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The Effects of Kindle-mediated Reading on English-major Freshmen’s Reading Behavior, Reader Response and Self-Efficacy in Reading

Hsueh-Tzu Judy Pan, M. A.

Tunghai University

Thesis Advisor: Dr. Min-Hsun Chiang

ABSTRACT

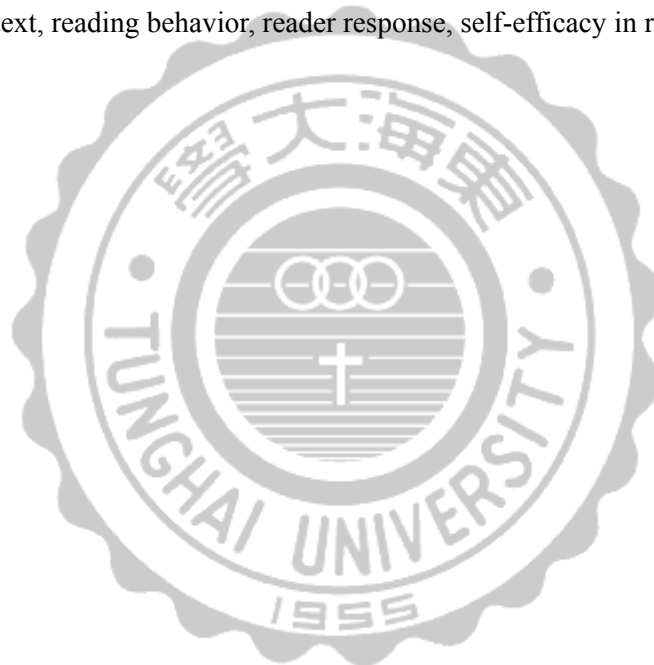
With the growing amount of digital information available and the increasing amount of time that people spend reading electronic texts, the digital environment has begun to affect people’s reading behavior. Liu (2005) stated that digital media contributes to a transformative shift in reading. Therefore, the purpose of this study is to examine the effects of hypertext on university students’ reading behavior and interaction with the text. In addition, this study examines the difference in EIL students’ reading behavior, self-efficacy in reading, and reader response between those who read a hard copy and those who use the Kindle Reader.

A mixed-method approach was adopted with forty five university freshmen studying English as an international language. Data collected from the participants includes pre- and post- reading behavior questionnaires, reading logs, prompt sheets, interviews with students, open-ended questionnaires, and self-efficacy scales. Two groups of students, one using hard copy and one using hypertext, will be compared in terms of their reading behavior, reader response and self-efficacy in reading.

The major findings of this study are summarized as follows. First, the statistics showed

the participants in the Kindle group greatly improved in their reading behavior exhibition. Then, the participants' response to the open-ended survey showed that Kindle readers tended to think of themselves as the leading character in the novels and had immersive reading experiences, but hard copy readers tended to view themselves as outsiders during their reading process. Finally, although the results indicated that there was no significant difference between the two groups, the great majority of the participants in the Kindle group believed they were good problem-solving readers during the reading process.

Key words: hypertext, reading behavior, reader response, self-efficacy in reading



「電子閱讀器 Kindle」對外文系大一學生閱讀行為、閱讀回應、閱讀自我效能感之影響

研究生：潘學慈

指導教授：廖敏旬 博士

中文摘要

隨著數位資訊越來越普及的趨勢，人們趨向於使用電子產品閱讀文本，而人們的閱讀行為已然被影響。學者 Birkerts (1994) 指出，在數位資訊時代成長的學子們缺乏深層閱讀的能力，學者 Liu (2005) 更進一步指出數位媒體為閱讀帶來一個革命性的轉變。因此，本研究主旨在透過比較學生使用紙本及電子閱讀器閱讀小說，探討電子閱讀器(Kindle)對大一學生英語閱讀行為、閱讀回應及英語閱讀自我效能感之影響。

在資料分析方面，本研究採用質量化並行的方式。針對 45 位台灣大一英文系學生進行研究。本資料數據採樣包括英語閱讀行為問卷、閱讀回應表、閱讀記錄、訪談、開放式問卷及英文閱讀自我效能量表。在量化資料的方面採用軟體 SPSS 15.0 for Windows，分析從英語閱讀行為問卷及英文閱讀自我效能量表所蒐集到的資料，以提供敘述性與推論統計之數據。在質化資料方面，研究者針對參與研究學生的閱讀記錄、閱讀回應表、訪談及問卷的回應進行質化分析，藉以了解紙本閱讀組與電子閱讀器閱讀組的學生在閱讀行為、閱讀反應及閱讀自我效能感是否有所不同。

本研究的主要發現簡述如下：第一、英語閱讀行為問卷結果顯示參與本研究之大一外文系學生使用電子閱讀器閱讀一年後，英語閱讀行為有顯著成長。第二、

問卷結果顯示使用電子閱讀器的讀者較容易進入閱讀情境且在閱讀時傾向將自己定義為小說中的主角角色。第三、雖然英語閱讀自我效能問卷結果顯示兩組學生在閱讀自我效能感並未有顯著性不同，然而，相對多數使用電子閱讀器的讀者將自己視為好的問題解決者。

關鍵字：超文本、閱讀行為、閱讀回應、閱讀自我效能感



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CHAPTER ONE

INTRODUCTION

The advent of technology strengthens the spread of globalization, changes the way people obtain and absorb information, and transforms the medium of information transmission. It has made people's interactions more intense. For instance, people can contact other people and gain information from other countries at once. Also, new technology has introduced a new format of reading in hypertext, which includes e-books and on-line reading. Liu (2005) argued that digital media contributes to a transformative shift in reading. As a result, with the profound interwoven effects of globalization and new technologies on communication and reading modes, the role of English should be challenged, and the meaning of literacy needs to be redefined.

Globalization and new technologies have changed the status of English. Archibugi and Iammarino (2002) suggest that it is the use of new technologies that makes globalization possible. Block and Cameron (2002) respond to this idea by observing that, "new communication technologies enable individuals to have regular exchanges with distant others." These ideas suggest that new technologies and media are indeed changing the cultural landscape. The large quantities of information available enable people to gain access to language skills easily. For example, in the past, in order to

obtain a research paper, it might be necessary for a researcher to go to another city or another country, instead of finding a research paper through the Internet. Today, the advent of information technology gives rise to a more rapid rate of diffusion and transfer of knowledge. It is this new technology that has allowed the emergence of the 'global village' (Archibugi & Iammarino, 2002). In order to make the most of this wealth of information, a *lingua franca* is needed -- a globally regarded language such as English. David Graddol (2007) defined English as the global language and described it as an international language. Block and Cameron (2002) also supported the idea that a global language is needed as they further explained the concept of EIL.

Language is the primary medium of human social interaction, and interaction is the means through which social relations are constructed and maintained...Distance is not an issue for these non-local networks, but language remains an issue of some practical importance: global communication requires not only a shared channel (like the internet or video conferencing) but also a shared linguistic code (Block and Cameron, 2002, p.1).

In *Globalization and Language Teaching*, Block and Cameron pointed out that these developments have changed the conditions in which languages are learned and taught and people need to adjust their views of the status of English. Traditionally, in

Taiwan, many teachers strive to teach a “standard” dialect of English and students strive to learn it. Researchers and teachers have attempted to teach English as a foreign/ second language so that students might speak English as if they were native speakers. Accordingly, cram schools and similar organizations are set up in order to help students learn that “standard” dialect of English. The ultimate goal of language learning is to speak English as well as a native speaker. English should not only be regarded as a foreign/ second language but also as an international language. As Graddol (2006) says, “the phenomenon of English being a global language lies at the heart of globalization” (as cited in Ware, Liaw, & Warschauer, 2012, p. 11). In other words, global English might mean the end of English as a Foreign Language.

In light of the trend that the role of English has been transformed into an international language, English teachers may want to depart from teaching students to speak English as if they were native speakers. Instead, they may want to teach students how to use English to communicate in international settings. However, it is acceptable that their pronunciation is not perfect since the purpose of using English is to communicate.

Students in this information age may face a transformation of the text and experience a different reading process and, therefore, literacy should be redefined.

With new technology, the form of information is changed and learners can easily gain

access to abundant information, displayed in hypertext. During the process of absorbing new information, students must become used to the new technology. Liu (2005) argued that digital media contributes to a transformative shift in reading. For instance, an increasing number of E-books and E-papers are available and easy to access. According to Kellner (2000), humans are undergoing the most dramatic technological revolution in history. The students of the 21st century thus represent the first generation to grow up with new technology (Prensky, 2001). Learners are exposed to information technologies when they are born and they become used to using the technology to communicate with each other. Among these new technologies people experience, the most prevalent is the Internet. Through the Internet, people can search for information they need; however, these individuals are facing a totally different type of text, hypertext. Differing from a traditional text (printed text), hypertext, as a different format for reading, appears only for 20 years. Learners need to adapt themselves to this new format of reading. Prensky (2001) described his students' learning situation as an environment surrounded by computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age. In other words, people's lives are permeated by digital technology and it is difficult to live and communicate with other people without using this technology. Further, Leu (2002) proposed that, with the growing amount of digital information

available and the increasing amount of time that people spend on reading electronic media, the digital environment has begun to affect reading behavior. Accordingly, several researchers argued that these reading formats should be redefined as new literacy, because readers might carry out different types of text processing through the reading process (Leu *et al.*, 2004). Kellner (2000) further pointed out that educators need to find a way to become used to new types of literacies. He argued for the need to develop new literacies to meet the challenge of new technologies. In order to foster learner understanding of the technology, educators may have to figure out a way to integrate technology into the education system.

As mentioned previously, students in the digital generation are also facing a dramatic change in the way to access and understand information. Ware, Liaw, & Warschauer (2012) suggested that instructors can use digital media to help learners develop their language skills and prepare them to connect with the outside world. Ware, Liaw, & Warschauer (2012) also described the relationship between technology and the status of English:

Just as digital media is helping shape the role of English as an international language, so too is it shifting EIL classrooms from a focus on mastery of skills to an emphasis on using English to communicate and engage with speakers of varieties of English using a wide range

of media. English learners are now seen as global communicators, sharers of local cultures, arbiters of misunderstandings, and valued contributors to a growing global community

(Ware, Liaw, & Warschauer, 2012, p. 10).

As Liu (2005) indicated, whether people like digital media or not, reading and literacy are being redefined by the arrival of digital technology. It is impossible to isolate learners from digital information nowadays. Learners are exposed to technological products every day. Therefore, English is not a language that people need to pursue as if it were their native language, but instead may be treated as a global language.

The seal of Tungshai University is a circular emblem with a scalloped border. It features a central cross, two interlocking rings, and a banner with Chinese characters. The words "TUNGSHAI UNIVERSITY" are written around the inner edge of the seal.

Statement of the Problems

As mentioned in the previous section, compared with the previous generation, digital technology has an overwhelming presence in modern industrial society. Thomas (2011) observed that most learners have access to computers and computers are no longer luxury products. These changes have impacted the way students learn, absorb knowledge, and process information. Thomas also pointed out that some learners even gain access to English and use it more often than their first language when they use computers to surf on the Internet. Thomas stated, “The remarkable ease of accessing

this global communicative space and contributing to it problematizes the old distinction between ESL and EFL, and explains the preference in this article for the term EIL (English as an International Language)” (Thomas, 2011, p. 87). Accordingly, it seems obvious that the ultimate goal of language learning in Taiwan may need to be shifted.

In addition, with convenient access to the Internet, learners have a new reading experience when they “read” a text on the Internet. Instead of reading a printed text, what learners read might be called hypertext, a form of non-linear text. Owing to the nature of electronic texts, student reader roles may undergo a slight but important change. They may have different cognitive processing during the reading process (Patterson, 2000). If teachers do not help the students address this change, students will face difficulties reading the new text. Moreover, teachers who do not follow this trend and make good use of the new digital texts may have problems when teaching students reading skills.

Another problem that the researcher found is that the majority of research in Kindle-mediated reading has focused on the EFL/ESL language learners reading motivation and reading comprehension. However, few studies have focused on the effects of implementing hypertext in the EIL classroom, especially at the university level. Furthermore, little research has investigated student reading behavior, reader

response, and self-efficacy in reading when they use Kindle-mediated reading. The present research project supplements the findings of earlier studies and focuses on examining the effects of implementing Kindle-mediated reading in a university freshmen classroom in an EIL context. The researcher hoped to explore the value of implementing Kindle-mediated reading in a University classroom in the EIL context.

Purpose of the Study

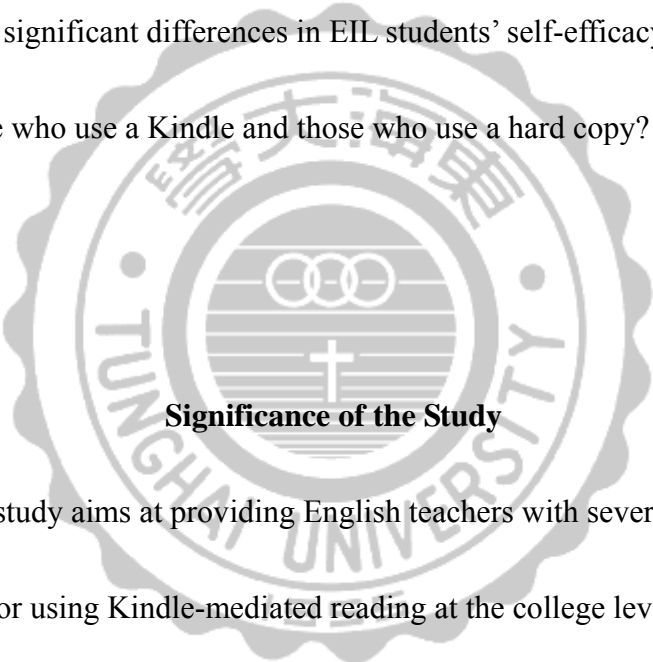
The purpose of the current study was to examine the effects of Kindle-mediated reading on University freshmen's reading behavior, reader response, and self-efficacy in reading. Furthermore, the researcher was concerned about difficulties or problems that the participants may encounter when reading hypertext. In the end, the researcher hopes the study will provide information about obstacles teachers will face when using Kindle-mediated reading in the classroom.

Research Questions

Four research questions raised in this study were as follows:

1. Are there any significant differences in EIL students' reading behavior between those who use a Kindle and those who use a hard copy? If so, what are the differences?

2. Are there any significant differences in EIL students' reader response between those who use a Kindle and those who use a hard copy? If so, what are the differences?
3. Are there any significant differences in EIL students' higher-order thinking questions after reading between those who use a Kindle and those who use a hard copy? If so, what are the differences?
4. Are there any significant differences in EIL students' self-efficacy in reading between those who use a Kindle and those who use a hard copy? If so, what are the differences?



Significance of the Study

The current study aims at providing English teachers with several important ideas and suggestions for using Kindle-mediated reading at the college level. First, the researcher hopes the findings in this study can provide useful insights for educators, researchers, teachers, and schools concerned with the implementation of Kindle-mediated reading in English reading courses. If language teachers know the potential difficulties and problems of using Kindle-mediated reading in the classroom, they can find ways to overcome these obstacles. Second, the researcher expects this study can encourage language teachers to integrate technologies that are in line with

students' information-seeking modes outside of class. Also, the results from this study can become a reference to those who want to conduct research related to Kindle-mediated reading in an EIL context. In summary, the researcher hopes that the findings from the current study can broaden teachers' points of view toward the role of English, provide insights for the use of Kindle-mediated reading in English reading courses, and bridge students' learning environment with technologies they are exposed to outside the school.

The seal of Jianghai University is a circular emblem with a scalloped border. It features the university's name in Chinese characters '江海大学' at the top and 'JIANGHAI UNIVERSITY' at the bottom. The year '1955' is inscribed at the very bottom. In the center, there are three interlocking rings and a cross-like symbol.

Definition of Terms

1. **Kindle**: It is a portable e-book reader from Amazon.com that includes free network. The Kindle was chosen because the Kindle can provide a series of English novels. Besides, it contains the functions of a built-in dictionary, highlighting, and note-taking.
2. **Hypertext**: Hypertext is an electronic linking of text that people often find on the Internet or other electronic devices. When people click on a linked word or image, they are able to access another text.
3. **Reading behavior**: Reading behavior refers to intrinsic reflection and explicit activities. Explicit reading behavior refers to observable behaviors students perform during their reading process, including reading location, reading time,

and frequency of reading (Chen & Liang 2009; Sung 2003). In the current research, reading behavior refers to students' intrinsic reflection and frequency.

4. Reader response: According to Rosenblatt (1995), all reading is a transaction between the reader and writer (as represented by an immutable text). It primarily focuses on the reader's reaction to a text. In the current study, reader response refers to readers' reading experiences, their reader role during their reading process, and questions they raised after reading novels.

5. Bloom's taxonomy: Bloom's taxonomy was proposed in 1956 by Benjamin Bloom. The taxonomy divides educational objectives into three domains, that is, affective domain, psychomotor domain, and cognitive domain (Clark, 2007). In the current study, the researcher used Bloom's taxonomy to examine the questions raised by the participants in their prompt sheets. The following chart provides a clear understanding of Bloom's taxonomy and levels 4-6 are considered higher order thinking.

Level 1 Knowledge	Identification and recall of information
Level 2 Comprehension	An understanding of what was read
Level 3 Application	The converting of abstract content to concrete situations
Level 4 Analysis	The comparison and contrast of the content to personal experiences
Level 5 Synthesis	The organization of thoughts, ideas, and information from the content
Level 6 Evaluation	The judgment and evaluation of characters, actions, and outcomes, for personal reflection and understanding

(cited in Clark, 2007)

6. Self-Efficacy: According to Bandura (1986), a person's attitudes, abilities, and cognitive skills comprise what is known as the self-system. Self-efficacy is an essential part of this self-system. In the current study, self-efficacy refers to a person's belief about his or her reading ability and capacity to accomplish a reading task.

CHAPTER TWO

REVIEW OF THE LITERATURE

This literature review reviews some of the relevant current theories and literature related to reading behavior, new literacy theory, hypertext, and self-efficacy theory. Considering the importance of reading in language learning and development, it is unsurprising that numerous educators and researchers have devoted great effort to searching for more effective reading instruction. With the development of new technologies, the learning environment has changed. Educators need to learn how to adapt and take advantage of new technologies for learning as they emerge. As a result of the availability of new technologies, researchers now have to consider not just research into advancing educational technique to enhance instruction in reading, but also must focus their research on new technology that can help to enable the reading learner.

This chapter has five major sections: reading behavior, new literacy theory, hypertext, reader response, and self-efficacy. The first section provides the definition of reading behavior and related research. The second section introduces new literacy theory and why it is needed today. The third section covers a brief history of hypertext and the related research. The fourth section provides a basic overview of reader

response. Finally, the fifth section introduces the self-efficacy theory and connection with the hypertext.

Reading Behavior

Reading behavior refers to intrinsic or explicit reading activities. While intrinsic motivation refers to a students' feeling toward their reading, explicit behavior refers to observable behaviors of a student's performance during the reading process, including reading location, reading time, and frequency of reading (Chen & Liang, 2009).

Tenopir and King (2002) defined "reading" as "going beyond the table of contents, title and abstract to the body of the article" in their survey. Therefore, in the current study, reading behavior refers to participants' view toward their reading behavior and their frequency of reading.

The history of investigating reading behavior can be traced back to the 1970s and scholars such as Tenopir and King (2001) and McIntyre (1992). Based on the findings of this research, readers tend to read surface meaning instead of looking for in-depth meanings, and the purpose of reading for many people is only to pass an exam, rather than for the absorption and long term retention of information. Recent reviews provide a number of observations about readers' non-reading behaviors in the United States. Notably, they observe that learners simply lost interest in reading for pleasure.

McIntyre (1992) found that students were reluctant to read even when they were provided with a good collection of fiction. Liu (2005) investigated reading behavior in the digital environment, also finding that less time was spent on in-depth reading while more time was spent on browsing and scanning for information. Liu (2005) indicated that technology did not appear to assist individual reading behaviors. Instead, technology seemed to distract readers or weaken their reading behavior.

Since it is impossible to separate the appearance of technology from the readers' environment, research into an appropriate way to integrate new technology into the reading process becomes important. Numerous studies have been conducted on the role of hypertext in students' reading behavior. Nicholas *et al* (2008) investigated learners' reading behavior with transactional log analysis, finding that reading indeed happen on during the offline. McIntyre (1992) investigated young children's reading behavior in various classrooms from extensive observation and field notes, audiotape recording, probes of the children about their reading, a collection of reading texts and other literacy documents, and a formal interview. Liu (2005) explored the change in reading behavior over a decade by asking about participants' reading experience. Liu (2005) looked at how readers change their reading behavior by asking them questions about the time they spent reading, the percentage of time spent on reading printed documents and so on. The reading theory Liu adopted is that reading is an interactive-constructive

process in which readers comprehend, interpret, and respond to text according to what they already know. Hennings (1994) described the situation between the reader and the text in his work:

“Effective readers have personal expectations about what they will get from a selection, and they bring those expectations to bear as they read by predicting and testing their predictions. They actively create meaning by constructing, or generating, relationships between what is within the text and what they already know” (Hennings, 1994, p. 456).



New Literacy Theory

Definition of New Literacy

Leu, Kinzer, Coiro, and Cammack (2004) constructed a definition of new literacies. The new literacies of the Internet and other Information and Communication Technologies (ICTs) include the skills, strategies, and dispositions necessary to successfully use and adapt to the rapidly changing information and communication technologies and contexts that continuously emerge in our world and influence all areas of our personal and professional lives. These new literacies allow us to use the Internet and other ICTs to identify important questions, locate information, critically

evaluate the usefulness of that information, synthesize information to answer those questions, and then communicate the answers to others.

Why Are New Literacies Needed?

Since the role of literacy is rapidly and continuously changing as new technologies for information and communication appear and new environments for exploiting these technologies are continuously crafted by users, the essence of both reading and reading instruction is altered (Leu, 2000; Leu *et al.*, 2004). Recent reviews (Leu, 1999; Brozo, 2004; Leu, 2004) have provided a number of observations about the relationship between new technology and literacy. It is essential to recognize that we have entered a period of rapid and continuous change in the form and function of literacy. (Leu & Kinzer, 2000; Leu, 1997a). With the advent of the innovative digital text formats such as multi-media and hypertext, the nature of reading has changed, giving readers new expectations (Liu, 2005). Deu *et al* (2004) argue that when more and more individuals use new technologies to communicate, the way people view and use language and literacy are reshaped.

Moreover, learners' learning environment is evolving rapidly. Many graduates started their school careers with the literacies of pen, paper, and book but will finish having encountered the literacies demanded by a wide variety of information and

communication technologies such as Web logs (blogs), word processors, video editors, World Wide Web browsers, Web editors, e-mail, spreadsheets, presentation software, instant messaging, plug-ins for Web resources, and many others. These students experienced new literacies at the end of their schooling unimagined at the beginning. Thus, it is obviously not enough to teach students how to read without giving guidelines about how to adapt themselves to the information age. Although certain earlier researchers (Oppenheimer, 1997; Roszak, 1994; Stoll, 1995) denied the value of these changes for education, it is impossible to neglect new literacy in this information age. Leu (2000) contended that it is not only literacy that has changed, but that it continuously changes in these classrooms. As mentioned above, traditional definitions of literacy and literacy instruction will be insufficient if educators and teachers want to provide students with the futures they deserve (Leu *et al.*, 2004). The International Reading Association (2009) also saw the importance of integrating information and communication technologies into current literacy programs. As a result, the difference between literacy (printed text) and new literacies (hypertext) needs to be clearly distinguished.

Integrating New Literacy into Classrooms

While these new instructional tools, and thousands of others that are appearing,

provide important resources for the literacy classroom, they still require additional new literacies for their effective use (Leu *et al.*, 2004). The appearance of the Internet and other ICTs in school classrooms will continue in the future, and the roles that teachers play become important since they need to prepare students by planning practical learning experiences. In addition to realizing the development of technology and the know-how to use it in the classroom, the teacher must plan complex contexts for literacy and learning rather than simply dispense literacy skills, since the students they will face are also experts at using technological products. However, most of the time, teachers do not know how to integrate the technological products into reading instruction and they continue using the traditional approaches to teaching. As a result, in the future, if teachers do not take advantage of new technology, they may no longer always be the most professional individual in the classroom. Brush (1996) argues that important differences in outcomes arise for any technology, depending upon how it is used in the classroom. Accordingly, the key point will lie in how new literacy is used and applied in the classroom.

Hypertext

This section will first provide a definition of hypertext, continue with the brief history of hypertext, and then explore the research into hypertext and its theoretical

frameworks. Finally, the use of hypertext in a classroom will be discussed.

Definition of Hypertext

The word *hypertext* was coined by Nelson to describe text that was accessible in a non-sequential manner (Gall & Hannafin, 1994). The principles and models of hypertext systems were first reviewed by Conklin. According to Conklin (1987), the basic concept of hypertext is the structure system with nodes and links which connect information and link communication between. Similarly, Nielsen (1990) investigated the usability of hypertext and also provided the definition of hypertext. Below is what Nielsen stated in his article:

HYPertext is non-sequential writing: a directed graph, where each node contains some amount of text or other information. The nodes are connected by directed links. In most hypertext systems, a node may have several out-going links, each of which is then associated with some smaller part of the node called an anchor. When users activate an anchor, they follow the associated link to its destination node, thus navigating the hypertext network. Users backtrack by following the links they have used in navigation in the reverse direction (Nielsen, 1990, p.298).

Brief History of Hypertext

The history of hypertext can be traced back to 1945. Vannener Bush invented a system, the Memex, which had a scanner that allowed a user to input new material and save their notes and comments. After Bush's publication in 1945, few researchers conducted research into hypertext until Engel Bart in 1962. Engel Bart's computer tools, the Augment project, had several hypertext features, although it was not a full-blown hypertext system by today's standards. Scholars and thinkers began to explore hypertext in the late 1980s and '90s.

Research on Hypertext

There has been an increasing interest in investigating how hypertext affects reading in recent years. Charney (1994) argued that the advent of hypertext is a new and exciting development that has important implications for researchers and teachers in English. Hypertext has the potential to change the way people process information. As a result, many studies have explored the role hypertext might play in language learners' reading processes and how hypertext can benefit language learners.

Numerous studies have been conducted into the psychological effect of hypertext. Hypertext differs in one of the key elements of printed text: its linear structure. Hypertext more closely resembles the networked associating organization of

information in human memory. Because of individual differences, learners might benefit differently from the nonlinear structure of hypertext. Some have argued that the non-linear nature of hypertext might disturb readers' reading process since many reading theorists argue that readers rely on structure and formulate generalized patterns called schemas. Hypertext violates standard assumptions of what texts are like.

Readers traditionally rely on the writer to select topics, determine their sequence, and signal relationships among them by employing conventional discourse cues. Previous reviews argue that hypertext systems could provide readers much greater control over the information they read and the sequence in which they read it (Charney, 1994; Jong & Hulst, 2002; Shapiro, 2004). Along with this greater control of information comes a greater burden for the readers, who must now locate the information they need and relate it to other facts in the network, often without the aid of traditional structures or discourse cues (Charney, 1994). Therefore, with the chance to control what to read, students might become active learners (Landow, 1992). Lodewijks (1982) posited that at least some students might learn more effectively when they can choose their own reading order, rather than following sequences assigned by teachers or authors. In addition, self-regulation forces readers to adopt more active reading strategies, which generally lead to better learning.

Of course, several studies (Reinking & Schreiner, 1985; Kieras, 1993) suggest

that readers might overlook important information when given the chance to select what text to read by themselves. Nevertheless, many researchers (Shapiro, 1988; Lodewijks, 1982; Leu, 2000; Patterson, 2000) firmly believed that learners must benefit from meaningful hypertext instruction. Therefore, there is a need to focus on the influence of hypertext on students.

Strategy Use when Reading Hypertext

The additional features of hypertexts can affect students' comprehension, such as looking up a word on the built-in dictionary. Therefore, comprehending information presented in hypertexts requires acquiring appropriate reading strategies (Wilson, Zygouris-Coe, & Cardullo, 2012). Hypertext may require readers to take a much more active role in determining the quality and coherence of the text they read (Burbles & Callister, 2000). According to Hartman *et. al.* (2010), readers tend to gain multiple levels of critical thinking for they challenge authorship when reading digital text. In other words, readers move through this process as goal-oriented learners, meta-cognitively thinking about the outcome and process while at the same time focusing on the purpose. Lee and Baylor (2006) used four key strategies that are proposed by Brown (1987, cited in Lee & Baylor, 2006) to illustrate the importance of metacognition in the web-based learning environment. These four strategies include

planning, monitoring, evaluating, and revising. Planning refers to having an overall framework for the learning process; monitoring refers to the awareness of moderating the current learning progress; evaluating refers to one's self-assessment of activities of current learning; revising refers to one's learning process and involves activities to modify and adjust previous learning plans and other strategies.

Integrating Hypertext into Classrooms

Students are facing a transformation of text with the advent of technology. Gradually, their environment will be intertwined with many digital products. They will use blogs to record their lives instead of using a diary. They will use web browsers to search information instead of looking for data in the library. They will use e-mail and cell phones instead of writing a letter to communicate with other people.

Charney (2004) described the potential role of hypertext in the classroom.

However, there is no agreed upon methodology for integrating hypertext into classrooms. Specifically, the purpose of integrating computers into reading classrooms is not limited to enhancing learners' reading comprehension, but is also considered to cultivate learners' critical thinking and boost their interest in learning. More studies are needed to explore other potential benefits of integrating computers into reading classrooms.

Reader Response Theory

Rosenblatt (1995) claimed that a text is useless until a reader goes through it and gives it life. She viewed reading as a transaction between the reader and the text. When reading a text, the readers approach the text from different perspectives, bringing their prior knowledge, experiences, values, and beliefs to their interaction with the text.

During the transaction, the readers construct meaning from the text using their own interpretations. Most importantly, Rosenblatt (1995) insisted that different readers have different interpretations of a literary work and that there is no correct one.

Applying Rosenblatt's (1995) idea to real classroom teaching, Probst (1988) and Daniels (2002) claimed that any work of literature is a collaboration between a reader's prior experiences and the words of an author. Therefore, in good teaching, a student's response to their reading should always come first. Furthermore, according to Rosenblatt (1995), developing a reader response to the reading of a text facilitates active and meaningful reading. In other words, when readers are more able to respond to the text and construct meaning out of the text, they will engage in reading in a more meaningful way.

Since it is through the reader that the text's meaning will be built, the use of hypertext may change readers' roles during the reading process. The appearance of hypertext may influence readers' perceptions of the meaning of the text. Based on this,

Bolter (1992) also proposed this relationship between hypertext and reader response:

The new medium [hypertext] reifies the metaphor of reader response, for the reader participates in the making of the text as a sequence of words. Even if the author has written all the words, the reader must call them up and determine the order of presentation by the choices made or the commands issued, there is no single univocal text apart from the reader; the author writes a set of potential texts, from which the reader chooses (Bolter, 1992, p. 158).

The seal of Tonghai University is a circular emblem with a scalloped border. It features the university's name in Chinese characters '通海大學' at the top and 'TONGHAI UNIVERSITY' in English around the bottom. The year '1955' is inscribed at the very bottom. In the center, there is a cross-like symbol above a series of horizontal lines.

Self-Efficacy

This section briefly provides a definition of self-efficacy, the main theoretical framework of self-efficacy, and the relationship between self-efficacy and learner control.

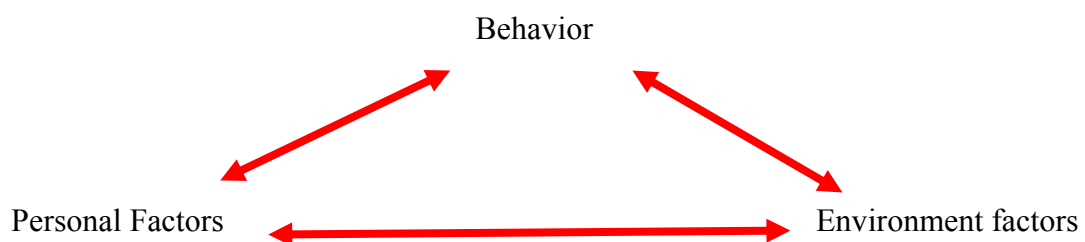
Definition of Self-Efficacy

According to Albert Bandura (1986), self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations." In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people think, behave, and feel.

Social Cognitive Theory

Bandura (1991) proposed a model that describes the reciprocal relationship among behavior, cognition and other personal factors (Figure 1). From this theoretical perspective, human functioning is viewed as the product of a dynamic interplay of personal, behavioral, and environmental influences. In Bandura's Social Cognitive Theory (1991), he stated that "The P [Personal factors] – B [Behavior] of reciprocal causation reflects the interaction between thought, affect and action," that "The E [Environment factors]- P[Personal Factors] segment of reciprocal causation is concerned with the interactive relation between personal characteristics and environmental influences," and that "The B- E segment of reciprocal causation in the triadic system represents the two-way influence between behavior and the environment." (Bandura, 1991, p.20, 21) Bandura thus contends that people act and behave how they think, believe, and feel and that their thinking is shaped by their environment.

Figure 1: Social Cognitive Theory



Self-Efficacy

In social cognitive theory, self-efficacy is hypothesized to influence behaviors and environments, and, in turn, to be affected by them (Bandura, 1986; Bandura, 1997).

Bandura (1997) defined self-efficacy as an individual's assessment of his ability to perform different activities, and the individual's sense that he can accomplish the activity. To apply it to reading, students with high self-efficacy believe that they can be successful at reading. In addition, they believe that they are capable of being in control in reading-related activities even if they encounter difficulties such as a complicated text and challenging vocabulary. In other words, the notion of self-efficacy is not only concerned with learners' own beliefs but is also clearly linked to learners' reading behavior (Wigfield *et al.*, 2004). In addition, research has also shown that students who receive training to enhance their self-efficacy in reading are much more willing to try difficult activities or tasks, expend effort and persist in completing the task, and are more likely to become higher achievers in reading (Bandura, 1997; Shell, Colvin, & Bruning, 1995; Schunk & Zimmerman, 1997; Schunk & Rick, 1993). Further, many researchers (Schunk & Rice, 1989; Schunk, 1990) attempted to explore the relationship between goal setting and self-efficacy and found that there was a positive correlation.

Self-Efficacy and Learner Control

A learner's self-efficacy may be impacted by learner control. Previous reviews have argued that the hypertext systems could provide readers much greater control over the information they read and the sequence in which they read it. Hypertext gives learners the means to access information flexibly and individually. According to Wydra (1980), in addition to teacher-control of the instructional system, another instructional system exists, called learner-controlled instruction. In this instructional system, the learner is responsible for his/ her learning rather than depending on an instructor.

Merrill (1984) integrated research about learner control and provided a more complete definition under which a learner can make content selection. Moreover, Merrill (1984) further divided learner control into four types: (1) control of pace, (2) content control; (3) display control, and (4) control of internal processing. Control of pace gives learners the opportunity to decide the speed of reading. Content control gives students the opportunity to decide how much they can absorb. Display control allows learners to decide the level of difficulty. Finally, control of internal processing helps learners take advantage of using cognitive strategies and metacognition. For example, learners could either paraphrase what they have read or repeated reading the novel. Moreover, Shapiro points out the difference between the content of traditional text and hypertext. Traditional readers assume their reading has been arranged while a

hypertext reader might change the sequence. In other words, there is a greater capacity for learner control when readers engage in hypertext reading.

Kay (2001) pointed out an important element in the changes faced under learner control: the user was formerly called “a student” but is now known as “a learner.” Instead of obeying and following teachers’ discipline and instruction, learners can and should decide what they have to learn. Furthermore, as some researchers (Kay, 2001; Boud, 1991; Curtis, 1995) argue, learning does not occur if learners cannot pay attention or they cannot understand their teachers. Therefore, they suggest that learners should be provided with learner control over, and responsibilities for, their own learning in order to improve learning effectiveness. In addition, since each learner has a different learner style and he or she is unique, learner-controlled instruction may bring greater opportunities to these students who read hypertext since they can decide what they need to learn.

Summary

From the results of the above studies, it is clear that modern readers cannot resist reading hypertext, since they are part of the e-generation. Therefore, traditional definitions of reading and writing are insufficient in today’s world as students encounter and interact with new digital literacies, including digital texts such as

e-books (IRA, 2009). Furthermore, the International Reading Association (2009) emphasizes the importance of integrating information and communication technologies (ICTs) into current literacy programs (Larson, 2010). There may appear to be little fundamental difference between the reading process of printed texts and hypertexts because readers need to decode, construct meaning, interpret what the author said, and then connect to their own memory and prior knowledge. However, hypertext is not as simple as it appears to be on the surface. It is necessary to understand its features.

Much research has been conducted in order to investigate the function of hypertext and its relationship to students' language learning. Nevertheless, few researchers have examined how students' reading behavior, reader response, and self-efficacy in reading are influenced while reading hypertext. In the next chapter, a methodology for examining these issues is presented.

CHAPTER THREE

METHOD

This chapter details the research method adopted for this study. This study adopted a mixed-method approach, collecting data using both quantitative and qualitative methods. The first section introduces the participants and the setting. The second section discusses implementation, instruments and the instructional procedures. Finally, data collection and data analysis procedures are described.

Participants

The participants in this study were two classes of English-major freshmen at a university in central Taiwan. There were 45 student participants in total (14 males, and 31 females), all from the Department of Foreign Language and Literature. Among the participants, 22 participants were from Class A while 23 participants were from Class B. Based on the required English proficiency by the Foreign Language and Literature Department, the participants' English proficiencies were all at the high-intermediate level of General English Proficiency Test (GEPT) (http://www.lttc.ntu.edu.tw/E_LTTC/E_GEPT/hi_intermediate.htm). In this study, the participants are a convenience sampling. The researcher was taking on the role of a

teaching assistant to a course and to the primary investigator of the project¹, who is the main instructor of this course, and the class met two hours a week. To make sure there was no significant difference in their English reading comprehension, reading comprehension levels were controlled at the outset of the current study. The participants were required to take a reading comprehension test at the beginning of the semester. The results of the English reading comprehension test indicate that there is no significant difference between the two classes. In addition, since the aim of the study is to investigate the effects of using the Kindle in reading behavior, reader response, and self-efficacy in reading of university freshmen in an EIL environment, the participants' prior knowledge of and experience using an e-reader needed to be determined. A brief survey prior to the implementation of the study found that none of the participants had previously used an e-reader to read either text books or novels.

The main goal of the directed reading course, a required course for all freshmen in the Department of Foreign Language and Literature program, is to help learners to apply reading strategies and to understand and assimilate the main ideas of written articles. In this study, the idea of using hypertext was integrated into the reading course with a Kindle Reader as the tool for participants to read novels.

¹ This project was sponsored by the National Science Council, Taiwan (NSC100-2410-H-029-053: 運用電子書閱讀與回應以符合網路世代讀者需求). All the data collected from this project belong to the primary investigator, Dr. Min-Hsun Chiang at Tunghai University. To avoid any copy right infringement, a written permission has been secured with Dr. Min-Hsun Chiang to use the partial data for my thesis writing purpose. Any further publication associated with the same data set other than this thesis requires a separate permission.

Implementation of the Present Study

In this study there were two groups, one class (called the hard copy group) used hard copies of novels to read and the other class (called the Kindle group) used Kindles to read novels (hypertext). A comparison of these two groups was conducted, comparing their reading behavior, their reader response, and their self-efficacy in reading.

To ensure there was no significant difference in reading comprehension at the onset of the study, an independent samples T-Test was conducted. This was based on the participants' reading comprehension scores on an English comprehension test. The results indicated that there was no significant difference between the two classes in terms of their reading comprehension ($P=0.877$), as shown in Table 3.1.

Table 3.1.

Independent Samples T-Test of Hard Copy and Kindle Groups' Reading Comprehension

	Mean	Std. Error	t	Df	P
	Difference				(2-tailed)
Reading Comprehension	.57	3.67	.156	43	.877

$\alpha=.05$

Also, to make sure there was no significant difference in critical thinking ability at the onset of the study, an independent samples t-test was conducted to examine the

difference between the two groups in terms of their scores on a self-assessment of critical thinking (Appendix A). The results indicated that there was no significant difference between the two classes in terms of their critical thinking ability ($P=0.788$), as shown in Table 3.2.

Table 3.2.
Independent Samples T-Test of Hard Copy and Kindle Groups' Self-assessment on Critical Thinking

	Mean Difference	Std. Error	t	Df	P (2-tailed)
Self-assessment on Critical Thinking	.04	.14	.27	43	.788

$\alpha = .05$

After grouping students and making sure that they were at the same baseline at the onset of the study, participants in both groups were assigned novels to read. Reading materials used in the study included five novels. Juvenile novels were used as the reading materials for the present study (Appendix B). The procedures of the study were as follows. The hard copy group received training in reading skills, such as scanning, skimming, and was assigned novels according to their professor's syllabus. The participants were given a reading log to record their reading time and other information related to their reading behavior, e.g., the reason why she or he stopped reading the novel. The reading log was collected and reviewed by the researcher every week.

Furthermore, the participants were asked to read for twenty minutes and then respond to prompt sheets in class.

The Kindle group was given a brief, one-hour introduction to how to use the Kindle Reader at the beginning of the semester. Additional time was given to allow them to practice and become comfortable with using the Kindle. In order to help participants become familiar with the features of the Kindle, not only was a tutorial provided to the participants, but additional training reinforcement and usage tips were emphasized for the following weeks. The participants in the Kindle group were also required to use a reading log to record their reading process every week. The results were collected and viewed weekly. Similar to the hard copy group, the participants were asked to read for twenty minutes and then respond to prompt sheets (Appendix E) in which they were asked to write down personal responses related to the content of the assigned novels. For instance, they were asked to write down the most important or interesting part presented in the novel.

During the first hour of the directed reading course, the course instructor taught students reading strategies and how to apply them during their actual reading time. Then, in the second hour of the course, the participants were provided time to read the assigned chapters and were asked to answer questions related to the chapters. The experimental sequence of the study took a year.

Instruments

The research adopted a mix-method approach to investigate and evaluate learners' reading behavior, reader response, and self-efficacy in reading. The study employed both qualitative and quantitative methods. To achieve the purposes of the study, six main instruments were adopted for measurement: (1) the English reading behavior questionnaire, (2) a reading log, (3) a prompt sheet, (4) the self-efficacy scale, (5) an open-ended questionnaire survey, and (6) a group interview. These instruments are described in detail as follows:

(1) English Reading Behavior Questionnaire

In order to acquire information about participants' reading behaviors as they process different texts, quantitative data was used. The English Reading Behavior Questionnaire (Appendix C) consists of a total of 27 items and is divided into three parts. The 10 items in Part I were used to investigate participants' reading behaviors during their reading process; the 7 items in Part II were used to collect data on the participants' strategy use during their reading process, and the 10 items in Part III were used to understand participants' reading behaviors after reading. To ensure a full understanding of the items in the questionnaire, the researcher explained the items when the questionnaire was distributed to the participants and they were encouraged to

ask questions if they had any doubts or misunderstandings regarding the items or the questionnaire as a whole. The participants were asked to rate each statement on a 4-point Likert scale, ranging from “not true at all” (1 point) to “very true” (4 points).

The following are sample items from the questionnaire:

During Reading

- I can easily concentrate on the content.
- During reading, I monitor my own comprehension.

Strategy Use

- I picture the plots in the novel.
- I look up unknown words in the dictionary.

After Reading

- I reflect on what I have read.
- I am able to summarize the main ideas.

To ensure the content validity of the English Reading Behavior Questionnaire, a professor teaching in the Department of Foreign Language and Literature was invited to examine the questionnaire items one by one. Following expert evaluation, questions were modified before being distributed to the participants. Item analysis was used to make sure the reading behavior questionnaire is reliable. Table 3.2 indicated that the overall Internal-Consistence Reliability Coefficients of the scale was 0.84, showing

that the scale obtains a high internal-consistency reliability coefficient. Item analysis was used to make sure that each question of the scale is reliable (as Table 3.3) and it shows that each question has a high reliability.

Table 3.3.

Internal-Consistency Reliability Coefficients of Reading Behavior Questionnaire

Cronbach's Alpha

Overall (28 items)	.84
N=42	

Table 3.4.

Item-Total Statistics for Reading Behavior Questionnaire

	Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. I focus my attention on reading.	2.93	0.76	0.53	0.83
2. I can easily concentrate on the content.	2.46	0.67	0.54	0.83
3. During reading, I predict what might happen next.	2.41	0.74	0.40	0.84
4. I use textual clues to assist comprehension.	2.71	0.78	0.54	0.83
5. I do not know what to do when I don't understand what I am reading.	2.66	0.69	0.06	0.86
6. I am easily distracted by surroundings while reading.	2.54	1.25	-0.19	0.86
7. During reading, I monitor my own comprehension.	2.27	0.81	0.33	0.84
8. When seeing an unknown word, I get stuck and give up.	2.68	0.76	-0.24	0.86
9. I set a goal to fix my focus on reading.	1.41	0.74	0.36	0.84
10. Setting a reading goal makes no difference to me when reading English novels.	2.49	0.87	0.07	0.85
11. I interpret the unfamiliar word by contextual clues.	2.32	0.93	0.61	0.83
12. I use strategies while reading.	2.24	0.80	0.61	0.83
13. (ex: scanning, skimming, summarizing,	2.88	0.90	0.64	0.83

predicting, etc)				
14. I picture the plot in the novel.	2.56	0.90	0.44	0.84
15. I connect my own experience with the plots in the novel.	2.68	0.69	0.30	0.84
16. I connect the text I am reading with my prior reading.	2.49	0.71	0.52	0.83
17. I connect the text I am reading to the world outside the classroom.	3.24	0.83	0.27	0.84
18. I look up words in the dictionary when seeing unknown words.	2.68	0.65	0.57	0.83
19. I reflect on what I have read.	2.46	0.78	0.45	0.84
20. I share what I have read with others.	2.71	0.78	0.52	0.83
21. I discuss the novel with others.	2.49	0.81	0.57	0.83
22. I try to relate the scenarios from the book to my life experience.	2.56	0.71	0.65	0.83
23. I am able to summarize the main ideas.	2.63	0.83	0.71	0.83
24. I form my own opinion about the novel.	2.61	0.86	0.38	0.84
25. I find additional information from outside sources.	2.00	0.78	0.08	0.85
26. I finish reading and stop thinking about it.	2.00	0.84	0.17	0.85
27. I regard my reading success as a result of luck.	2.63	0.86	0.39	0.84

(2) Reading Log

The researcher distributed a reading log (Appendix D) to participants in both groups and asked them to keep track of their reading outside of class. The reading log was designed according to the definition of reading behavior. The participants were required to write down their reading time, reading pages, main idea, and notes while they are reading.

(3) *Prompt sheets*

In order to collect information about participant's reader response, prompt sheets (Appendix E) were given after each reading time in class. The prompt sheets mainly focused on participants' interpretation of the text they read during their own reading process. Also, in order to examine whether there were any differences in students' high-order thinking questions between the two groups, participants were asked to write questions after their reading.

(4) *English Self-efficacy Scale*

In this study, the English Self-efficacy Scale (Appendix F) was used to investigate learners' self-efficacy in English reading. The English Self-efficacy Scale was adapted from the General Self-Efficacy (GSE) scale, developed by Jerusalem & Schwarzer in 1979. The originally scale version consisted of 20 items.

The English Self-efficacy Scale consisted of a total of 25 items and was divided into four parts. The 5 items in Part I were used to collect data on the participants' self-evaluation about their own reading behavior, the 9 items in Part II were used to collect data on the participants' self-evaluation of their reading ability, the 6 items in Part III were used to collect data on the participants' reading willingness, and the last 5 items in Part IV were used to view the participants' self-evaluation about their reading

skill. The participants were asked to rate each statement on a 4-point Likert scale, ranging from “strongly disagree” (1 point) to “strongly agree” (4 points).

Table 3.4 indicates that the overall Internal-Consistence Reliability Coefficients of the scale is 0.87, showing that the scale obtains a high internal-consistency reliability coefficient. Item analysis was used to make sure that each question of the scale is reliable (as Table 3.5) and it shows that each question has a high reliability.

Table 3.5.

Internal-Consistency Reliability Coefficients of Self-Efficacy Scale

	Cronbach's Alpha
Overall (25 items) N=44	.87

Table 3.6.

Item-Total Statistics for Self-Efficacy Scale

		Mean	Std. Deviation	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1.	If someone interrupts me, I can find ways to stick to my goals.	2.90	0.54	0.11	0.87
2.	It is easy for me to stick to my aims and accomplish my reading goals.	2.85	0.53	0.36	0.86
3.	When I set up a reading goal, I often achieve it.	2.95	0.63	0.42	0.86
4.	I am confident that I could read efficiently with unexpected events.	2.76	0.58	0.23	0.87
5.	I know how to handle unforeseen situations when I read the novel.	2.90	0.44	0.50	0.86
6.	I am confident that I can understand 80% of the novel.	3.05	0.50	0.66	0.86
7.	I have enough of a vocabulary that I can read smoothly.	2.54	0.71	0.52	0.86

8.	I can understand the main idea of a story by myself.	3.22	0.48	0.57	0.86
9.	If the novel seems uninteresting to me, I will not even try to read it.	2.24	0.77	-0.05	0.88
10.	I easily give up reading when I encounter unknown vocabulary.	2.88	0.71	0.20	0.87
11.	I can solve most problems if I put forward the necessary effort.	3.20	0.56	-0.03	0.87
12.	I am confident that I can retell what I read to my friends.	3.15	0.53	0.39	0.86
13.	I easily quit when I don't understand the story.	2.73	0.71	0.46	0.86
14.	It is a pain to read in English.	3.00	0.59	0.30	0.87
15.	I like to read English books.	2.88	0.56	0.80	0.85
16.	I enjoy the challenge I encounter when I read in English.	2.88	0.56	0.45	0.86
17.	Reading English books makes me feel a sense of achievement.	3.12	0.51	0.65	0.86
18.	When reading an interesting English story, I will be engaged in the plot.	3.27	0.55	0.67	0.85
19.	I am afraid of reading English books.	2.90	0.70	0.18	0.87
20.	I will read English books voluntarily.	2.90	0.58	0.72	0.85
21.	If I cannot understand the novel, I can guess the plot from the context.	3.07	0.41	0.52	0.86
22.	I am good at using strategies (scanning, skimming, et) to read the novel.	2.85	0.65	0.47	0.86
23.	I am good at reading English books.	2.78	0.65	0.68	0.85
24.	Overall, I am a good reader.	2.80	0.56	0.74	0.85
25.	I believe I will keep making progress in reading English.	3.17	0.50	0.56	0.86

(5) *Open-Ended Questionnaire*

The open-ended questionnaire gave an overview of participants' feelings, opinions, experiences, comments about their own efficacy, reading behavior, reading experience, and broader reading questions. In addition, their opinions toward using the Kindle Reader to read the novels were also investigated. The questionnaire was distributed to both groups at the end of the semester. Although the hard copy group did not have any reading experiences using the Kindle-Reader, the open-ended questionnaire was still distributed to them because the data were intended to serve as an additional source of information about their opinions of reading hypertext. The questionnaire consisted of four sections. The first section asked the participants to evaluate their reading efficacy. The second section focused on participants' view toward their own reading behavior. The third section was designed to assess opinions of the participants' reading experience. Finally, broader reading questions were presented in the fourth section, where the participants were asked to rate the novel they were assigned to read and provide reasons for their rating. The collected feedback was expected to enrich the interpretation of the results of the current study and to answer the research question 2,3.

(6) Group Interview

Patton (2002) divided interviews into four types: informal conversational interviews, guided interviews, standardized open-ended interviews, and closed, fixed response interviews. A semi-structured interview, or guided interview approach (Lincoln & Guba, 1985), was adopted in the current research. The qualitative data is collected via semi-structured interviews with the participants from both groups. The interview questions (Appendix H) were designed to understand the reading process of both groups and how they interpret the text and their own view toward their reading ability.

Data collection procedures

The data was collected from multiple sources: a reading behavior questionnaire, a reading log, prompt sheets, a self-efficacy scale, an open-ended questionnaire, and a group interview. First, the participants were required to take an English reading comprehension test at the beginning of the semester. Their reading comprehension scores on the test and the scores from the self-assessment on critical thinking were compared to see if the two groups had similar reading proficiency and critical thinking skills. Then, a questionnaire of reading behavior was distributed to the participants in the beginning and at the end of the study to discover any changes within and between

the two groups. Additionally, in order to obtain more detailed information about the participants' reading behavior, the participants were provided reading times in class throughout the semester. During the reading time, the participants from both groups were asked to read for twenty minutes. In order to understand the participants' feelings and interpretation of the text, after the reading period, they were asked to respond to prompt sheets that were collected each time. The delivery of the prompt sheets started during the second semester because the researcher believed that participants then had the required ability to express their opinions and raise higher-order thinking questions after training in reading for one semester. Additionally, participants in both groups were asked to fill in a self-efficacy scale at the end of the second semester. Finally, in order to increase trust-worthy findings, an open-ended questionnaire was given to the participants at the end of the study. Further, group interviews were used to gain more detailed information about the benefit and difficulties the participants encountered. The entire data collection process lasted for a 5-month period.

Data analysis procedures

The analysis of data in the present study was carried out by using a quantitative and qualitative approach. To answer research question one, participants' pre- and post-

results for the English Reading Behavior Questionnaire were compared and the Paired Sample t-test were computed through SPSS 15.0 for Windows with the significant level set at $\alpha < 0.5$ to see whether there were any significant differences in the students' reading behavior. As for the reading log, the researcher counted the frequency of reading and compared the two groups to identify different trends in participant reading frequency. Additionally, students' response to the open-ended questionnaire and the group interview were analyzed to identify the major recurring themes.

To answer research questions two and three, the questions participants raised after their reading were analyzed and categorized by referring to Bloom's Taxonomy. Both groups' questions were examined. Table 3.7 provides an example of how the researcher analyzed students' questions.

Table 3.7.
Examples of Evaluation via Bloom's Taxonomy

Level		Example
Level 1	Knowledge	What was Mr. Penderwick's favorite saying?
Level 2	Comprehension	What is the main idea of this chapter?
Level 3	Application	If you were Bud, how would you response to Ma'am?
Level 4	Analysis	Why does Bud need to stand in line?
Level 5	Synthesis	How would your life be different if you were sent to a military school?
Level 6	Evaluation	Why do you think Penderwick is so kind?

Then, the participants' prompt sheets were coded and interpreted by the researcher.

During the analysis, the researcher read through prompt sheets, filed the participants' answers, grouped these files, and classified these files. Next, the data was re-examined and coded. Afterwards, the researcher compared the two groups to see if there was any difference in reader response between the hard copy group and the Kindle group. Then, the researcher transcribed the participants' opinions, followed by synthesis of the data sorting. Both open-ended questionnaire surveys and the group interviews were synthesized, theorized, and re-contextualized by the researcher. Finally, the researcher used the data to explain the research questions.

To answer the fourth research question, participants' results on the self-efficacy scale were compared and the Independent t-test were computed through SPSS 15.0 for Windows with the significance level set at $p < .05$ to see whether there were any significant differences in the students' self-efficacy in reading. During the analysis of the open-ended survey, the researcher read through the interview transcripts, sorted the participants' opinions, grouped these summaries, and described them more precisely under headings. Then, the data was re-examined and coded. During coding, the headings was revised and refined to more accurately reflect the data, and these categories were renamed to reflect the nature of the participants' comments more precisely.

From the analysis of the results, it was expected that we acquired an in-depth

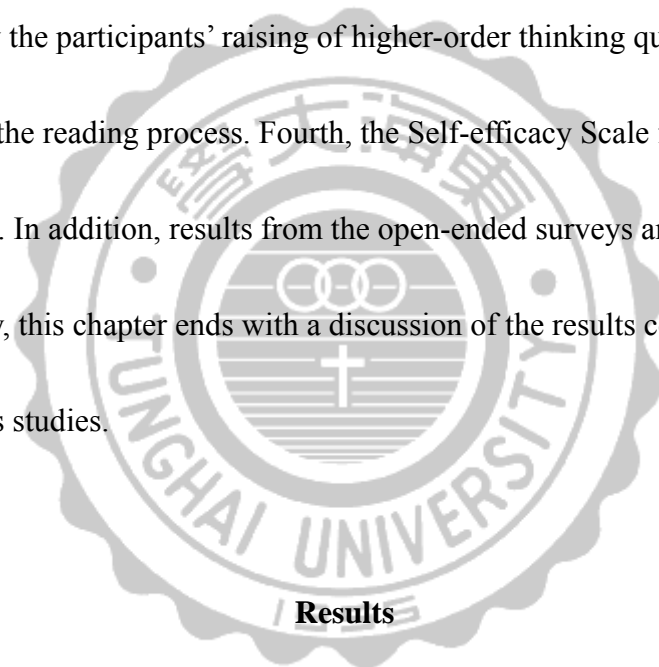
understanding of the benefits and difficulties of incorporating Kindle-mediated reading into an English reading class. It was hoped that this in-depth understanding gained from the participants can help teachers have a deeper insight into the use of a Kindle in the classroom for language learning.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

In this chapter, the results of this study are presented. There are five sections. First, the comparison of the English Reading Behavior Questionnaire is examined. Then, the results of the participants' reading log will be provided. Third, the prompt sheets are analyzed to view the participants' raising of higher-order thinking questions and reader response during the reading process. Fourth, the Self-efficacy Scale from both groups is also examined. In addition, results from the open-ended surveys are summarized and analyzed. Finally, this chapter ends with a discussion of the results compared with those of previous studies.



Effects of Hard Copy and Kindle Readers on Participants' Reading Behavior

In the current study, the participants' pre- and post- scores on the reading behavior questionnaire were collected and analyzed in order to answer Research Question 1: Are there any significant differences in EIL students' reading behavior between those who used a Kindle and those who used a hard copy? If yes, what are the differences?

Between-group findings will first be illustrated, and within-group findings will be provided later.

An independent t-test was conducted to investigate whether there were significant differences in reading behavior between the two groups. The results are shown in Table 4.1. The total number of participants answering the reading behavior questionnaire was 42 because some participants failed this course and could not continue the reading course in the second semester. Unexpectedly, no significant differences were found between the two groups after the one-year experiment ($\alpha = .05$). Also, there was no significant difference between participants' reading behavior in different item categories.

Table 4.1.
Independent Samples T-Tests of Both Groups' Scores on Different Item Categories in Post- Reading Behavior Questionnaire

	Mean Difference	Std. Error	t	df	P (2-tailed)
Overall	-.14	3.39	-.04	40	.893
I. During Reading	-.14	1.05	-.14	40	.969
II. Strategy Use	-.14	1.22	-.04	40	.920
III. After Reading	-.05	1.42	-.10	40	.967

* $\alpha = .05$

Table 4.2 provides a summary of the mean scores and standard deviation of the pre- and post- questionnaires for both the overall results and each of the three parts for

the hard copy group. Table 4.2 illustrates that the hard copy group's reading behavior was enhanced across all three parts and became more positive. Then, Table 4.3 provides a summary of the mean scores and standard deviations for the pre- and post-questionnaire for both the overall and each of the three parts of the Kindle group. Table 4.3 shows that the scores of the Kindle group's reading behavior increased across all three parts.

Table 4.2.
Comparison of hard copy group's Responses on the Reading Behavior Questionnaire Before and After the Study

	Pre-test		Post-test	
	Mean	SD	Mean	SD
Overall	2.56	0.35	2.70	0.38
I. During Reading	2.48	0.32	2.73	0.31
II. Strategy Use	2.76	0.50	2.85	0.57
III. After Reading	2.30	0.46	2.56	0.44

Table 4.3.
Comparison of Kindle group's Responses on the Reading Behavior Questionnaire Before and After the Study

	Pre-test		Post-test	
	Mean	SD	Mean	SD
Overall	2.47	.34	2.70	.39
I. During Reading	2.39	.30	2.73	.32
II. Strategy Use	2.61	.53	2.86	.55
III. After Reading	2.44	.39	2.57	.47

Besides the Independent Samples t-test, the mean scores of the pre-, and post-reading behavior questionnaire were compared to know whether the hard copy group's

reading behavior changed after the one-year program. The reliabilities of the pre- and post- questionnaires of the hard copy group were 0.85 and 0.88, respectively. With satisfactory reliabilities, collected data were then compared. Table 4.4 shows that the participants' reading behavior exhibition did not change significantly after a year of using hard copy books to read. To the contrary, the same Table shows that there was a significant difference in the Kindle group's reading behavior after a year of using the Kindle to read.

Table 4.4.
Comparison of Hard Copy Group and Kindle Groups' Scores on Different Item Categories in the Pre- and Post- Reading Behavior Questionnaire

		Mean	Standard Error	T	df	P (2-tailed)
Overall	Hard Copy Group	-.14	.44	-1.48	20	.155
	Kindle Group	-.24	.27	-4.07	20	.001*
I. During Reading	Hard Copy Group	-2.90	3.92	-3.39	20	.003*
	Kindle Group	-3.76	3.40	-5.06	20	.000*
II. Strategy Use	Hard Copy Group	-.62	4.49	-.63	20	.535
	Kindle Group	-1.71	3.07	-2.56	20	.019*
III. After Reading	Hard Copy Group	-.62	5.79	-.49	20	.630
	Kindle Group	-1.29	3.59	-1.64	20	.117

* $\alpha = .05$

It is of great interest to find the two groups' performance on different item categories. First, it was found that there was great improvement in all aspects of the during-reading section in both groups, as presented in Table 4.4. As shown in Table 4.4,

there was a significant difference in during-reading reading behavior in both groups.

This might result from both groups receiving the same directed reading instruction training for two semesters. Besides, participants were asked to read the assigned chapter of the novel in class and their instructors were beside them that they may self-monitor their reading behavior. Next, as for the strategy use of reading behavior, there was a significant difference in the Kindle group after using the Kindle to read for one year, which might mean that readers acquire appropriate strategies when they try to interact with digital texts. In other words, the participants in the Kindle group showed a great improvement in their reading behavior exhibition.

In an attempt to identify whether there was a significant difference in reading behavior between the hard copy group and the Kindle group, besides the comparison of the questionnaire, participants were asked to keep a weekly reading log to record their frequency of reading. After collecting the reading logs, the researcher counted the frequency of reading for each participant and then calculated the frequency of reading for both groups to find whether there was a significant difference between the two groups.

Based on the participants' weekly reading log, the researcher counted how many times they read in a week. Hard copy readers tended to read a novel more than three

times a week, while participants in the Kindle group appeared to read the novels less frequently. Figure 4.1 shows that 31% of the participants in the Kindle group read only once to finish their assigned pages in a week, while almost 30% of the participants in the hard copy group read six times to finish the novel in one week.

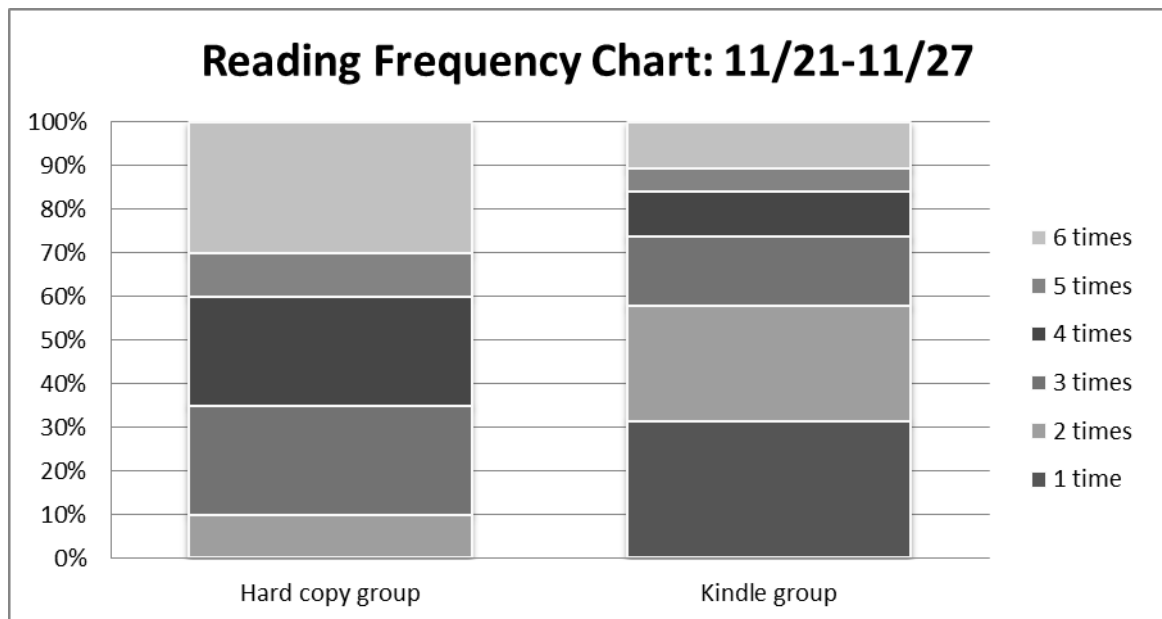


Figure 4.1. Comparison of frequency of reading between the hard copy group and the Kindle group

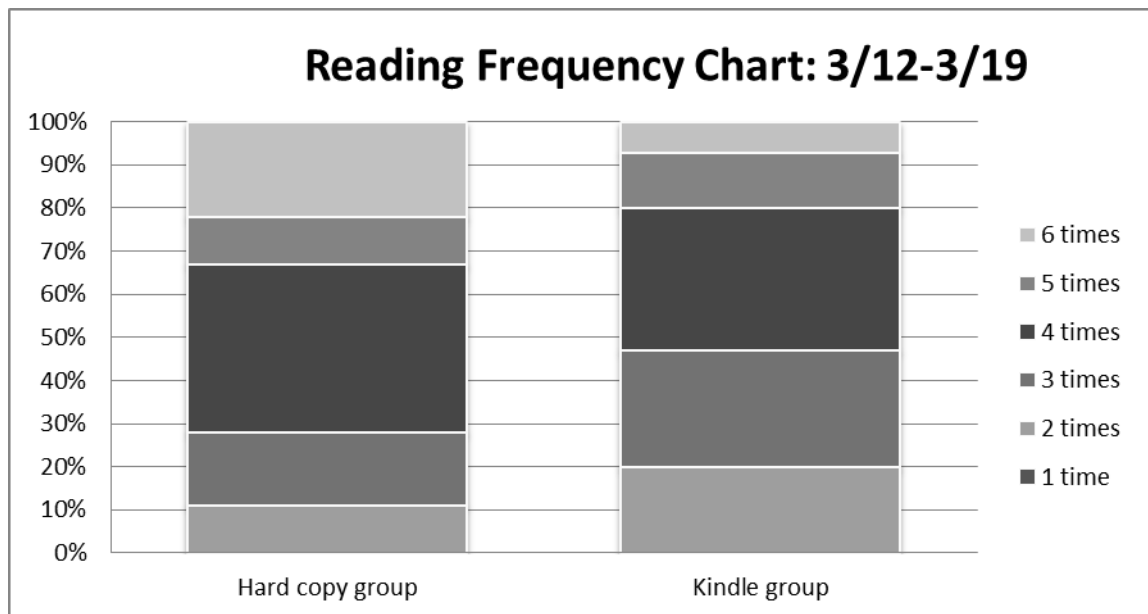


Figure 4.2. Comparison of frequency of reading for the week of 3/12-3/19, 2011

After half a semester, the frequency of reading in the Kindle group increased.

According to Figure 4.2, each participant in the Kindle group read more than twice in a week. For the hard copy group, the number of reading four times a week increased from 25% to 39%. It is probable that the participants from the Kindle group became used to the Kindle reader and felt comfortable using the Kindle to read the novel.

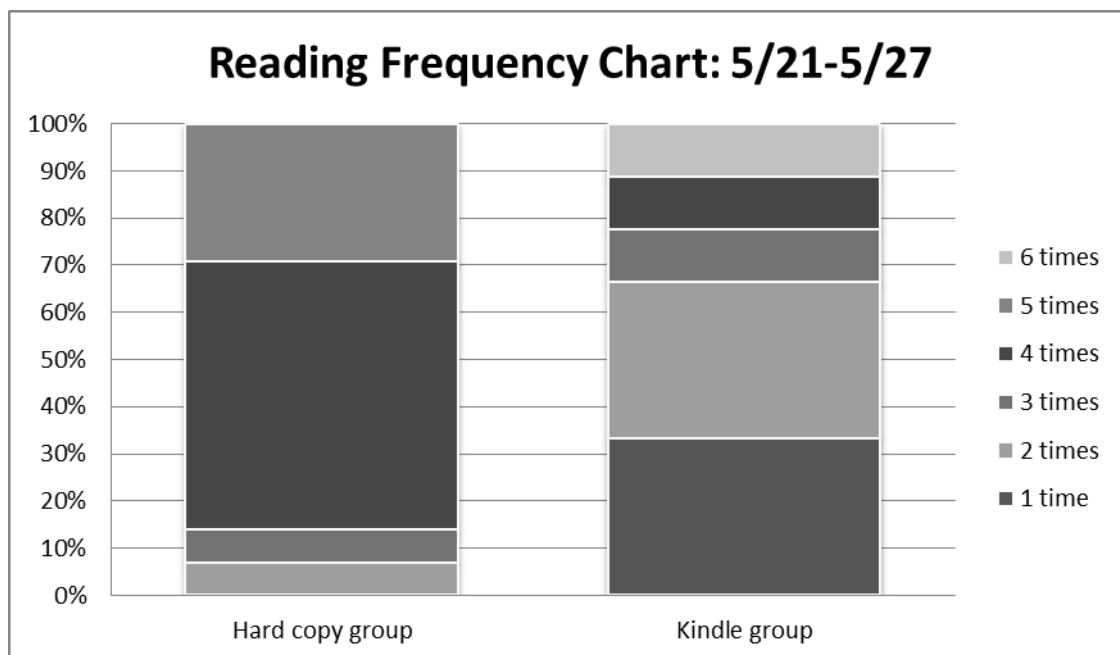


Figure 4.3. Comparison of frequency of reading for the week 5/21-5/27, 2012

It is interesting to note that participants from the Kindle group tended to finish the novel by reading only once in a week. However, the percentage of reading three times in a week increased after a year of using the Kindle to read. By contrast, hard copy readers read more frequently in a week for the sake of finishing the assigned chapter of the novels. Comparing the frequency of reading in Figure 4.3 (May 21 to May 27) with that of Figure 4.2 (March 12 to March 19), 54% of hard copy readers read more than five times a week to finish their reading task; however, more than half of the Kindle readers read only a few times a week to finish their reading task. In addition, the participants' overall average time of reading in one week was also calculated. The average frequency for Kindle readers was 2.3 times, while that of hard copy readers

was 4.2 times. As a result, the summative frequency counts of the reading logs may imply that Kindle readers can focus on reading the novel for longer periods of time.

In addition, one question from the open-ended survey was used to investigate the participants' opinions about the effect the medium in which the novel was read had on their reading behavior. Although the hard copy group did not have the experience of using the Kindle to read, they were given the open-ended survey and encouraged to provide their opinions of using the Kindle. The data were collected from both groups and then the researcher coded, analyzed, and interpreted these qualitative data.

The medium of the novel affected their reading behavior

The feedback collected from the hard copy group showed that more than half of the participants (79%) believed that the Kindle may decrease their reading speed.

Participant J mentioned, "The medium will definitely affect my reading behaviors.

Kindle Reader is more convenient to take out with us. However, if I want to look back at previous pages, it will take time to find it." In addition, Participant M said, "I think a hard copy can make me spend more time on the novel. Also, I sit in front of my desk when I am reading a hard copy of novels. And that makes me pay more attention to the novel. If I were using a Kindle Reader, I think I would not be able to pay attention."

Participant B stated, "I think a book is easy too, and I can write some notes on the

book.” This feedback shows that hard copy readers had little information about the Kindle and therefore they may have incorrect ideas about using a Kindle to read. For example, it is possible to take notes on a Kindle.

As for the Kindle group, the majority (78%) agreed that the medium affected their reading behavior, while 22% did not. The most frequently mentioned reason among the participants who believed that the Kindle reader affected their reading behavior is that they found the built-in dictionary of Kindle useful and it was convenient to carry, so they could read anywhere. For example, Participant S said, “Sometimes I would read more because of the Kindle reader; whenever there are words that I didn’t know, I need to use more time to look them up because there is no built-in dictionary in a hard copy.” Participant J stated, “Yes, I used to look up words from the translator. But now I used the dictionary in the Kindle reader to look up words.” Another reason given was the convenience of portability. For instance, Participant S stated, “I tended to read the Kindle while waiting for buses or trains because it’s easier for me to take with me.” and “It affects my reading behaviors. Kindle is easy to carry so I can bring it when I go out and read it at any time I want to read.”

Participants’ Reader Response

In this study, the participants’ prompt sheets were collected and analyzed in order

to answer research question 2: Are there any differences in EIL students' reader response between those who used a Kindle and those who used a hard copy? If yes, what are the differences? In the prompt sheets, participants in the two groups were asked to think of the most interesting/meaningful information presented in the novel and also to think of their favorite character and provide the reason.

Result of Participants Prompt sheets and Open-ended Survey

The researcher used the participants' prompt sheets to examine their reader role and interpretation of the text during the process. The prompt sheets were based on the characters, plots, and themes in the novel and participants in both groups were required to respond to them. The participants were asked to finish the prompt sheets after they read the designated chapters. The purpose of the prompt sheets is to investigate participants' reader response, their evocation, response, and reflection during their reading process.

According to the data collected from the prompt sheets, most of the participants chose main characters as the character they enjoyed most in the novel. Tables 4.5 and 4.6 give examples of the prompt sheets that were delivered to the participants on March 20 & 21, 2012. Participants were given or allotted 20 minutes to finish one chapter. The participants were asked to write down their roles during their reading

process.

Table 4.5.

Example from prompt sheets (The Penderwicks: Chapters 16-18) for the hard copy group

Favorite character	Number of participants	Reasons
1. Jeffery	7	He is brave and he has courage to express what he thinks.
2. Skye	4	She is cute.
3. Rosalind	5	Rosalind's character and personality. Two students think of themselves. One student admires her.
4. Penderwick	3	He deals with things properly; he has wise leadership.
5. Churchie	1	Her personality

Table 4.6.

Example from prompt sheets (The Penderwicks: Chapters 16-18) for the Kindle group

Favorite character	Number of participants	Reasons
1. Jeffery	6	His personality. He is brave and he has his own dream. 2 students related to the real situation.
2. Skye	5	Her personality. She is smart and brave. [2] She likes to do the math problems.
3. Rosalind	3	Her personality. She is mature, independent. 1 student thinks of herself.
4. Jane	2	She wrote her own book. 1 student thinks of herself.
5. Batty	1	Student can imagine the plot involving Betty.
6. Hound	1	It makes the story more interesting.

From the above Table 4.5 and Table 4.6, for both groups, the top three favorite characters were Jeffery, Skye, and Rosalind. Jeffery was viewed as the favorite

character by both groups, who saw this character as brave and as having the courage to achieve what he wants. However, two participants from the Kindle group said that they liked Jeffery because he made them think of themselves. The reasons for choosing Skye as the favorite character were mainly because of her personality: she is smart and brave. Two participants further mentioned that they liked Skye because she loves to deal with math problems. Participants liked the third favorite character, Rosalind, because they appreciated Rosalind's personality and what she did. Three participants (2 from the hard copy group and 1 from the Kindle group) even stated that this character made them think of themselves because they are also the oldest child in their family and therefore they need to care for other children. In addition to these three characters, the hard copy group participants also mentioned characters such as Mr. Penderwicks and Churchie, while participants from the Kindle group put forward other characters like Jane, Batty, and Hound.

The analytic results from the prompt sheets indicated that there is no difference in the participants' reader response. However, it is worth mentioning that 4 participants in the Kindle group related their personal experiences or their own point of view to the novel, while only 2 participants in the hard copy group related their own personal experiences. During the reading process, readers may experience three stages, that is, evocation, response, and reflection (Rosenblatt, 1983). It shows that four of the

participants in the Kindle group even entered the third state, reflection; therefore, these students were able to see themselves in the characters they were reading about.

Students in the hard copy group said they did not have opinions different from those of the authors. As one student put it, “I just follow what the story says.” However, some students in the Kindle group stated that they imagined the plots and then jumped to the page where they wanted to read.

In addition, from the open-ended survey, it indicates that the participants in the Kindle group immerse themselves during the reading process. Table 4.7 illustrates the summary of students’ self-report about their reading role while they were reading the assigned novels. Moreover, Figures 4.4 and Figure 4.5 summarize the participants’ reading roles during their reading process. According to feedback from both groups, more than half the Kindle readers imagined themselves as the main character during their reading process. However, only 1/4 of the hard copy readers read the novels as if they were the main characters of the novel. For example, Participant Allen from the Kindle group said, “I try to imagine myself as a main character because it’ll be easier for me to be devoted to the book, and I’ll be more able to reflect what happened to the main character to myself, or to apply what happened to them to my own experience.” Further, 24% of Kindle readers described themselves as detectors, but only 7% of the hard copy readers described their reader role as that of detector. Participant Joy in the

Kindle group stated, “I feel I’m more like a detector because I want to find out the answers for all the puzzling situations.” Moreover, nearly 1/3 of the participants in the hard copy group identified themselves as outsiders when reading the novel, while only 6% of Kindle readers did so. For instance, a hard copy reader expressed, “I feel I am a bystander because I usually see everything but have little desire to find out the answer. I don’t have the habit of guessing what is going to happen. I do feel excited about what comes next but I am not eager to picture the plot in the next chapter.” Another reason that made readers think they were outsiders is getting the idea from the novel.

Participant Joyce in the Kindle group said, “I feel I am an outsider because I can’t identify with the roles in the novel.” In addition, among all participants in the two groups, Participant Betty in the Kindle group pointed out that she thought of herself as a painter, “I think I’ll become a painter because I also imagine the pictures in my mind when reading them.”

Table 4.7.

Summary of Reader Role of Both Groups

Reader Role	Number of Participants (Hard Copy Group)	Number of Participants (Kindle Group)
Main Characters	4	12
Detector	2	6
Reader	6	3
Spectator	7	1
Explorer	2	1(Painter)
Others	7	

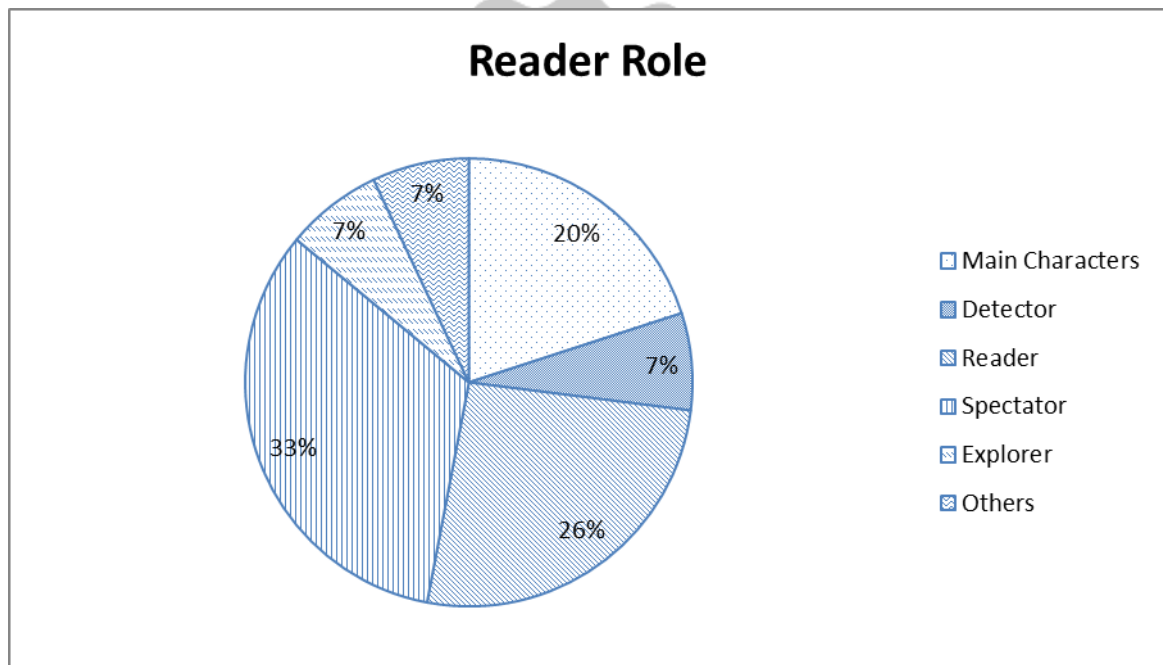


Figure 4.4. Participants' reader role in the hard copy group

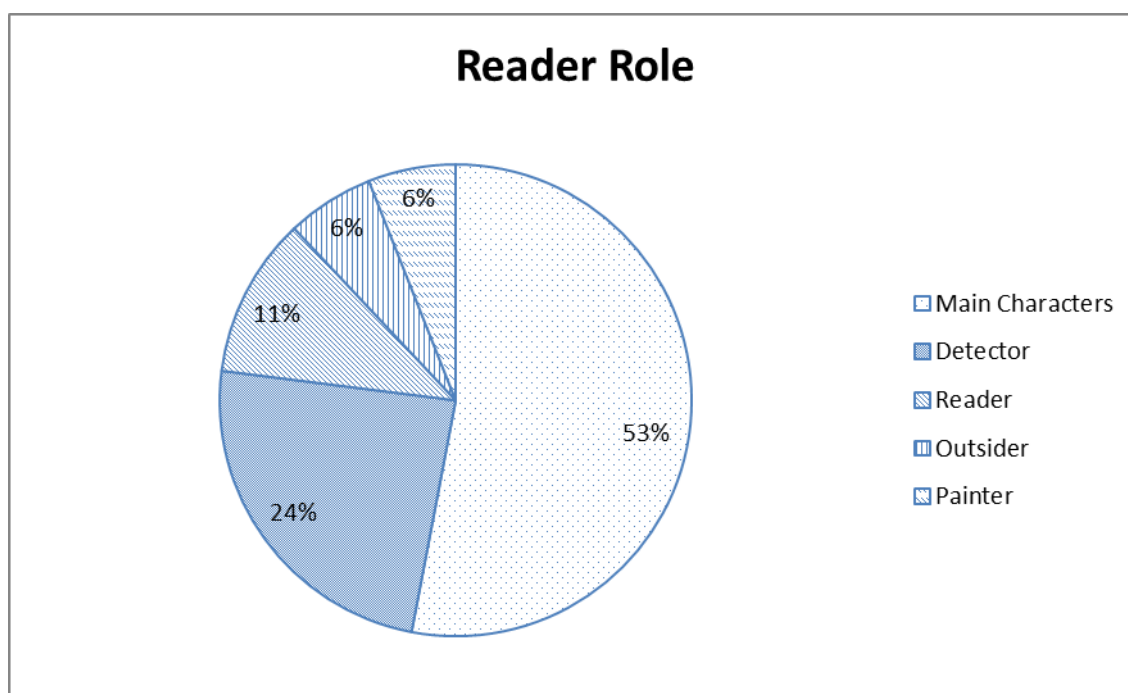


Figure 4.5. Participants' reader role in the Kindle group

Participants' Raising of Higher-order Thinking Questions

Questions were collected from each participant in order to answer research question 3: Are there any significant differences in EIL students' higher-order thinking questions after reading between those who use the Kindle and those who use a hard copy? If so, what are the differences? The researcher examined the participants' raised questions by applying the cognitive domains of Bloom's Taxonomy to sort the questions into different levels. For example, when a student asks a question related to knowledge, such as "What does Jeffery's mother want Jeffery to do?", the question would be categorized as level 1. The complete example was presented in data analysis. Figure 4.6 displays the total number of questions that were raised for each level by the

two groups for three sets of data collection. As indicated, the number of questions from levels 1 to 3 of the hard copy group was greater than that of the Kindle group, while the number of questions from level 4 to 6 raised by the Kindle group is twice that of the hard copy group's.

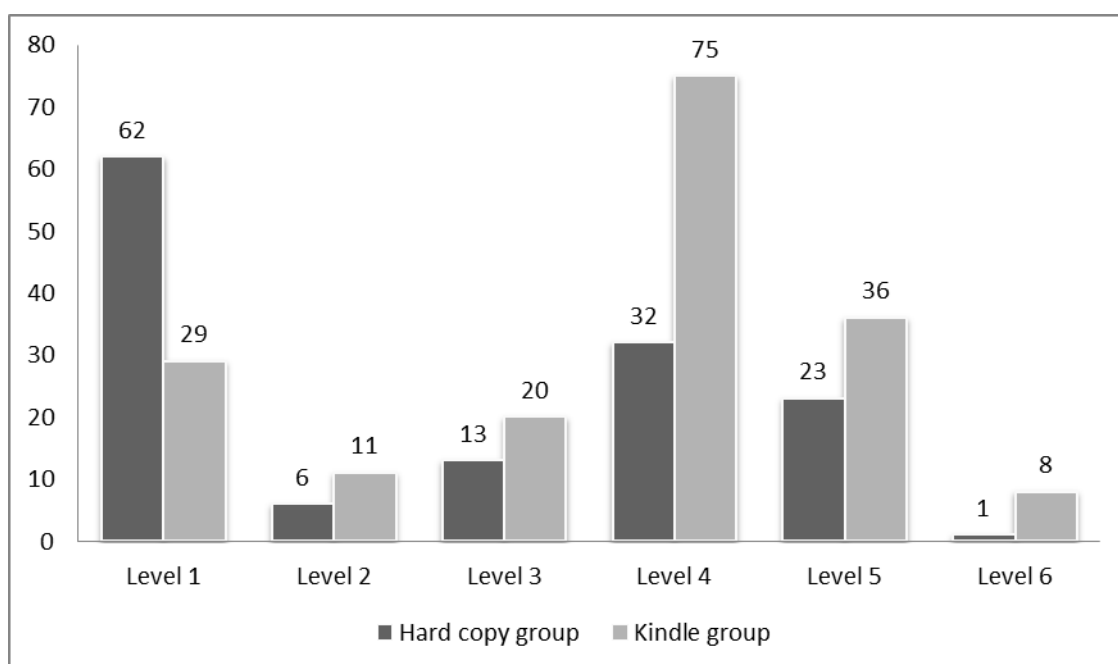


Figure 4.6. Total number of questions asked by the Kindle and hard copy groups

Figure 4.7 displays the total number of questions that were raised for each level in the hard copy group after one semester. The data were collected from 3 sets of prompt sheets in which the participants were asked to raise questions after reading an assigned chapter of the novel. The researcher started to collect data from the second semester because participants were believed to be capable to raise higher-order thinking

questions after receiving reading instruction for one semester. By the end of the study the number of questions from levels 1 to level 3 increased in the hard copy group, as Figure 4.7 shows. However, the number of questions from levels 4 to 6, considered higher-order thinking, fell at the end of semester. Within the six levels, it is shown that the greatest improvement of all is the level 1 question raising. Figure 4.8 presents the total number of questions that Kinderler readers raised, which shows the opposite results. In the Kindle group, the number of questions from levels 1 to 3 decreased while the number of questions from levels 4 to 6 increased after one year of using the Kindle to read.

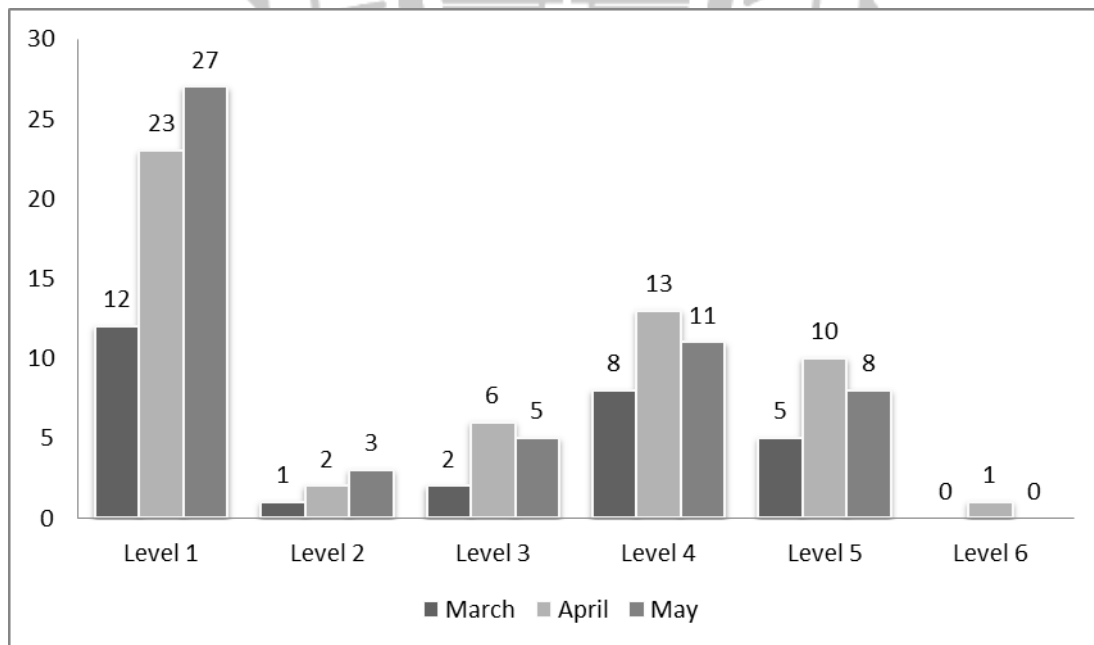


Figure 4.7. Total number questions raised in the hard copy group

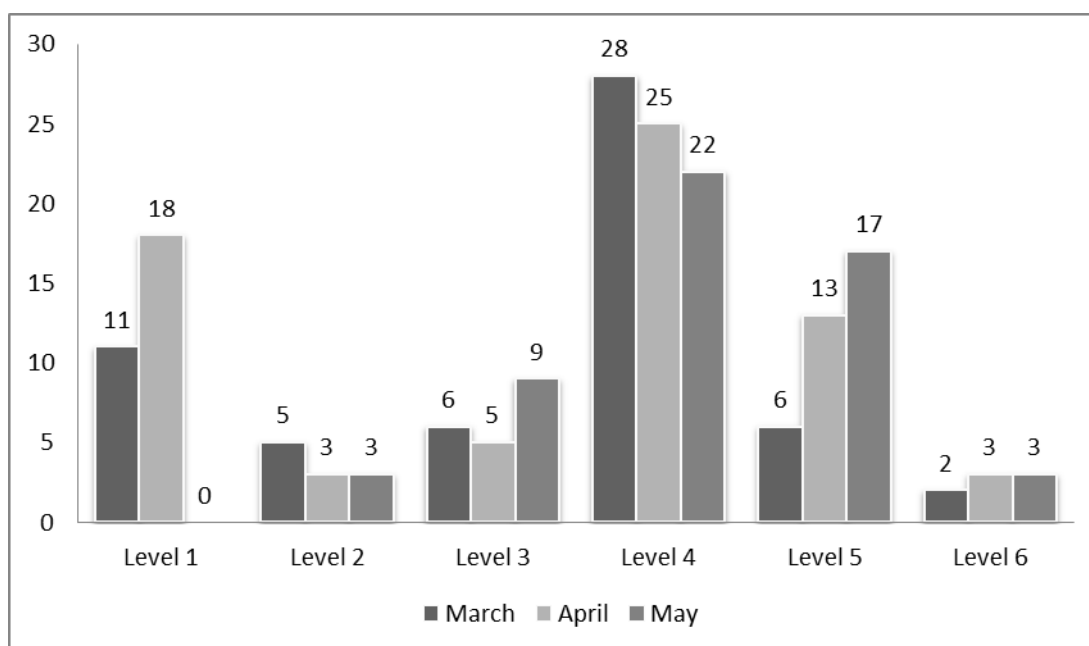


Figure 4.8. Total number of questions raised in the Kindle group

During the fifth month of the directed reading course, participants in both groups were practicing generating questions. The questions raised by participants in the two groups were categorized into the corresponding level of Bloom's taxonomy. Almost all of the participants in the Kindle group raised higher-order thinking; nevertheless, 19 out of 22 participants in the hard copy group tended to raise questions from level 1 to level 3, especially level 1 questions. These four examples were picked randomly to present the situation of the raising question in both groups. The following figures (Figure 4.7, Figure 4.8, Figure 4.9, Figure 4.10) provide samples of participants' raising of higher-order thinking questions from both groups. Sample questions are provided under each participant with the correct level stated. In the hard copy group, Susan and Jessica, for example, raised only lower-order questions. In the Kindle group,

Tina and Joanne successfully raised more higher-order thinking questions during the study, indicating that their abilities of raising higher-order thinking questions were enhanced. For instance, as shown in Figure 4.8 and Figure 4.9, with the same content (*The Penderwicks*), Jessica (Figure 4.8) only asked surface questions about the characters in the novel, but Tina (Figure 4.9) asked more deeply about the same content.



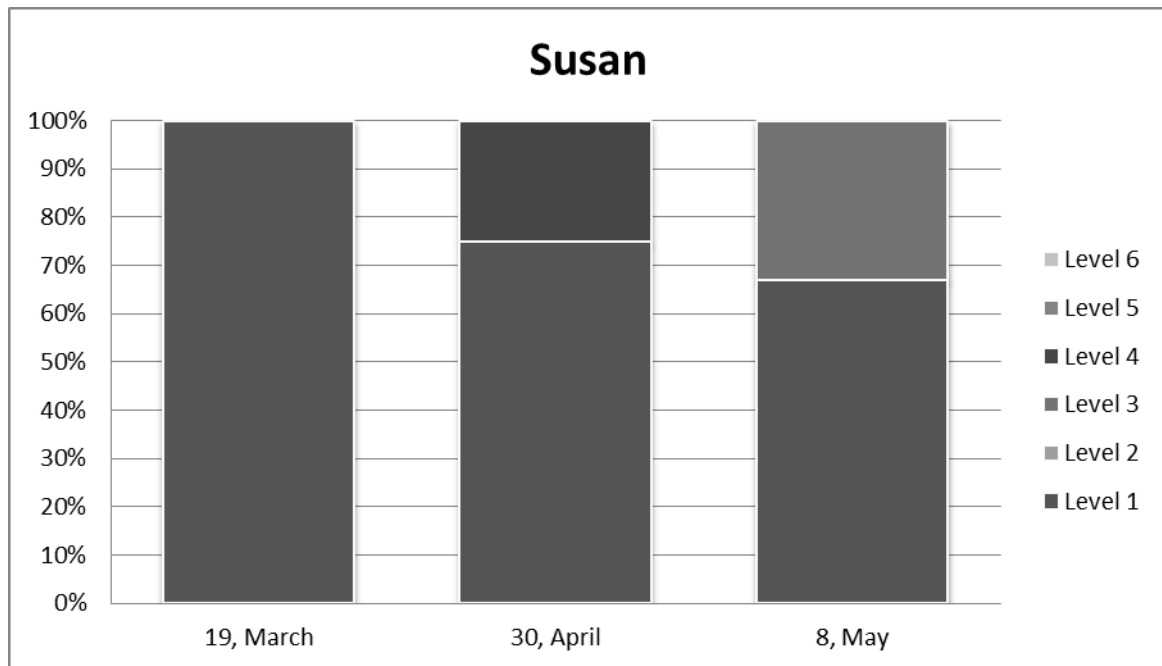


Figure 4.9. Sample questions of participant, Susan, in the hard copy group

- March 19: What was Mr. Penderwick's favorite saying? (Level 1)
Who went through the gate and was nearly attacked by the bull? (Level 1)
- April 29: Why will Jeffrey go to P[r]incey Military Academy? (Level 4)
There are two things that Jeffrey hates in chapter 9. What are they? (Level 1)
Batty gives Jeffrey a picture. What kind of picture? (Level 1)
What does Mrs. Tifton worry about? (Level 1)
- May 08: What did Jeffrey do after he knew he couldn't change his mother's mind? (Level 1)
If you were Jeffrey, would you dare run away from your mother? (Level 3)
Who loves listening to opera music? (Level 1)

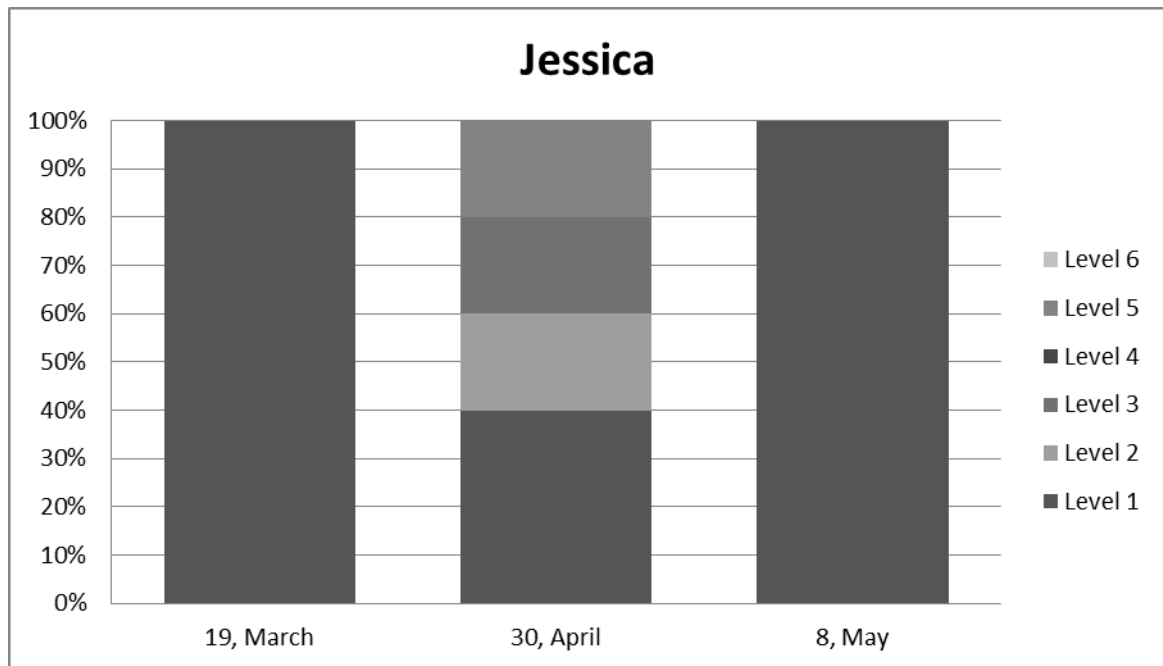


Figure 4.10. Sample questions of participant, Jessica, in the hard copy group

- March 19: Where did Skye, Jane, Jeffrey and Batty go? (Level 1)
 What did Batty think after she was rescued? (Level 1)
 What did Batty leave in the field? (Level 1)
- April 30: Does Jeffrey want to be a soldier? (Level 1)
 If you were Jeffrey, would you be happy to get a book as a present?
 (Level 3)
 Who is dancing with Mrs. Tifton? (Level 1)
 How does Mrs. Tifton feel about the Penderwick girls? (Level 2)
 What would you do if your idea is against your parents? (Level 5)
- May 08: What did Skye feel when she listened to the opera music? (Level 1)
 Where did Skye want to go? (Level 1)
 Where was Jeffrey supposed to sleep? (Level 1)

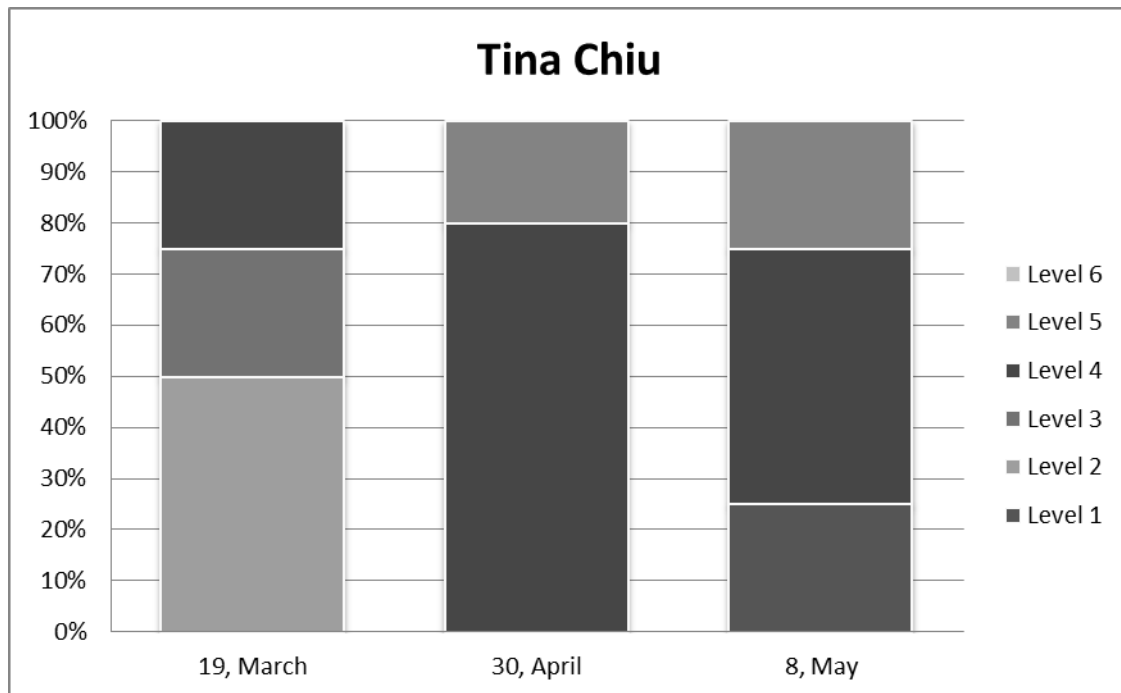


Figure 4.11. Sample questions of participant, Tina, in the Kindle group

- March 19: When you are facing the animal which is going to attack you, what will you do to save your life? (Level 3)
 Why [don't] Jeffrey and Skye have a good relationship? (Level 4)
 What characteristics do[es] Jeffrey have? (Level 2)
 How does Betty run into the field where the bull is? (Level 2)
- April 30: Why do the Penderwicks and Jeffrey escape? (Level 4)
 Why does Jeffrey refuse to talk about Pencey Military Academy? (Level 4)
 If your parents ask you to do something that you don't like, will you refuse to obey? (Level 5)
 Why does Mrs. Tifton not like the Penderwick girls? (Level 4)
 Why does Mrs. Tifton want to send Jeffrey to military school? (Level 4)
- May 08: Why did Mr. Penderwick love to listen to the opera? (Level 4)
 What plan did Jeffrey make to flee from his mother? (Level 1)
 If you were Jeffrey, would you be able to be as independent as him? (Level 5)
 Why was Jeffrey's mom so angry about him? (Level 4)

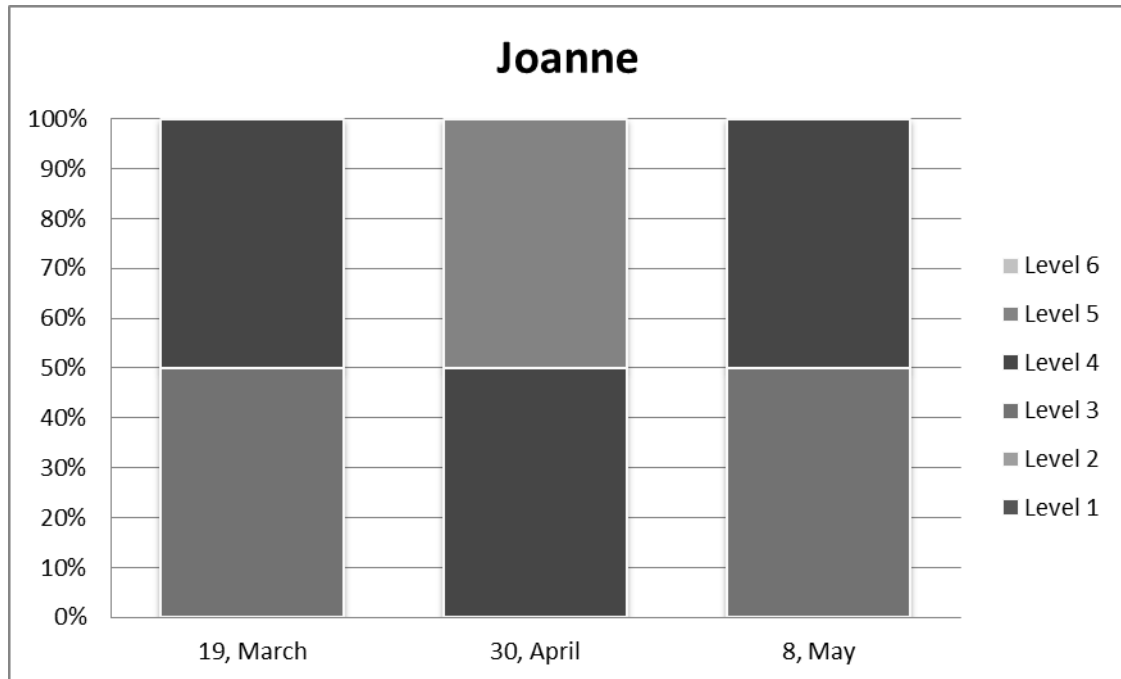


Figure 4.12. Sample questions of participant, Joanne, in the Kindle group

- March 19: Why did Batty go into the bull's field? (Level 4)
 If you were Batty, would you follow the sisters' order? (Level 3)
- April 30: Why was Jane so eager to publish her book? (Level 4)
 Why did Dexter want to send Jeffrey to military school? (Level 4)
 If you were Jeffrey, what would you do when you learned your mother is going to get married again? (Level 5)
 If you were the sisters, what would you do to help Jeffrey? (Level 5)
- May 08: If you were Jeffrey, would you plan this kind of plan to achieve your dream? (Level 3)
 Why did the Penderwicks go back to see Jeffrey? (Level 4)

From these four random samples, it is obvious that the participants in the Kindle group tended to analyze the content and try to find relationship between characters in the novel; nevertheless, the participants in the hard copy group tended to ask questions on the surface rather than striving to find deeper meaning.

Effects of Hard Copy and Kindle Readers on Participants' Self-efficacy in Reading

In this section, the researcher answers the fourth research question: Are there any differences in EIL students' self-efficacy between those who used the Kindle and those who used a hard copy? If yes, what are the differences? The Self-Efficacy Scale was given to the 45 students after their participation in a semester-long reading course. An independent t-test was conducted to investigate whether there were significant differences in self-efficacy in reading between the two groups. The independent t-test result is presented in Table 4.8. As shown, no significant differences were found between the two groups ($\alpha=.05$).

Table 4.8.
Independent Samples T-Test of the Self-Efficacy Scale

	Mean	Std. Error	T	df	P
	Difference				(2 tailed)
Self-efficacy in reading	1.17	2.35	.50	41	.560

* $\alpha=.05$

The first part of the open-ended questionnaire contains five questions addressing the participants' responses to self-efficacy. The questions were designed to determine whether the use of a Kindle affects their self-efficacy in reading. The participants' responses to these questions were coded, analyzed, and interpreted in order to answer research question 4: Are there any significant differences in EIL students' self-efficacy

in reading between those who used a Kindle and those who used a hard copy? If yes, what are the differences?

1. Half of the participants in both groups did not think they were good at reading the assigned novels.

According to the feedback received, 35% of the participants in the hard copy group agreed they were good at reading the novels, while 50% disagreed with the statement, and 11% were neutral. The most frequent reason the respondents thought they were good readers is that they could understand and get the idea of the novel and they looked up new words to make sure their interpretation was correct. For instance, Participant M said that “I think I was good at reading these books because I could picture the images as the plot went on. Also, when I discussed the plot with my friends, I could tell them what happened in a particular chapter.” Participant Allen responded that “I think yes, because I can know what it is talking about through finding words in the dictionary.” As for those who took a neutral position, they said that whether they were good at reading the novels depended on the content of the novel.

The responses of the participants in the Kindle group showed that 35% of the participants thought they were good at reading these novels, 47% did not think they were good at reading the novels, and 18% stated that it depends on the content of the novel. The most frequently mentioned reason for why they felt they were good at

reading novels is that they used strategies during reading. For example, Participant Vicky stated, “I use strategies in reading books and I have a habit of reading novels at least 40 minutes a day.”

2. Participants in the Kindle group tended to regard themselves as good problem-solving readers while hard copy readers did not.

The responses of the participants in the hard copy group showed that more than half of the participants did not think they were good problem-solving readers when reading novels. Among the respondents in the hard copy group, 14 (67%) thought they were good problem-solving readers, while 33% thought that they were poor at solving problems during the reading process. The most frequent reason participants felt they were good problem solving readers is that they attempted to find the meaning of a word. For example, Participant Amy said, “I can find many ways to search for information about the meaning of the vocabulary.”

By the same token, the responses of the participants in the Kindle group showed that more than half of the participants thought they were good problem-solving readers when reading the assigned novels. Among the participants in the Kindle group, 78% thought they were good problem-solving readers and 22% thought they were poor at solving problems during their reading process. The most frequently mentioned reason is that they strive to find the answer or ask friends when they find they have problems

with the novel. For instance, Participant Scott said, “I would do whatever I could to try and find solutions for my problems.” Both Participants Vicky and Peter mentioned that they discussed with friends the sections of the book or vocabulary they did not understand.

3. More than half of the participants in the hard copy group thought they were good readers, but participants in the Kindle group thought they were not good readers.

The answers provided by the participants in the hard copy group showed that 56% agreed that they were good readers, 39% thought that they were poor at reading, and 6% stated that it depended on the content of the novel. The most frequent reason for why they thought they were good readers was that they understood the content of the novel and connected themselves with the content of the novel. Participant Alex described, “I think that I am a good reader because I can understand the plot and what the author wants to tell us from the story.”

As for the Kindle group, according to feedback from the participants, only 39% of the participants thought that they were good readers, 33% did not think they were good readers, and 28% thought that whether they were good readers depended on the content of the novel. The most common reasons given by the 39% of students who regarded themselves as good readers were that they were good at connecting personal feelings with the novel and that they monitored their reading. For example, Participant Pamela

said that “I think I am a good reader. If I couldn’t understand the content I read the first time, I would stop and try to figure it out before I continued reading. In short, I monitored my comprehension constantly.” Participant Vicky said that “I think I am a good reader. I have passion in reading and I connect my own feelings to the characters in the novel.” However, most of the 33% who did not think they were good readers described their reading speed as slow. For example, one participant observed, “No, my reading speed is really slow. Every time I found new words I stopped and looked them up in the dictionary. What’s more, if I didn’t write it down, I usually forgot what I read several days ago, so I think the reading log is really helpful.” while another said, “No, I’m not a good reader. I don’t really read it in the time that I have already set up.” and “I think I am not a good reader because I don’t put it in my schedule and follow it.” It is interesting that they interpreted GOOD as a character issue rather than a skill issue in reading the novel.

4. The medium of the novel is not the main factor affecting student reading attitude.

The number of participants in the hard copy group who agreed that the medium affects the reading attitude (42%) is relatively lower than those who disagreed (58%). For those who contended that the medium of the novel affected their reading attitude, the main reason is that they like to read hard copies of book and, therefore, when the medium is a hard copy it will enhance their reading attitude. For example, Participant

Alex said, “I like to read hard copy. Since I like the feeling of a book in my hand while reading, it would definitely influence my attitude. I would take reading novels as a positive thing. And that makes me like and be willing to read.” Participant Jack expressed, “I think the hard copy makes me comfortable to read and it makes me feel it’s easy to read.” Those who disagreed viewed the content as a key factor by responding that, “It all depends on the level of interest in the book. If it is an extremely interesting novel, I can probably read for several hours. If it is not, a few minutes will be enough for me.”; “I think the most important thing to affect me is the content in the books.”; “I don’t think so because they all have the same content, just one is paper and the other is an electronic reading machine.”; and “No, I think the most important element affecting our attitude is the story plot.” To sum up, the participants’ overall thinking, the factor that influences their reading willingness is not correlated with the medium of the novel. Whether the medium is hard copy or not is not the main factor that makes them want to keep reading or stop reading.

According to the Kindle readers’ feedback, more than half of them did not think the medium of the novel affected their reading attitude. As stated by the participants, “Not really, I read the novel depending on if it is interesting for me to read or not.”; “No, I think the content of the novel is much more important and affects my reading interest or reading motivation.”

Group Interview

In addition to the statistical analysis of the quantitative data, results of the group interview from both groups were used to analyze participants' reading behavior, reader response, and self-efficacy in reading. As shown in Table 4.9 and 4.10, the results provide detailed information of participants' own opinion about their reading process. Also, opinions about the operation of the Kindle device are provided to help the researcher gain more insight.

Table 4.9.

Summary of Group Interview from the Hard Copy Group

	Researcher Question	Number of Participants	Participant opinions	
1.	The reason that makes participants stop reading	13	Tired	
		5	Reached the goal	
		3	No Reason	
2.	How they construct scenes in the novel	6	Imagined	
		13	Did not construct a scene during reading	
3.	Have different point of view from the author's	None of them had different opinions from the author.		
4.	How to make sure of the author's meaning	3	Discussed with friends	
		7	Guessed	
5.	Set a goal before reading	Yes	1	One page a day
			1	One hour
			3	As much as I can
		No		
6.	an avid reader or a reluctant reader	9	Avid reader	
		7	Reluctant reader	
		5	Between both of them	

7.	Other opinions	1	The sentences are too crowded and it makes me tired.
		1	If we could choose the one we like and read rather than being assigned, we will be willing to read.

Table 4.10.

Summary of Group Interviews of the Kindle Group

	Researcher Question	Number of Participants	Participant Opinions	
1.	The reason that makes participants stop reading	3	Internet	
		2	Cell Phone	
		3	Friends	
		1	Forget previous plotlines	
		1	Part-time job	
		1	Dinner	
2.	How to construct scenes in the novel	6	Imagined	
		1	Used the description to construct the images of every character.	
		1	Related the plots to my experience.	
		1	The author writes vivid verbs and it's like a movie.	
3.	Have different point of view from the author's	None of them had different opinions from the author.		
4.	How to make sure of the author's meaning	8	Discuss with friends	
		1	When I find there is an inconsistency of my understanding	
5.	Set a goal before reading	Yes	7	A chapter a day
			1	Two hours a day
6.	avid reader or a reluctant reader	9	Avid reader	
		10	Reluctant reader	
		2	Between both of them	
7.	Opinions about using the Kindle			
	The built-in dictionary of the Kindle	1	There's no Chinese meaning	
		12	Used another dictionary	
	Under what circumstances	The function	Yes, when I want to keep reading	

do you feel Kindle is useful?	of built-in dictionary	smoothly.
	Text-to-speech	I can listen to the text before going to bed.
	Taking a bus	It is more convenient to carry the Kindle than to carry a lot of books.
Disadvantages of using the Kindle	1	There's a limitation of word length so I have to separate what I type.
Other opinions	The Kindle sometimes is beneficial but I am not used to using it.	
	The Kindle is kind of like an iPad but not like an iPad; I will choose the iPad to read.	

The group interview with the Kindle group shows that the reasons that distracted Kindle readers are more related to environmental influences, such as the Internet, cell phone, and invitations of friends. However, for the hard copy reader, the reasons why they stopped reading are mainly related to themselves. For instance, they got tired or they finished their reading task. Further, compared to hard copy readers, Kindle readers were more likely to immerse themselves in the plots of the novel; however, few participants in the hard copy group mentioned they imagined the plots when they were reading hard copy novels. Finally, it is surprising to find out that most students were still not familiar with using the Kindle device to read even though they have been exposed to digital environments. This might result from the fact that although students frequently use digital products, they have not viewed the digital products as learning aids.

Discussions

This part compares the results of the present study with those of other studies that were mentioned in the review of the literature. There are three sections. First, the effects of Kindle-mediated reading on participants' reading behavior will be presented. Then, the effects that Kindle-mediated reading brings on participants' reader response and their raising of higher-order question will be discussed. Finally, the discussion about the relationship between the use of the Kindle and the learners' self-efficacy in reading will be provided.

Kindle-mediated Reading Has Positive Effects on Learners' Reading Behavior

The use of the Kindle device makes a difference on participants' reading behavior, including their during-reading behavior, strategy use, and reading frequency. First, the results from the Reading Behavior Questionnaire indicate that the use of the Kindle significantly enhanced the participants' reading behavior after one year of using the Kindle to read. This is consistent with the findings from the previous studies that digital media influences readers' reading behavior (Liu, 2005). Instead of observing readers' reading behavior, similar to the current study, Liu gave the participants a survey to investigate how their reading behavior changed with digital media. Liu found that learners' reading behavior was enhanced with digital media. Liu's study relied on

the participants' self-report over the past ten years; thus he could only focus on the overall changes (e.g. increase, decrease) of the participants' reading behavior. However, this study lasted for one year and the participants have clearer memories to provide concrete descriptions about their own reading behavior.

In addition, the results from the Reading Behavior Questionnaire indicate that the participants in the Kindle group show progress in their reading behavior, especially in the category of strategy use. This finding coincides with the previous research that reading digital text may require strategies during the reading process (Burbles & Callister, 2000; Lee & Baylor, 2006). In contrast, the paired sample t-test of the Reading Behavior Questionnaire of the hard copy group shows that there was no significant difference in strategy use after reading a hard copy for one year, which concurs with the previous studies that readers cannot read deeply but only look for surface information even though they are provided with a good series of fiction in printed format (Arua & Arua, 2011; McIntye, 1992; Liu, 2005).

Furthermore, the analyses from the Kindle groups' reading logs show that they tended to finish the assigned reading task in one sitting, which echoes Liu's (2005) finding that the screen-based readers tended to have one-time reading. In Liu's study, in an attempt to investigate time spent on reading in the digital era, the participants were asked the following questions: (1) time spent on reading; (2) percentage of time

spent on reading printed documents; (3) percentage of time spent on reading electronic documents, etc. The primary finding of the time spent on reading is that information exploration and digital technology were two major reasons contributing to the increase in reading time (Liu, 2005), which supports the result of this study. In other words, Kindle-mediated reading may help readers focus on the text and increase their reading time. Therefore, Kindle-mediated reading appears to have positive effects on learners' reading behavior.

The Use of the Kindle Brings about Different Interactive Experiences with the Texts

To examine whether the use of the Kindle affects participant's reader response, including reading experience and reader role during the reading process, the researcher used the prompt sheets and the open-ended survey to collect data. The results from the prompt sheets show that participants in the Kindle group tended to define themselves as leading characters of the novels and immerse themselves in the text while they were reading, which implies that the use of the Kindle device may help readers create an immersive experience.

The results of this study also confirm previous findings regarding the experience of hypertext reading. The researcher found that Kindle readers tended to have

immersive experiences while using the Kindle to read the novel, which was similar to previous findings (Mangen, 2008; Douglas & Hargadon, 2000). Mangen (2008) pointed out that a technologically enhanced environment facilitates a sense of being immersed in a fictional environment. Similarly, Douglas & Hargadon (2000) stated that readers may use their own cognitive abilities to create a real world from the symbolic representations and be immersed in a fictional world. This may explain why the participants in the Kindle group thought of themselves as leading characters in the novel during their reading process. Hypertext reading is like interacting with the text and it can determine the reading sequence, which echoes Brubles & Callister's (2000) statement. This active interaction between readers and text makes the readers think more deeply about the text, which leads to better comprehension and to a more critical perspective.

Moreover, under the circumstances of globalization, the status of English has gradually changed and been viewed as an international language. That is, the purpose of learning English becomes how to use English to communicate with others rather than learning English as if it were a native language. This change releases learners from monitoring their language use to focus on getting the meaning from the text. Therefore, the readers may form their own identities during the process of learning English (Ware, Liaw, & Warschauer, 2012). In other words, learners can concentrate on

comprehending the text during the reading process because they do not have to worry about the language use, such as how much of the vocabulary and grammar patterns they have to memorize. This may explain why the majority of the Kindle readers had immersive experiences when they were reading the assigned novels.

Kindle Readers raised much more Higher-order Thinking Questions

Based on the results derived from the questions raised by the participants as a post-reading activity from both groups, the participants in the Kindle group raised a greater number of higher-order thinking questions than the hard copy group. Participants in the hard copy group tended to raise more lower-order thinking questions, such as information questions. The results suggest that Kindle-mediated reading may be correlated with the participants' capacity to raise higher-order thinking questions.

Hartman *et al* (2010) proposed that the chance of authorship challenge may make readers feel that they can decide the process of reading and therefore their levels of critical thinking may be enhanced. This may explain why the participants in the Kindle group raised more higher-order thinking questions which are commonly seen as an indication of critical thinking ability. Because the Kindle readers can decide reading sequences, they may think of themselves as more than passive readers, but rather active meaning makers. As a result, the Kindle readers are able to process the written texts in

a greater depth. This finding is in agreement with Charney's (1994) viewpoint that hypertext reading changes the way people process information. Another reason is that participants may be more conscious to make a decision during the reading process and thus their critical thinking is encouraged. In other words, instead of following the conventional page order, Kindle readers are free to decide what reading sequence they want to pursue and tend to monitor their reading progress to validate their conscious decision making. This critical perspective is necessary if readers are to create effective hypertext of their own. McKnight (2000) stated that "the level of questions asked influences the depth of thinking that occurs" (p.39). Likely, the participants in the Kindle group raised higher-order thinking questions because their depth of thinking was greater.

Leaner Control did not Help Readers Boost their Self-efficacy during the Reading Process

The independent sample t-test of the self-efficacy scale shows that there was no significant difference in self-efficacy in reading between the two groups. Additionally, according to the open-ended survey, nearly 1/3 of the participants in the Kindle group regarded themselves as poor readers. However, 78% of the Kindle readers believed their problem-solving ability during the reading process was good, implying that they

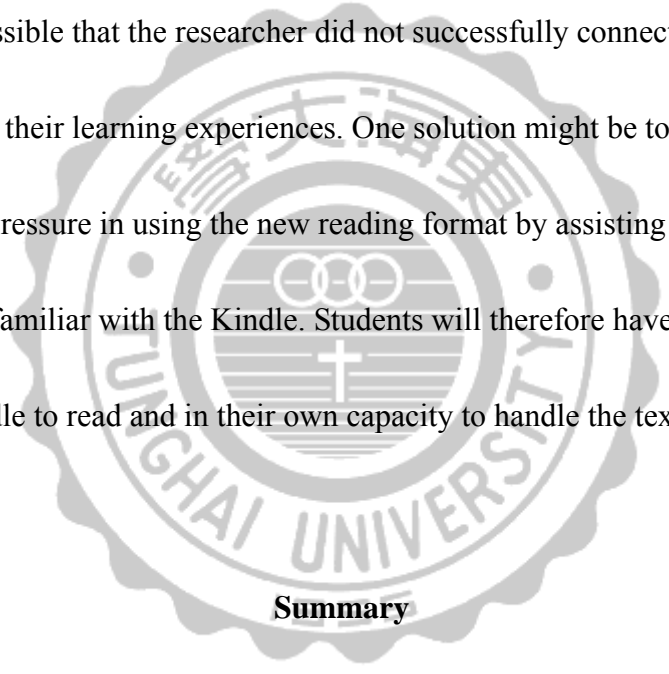
have confidence when encountering difficulties.

Lawless & Brown (1997) proposed that self-efficacy can be improved by giving learners control over their learning environment. Also, Chou & Liu (2005) stated that hypermedia can provide learners a sense of control, which in turn will affect their level of confidence and motivation. Nevertheless, the current result from the independent sample t-test of self-efficacy scale shows no such positive effects of hypertext reading on reader self-efficacy (Lawless & Brown; 1997, Chou & Liu, 2005).

The fact that the current participants in the Kindle group didn't consider themselves to be good readers but they do consider themselves good problem solvers may be because the definition of a good reader differs from reader to reader. The participants' definition of a good reader did not help them think they have high self-efficacy in reading. In other words, some students defined "good" as a character assessment while others defined it as a skill assessment; thus, Kindle readers may have a different definition of "good readers." The fact that 78% of the Kindle readers believed they are good problem-solving readers may implicitly support the statement that hypertext reading may enhance one's reading self-efficacy. In addition, since this is the very first time for participants in the Kindle group to use a Kindle to read, some Kindle readers may take the operation of the Kindle into consideration when they consider whether they can accomplish a reading task successfully. Once users feel

comfortable with operating the Kindle, they will become more confident.

Another interesting finding is that although the participants in the present study were between ages 18 and 20, a typical net generation cohort, they said that they were not accustomed to using technological gadgets for learning purposes. In other words, it is not because the participants' lack the ability to handle the technology for reading but because they cannot relate the technology they use in their daily lives to that used for learning. It is possible that the researcher did not successfully connect the students' life experiences with their learning experiences. One solution might be to reduce the Kindle readers' pressure in using the new reading format by assisting them in becoming more familiar with the Kindle. Students will therefore have more confidence in using the Kindle to read and in their own capacity to handle the text.

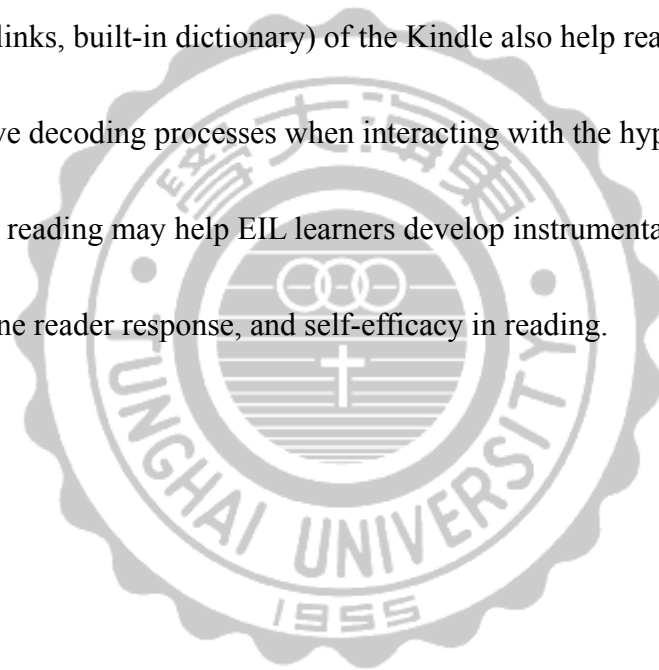


Summary

After comparing and discussing the findings of this study with previous research, the findings of this study confirms the postulation regarding the effects hypertext reading render on readers' reading behavior, reader response, and self-efficacy in reading. Kindle readers' reading behavior was indeed enhanced with greater stamina in reading. Then, Kindle readers have the tendency to immerse themselves in the texts. Moreover, the number of Kindle readers raising higher-order questions is much greater

than by those in the hard copy group. Finally, the majority of the Kindle readers affirm that their problem-solving ability was enhanced during the reading process.

To sum up, hypertext reading is not as simple as it appears to be on the surface; it is characteristically different from reading traditional, print-based texts. In using the Kindle to read the novels, readers not only changed their reading behavior but also provided chances to decide their own authorship and reading sequences. Additional functions (hyperlinks, built-in dictionary) of the Kindle also help readers create different cognitive decoding processes when interacting with the hypertext. As a result, Kindle-mediated reading may help EIL learners develop instrumental reading behaviors, genuine reader response, and self-efficacy in reading.



CHAPTER 5

CONCLUSIONS

This final chapter draws conclusions by first summarizing the study and the major findings of its four research questions, and then by presenting the pedagogical implications for EIL college English teachers. Finally, the limitations of the current study are described and suggestions for future research are provided.

Summary of the Major Findings

In this section, major findings obtained from this study regarding the effects of Kindle-mediated reading on reading behavior, reader response, and self-efficacy in reading will be mentioned. The following findings will be presented in the sequence of the four research questions proposed in this study.

First, results gained from the English Reading Behavior Questionnaire, reading log, and the second part of the open-ended survey were used to answer Research Question 1: Are there any significant differences in EIL students' reading behavior between those who use a Kindle and those who use a hard copy? If yes, what are the differences? The statistics showed that the Kindle groups made progress in reading behavior after a year of extensive reading. Further, the data from participants'

weekly-kept reading log showed that Kindle readers tended to read the novel in one sitting but most of the hard copy readers took four sittings to finish the assigned reading task. Moreover, the open-ended questions showed that almost every participant agreed that their reading behavior might be affected by the use of a different medium for reading the novel. Furthermore, most participants from the Kindle group affirmed the function of the Kindle.

Then, qualitative data collected from participants' prompt sheets, open-ended survey, and group interviews were used to answer Research Question 2: Are there any significant differences in EIL students' reader response between those who use Kindle and those who use a hard copy? If yes, what are the differences? It was shown that Kindle readers tended to imagine themselves as main characters in the novel and they had immersive experiences while reading the novels. Also, the participants' response to the open-ended survey showed that Kindle readers tended to think of themselves as the leading character in the novels and experienced the plots, but hard copy readers tended to view themselves as outsiders during their reading process.

Third, qualitative data collected from participants' prompt sheets was used to answer Research Question 3: Are there any differences in EIL students' higher-order thinking questions between those who use the Kindle and those who use hard copy? If yes, what are the differences? The results showed that Kindle readers raised much

greater higher-order thinking questions than the hard copy readers. Instead, participants in the hard copy group raised more questions referring to information questions.

Finally, findings gained from the self-efficacy scale, the interview and the open-ended survey were used in order to answer research question 4: Are there any significant differences in EIL students' self-efficacy in reading between those who use the Kindle and those who use a hard copy? If yes, what are the differences? The results of the independent sample t-test indicated that there was no significant difference between the two groups. The open-ended survey showed that only 1/3 (35% in the hard copy group and 39% in the Kindle group) of the participants in both groups regarded themselves as good readers. However, the great majority of the participants in the Kindle group believed they were good problem-solving readers during the reading process.

Pedagogical Implications

Several pedagogical implications were drawn from the results of the current study. First, the results of the study suggest that Kindle-mediated reading can help learners enhance their views of their own reading behavior and enable them to focus on the text for greater periods of time. Therefore, it is recommended that if language teachers, especially teachers who teach English-major students in universities in Taiwan, aim to

help students improve their reading behavior, hypertext reading is a good method.

Second, the results of the prompt sheets implied that the participants from the Kindle group raised more higher-order thinking questions than those raised by the hard copy readers. Raising higher-order thinking questions is helpful for language learners because it will trigger learner's thinking skills and strengthen their critical thinking. Accordingly, Kindle-mediated reading may provide students with a new way of reading English and exploring their mental universe to make connections and value.

Finally, the use of technology not only has the potential to be a tool of great use in the language classroom, but also to serve as a vehicle for a rich reading experience and language learning. Though frustrations and difficulties were identified by participants in both the group interviews and the open-ended survey, students discovered the advantages of the Kindle and admitted that they do not like it because they were not used to using it yet. They have read hard copies of books for more than a decade and were just starting to learn how to use technological products in their learning.

Therefore, since this may be a trend in the future, there is indeed a need for teachers to grasp the importance of incorporating reading technology into the classroom.

Limitations of the Study

The current study was conducted to investigate the effects of Kindle-mediated reading on EIL English-major freshmen's reading behavior, reader response, and self-efficacy in reading. Although the findings of this study suggest some positive and important outcomes and have yielded findings that have pedagogical implications, the study is subject to certain limitations.

The first limitation concerns the small sample size of the study. Since the study only involved 45 participants, the results might not be broad enough to apply to other EIL English-major university students in Taiwan. If possible, a larger sample size may provide more reliable data. In addition, since the participants in this study were English-major Taiwanese university freshmen, the results of this study may only be generalized to English-major university freshmen in Taiwan.

Second, for the present study, the participating students were assigned reading materials and could not choose what they would like to read. Thus, it is possible that the failure to provide students with the choice of their own reading materials affects their self-efficacy in reading. If the participants had been given the chance to choose their own reading materials, they might have been more actively involved in the reading process.

Third, the participants in this study were only given the self-efficacy scale at the

end of the semester. If the participants had been given the self-efficacy scale at the beginning of the semester, the researcher might have compared their pre- and post-scores instead of only looking for the differences in the post scores between the two groups.

Suggestions for Future Research

Although the present study has its limitations, the findings of the present study highlight the need for research to investigate methods for integrating hypertext into the reading classroom. In order to facilitate the implementation of future studies related to hypertext and Kindle-mediated reading, some suggestions are offered. It is hoped that this study can serve as a basis for future study in the field of reading behavior, reader response, and self-efficacy in reading for college students in the EIL environment. As for the limitations of the study stated in the previous section, several suggestions are provided for future studies.

First, in order to gain broader and more in-depth insights from the student point of view, it is recommended that when this study is replicated, a larger sample size could be recruited. In addition, since the participants in the current study were English majors in an EIL context, there is a need to investigate students with different language proficiencies. This would give teachers and researchers a clearer understanding of the

effects of Kindle-mediated reading in the classroom in an EIL context.

Second, this study focused on how the integration of Kindle-mediated reading affects participants' reading behavior, reader response, and self-efficacy in reading. More studies are needed to explore other potential factors and effects of integrating Kindle-mediated reading into English learning. If more studies are done in this field, language teachers and researchers may have a more complete picture of how to best incorporate Kindle-mediated reading in the classroom. Further, as the materials used in the current study were assigned materials, it is of great interest to know whether and how the results will differ if students are given the opportunity to choose their own reading materials.

Finally, for future studies, it is suggested that college teachers' perspectives of integrating Kindle-mediated reading into the classrooms may be included. There is a need to investigate the benefits language teachers obtain and the difficulties they encounter when conducting Kindle-mediated reading in their regular English classes.

As a result, the findings can provide more concrete and constructive opinions for those teachers who intend to incorporate Kindle-mediated reading into their English curriculum.

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APPENDICES

APPENDIX A: Self-assessment on Critical Thinking

Name: _____

Self-Assessment on Critical Thinking

		Strongly agree	Agree	Disagree	Strongly disagree
1.	I can remember and recognize the things that I have read. 我能記得和認出故事中的人物和事件。				
2.	I can list the names of people, places, and things. 我能列舉故事中的人物，地點和其他事件的名稱。				
3.	I can summarize the major points of what I read into my own words. 我能用自己把文字把故事的大綱總結起來。				
4.	I can explain why (e.g. Why did the character act in this way? Or why did something happen?). 我能解釋”為什麼”如”為什麼故事的主角會有如此的行為?”或”為什麼會發生這種事情?”				
5.	I can make connections from the story to my own life. 我能把自己的生活與故事的人物或情節作連結。				
6.	I can relate my past learning or knowing to the story. 我能把過去的經驗和之數與故事作聯繫。				
7.	I can discover the important points in the story.				

	我能找出故事中的重點。				
8.	I can analyze the important characters and events in the story. 我能分析故事中的重要角色和事件。				
9.	I can explain how important points fit together. 我能解事故事中的重點，相互之間有什麼關聯？				
10	I can find similarities and differences between characters. 我能找出角色與角色之間的相同與不同的地方。				
11	I can compare the story with other stories I read before. 我能用別的故事與這故事作出比較。				
12	I can organize main points of the story in a logical way. 我能合理地組織故事中的重點。				
13	I can imagine myself in the story or time that I am reading. 我能在閱讀中把自己想像在故事的情節中。				
14	I can solve the problem in the story. 我能解決故事中的問題。				
15	I can decide which characters are good and bad. 我能判斷故事中的哪一個角色是好是壞。				
16	I can evaluate the value of the story. 我能評估故事的價值或重要性。				
17	I can judge the story in terms of the characters, events, etc. 我能評論故事中的人物和事件。				
18	I can easily predict the next chapter or the ending of the story. 我能輕易地預測下一章(當完成閱讀前一章)或故事的結局。				

APPENDIX B: Reading Materials

	Reading Material	Author	Publisher
1.	<i>Holes</i>	Louis Sachar	Yearling
2.	<i>Hoot</i>	Carl Hiaasen	Alfred A. Knopf
3.	<i>Bud, not Buddy</i>	Christopher Paul Curtis	Yearling
4.	<i>The Prince of Alasia</i>	Annie Douglass Lima	Annie Douglass Lima
5.	<i>The Penderwicks</i>	Jeanne Birdsall	Alfred A. Knopf



Appendix C

Reading Behavior Questionnaire

Please rate how true the following statements are to you while you are reading.

English novels

		Very True	True	Sometimes True	Not True at all
During Reading					
1.	I focus my attention on reading.				
2.	I can easily concentrate on the content.				
3.	During reading, I predict what might happen next.				
4.	I use textual clues to assist comprehension.				
5.	I do not know what to do when I don't understand what I am reading.				
6.	I am easily distracted by surroundings while reading.				
7.	During reading, I monitor my own comprehension.				
8.	When seeing an unknown word, I get stuck and give up.				
9.	I set a goal to fix my focus on reading.				
10.	Setting a reading goal makes no difference to me when reading English novels.				
Strategy Use					
11.	I interpret the unfamiliar word by contextual clues.				
12.	I use strategies while reading. (ex: scanning, skimming, summarizing, predicting, etc)				
13.	I picture the plot in the novel.				
14.	I connect my own experience with the plots in the novel.				

15.	I connect the text I am reading with my prior reading.				
16.	I connect the text I am reading to the world outside the classroom.				
17.	I look up words in the dictionary when seeing unknown words.				
After Reading					
18.	I reflect on what I have read.				
19.	I share what I have read with others.				
20.	I discuss the novel with others.				
21.	I try to relate the scenarios from the book to my life experience.				
22.	I am able to summarize the main ideas.				
23.	I form my own opinion about the novel.				
24.	I find additional information from outside sources.				
25.	I finish reading and stop thinking about it.				
26.	I regard my reading success as a result of luck.				
27.	I can listen and respond orally to other's opinions and questions about the book.				

Appendix D

Reading Log

1.	Date:	Reading Time:	Reading Pages:
	About this section: Main ideas: Characters:	Notes: (ex: the vocabulary I have learnt)	
	The reasons I stopped reading: <input type="checkbox"/> Too tired. <input type="checkbox"/> I got distracted by other things. (ex: MSN, Facebook, cell phone, etc) <input type="checkbox"/> I have another schedule. <input type="checkbox"/> I have fulfilled my reading schedule for the day. <input type="checkbox"/> No reasons. <input type="checkbox"/> I felt I have completed a section. Others: _____ (Please specify)		
2.	Date:	Reading Time:	Reading Pages:
	About this section: Main ideas: Characters:	Notes: (ex: the vocabulary I have learnt)	
	The reasons I stopped reading: <input type="checkbox"/> Too tired. <input type="checkbox"/> I got distracted by other things. (ex: MSN, Facebook, cell phone, etc) <input type="checkbox"/> I have another schedule. <input type="checkbox"/> I have fulfilled my reading schedule for the day. <input type="checkbox"/> No reasons. <input type="checkbox"/> I felt I have completed a section. Others: _____ (Please specify)		
3.	Date:	Reading Time:	Reading Pages:
	About this section: Main ideas: Characters:	Notes: (ex: the vocabulary I have learnt)	

	The reasons I stopped reading: <input type="checkbox"/> Too tired. <input type="checkbox"/> I got distracted by other things. (ex: MSN, Facebook, cell phone, etc) <input type="checkbox"/> I have another schedule. <input type="checkbox"/> I have fulfilled my reading schedule for the day. <input type="checkbox"/> No reasons. <input type="checkbox"/> I felt I have completed a section. Others: _____ (Please specify)		
4.	Date:	Reading Time:	Reading Pages:
	About this section: Main ideas: Characters:		Notes: (ex: the vocabulary I have learnt)
	The reasons I stopped reading: <input type="checkbox"/> Too tired. <input type="checkbox"/> I got distracted by other things. (ex: MSN, Facebook, cell phone, etc) <input type="checkbox"/> I have another schedule. <input type="checkbox"/> I have fulfilled my reading schedule for the day. <input type="checkbox"/> No reasons. <input type="checkbox"/> I felt I have completed a section. Others: _____ (Please specify)		
5.	Date:	Reading Time:	Reading Pages:
	About this section: Main ideas: Characters:		Notes: (ex: the vocabulary I have learnt)
	The reasons I stopped reading: <input type="checkbox"/> Too tired. <input type="checkbox"/> I got distracted by other things. (ex: MSN, Facebook, cell phone, etc) <input type="checkbox"/> I have another schedule. <input type="checkbox"/> I have fulfilled my reading schedule for the day. <input type="checkbox"/> No reasons. <input type="checkbox"/> I felt I have completed a section. Others: _____ (Please specify)		

Appendix E

Prompt sheet

1. Please ask questions according to the content you just read.

2. After reading, what is your most favorite plot? Why?

3. After reading, who is your favorite character? Why?

4. After reading, what parts of the plot or characters make you think of your own experience?

5. What is your role during the reading process?

Appendix F
Self-Efficacy Scale

INSTRUCTION: This questionnaire is a series of statements about your personal reading ability. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter that best describes your attitude or feeling. Please be very truthful and describe yourself as you really are, not as you would like to be. Thank you! ☺

		Strongly Agree	Agree	Disagree	Strongly Disagree
I. Self-Evaluation about Reading Behavior					
1.	If someone interrupts me, I can find ways to stick to my goals.				
2.	It is easy for me to stick to my aims and accomplish my reading goals.				
3.	When I set up a reading goal, I often achieve it.				
4.	I am confident that I could read efficiently with unexpected events.				
5.	I know how to handle unforeseen situations when I read the novel.				
II. Self-Evaluation about Reading Ability					
6.	I am confident that I can understand 80% of the novel.				
7.	I have enough of a vocabulary that I can read smoothly.				
8.	I can understand the main idea of a story by myself.				
9.	If the novel seems uninteresting to me, I will not even try to read it.				

10.	I easily give up reading when I encounter unknown vocabulary.				
11.	I can solve most problems if I put forward the necessary effort.				
12.	I am confident that I can retell what I read to my friends.				
13.	I easily quit when I don't understand the story.				
14.	It is a pain to read in English.				
III. Self-Evaluation about Reading Willingness					
15.	I like to read English books.				
16.	I enjoy the challenge I encounter when I read in English.				
17.	Reading English books makes me feel a sense of achievement.				
18.	When reading an interesting English story, I will be engaged in the plot.				
19.	I am afraid of reading English books.				
20.	I will read English books voluntarily.				
IV. Self-Evaluation about Reading Skill					
21.	If I cannot understand the novel, I can guess the plot from the context.				
22.	I am good at using strategies (scanning, skimming, et) to read the novel.				
23.	I am good at reading English books.				
24.	Overall, I am a good reader.				
25.	I believe I will keep making progress in reading English.				

Appendix G

End-of-Year Student Survey

Efficacy

1. Were you good at reading these books? What makes you think that?

2. Were there any difficult parts in these books? What did you do when you encountered difficulties?

3. Were you a good problem-solving reader when reading these books? Why?

4. In your opinion, are you a good reader? Why or why not?

5. What difficulties keep you from reading?

Reading Behavior

6. Will the medium of the novel (hard copy vs. Kindle Reader) affect your reading strategy (learning method) to read? If so, please explain.

7. Will the medium of the novel (hard copy vs. Kindle Reader) affect your reading behavior (reading location, reading time, or frequency of reading)? If so, please explain.

8. Will the medium of the novel (hard copy vs. Kindle Reader) affect your reading willingness? If so, please explain.

9. Will the medium of the novel (hard copy vs. Kindle Reader) affect your reading attitude? If so, please explain it.

Reader response

10. How long do you concentrate on reading?

11. During your reading process, how would you define (describe) your role? Why?

12. In your opinion, between hard copy book or Kinder Reader, which one is more

beneficial for you to improve your English reading?

13. What were the differences between using a hard copy book and Kindle Reader when you read the novel?

Broader Reading Questions

14. Please rank your preference for the following novels: Rank the novels from 1 as the best and 4 as the worst.

Novel List	Rank	Novel List	Rank
<i>Hoot</i>		<i>Holes</i>	
<i>The Prince of Alasia</i>		<i>Penderwicks</i>	
<i>Bud, not Buddy</i>			

14-1. For the novel you marked as best, what are the reasons that you think that novel is the best?

14-2. For the novel that you don't like, also tell me the reasons.

APPENDIX H

GROUP INTERVIEW QUESTIONS

Group Interview Questions:

1. The reason that makes participants stop reading the novels
2. How to construct scenes in the novel
3. Have different point of view from the author's
4. How to make sure of the author's meaning
5. Set a goal before reading
6. Votes on whether they are an avid reader or a reluctant reader

