategy employment indicates that the participants possessed the ability to use reading strategies, and they were keenly aware of using the reading strategies in their reading process. As proven in many previous studies (Afflerbach, 2002; Anderson, 2002; Cohen, 2003; Garner, 1987; Mokhtari & Reichard, 2002), high extent of cognitive and metacongnitive reading strategies employment is one of the distinctive factors that distinguishes skillful and unskillful readers. Having been exposed to many academic reading materials, standardized tests (e.g., GSAT), and

reading strategy instructions, the participants had been accustomed to reading complex texts and were trained to answer reading comprehension questions using cognitive reading strategies.

In addition, high extent of reading strategy usage may be attributed to participants' low reading anxiety. According to Lien's (2011) study, EFL learners' choice of reading strategies negatively correlated with their reading anxiety level. Learners with lower anxiety level applied more reading strategies, especially cognitive and metacognitive strategies. Also, Saito et al. (1999) discovered that reading anxiety level rose when readers were faced with unfamiliar contents or cultural backgrounds. In the case of the present study, the participants had sufficient reading experiences, and the texts selected were at or slightly above their reading level without any cultural specific information. Additionally, during the orientation, the participants were well-informed that the reading tasks and the questionnaires had nothing to do with their academic performance and scores. Therefore, it is assumed that the participants' reading anxiety level was low, and thus applied reading strategies freely at a high extent while they read different texts. Nevertheless, this explanation is in need of further research, since in the present study, there were no strong evidence to prove that the students' reading anxiety level was low. However, the finding does reveal that sufficient formal schemata, ability and awareness of reading strategies, and low reading anxiety could lead to high extent of reading strategy usage, regardless of the text types read.

Using problem-solving reading strategies more frequently than global and support reading strategies

However, different from those of Barrot's (2016) study, which reported that global reading strategies were the most frequently used strategies, the results of the

present study showed that problem-solving reading strategies were the most frequently applied reading strategies, followed by global and support reading strategies. This difference may result from the participants' proficiency level. Most of the students in the present study were EFL intermediate learners, while the participants in Barrort's (2016) study were advanced college ESL learners, having been exposed to reading strategy instructions for a longer period. The result, however, is more in line with that of Lee's (2008) study, which informed that lower achievers in the study activated more problem-solving reading strategies than global ones. The result also confirmed the findings by Mokhtari and Reichard (2002) that poor readers tended to rely on problem-solving strategies, which were more localized and focused techniques; in contrast, proficient learners were prone to employ global reading strategies, which were intentional and monitoring techniques. In addition, Mónos (2005) and Wu (2005) suggested that EFL learners used problem-solving reading strategies more extensively than ESL learners. This might indicate that EFL learners often encountered reading problems when they approached English texts, and thus had the tendency to apply more problem-solving reading strategies to cope with their reading problems efficiently.

In addition to the students' proficiency level, their preference for problem-solving reading strategies could be explained by the fact that this category, such as *re-reading, getting back on track*, and *adjusting reading speed*, seems to be less cognitively demanding and easier for learners to implement. This may be one of the reasons why problem-solving strategies were favored by the participants in the present study and other EFL learners in the previous studies (Mónos, 2005; Wu, 2005). This result of the present study is also in line with that of MacIntyre and Noel's (1996) study, indicating that only when readers had the knowledge of the reading strategies and considered them effective and easy to use, would they employ

the strategies. Thus, it appears that the students in the present study perceived problem-solving reading strategies more useful and favorable than the other two categories and therefore applied them more frequently.

Another possible factor that may count for the result is the design of reading task. In the present study, the participants were asked to read the assigned texts and then immediately answered the reading strategy surveys. That is, there were no reading comprehension questions after reading the texts, so the participants were merely focusing on the texts to generally comprehend the content of the texts assigned. According to Mokhtari and Reichard (2002), problem-solving reading strategies were the actions that readers usually took while they worked directly with the texts to improve their comprehension. There was no need for the students to apply some of the global reading strategies such as *critically evaluate and analyze the text*, and neither did they have the need to employ support strategies such as *taking notes* and *using reference materials*. This explains the finding that the participants in the present study were apt to apply problem-solving reading strategies more extensively than the other two categories.

Contrary to the problem-solving reading strategies, the least preferred reading strategies were support reading strategies. The participants implemented support reading strategies only at a medium level (64%). The result echoes the order of importance of reading strategies in Sheorey and Mokhtari's (2001) study: cognitive reading strategies, followed by metacognitive, and support reading strategies. This result may be expected because support reading strategies, such as *using reference materials*, *taking notes,* and *paraphrasing,* require additional actions and effort, and might slow down or interfere with readers' reading comprehension process (Pressley & Afflerbach, 1995). As shown in the findings, when encountering unknown words, the students favored global reading strategies, such as *using context clues* (82%),

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rather than support reading strategies, such as *using reference materials* (66%). This is reasonable, since the goal of the reading task was not to understand every word in the text, but to comprehend the passage and grasp the main idea. In addition to the requirement of the reading task, time limitation of the task might be another factor. Although the students were informed that they were allowed to use dictionaries, they preferred guessing meanings from context clues in order to finish the task within limited time. Moreover, the context of the experiment was very similar to that of test-taking context. This context might attribute to the students' less employment of *read aloud* strategy.

As suggested by MacIntyre and Noel (1996), having a reason to use the strategy was one of the factors that influenced readers' choice of strategies. Thus, without a reason and an appropriate context of using support reading strategies, the students of the present study underused them.

Different extents of reading strategy used across text types

Although the participants in the present study were prone to use a wide range of reading strategies consistently when reading different text types, some inconsistency was observed in the reading strategies used when the students read certain text types. For instance, the students reported using fewer global reading strategies when reading narrative texts than when reading the texts of the other text types. This finding may corroborate the findings of previous studies (Çakir, 2008; Park, 2010) that readers employed less reading strategies when they read narrative texts than when they read expository texts.

The plausible reason for this finding may be the differences in the nature of text genres. In comparison with the other text types, narrative texts contain less abstract information, and usually follow a well-organized pattern that learners were more

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familiar with (Alderson, 2000). In the present study, the two narrative texts were written in the typical narrative structure and arranged as liner narratives, which seemed to be easier for the readers to process than the other four text types. As shown in Table 3.1, the Flesch-Kincaid Grade Level of the two narrative texts selected in the present study are relatively lower than that of the other text types, indicating that narrative texts were more readable than the other texts. This finding is supported by the argument that the more difficult the reading material was, the more reading strategies readers would employ (Smith, 1991). As a result, in the present study, global reading strategies were underused when the students read narrative texts. In sum, familiar text organization and easier content could lead to fewer global reading strategies applied when the participants processed the narrative texts.

5.2 Significant differences observed in the reading strategies used across text types

Although there were no statistically significant differences observed in the overall reading strategy and among three categories of reading strategies across text types, there were some significant differences displayed in individual reading strategies used when the students read different text types. The differences of individual reading strategies are discussed as follows.

One global reading strategy, the item 6 (*thinking about whether the content of the text fits my reading purpose*), was used significantly more in recount texts than in narrative texts. Although recounts and narratives seemed to bear the closest resemblance to each other, as the two text types shared similar features, a statistical difference appeared in a predictive reading strategy between these two text types. The difference might result from the participants' different degree of familiarity with the content of the texts. The item 6 (*thinking about whether the content of the text fits my*

reading purpose) was considered one of the prediction strategies, which readers used to anticipate the information in the texts, and later monitored their prediction to construct meaning (Collins & Smith, 1982). Prediction strategies were proven to be closely related to readers' familiarity with the text. Alfferbach (1990) reported that readers tended to apply more prediction strategies if they were familiar with the text, regardless of the text types. This finding was underpinned by content schemata theory, suggesting that readers' prior knowledge had an effect on reading comprehension (Carrell, 1987). In the present study, every texts started with a title. However, the titles of the narrative texts and recount texts revealed different extents of information. The two narrative texts were *After School Education* and *Racing for Love一The Story of Atalanta and Hippomenes*. Both revealed little information of the content of the texts, which might hinder readers' prediction before they read. On the other hand, recount texts with clearer titles *Dancing to Nobody's Tune: Story of Lin Hwai-min* and *NBA in a Tight Spot in China*, revealed more information of the texts. Both titles of the recount texts were more directly related to the content of the texts. Specifically, in the first recount text, the students were informed of the content of the text from the title with the name of a well-known Taiwanese choreographer. The second recount text, the news report, was widely broadcast at the time and the students were familiar with the piece of news, since most of them were interested in NBA. Therefore, both of the recount texts and their titles exposed certain level of information of the texts, allowing the students to have a purpose in mind before reading the texts. With sufficient content schemata, students may have expected what they were going to read judging from the titles. Thus, prediction strategies were activated more frequently when the students read recount texts. Nonetheless, further research is required to support these suspected factors since there was no strong

evidence to prove the different degrees of familiarity of the students to the texts. However, the present study did bring the importance of prior knowledge to light.

5.3 Strong correlations among the reading strategies used across text types

Regardless of the text types read, the students in the present study used reading strategies at a consistent extent and there were no significant differences found in the overall reading strategy employment. Presumably, the high correlations among the reading strategies used among text types agree with the previous results. The findings are consistent with previous research (Afflerbach, 1990; Barrot, 2016; Chomphuchart, 2006; Lee, 2008), which demonstrated that learners' employment of reading strategies did not change along with the different types of texts read. One possible explanation for these findings is that senior high school students had been exposed to various academic text types and they seemed to possess sufficient formal schemata, which are the background knowledge of different rhetorical structures of the texts (Carrell & Eisterhold, 1983). Since the participants were already equipped with formal schemata on all the text types, they tended to activate their schemata to solve their reading problems in order to make their reading more efficient, regardless of the types of texts read. Therefore, the obvious distinctions in reading strategies used across text types were not observed in the present study. These findings lend support for the hypothesis that awareness of formal/textual schemata has an effect on facilitating readers' reading comprehension and retention (Carrell, 1984; Zhang, 2008).

5.4 Summary

The present study aimed to investigate the extents, differences, and correlations of reading strategy application across five types of texts. The results demonstrate that Taiwanese high school students applied reading strategies consistently across text

types. Since they had been exposed to various reading texts of different types, when they approached the assigned texts, they automatically activated their formal schemata to comprehend the contents in a general manner. Moreover, with awareness, ability, and willingness to utilize reading strategies, the students of the present study employed a wide range of reading strategies at a high extent across text types. The high extent of reading strategy use may also be contributed to their low reading anxiety when they tried to accomplish the tasks.

Although the overall reading strategies were used rather frequently, in terms of the three main categories, problem-solving reading strategies were preferred over global and support reading strategies. The problem-solving reading strategies, less cognitively demanding, helped students cope with their reading problems more efficiently when they comprehended the texts. In addition, the inconsistency of reading strategies used was observed in narrative and recount types. First, the students underused global reading strategies when reading narrative texts, which might result from the more comprehensible features of the narrative texts. Second, the students applied more predictive reading strategies when reading recounts than when reading narratives. The finding might be attributed to different levels of content schemata the students possessed, which also interacted with students' reading comprehension when they read different types of texts.

In sum, Taiwanese senior high school students activated their content and formal schemata, regardless of the types of texts they encountered. The pedagogical implications of the results are presented in the next chapter.

CHAPTER SIX

CONCLUSION

This chapter includes three main sections. First, the major findings of the present study are listed and summarized. Second, the pedagogical implications based on the results of the study are presented. Finally, the limitations of the present study and the suggestions for the future study are illustrated.

6.1 Major Findings

The research question that guided the present study is: What effects do text types have on Taiwanese senior high school students' use of reading strategies in terms of the extents, differences, and relationships of reading strategies used?

Major findings of the research question are presented as follows:

1. Generally, the extents of senior high school students' use of reading strategies were consistent across text types.

2. Overall, senior high school students used reading strategies at a high frequency level (70%) across text types.

3. There were strong correlations among senior high school students' use of reading strategies across text types.

4. Senior high school students were prone to employ problem-solving reading strategies the most, followed by global and support reading strategies across text types.

5. Senior high school students tended to activate fewer global reading strategies when reading narrative texts than when reading the other text types.

6. In terms of individual reading strategies, senior high school students used significantly more *thinking about whether the content of the text fits my reading purpose* when reading recount texts than when reading narrative texts.

In sum, the current study revealed senior high school students' tendency of reading strategies used among different text types. Based on the findings listed above, three main findings were noticeable: the high consistency of the students' use of reading strategies across text types, students' preference for problem-solving reading strategies over the other two categories, and differences in reading strategies used in different text types.

First, the results suggested that students generally employed a wide range of reading strategies consistently when they read texts of different genres. The overall extents of students' use of reading strategies were at a high level across text types. Additionally, no significant differences were discovered in overall reading strategies or among the three categories used across text types. Furthermore, there were strong correlations among reading strategies used across text types. The results that students employed similar reading strategies when they read different types of texts could be explained by the schema theory. Additionally, students' awareness, willingness, as well as their low reading anxiety might cause the high extents of reading strategy employment. Students automatically activated their formal schemata and ability to use reading strategies to make their reading process more efficient. As a result, the effects of text types on students' reading strategies used were not obvious.

Second, among the three reading strategy categories (i.e., global, problem-solving, support reading strategies), students used problem-solving strategies more extensively than the other two categories. The result could be explained by the participants' proficiency level, the features of the three main categories, and the requirement of the reading tasks. The students' in the study were intermediate level

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EFL leaners. As claimed by Mokhtari and Reichard (2002), proficient learners tended to use more global reading strategies, while less proficient leaners tended to apply problem-solving reading strategies to work directly with reading texts. In addition, the design of the experiment required the students to generally comprehend the texts without extra reading comprehension questions. Thus, problem-solving strategies, such as *getting back on track when I lose concentration*, and *re-reading when texts become difficult*, are more useful for the students when they tried to concentrate on processing different types of texts. In contrast, global and support reading strategies that require larger cognitive load and extra actions were less preferable for the participants.

Lastly, some divergences in reading strategies used when reading different text types were observed. For instance, it was observed from the means of each category that students employed global reading strategies less frequently when they read narrative texts, even though the differences were not significant. This result could be explained by the nature of narrative texts. Containing less abstract information, narrative texts seemed to be easier for the readers to process (Alderson, 2000). Consequently, fewer global reading strategies were activated to comprehend narrative texts. In addition, one of the prediction strategies, *thinking about whether the content of the text fits my reading purpose,* was used significantly more often when the students read recount texts than when they narrative texts. This finding could be interpreted by the result of Alfferbach's (1990) study that readers were prone to engage more prediction in their reading process if the texts read contained familiar content to the readers. Since the content of recount texts were related to the participants' background knowledge, they tended to use perdition strategies frequently when reading recount texts.

6.2 Pedagogical Implications

The purpose of the present study was to explore Taiwanese senior high school students' use of reading strategies across different text types. The findings conclude that the students' overall reading strategies used were consistent across text types. Also, the use of problem-solving strategies played a crucial role in the students' general reading comprehension. Finally, the students' familiarity to the forms and the contents of the reading texts might affect their choice of reading strategies. Pedagogical implications that echo the above mentioned findings are presented as follows:

First, the finding that the students used different reading strategies consistently across text types lends support to integrated reading strategy instruction. It is recommended that instructors introduce and teach various reading strategies to their students no matter which text types are being taught. Systematic and direct instruction on reading strategies have been proved to enhance students' awareness of reading comprehension process and text organizations (Duke & Pearson, 2002; Paris & Winograd, 1990). Additionally, reading strategies should be learned to the point that students can automatically apply them while they encounter different text types (Garner, 1987).

Second, as shown in the study, students preferred problem-solving reading strategies. However, it is suggested that teachers encourage students to apply more global reading strategies to process their reading comprehension. According to Mokhtari and Reichard (2002), skilled readers used more global reading strategies than unskilled readers. Global reading strategies could not only help learners read more effectively, but also help them gain in-depth understanding of the reading materials. As mentioned in Mokhtari and Sheorey's (2001) study, it is crucial that instructors integrate the global reading strategies into their reading curriculum in

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order to strengthen learners' metacognition of reading, which could help them develop their constructive responsive reading competence. With constructive responsive reading competence, students would have a higher chance of becoming skillful academic readers. Thus, learning when and how to apply global reading strategies are important for senior high school students to become proficient readers.

Lastly, the result of the present study suggested that the participants applied the prediction strategy significantly more frequently in recount texts than in narrative texts, due to the different degrees of familiarity to the texts. However, as implied in Afflerbach's (1990) study, readers should use predictive and monitoring strategies in all text types. Thus, it is recommended that students be instructed on using predictive and monitoring strategies to facilitate whatever texts they encounter. Teachers could incorporate predictive and monitoring strategies in their instructions when introducing all kinds of texts. Thus, students may apply predictive strategies whether the reading texts are familiar to them or not.

In sum, when teachers are guiding their students through the reading process of all text types. It is crucial for them to introduce various reading strategies, especially the global ones, to their students, if they wish to help their students achieve success in academic reading. Although the present study provided some interesting insights, there are several limitations. The limitations and suggestions for future studies are presented in the following section.

6.3 Limitations and Suggestions for Future Studies

To begin with, the present study adopted the Survey of Reading Strategies (Mokhtari & Sheorey, 2002) as one of the instruments. However, since the instrument remained a self-report questionnaire, it was difficult for the researcher to be completely certain about whether the participants actually employed the reading

strategies they reported using (Mokhtari & Sheorey, 2002). That is, participants might report the strategies they *believed* that they had used; instead of the strategies they *actually* used. This might be resulted from the students' misunderstanding or unconscious process of using the reading strategies (Cohen, 1998). Therefore, qualitative data from observation, think aloud protocol, or follow-up interview should have been included to better understand the students' actual process of reading strategy employment.

Second, the sample size of the study was limited. The sixty-seven participants were from the same senior high school in Northern Taiwan. It would be more persuasive if the researcher had included a larger number of senior high schools from other parts of Taiwan. This could help the results of the study become more conclusive and valid. In addition to the sample size, proficiency levels of the students were not taken into consideration as a factor for fear of interactive effect. However, researchers interested in the topic could considered dividing participants into high and low proficiency level to investigate the participants' preference for reading strategies in different text types in a more comprehensive manner.

Third, the context of the present study was confined to a classroom environment due to practicality of the experiment. The experiment of the current study was carried out in a classroom context and the time for each reading task was limited, which was similar to test-taking context. This limitation might influence students' choice of reading strategies. For instance, students might underuse support reading strategy *referring to dictionary* when they were under time pressure. In addition, another support reading strategy *read aloud* might not be favored in the classroom context, since students were not allowed to speak while taking test. Some of the students stated that it was weird to read aloud while most of the students read silently in the classroom. That is, if students had performed the reading task at home and with more

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time allowed, their employment of reading strategies on different text types might have differed. On this account, it is suggested that future study include different reading situations and contexts to make the results more comprehensive.

Fourth, titles of the reading texts are suggested to be removed in the future study, since titles may reveal the contents of the texts to various degrees. As mentioned in the previous chapter, the students in the present study applied more predictive reading strategies while reading recount texts, which may be due to their explicit titles. Although no strong evidence existed to prove the relationship between reading strategies used and the information revealed by the text titles, the result of the study could have focused more on the text types, if other potential factors had been eliminated.

Finally, not every subgenre of each text type was included in the present study. Due to the time limitation in each session, only two subgenres were chosen in each text type. However, each text type or genre can be divided into more subgenres according to its text organizations (Swales, 1990). For instance, Meyer (1975) categorized expository into five different types: collection, cause and effect, comparison, and description. A more comprehensive selection of texts from each genre might attribute to more convincing and comprehensive results.

In conclusion, the findings of the study demonstrate that Taiwanese senior high school students used overall reading strategies consistently when they read different types of texts. Additionally, students used problem-solving reading strategies to a higher extent than the other two categories across text types. Moreover, some differences were observed among reading strategies used across text types, because the students' background knowledge of the text structures and text contents were different. However, some limitations exist in the study, and further research is needed to explore the reading strategies that enhance students' reading comprehension when

they read different text types. Despite the limitations mentioned above, the study

offered valuable insights for practitioners interested in understanding the effects of

text types on students' use of reading strategies.

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APPENDIX

Appendix A

Survey of Reading Strategies

Mokhtari & Sheorey (2002)

Category	Statement	Never				Always
GLOB	1. I have a purpose in mind when I read.	1	2	3	4	5
SUP	2. I take notes while reading to help me understand what I read.	1	2	3	4	5
GLOB	3. I think about what I know to help me understand what I read.	1	2	3	4	5
GLOB	4. I take an overview of the text to see what it is about before reading it.	1	2	3	4	5
SUP	5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
GLOB	6. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
PROB	7. I read slowly and carefully to make sure I understand what I am reading.	1	2	3	4	5
GLOB	8. I review the text first by noting its characteristics like length and organization.	1	2	3	4	5
PROB	9. I try to get back on track when I lose concentration.	1	2	3	4	5
SUP	10. I underline or circle information in the text to help me remember it.	1	2	3	4	5
PROB	11. I adjust my reading speed according to what I	1	2	3	4	5

am reading.

GLOB 12. When reading, I decide what to read closely   1 2 3 4 5

and what to ignore.

SUP   13. I use reference materials (e.g. a dictionary) to   1 2 3 4 5

help me understand what I read.

PROB 14. When text becomes difficult, I pay closer   1 2 3 4 5

attention to what I am reading.

GLOB 15. I use tables, figures, and pictures in text to   1 2 3 4 5

increase my understanding.

PROB 16. I stop from time to time and think about what I   1 2 3 4 5

am reading.

GLOB 17. I use context clues to help me better understand 1 2 3 4 5

what I am reading.

SUP   18. I paraphrase (restate ideas in my own words) to 1 2 3 4 5

better understand what I read.

PROB 19. I try to picture or visualize information to help 1 2 3 4 5

remember what I read.

GLOB 20. I use typographical features like bold face and   1 2 3 4 5

italics to identify key information.

GLOB 21. I critically analyze and evaluate the information 1 2 3 4 5

presented in the text.

SUP   22. I go back and forth in the text to find   1 2 3 4 5

relationships among ideas in it.

GLOB 23. I check my understanding when I come across   1 2 3 4 5

new information.

GLOB	24. I try to guess what the content of the text is about when I read.	1 2 3 4 5
PROB	25. When text becomes difficult, I re-read it to increase my understanding.	1 2 3 4 5
SUP	26. I ask myself questions I like to have answered in the text.	1 2 3 4 5
GLOB	27. I check to see if my guesses about the text are right or wrong.	1 2 3 4 5
PROB	28. When I read, I guess the meaning of unknown words or phrases.	1 2 3 4 5
SUP	29. When reading, I translate from English into my native language.	1 2 3 4 5
SUP	30. When reading I think about information in both English and my mother tongue.	1 2 3 4 5

Appendix B

英語閱讀策略量表

題目	從未使用	偶爾使用	有時使用	通常使用	總是使用
1. 閱讀這篇文章時，我心裡很清楚我閱讀的目的。	1	2	3	4	5
2. 閱讀這篇文章時，我會做筆記幫助自己了解這篇文章內容。	1	2	3	4	5
3. 閱讀這篇文章時，我會想到既有知識，來幫助自己了解這篇文章內容。	1	2	3	4	5
4. 閱讀這篇文章時，我會先瀏覽全文，以了解大概內容。	1	2	3	4	5
5. 遇到這篇文章中困難的部份，我會大聲念出來，來幫助自己了解。	1	2	3	4	5
6. 我會確認這篇文章內容是否與我的閱讀目的相符。	1	2	3	4	5
7. 為了確認自己了解這篇文章，我會慢慢且仔細地讀。	1	2	3	4	5
8. 閱讀這篇文章時，我會先留意文章特性，如長度及架構。	1	2	3	4	5
9. 當我分心時，我會試著集中注意力。	1	2	3	4	5
10. 我會將這篇文章內容畫底線或圈選，以加深印象。	1	2	3	4	5
11. 我會依這篇文章內容，來調整閱讀速度。	1	2	3	4	5
12. 閱讀這篇文章時，我會判斷哪些訊息需要我仔細閱讀，哪些訊息可以省略。	1	2	3	4	5
13. 我會使用參考資料如字典，來幫助我了解這篇文章的內容。	1	2	3	4	5
14. 遇到這篇文章比較困難的部份時，我會更加仔細閱讀。	1	2	3	4	5
15. 閱讀這篇文章時，我偶爾會停下來，思考正在閱讀的內容。	1	2	3	4	5

16. 我會利用這篇文章前後文所提供的線索，來幫助我理解文章內容。	1	2	3	4	5
17. 我會用自己的話，重述這篇文章的內容，來幫助我了解閱讀這篇文章。	1	2	3	4	5
18. 我試著將這篇文章內容轉換成圖像或情境，以幫助記憶。	1	2	3	4	5
19. 我會利用粗體或斜體字特徵，來找出這篇文章的重點。	1	2	3	4	5
20. 我會從批判及評估的角度來評估這篇文章的內容。	1	2	3	4	5
21. 我會來回尋找這篇文章內訊息之關聯性。	1	2	3	4	5
22. 遇到新資訊時，我會確認自己是否了解。	1	2	3	4	5
23. 閱讀這篇文章時，我會試著猜測文章的內容。	1	2	3	4	5
24. 遇到這篇文章中比較困難的部份時，我會反覆閱讀以更加了解內容。	1	2	3	4	5
25. 我會從這篇文章中獲得我想要找尋的資訊。	1	2	3	4	5
26. 我會確認對這篇文章的猜測是否正確。	1	2	3	4	5
27. 我會猜測不懂的單字或片語。	1	2	3	4	5
28. 閱讀這篇文章時，我會將英文翻譯成中文。	1	2	3	4	5
29. 閱讀這篇文章時，我會同時用英文和中文思考。	1	2	3	4	5

10 Reading Texts

After School Education

Text Type: narrative/ personal narrative

Source: by Joshua D. Bickle (Studio Classroom Nov. 2019 p.50)

In the U.S., when you get in trouble in class, you get detention and have to stay after school. In my high school, the administration decided that students should have one hour of detention for every three times they were tardy to class, and that students have to serve detention with the teacher of the class they were late for.

I took an early morning chemistry class in my junior year; yet, I was not a morning person. Even though I developed a routine that got me to class on time, any small hiccup meant arriving a little bit late for class.

My chemistry teacher was a stickler for promptness. If students were not in their seats by the time the class bell rang, he would mark them late. He never made a big deal about it, nor did he inform students each time he marked someone late. He thought each student that they should be responsible for their attendance.

At my school, attendance affected your grade. For every hour of detention left unserved by the end of the semester, your grade was lowered one full grade. Two weeks before the end of my chemistry class, my teacher made an offhand remark about me failing chemistry. It was then that I discovered that I owed him eight hours of detention. I was soon to leave on a yearlong study abroad, so failing grade would be disastrous for me. I was desperate and immediately began to serve my time.

My first assignment: Organize all of the Scientific American magazines in the classroom by month and year.

As I was sifting through 40 years of dust and scientific thought, a particular cover caught my eye. For the next hour, an article on spiders absorbed me, I learned how their world consisted of vibrations; a world based not on sight, but on touch. It was an aha moment, and I realized there are so many different things to understand in the world that I was not aware of. I vowed right then to keep an open mind about the world. It was a promise that served me well during my year abroad and continues to serve me today.

Racing for Love—The Story of Atalanta and Hippomenes

Text Type: narrative /mythology

Source: Lungteng Book3 Unit9

Princess Atalanta was an outstanding athlete in ancient Greece. Very skillful in masculine activities, the fair young lady was an excellent runner. Only the man who could outrun her in a race could have the chance to marry her. Many suitors made the attempt but none could keep up with her.

One young man, Hippomenes, watched in awe as Atalanta won one of her races. As she sped by, the maiden seemed as swift and graceful as a falcon. Her dark hair rippled over her white shoulders, the colored ribbons she wore fluttered, and her face grew rose-colored during the fierce race. Hippomenes fell deeply in love with Atalanta. Unable to outrun the beautiful huntress, however, he prayed to Aphrodite, goddess of love, for help.

Aphrodite gave him three golden apples and instructed him to use the apples in a certain way. With Aphrodite's help, Hippomenes believes that he could outrun Atalanta. Therefore, he challenged Atalanta to a race.

The race began and Atalanta immediately outpaced Hippomenes. The young man had to toss one of the golden apples right away. It landed near Atalanta's feet and rolled to the side of the road. The apple diverted the princess's attention. Unable to resist the temptation of the golden apple, she stopped to pick it up. Hippomenes took the opportunity and caught up with her. But Atalanta started running again and soon pulled ahead, so Hippomenes had to throw the second apple. Once more, Atalanta stopped to retrieve it, and Hippomenes got ahead again. When Atalanta was back in the race, she picked up her pace and recovered the lead. Hippomenes hurled the last apple further away from the road. Atalanta hesitated. The finish line was now in sight,

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but the shining golden apple was too tempting a prize to pass up. Eventually, she decided to grab the apple.

Now Hippomenes had a bigger lead. He was almost approaching the finish line. Atalanta, on the other hand, was running as swiftly as an arrow shooting toward its target. Unfortunately, it was too late. Hippomenes crossed the finish line first, and he was barely one step ahead. Atalanta lost the race, so she had to keep her promise and marry Hippomenes.

Chocolate Fudge Brownies

Text Type: procedural/ recipe

Source: https://delishably.com/desserts/Fudge-Double-Chocolate-Brownie

For Thanksgiving this year, I baked deliciously dark and fudgy chocolate brownies for dessert. I was delighted because everybody loved them. These brownies have just the right amount of sweetness with a deep, bittersweet chocolate flavor. I used less sugar than other recipes typically call for because I wanted the combination of bittersweet chocolate and caramel to be the main attraction. I also added ground espresso to make them extra special.

Best Brownies I Have Made

As someone who has a sweet tooth, these are some of the best brownies I have ever made. They are rich and chocolaty. The best way to enjoy the brownies is with a cup of coffee or a glass of milk. Either way, they're delicious. I hope you will try this recipe. I hope you and your family will enjoy them as much as we do!

Ingredients

For the brownies:

- ✓ 1 1/4 cup all-purpose flour
- ✓ 1 1/2 cup granulated sugar (add another half-cup if you prefer sweeter brownies)
- ✓ 4 eggs, lightly beaten
- ✓ 1 cup organic Belgian dark cocoa powder (any kind will do)
- ✓ 1 cup butter
- ✓ 1 teaspoon salt
- ✓ 1 teaspoon baking powder
- ✓ 1 teaspoon vanilla extract
- ✓ 1/2 cup semi-sweet chocolate chips

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- ✓ 1 teaspoon ground espresso

- ✓ For the topping:

- ✓ Salted chocolate caramel sauce (or make your own chocolate sauce)

- ✓ 1/2 cup chopped walnut

- ✓ 1/2 cup semi-sweet chocolate sauce

Directions

1. Preheat oven to 325°F.

2. Grease a baking pan with room temperature butter or nonstick cooking spray.

3. In a medium bowl, sieve the flour, cocoa powder, salt, ground espresso, and baking powder. Set aside.

4. In a pan, melt the butter over medium heat. Remove from heat and set aside.

5. Add sugar, eggs, and vanilla extract into the melted butter. Stir to combine the mixture with a whisker or spatula.

6. Gradually add the flour mixture and the chocolate chips into the wet mixture. Stir to combine the mixture completely.

7. Pour evenly into prepared pan. Smooth the top with a spoon or spatula.

8. Bake brownies for 35 minutes or until wooden pick inserted in the center comes out clean.

9. Place brownies on a wire cool rack. Let it cool completely before taking it out from the pan.

10. After brownies have cooled, drizzle the chocolate sauce on top. Sprinkle chopped walnuts and chocolate chips as desired.

11. Place brownies on a cutting board and cut into 15-18 pieces.

12. Serve immediately.

How You See Yourself- the Scar Experiment

Text Type: procedural/ experiment

Source: SanMin Book3 Unit9

An overweight girl is teased for being fat. A boy with big ears is called "Dumbo." A teenage girl is ashamed of her flat chest.

Most people who are made fun of their "different" appearance manage to ignore it. But many young people cannot, new research shows. Negative body images take root in their minds and is bad for their self-esteem when they grow up.

Psychologists in the U.S.A. once carried out a psychological study called the "Scar Experiment," which caused   a lot of public discussion. At the beginning of the experiment, the researchers told 10 volunteers that the purpose of this experiment was to observe how people would respond when seeing someone with a physical defect, particularly a person with a scar on his or her face.

After the volunteers learned about the purpose of the study, they were then placed in separate rooms with no mirrors. In each room, a make-up artist put a fake scar on the left cheek of each volunteer. Then, the volunteer was shown his or her new look. Next, they were told that a sticky substance would be put on their faces so that the make-up would not come off. However, the fake scar was actually secretly swept away.

Later, these people were sent to talk to strangers to experience how people would react to them. Afterward, when they returned, they reported that people were unfriendly to them and kept peeking at their scars. In reality, these volunteers looked the same as usual. They felt that people were unfriendly to them because they believed that the scar on their face would cause other people to treat them rudely and unfriendlily. That is, they were influenced by a sense of inferiority.

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A sense of inferiority, according to the researchers, is strongly related to the environment in which one grow up. If children get criticized continually as they developed, they are likely to be faced with an identity crisis. As kids grow up, negative remarks can turn into mental scars. These negative remarks may also bruise their egos, shake their confidence, and, hence, affect how they value themselves.

E-book vs. P-book

Text Type: expository/ comparison and contrast

Source: SanMin Book5 Teacher's Manual, written by Nitha Jay

Remember the times when your parents would read a bedtime story to you? I can still remember the comforting the sound of turning the pages. Imagine how it would feel if this crinkle of crisp pages were replaced by the small screen of an e-book reader.

E-books are books that can be read through an electronic device. Thanks to high-speed portable reading devices where thousands of books can be stored, people have slowly started taking an interest in e-books. Many favor the e-book, as it has several advantages over a paper book (or p-book). An e-book reader is light and portable. It is the same size as a regular p-book, but the contents of thousands of e-books can be stored in one small reader. Most readers also love the fact that the contents of the e-reader can be "searched" and books belonging to the same category can be recommended automatically. Also, people can easily bookmark a page or a line and come back to the same exact spot when they begin to read again.

In spite of the advantages an e-book may boast, some people feel that reading a hardcover book is not solely an intellectual pursuit but an emotional and spiritual one as well. Most of us have been raised to believe that books are so valuable that they need to be cherished and respected. We all have at least a few books that may not be antiques, but still hold a special place in our heart. Moreover, no matter how many years pass, these old friends still give us the familiar comfort of turning each page and writing notes in the margin—a sentiment you will never experience with an e-book.

All said and done, most readers are of the opinion that "how you read" is not as important as "will you read." E-book owners find it more convenient to read now

because they do not need to look for books in stores or libraries. P-book readers' sentiment, on the contrary, represents another idea of how books should be. Whether you choose to read a p-book or an e-book should not matter so much. After all, the essence of a book lies in its content rather than its form.

The Warmer, The Worse

Text Type: expository/ cause and effect

Source: SanMin(甲) B5 U6, written by Karl Nilsson

Study shows that polar bears are at risk of extinction. They not only have been over-hunted and badly affected by water and air pollution, but now are also being threatened by global warming. Because of global warming, a large amount of Arctic ice is melting away, and the northern seal population is falling. Polar bears are thus rapidly decreasing in number since they have fewer places to live in and less food to eat. They could disappear forever within decades.

Actually, polar bears are not the only victims of global warming. Human are also greatly affected by this deadly warming. When carbon dioxide is discharged into the atmosphere, it absorbs the sun's heat and trapped the heat in space. Thus, the earth became warmer. As the planet warms up, tons of ice surrounding the North Pole and the South Pole has begun to melt, resulting in worldwide sea levels rising. Small islands and low coastal areas could soon be underwater. The residents of several big cities such as London, Shanghai, and Taipei are likely to have nowhere to live by the end of the 21st century.

Global warming can also lead to severe climate change and kill thousands of people at a time. Many probably still remember how Hurricane Katrina in 2005 left tens of thousands of Americans homeless. Back in 2003, more than thirty thousand people lost their lives when a heat wave struck Europe. And now, more and more land that was once fertile has become barren, since the deserts near the equator are expanding. Because of global warming, humans might soon face famine, just as many polar bears have already experienced.

When polar bears are starving due to a lack of food, they will kill and eat each other. Imagine this horrible scene. If we want to save them, both people and governments should take immediate action to deal with global warming before it is too late. We need to seize every opportunity to reduce global warming. Otherwise, food shortages are just one of the great tragedies that we are going to experience in the near future. By then, it might just be our turn to say farewell to the Earth.

Refugees: Burden, Threat, or Opportunity?

Text Type: persuasive/ argumentative essay

Source: Reading Smart p. 74

Since 2011, the civil war in Syria has caused close to five million Syrians to leave their country to search for peace and safety abroad. These refugees brought few things along with them. However, they did bring a fierce debate on whether or not other countries should accept them.

Generally, people express two major concerns about taking in a large number of refugees. The first is that they would cost the country too much money. Refugees would need years of welfare support that the governments simply could not afford. The second major concern is the threat of terrorism. Most current refugees are from middle east, where the terrorist group ISIS are powerful. Therefore, some people fear that ISIS agents may be hiding among the groups of refugees who enter their countries.

However, those who consider refugees a burden did not see the economic improvements and the opportunities that refugees could bring to their host countries. European population is aging. In many countries, it is even shrinking. Developed European countries should welcome refugees for their contribution to the labor force. In fact, Germany, where many Syrian refugees end up, has a lot of jobs that have not been filled. In addition, refugees can also bring different levels of skills and knowledge, which can increase competition in the job markets. Take, Denmark for example. In the late 1980s, the influx of low-skilled refugees had encouraged the locals to upgrade their own skills and start their own business. As a result, the Danes and the refugees complemented each other in the workforce.

The refugee crisis is a difficult and complex problem. There is not a simple solution. However, leaders in the West should not let fear and bias guide public opinion on this issue. If there is willingness to find a solution that benefits both sides, then there definitely is a way.

Why Should Drug Legalization Be Opposed

Text Type: persuasive/ opinion

Source: The writer's response: A reading-based approach to writing. / written by

Charles B. Rangel

In my view, the idea of making drugs legal can be harmful to this country. With any legalization of drugs, related problems would not go away. Instead, they would only worsen.

While I agree that some drug might be helpful for medicinal purposes, this should not suggest that drugs should become legal. Firstly, legalizing drug might increase the rate of drug addiction in the country. Great Britain's experience with prescription heroin acts as a warning for us. Until 1968, British doctors were allowed to prescribe drugs to patients for medicinal usages. Unfortunately, due to the lack of careful control, there were some serious problems. Doctors prescribed drugs to addicts, and addicts supplied legally prescribed drugs to the public. As a result, the rate of addiction had risen. We cannot afford such risk when drug legalization policies had failed in other countries.

What is more, in disadvantaged communities, legalizing drugs is even worse. If we legalize drug, it would imply that America has no interest in removing the root cause of drug abuse: a sense of hopelessness. Legalization of drugs would hurt the communities already at risk even more badly. Instead of supporting drug legalization, we should work on rebuilding schools, strengthening our teachers. Also, we should improve housing and provide job skills to young people.

We must continue to fight against illegal drugs in our country. Most importantly, we must solve the root problems of drug abuse. We should put more effort in prevention through education. Instead of holding up the white flag and allowing

illegal drug to take over our country, we must continue to control drug demand and

supply, if we want to remain a free and productive society.

Dancing to Nobody's Tune: Story of Lin Hwai-min

Text Type: recount/ biography

source: SanMin 甲版 Book1 Lesson11

"Where there is a will, there is a way." Those who believe in this saying usually have a better chance to succeed than others. One such person is Lin Hwai-min, the founder of Cloud Gate Dance Theatre of Taiwan, a dance company that has played an important role in the development of modern dance in Taiwan. Without a doubt, Lin's determination to pursue his dream has greatly inspired many people.

For Lin Hwai-min, the road to success was not easy, especially because his parents were never serious about his dream. Lin showed strong interest in dancing at a young age.

However, Lin's parents would prefer their son to do well on his school exams have a successful career rather than become a dancer.

Although his parents did not agree with what he had chosen, Lin's love of dancing never faded. He held on to his dream of becoming a dancer, and finally started taking modern dance lessons when he was working on a master's degree in creative writing in the U.S.A.

The training was much harder than he had expected, though. At that time, Lin was already twenty-three years old. Thus, it was more difficult than usual for him to learn dancing skills at that "old" age. In the beginning, his teacher was not satisfied with his performance. Yet, Lin kept on dancing—not to the teacher's tune, but to his own tune. This determined young man refused to let any challenges stop him.

Eventually, Lin not only successfully started his career as a great dancer at professional dance troupes in the U.S.A., but also, in 1973, founded Cloud Gate in his homeland, Taiwan. For years, Cloud Gate's performances have been earning shiny

praise around the world for the perfect fusion of Chinese and Western dancing spirits and skills. Because he believed in what he loved, and always strove to be his best, Lin Hwai-min succeeded in realizing his own dream.

NBA in a Tight Spot in China

Text Type: recount/ news report

source: Sanmin news messenger

For many years, it seemed as if the National Basketball Association (NBA) could do nothing wrong. The league is widely popular not only in America, but also in many other countries, particularly China. In fact, the Chinese market was considered to be one of the most profitable. Most importantly, the billion-people Chinese market is crucial for the future of the league.

However, all of this changed on October 4 with just one tweet. That night, while on a trip to Tokyo, the general manager of the Houston Rockets, Daryl Morey, posted an image from his Twitter account. The image voiced support for Hong Kong protest. It read "Fight for Freedom. Stand with Hong Kong."

Although Morey deleted the post just minutes later, the damage has already been done. The tweet soon prompted backlash from Chinese social-media users, who targeted his account with angry messages and calls for his firing. Within a second, a mob of trolls from China had sprung into action, mentioning Morey more than 16,000 times in the 12 hours after his tweet.

The next day, Chinese officials canceled several games the NBA had scheduled in China. Workers took down posters of popular NBA stars and painted over NBA team logos, sometimes replacing them with Chinese national flags.

The NBA officials did admit that the tweet may "have deeply offended many of our friends and fans in China, which is regrettable." Yet, this response caused many in America to criticize the NBA for failing to defend freedom of expression, something the league and America had long honored. Instead, they bowed down to China's autocracy because of its own business interests.

The commissioner of the NBA, Adam Silver, later flew to China to meet with officials there, but refused to officially apologize for Morey's tweet. At the same time, he has also said that the NBA should not "leave" China.