

International Students' Experiences of Using Online Resources for Academic Writing

by

Ke Tian

B.A., Hunan University of Science and Technology, 2004

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of the Requirements for the Degree of

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Supervisory Committee

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Abstract

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This qualitative descriptive case study investigates four Chinese international students' use of online resources for academic writing in a western Canadian university. This study has direct implications for English as a Foreign Language/English as a Second Language writing instruction as well as international students' use of university library. Methodological triangulation was used to collect data. This included a semi-structured interview, a computer-based writing task, and a think-aloud activity. Data was coded and analyzed within cases and re-analyzed across the four cases. The salient themes that emerged from this analysis include: indispensable role of online resources in academic writing; a solution to language problems; ability of evaluation; a solution to plagiarism; influences of search habits; concerns about graduate students; and the importance of professors. Four major findings of the study include: important uses of online resources for solving language problems; students' search skills in online databases; students' use of the UVic library; and the importance of professors' instruction. These findings will be helpful for educators to consider as they work to integrate online resources for international students' writing instruction, and for academic libraries to consider as they offer services to assist EFL/ESL learners.

Keywords: qualitative case study, triangulation, EFL/ESL writing, university library, online dictionary, online resources

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Chapter 1 Research Motivation

A workman who wants to do his work well must first sharpen his tools

– Confucius, *n.d/1910*, p731

Introduction

My motivation for conducting a qualitative study into the utilization of online resources for English Language Learning (ELL) by selected international university students emerges from my experiences as both an English as a Foreign Language (EFL) learner and a college ELL instructor in China. As an EFL learner, I continually use print and then online resources to help with language comprehension, pronunciation, and writing. As a college ELL teacher for the past ten years, I noticed that many more students began to use online resources for their ELL. These experiences motivate me to consider the role that online resources play in contemporary ELL.

I begin this thesis by discussing my personal and professional context – how I arrived at this study. Next, I discuss the literature that informs the study including the theoretical framework; key challenges that international students face in academic writing; and the commonly used online resources for academic writing. In the third chapter, I describe the methodology that I used for this qualitative inquiry. I represent the rich data of the four individual cases in Chapter Four, and I conclude my thesis by presenting seven salient themes as well as four major findings and key recommendations from my study in Chapter Five.

The aim of this research is to inform academic writing instruction and processes for international students in universities. In particular, this research is meant to impact instructors' knowledge and application of online resources in international students'

academic writing, and to raise institutional awareness at universities in terms of the support needed for efficient and effective use of online resources for academic writing by international students. I now continue this chapter by discussing my personal learning experiences as an EFL learner who used different ELL resources to help build a context for the focus of this study.

Experiences of Using Resources for English Language Learning

Secondary schooling. I began to learn English in the 1990s as a Grade Seven student at Xiangji Middle School. At that time, the learning objective of secondary English education was: to “provide the students with basic training in listening, speaking, reading, and writing, through which the students will have a command of basic knowledge of English and develop a basic ability to use English for communication” (Yong & Campbell, 1995, p. 379). Textbook and teacher-centered pedagogy played a major role in English education during this time (Cortazzi & Jin, 1996). However, although textbook was the major resource for ELL, there were not many options for English textbooks except *Junior English for China* and *Senior English for China* (Grant & Liu, 1993, as cited in Cortazzi & Jin, 1996). My passion for learning a foreign language motivated me to consume almost all of the content in my textbook. For example, memorizing vocabulary and doing reading comprehension. Textbook created a direct route for me to understand what English was. Nevertheless, textbook alone could not satisfy my needs nor support my development as an EFL learner. It became a challenge as to how to get additional learning resources to fulfill my desire to learn more vocabulary, grammar, and the culture conveyed by English.

Fortunately, an English-Chinese dictionary sent by my father as a birthday gift temporarily offset the limitations of my textbook. I used the dictionary both for learning pronunciation and vocabulary. It became a good resource and support for my ELL. But as my learning progressed, I desired to know the differences of ‘synonyms’ – “either or any of two or more words (in the same language) having the same general sense, but possessing each of them meanings which are not shared by the other or others” (Oxford English Dictionary, n.d., "synonym");– the dictionary could not meet my need. Because its content was organized more as a ‘glossary’ – “an alphabetical list of words relating to a specific subject, text, or dialect, with explanations; a brief dictionary” (Google Search, n.d., "glossary"). The page-based dictionary did not have comprehensive information, usage, or sentence examples of an English word except simple Chinese equivalents. The characteristics of my dictionary reflected the features that English dictionaries had at that time. The development of English dictionaries in China started from 1990s, there came to be many small and pocket-sized dictionaries or glossary dictionaries rather than high-quality dictionaries (Yang, 2003). The English dictionaries published for secondary students had a small vocabulary, and little information about a word (Peng, 1995).

Although textbook and dictionary offered limited learning information to me, both of them still supported my initial English learning. The situation of having limited ELL resources was changed during the time that I was a university student.

University. I entered university in 2000 just as new communication technologies were emerging in my life and society as a whole. My experiences of using resources for ELL at this time was mainly reflected in the use of a paper-based dictionary, an electronic dictionary, the Internet, and the university library.

Paper dictionary and pocket electronic dictionary (PED). Different from the experiences I had had in secondary school, I used two different types of dictionaries in university. One was a paper dictionary, and another was a PED. As a student who majored in English Education, the use of the Oxford Advanced Learner's English-Chinese Dictionary (OALECD) was strongly recommended by professors because it was helpful for students' task completion and vocabulary retention (Chen, 2011; Ding, 2015). The OALECD became an indispensable part of my ELL. It provided me with abundant information, which benefited my ELL. For instance, I learned different pronunciations of a word in British English and American English. I also learned different usages of a word according to various sentence examples. And I could understand a word further by reading its English definition. Comparing with the dictionary I had used in secondary school the OALECD satisfied lots of my needs in ELL.

However, there were still some inconveniences in using the paper dictionary. It was inconvenient to carry due to its significant size. In addition, as a comprehensive dictionary, it did not include much specialized information such as idioms and verb phrases. Therefore, I still had to look up other kinds of English dictionaries once I had difficulties in idioms or verb phrases. Simultaneously, during my university education, the PED became an important part of my academic life. I was attracted by it initially because it was portable. Later, I found it stored information from various kinds of dictionaries, which could be used as a complement of the OALECD.

PED mainly serves the English as a Second Language (ESL) learners who speak "character-based East Asian language" (Midlane, 2005, p. 16). It was popular among university students because it not only was a portable and multi-functional device with an

extensive vocabulary collected from various dictionaries, but it could also update its information online (Li, 2009; Ma, 2003; Yao & Liu, 2003; Wang, 2003; Zhang, 2007). With these advantages, I used it as for the same purposes as other ELL students such as reading, translation, and writing (Li, 2009; Ma, 2003; Wang, 2003).

Although the PED benefited my ELL, I gradually realized some unexpected impacts it was having on my learning. For example, I rarely paid attention to the English definition of a word. And it was hard for me to recall the vocabulary I looked up. This individual experiences of using PED echoed Wang's (2003) investigation on the use of PED and paper dictionary of 451 non-English majors in the Fudan University (China). In her research, comparing with the experiences of using a paper dictionary, many more students read the Chinese definition rather than the English definition in PED. Moreover, fewer students looked at examples and word inflections when they used PED.

Next, I will discuss the impact of the Internet on my ELL.

The Internet – its affordances and challenges. The Internet did not develop in China until 1994 (Fang, Pan, Li, & Zhang, 2014). When I was a secondary school student, there were few internet users due to its slow speed and high cost. Additionally, few families could afford personal computers (Du, 1999; Lu, Du, Zhang, Ma, & Le, 2002). However, with the changing times and technologies, the Internet gradually became part of ordinary people's life. At the time when I entered university, Cybercafés – where the Internet public access services are provided by entrepreneurs for a fee (Esharenana E. Adomi, Rose B. Okiy, & Josiah O. Ruteyan, 2003, p. 488) – appeared around my campus and residential area. Meanwhile, I bought my first computer. The computer and the Internet totally changed my ELL experiences. There were many textbooks online. Some

of them even provided audio and video information such as *Family Album U.S.A.*, an “American television series created to promote English learning around the world” (Chung, 1999, p. 299). There were also English education television programs such as the *StudioClassroom*, “an English teaching program founded in 1962 to teach English to people in Taiwan” (“Doris Brougham,” 2016). In addition, the online chatroom on *ICQ*, “an online communication community” (Time Warner Inc., 2001, “ICQ Celebrates 100 Million Registered Users”, para. 2) provided an opportunity for me to practice my English in a real language context with native speakers all around the world. The Internet motivated my learning autonomy and freed me from the teacher-centered learning within a fixed physical space of learning.

I found the emergence of the Internet to be exciting for me as an ELL resource. But, its development was still in the infant stages during the early part of the 21st century in China. According to the China Internet Network Information Center (2004), by July 2004, the domain names registered for education in China only took up 0.5% in total (p. 6). This statistic demonstrated a reality that online resources used for education, including English education, were minimal resulting in a lack of its use in both learning and teaching ELL in the classroom. I turned to another resource and space to support my learning: the university library.

The library – initial stage of digital development. My other experience in using resources for ELL was from the university library. There were computers in the library, but they were mainly used for searching the catalogues. Printed books, newspapers, journals, and magazines were the resources that I used for ELL. The major responsibilities of librarians were to instruct students to find books and to maintain

students' behaviour in the library. I did not feel any challenge when I used the library until I started to do my graduate project. I planned to do some research about Virginia Woolf, yet, I could not find enough information about her in the library. Because there was not digital databases readily available while I was a university student, it was impossible for me to find information other than what was contained in the physical space of the library.

China's university library databases began to develop just at the time when I became a university student. The history of its development can be traced back to the 1990s (Wu & Huang, 2003). Wu and Huang (2003) stated that in 1995, with the hope of accelerating China's development in the new century, a project called "211 Project" (p. 250) was launched. In the project, 101 universities were selected as research centers for China's development in the future (Wu & Huang, 2003). Among these universities, 96 were picked and provided with funding to update their research facilities (Wu & Huang, 2003). To exchange the academic information among the 96 universities, China Educational and Research Network (CERNET) and China Academic Library and Information System (CALIS) were built (Wu & Huang, 2003). In the two networks, CALIS digitalized its resources and offered services such as "online searching, interlibrary loan, document delivery, and coordinated purchasing and cataloging" (Wu & Huang, 2003, p. 250) to its members. In 2002, led by the CALIS, China University Digital Library Consortium that composed 22 academic libraries was established for strengthening "digital library construction and resources sharing" (Wu & Huang, 2003, p. 251).

Although there emerged the digital library, the development of it was at the initial stage. At first, the development of the digital library in different regions was uneven, which resulted in a situation that not every university student could enjoy similar services (Wu & Huang, 2003). According to Wu and Huang (2003), the academic library services in developed regions were better than less-developed areas. Among 152 CALIS members, there were only 12 libraries located in the less-developed regions of northwestern China; in contrast, in Beijing, there were 38 CALIS members (Wu & Huang, 2003). Secondly, the administration and construction of university libraries in different regions existed problems. Take, for example, Hunan province where I studied. Huang (2005) stated that by 2003, there were about 40 tertiary institutions in Hunan; however, there was not a specific department or institution to administer the construction and information exchange of these university libraries. This finding could explain why there was not digital databases in my university. The result was that I never used digital services in the library. I was therefore unfamiliar with many library services in Canada when I arrived as a graduate student; especially the digital databases services. In the following section I discuss my experiences as a graduate student in Canada.

Overseas study (2014-present).

EFL and ESL contexts. Here, and throughout the remainder of my thesis I will be using the terms EFL and ESL. It is important to understand the differences between these two concepts. Generally, when English is taught to non-English speakers who do not use written or spoken English beyond their schooling, English is regarded as a foreign language. In contrast, when English is taught to non-English speakers to help them to communicate and function in English in their daily life routines, English is then regarded

as a second language (Judd, 1981). Whether there is a context that requires non-English speakers to use English as the daily language for communication becomes the indicant of distinguishing EFL from ESL. Therefore, when students study in the EFL context they are defined as EFL learners. Students who study in the ESL context are regarded as ESL learners. For example, a Korean student who studies English in his or her home country is defined as an EFL student. But, if he or she studies English in Canada (except for Quebec) or the United States where English is used as a dominant language in people's life, the student is defined as an ESL student. Accordingly, my identity as an EFL learner in my home country of China shifts to my being an ESL learner when I study in Canada.

Study experiences. My time studying in Canada for a Master's degree coincides with a time that technology has developed to become a part of our daily life both academically and personally. It is common to see people, in particular, university students, using computers and many portable digital devices such as laptops, smartphones, and tablets for their studies. It is also easy for people to surf the Internet with the help of portable devices via Wi-Fi. Moreover, for EFL/ESL learners, it is not hard for them to find resources to assist their ELL because there are lots of resources online. For example, well-known dictionary publishers such as the Oxford English Dictionary (OED) have launched online dictionary websites (Oxford University Press, n.d., "Guide to the Third Edition of the OED", para. 1). Such changes to online resources availability and content greatly aids my academic studies in Canada. As an ESL student in Canada, I need to understand and be able to communicate in English, especially in the specialized language – vocabulary and concepts – of my disciplinary area. Online dictionaries help me in my daily life and studies. And, graduate study requires me to do

academic research and writing, so the online digital databases of university library plays a crucial role in my academic life.

However, at the same time, new challenges emerge. When I use an online dictionary, I need to know how to select the most appropriate one to meet my needs, and how to make full use of it. When I search online and through the digital databases, identifying suitable literature is challenging. I noticed similar experiences and challenges before I began my graduate studies. These also happened for my EFL students when I was a college English teacher in China.

Experiences as an English Teacher

When I first became a college English teacher in 2004, cell phones could not connect to the Internet as conveniently as today because of the slow speed and expensive fees. As well cell phone technology was still developing and was nowhere near the computing capability of contemporary smartphones. In addition, there was no Wi-Fi in the classrooms. These have all changed in the decade since I began teaching. Eventually, the whole college had Wi-Fi coverage and students used smartphones. Thus, in my class, more and more students used smartphones to surf the Internet and find resources online to assist their ELL. Interestingly, I found many students trusted the information they searched without hesitation. Furthermore, even if they used the Internet for helping their ELL, some used it sneakily because they were afraid of being scolded by teachers.

This practice with smartphones did not just happen in my classroom, it also happened in my colleagues' classrooms. But, they showed different attitudes about it. Some thought it was acceptable if only students used smartphones to surf the Internet for ELL. In contrast, some expressed strong opposition toward this behavior because they

worried about laziness and distraction aroused by using smartphones and the Internet. Such instructors' objections resulted in the phenomenon that students used their smartphones secretly in the classroom even though they used it for learning. Other teachers showed indifference toward this phenomenon. These teachers believed that students' use of smartphones had little to do with their own teaching. In my experience, it was evident to me that students played a large role in their learning choices with the advent of new technologies and content on the internet. I therefore became very interested in how students use online resources for ELL.

My experiences of using resources for ELL teach me that resources are necessary for language learning. Whether it is a page-based, screen-based or connected resources, each type has its advantages and limitations regarding students' ELL. In a time when technologies and content continue to evolve at a rapid pace, it is very important to understand how students use resources, particularly online resources. As a teacher I believe that such an understanding will help both EFL/ESL learners and ELL instructors to then use such resources in a manner that is most effective and useful for them.

The Significance of My Study

I decided to investigate international students' experiences of using online resources for academic writing because academic writing is an important aspect of ELL, and it plays a vital role in international students' academic success (Lillis & Curry, 2006). Meanwhile, I believe different languages, cultures, and educational backgrounds of international students influence their academic writing so that they have to seek help from resources to assist their writing. The help that international students seek for has close connection with online resources because the Internet that has countless resources

becomes almost a daily necessity for the majority of contemporary students (Muniandy, 2010).

Although my individual experiences as an EFL learner and an ELL teacher cannot reflect all of the EFL learners' experiences of using resources for ELL, I think it presents a context that is familiar to many EFL students. Yet, the learning contexts that contemporary EFL students face may be more challenging than those which I faced. It may be harder now for learners to appropriately select and effectively use online resources due to the abundant array of online resources, the varied attitudes of professors, and varied resources and services of academic libraries. It is my hope then that my study on selected international students' experiences of using online resources for academic writing can create a better understanding of the relationship between resources and contemporary foreign language students' ELL.

My research question: As what I introduced in previous section about the differences between EFL and ESL context as well as students, in this study, although my focus is still EFL students, the way to address them is switched to ESL students because the context where EFL students study is changed from their home country to an English-speaking country. Therefore, my research question is what the relationship between online resources and ESL international students' academic writing is?

Before presenting the rich data from my study to answer this question, in the next chapter I review the salient literature on academic writing and the commonly used online resources for academic writing respectively.

Chapter 2 Literature Review

Introduction

This chapter reviews the literature on: theoretical framework of this study – multiliteracies; academic writing for ESL students; ESL students’ challenges of academic writing; and the commonly used online resources for academic writing. I conclude this chapter by discussing the potential contribution of my study to the existing literature.

Theoretical Orientation: Multiliteracies

In 1996, the New London Group (1996) forwarded the idea of Multiliteracies - a social cultural, constructivist-based pedagogical framework that reflects the realities of societal changes such as globalization and the rapid development of digital communication technologies. The group, which consisted of educational researchers and scholars from the West, argued that literacy education should be reconceptualized from “teaching and learning to read and write in page-bound, official, standard forms of the national language” (p. 61) to the education that considers the diversity of language as well as the multiple modes of meaning making in a changing world (Cope & Kalantzis, 2009; The New London Group, 1996).

Within the multiliteracies framework, there are two major concepts: *multilingualism* and *multimodality* (Cope & Kalantzis, 2009; The New London Group, 1996, p. 61). Multilingualism emphasizes that literacy education should not just consider one kind of language. It is part of the diverse cultural and linguistic contexts which result from the influence of new capitalism and globalization (Cope & Kalantzis, 2009; The New London Group, 1996). Multimodality stresses literacy education should not be restricted by written language because it involves linguistic (written and oral), visual,

audio, spatial, gesture, and tactile modes of meaning making (Cope & Kalantzis, 2009; The New London Group, 1996, p. 64). The need for multimodality in literacy learning has been driven by “information and multimedia technologies” (Cope & Kalantzis, 2009; The New London Group, 1996, p. 61).

A multiliteracies framework forwards that literacy education needs to consider students’ differences in factors such as language, culture, interest, and experience; moreover, it argues that literacy education should help students to understand various modes of meaning-making critically and make use of these modalities to demonstrate their opinions and values (Cope & Kalantzis, 2009; The New London Group, 1996). To fulfill these goals, “Situated Practice, Overt Instruction, Critical Framing, and Transformed Practice” were proposed (The New London Group, 1996, pp. 85–88). These concepts were renamed and reinterpreted by Kalantzis and Cope (2005) later as “Experiencing, Conceptualizing, Analyzing, and Applying” (p. 221). “Experiencing” regards students’ experiences as the reasons of their various needs and performances on learning; “Conceptualizing” means to conceptualize specialized knowledge from daily life experience; “Analyzing” refers that students have the critical thinking ability that includes ability of reasoning, inference, and deduction, as well as the capacity that evaluates “other people’s perspectives, interests, and motives” critically (p. 186); “Applying” means students could evaluate the knowledge they learn by applying it in practice (Kalantzis and Cope, 2005). During these processes, students could be transformed from a passive knowledge receiver to an active participant of learning (Cope & Kalantzis, 2009; The New London Group, 1996). These particular features of the Multiliteracies framework inform my study.

Multiliteracies and My Study

Multiliteracies relates directly to the focus and understanding of my study. It attaches importance to learners' diversities in languages and cultures. Recently, there has been an influx of ESL international students coming to English-speaking countries to pursue their academic studies. For example, Australia, Canada, the United Kingdom, and the United States recruit the majority of international students in the world while Asian students take up a significant portion of the enrollment (OECD, 2015). This tendency brings challenges to the universities where ESL international students choose to study. For example, ESL students' English proficiency, especially in writing and speaking affects their academic performance (Akanwa, 2015; Duanmu, Li, & Chen, 2009). Previous English learning experiences have an impact on ESL international students' oral expression in English speaking countries. For instance, Asian international students did not feel confident about their spoken English when they studied in the United States because they lacked of oral practice and English speaking environment in their former English learning experiences (Lee, 2016).

Multiliteracies also emphasizes the importance of multimodality of meaning making in digital times. Currently, the models of meaning making on the Internet are presented in different ways such as audio, visual, and digital. And contemporary students in higher education are usually familiar with different technologies (Cassidy et al. 2011).

In addition, multiliteracies encourages educators to scaffold their students' learning processes. Nowadays, the emergence of "Digitalization, open access, Web 2.0" (Kallenborn & Becker, 2009, p. 289) changes the services that universities offer to their students. Libraries offer digitalized information online; courses are presented online; and

social networking resources are used for education (Kallenborn & Becker, 2009). With these changes to the learning environment, we must ask if teachers and educational institutions offer appropriate support to ESL international students' academic learning. There needs to be a better understanding of how ESL international students' academic writing experiences are impacted by these various factors – including multimodal and multilingual online and institutional resources - as articulated in the Multiliteracies framework. In the following sections, I present salient literature and research to review academic writing and the commonly used online resources for academic writing respectively.

Academic Writing for ESL International Students

Academic writing. According to Hayes and Flower (1980), writing is a process that includes “Planning, Translating, and Reviewing” (p. 13). ‘Planning’ lets writers make a writing plan that conforms to the requirements of the writing task and simultaneously guides their writing; ‘Translating’ helps writers to transform information in their mind to an acceptable writing task; ‘Reviewing’ is done by the writer to ensure the quality of their writing (Hayes & Flower, 1980). Meanwhile, each process in writing is comprised of sub-processes as well. These include: ‘Generating’ which requires writers to retrieve information relevant to writing task; ‘Organizing’ which requires writers to select useful information to make a plan for writing; ‘Goal-setting’ which identifies meaningful materials for use during composition and ‘Editing’ (Hayes & Flower, 1980).

Further, we understand that writing is not a linear process, but rather it is a recursive process of “drafting, editing, and proofreading” (Courtland & Gambell, 2010, p. 41). For example, from their observation of writing process that used writing tasks and

'think-aloud' by the writers, Hayes and Flower (1980) noted that writers' goal for writing determined their writing process; therefore, writers could revisit the process of 'Organizing' back and forth. Also, the processes of 'Editing' and 'Generating' could happen recursively along with the changes to 'Organizing' (Hayes & Flower 1980). Accordingly, writing is regarded as a process-based recursive process throughout this study. In addition, except being regarded as a process, writing is also influenced by social and cultural contexts.

Sociocultural context of academic writing. Writing is part of language learning, and it is "culturally and socially situated practice" (Courtland & Gambell, 2010, p. 40).

For ESL international students, the sociocultural context of academic writing is multifaceted. At first, as a kind of social practice, academic writing engages interaction with other writers who are in the same "Discourse" that establishes "a particular sort of socially recognizable identity" by sharing "language, actions, interactions, ways of thinking, believing, valuing, and using various symbols, tools, and objects" (Gee, 2005, p. 21). In universities, these writers are people who come from the academic community. To communicate well with people in the community, academic writing is expected to be accomplished by disciplinary requirements (Hyland, 2008). Therefore, students need to learn "a new set of academic rules and how to play by these rules. Often these rules change from discipline to discipline, and the audience and the purpose of writing vary according to each writing context" (Dong, 1997, as cited in Paltridge, 2004, p. 88). Secondly, ESL international students' academic writing is affected by their former life and learning experience. Solé (2007) stated that language learners themselves are the result of their "current socialization practices, past cultural identities and imagined

selves” (p. 204). Lastly is the tendency that digitalized information and various online platforms such as social media networks construct a new context and new forms of literacy production and representation that impact ESL international students’ academic writing (Guzmán, 2012; Jones, 2008; Yunus & Salehi, 2012).

The importance of academic writing for ESL international students. With more and more ESL international students come to the universities of English speaking countries, the importance of academic writing keeps engaging people’s eopleegunive (Hu, 2014; Qian & Krugly-Smolka, 2008). Academic writing involves a series of thinking abilities such as interpretation, analysis, evaluation, and argumentation. It also includes skills such as referencing (Vardi, 2012). Hence, it is regarded as one of the vital factors that contribute to a student's academic success (Bailey, 2006; Giridharan, 2012).

Additionally, for students who hope to pursue a career in academia, good ability of academic writing demonstrates their potential of being a scholar in the future (Giridharan, 2012). Since academic writing affects students writing in so many aspects, it is important for ESL international students to learn it well. However, ESL international students’ cultures, languages and learning experiences could have an influence on their second language (L2) writing. I will explore the most common challenges that ESL students face regarding their academic writing in the following sections.

ESL International Students’ Challenges of Academic Writing

The challenge of language. Language is indispensable for students’ learning achievements (Maringe & Jenkins, 2015), which means students’ writing accomplishment also depends on language. For ESL international students whose language systems are different from English, their challenges of academic writing in

English-speaking universities is firstly reflected in language. This is often evident as ESL international students use the writing center of a university to ask for help in language usage and application (Nakamaru, 2010).

ESL students' difficulties in the language of academic writing are also mirrored in grammatical and lexical aspects (Giridharan, 2012; Watcharapunyawong & Usaha, 2012; Zhang, 2011). Zhang (2011) studied ten Chinese graduate students' academic writing in a Canadian university. In the study, participants commented that their challenges in academic writing were "idiomatic ways of expression, word choice, sentence structures, and grammar" (p. 45). Giridharan (2012) found that over half of ESL participants in his study on academic writing were less confident about using a correct tense in their writing. Watcharapunyawong and Usaha (2012) examined Thai students' narrative, descriptive, and contrastive writing. They found that students' language errors of writing were mainly about "verb tense, word choice, articles, singular/plural form, and sentence structures" (p. 73). Lexical issues – especially in vocabulary – further plays a major role in students' language problems of academic writing. Nakamaru (2010) compared the writing of ESL international students with US-educated students, the result demonstrated that ESL international students inquired about more lexical issues in the writing center. They were unable to use words appropriately due to insufficient vocabulary. Cons (2012) also discovered that ESL learners used fewer academic words in writing than fluent English learners.

Furthermore, ESL international students' first language (L1) influences their English writing (Bailey, 2006; Albalawi, 2016). For example, Japanese students found that using articles in English writing was a problem for them because there were not

articles in Japanese (Bailey, 2006). Arabic students tend to make verbs become plural when the subject in a sentence is plural because “verb is pluralized when the subject is plural” in Arabic (Albalawi, 2016, p.191).

Challenges beyond language. The challenges that ESL students face in academic writing are not merely about language usage and application because academic writing is a complex process. This complex recursive process requires planning, thinking, organizing, referencing and revising (Bailey, 2006; Munoz-Luna, 2015; Vardi, 2012). It involves not only grammatical and lexical components but also the “discursive” component which comprises “cohesion and coherence between sentences and ideas”, as well as the “meta-discursive” component which involves “genre specification” (Lills and Curry, 2006, as cited in Munoz-Luna 2015, p. 3). The most common challenges that ESL students have in their academic writing beyond language, relate to genre, critical thinking, and plagiarism. Each of these is presented in the following sections.

Genre. Genre guides writers to follow the conventions of the community which has specific rules, audience, and purposes. (Giridharan, 2012; Hyland, 2008; The Scientist Magazine, 1997, “Supervising International Students Requires Cultural Sensitivity”; Wingate & Tribble, 2012). For instance, disciplines of science, math, and engineering prefer students to write a report, but disciplines of social science, humanities, and arts are inclined to ask students to write research papers, articles, or reviews (Cooper & Bikowski, 2007). Students in the discipline of business are required to understand that their audiences include both academic and professional readers; in contrast, the audience of students’ writing in the course of English for Academic Purposes are usually scholars in different disciplines (Zhu, 2004). Only by following the traditions of the discipline,

students could accomplish their writing to fulfill the expectation of the academic community.

Researchers have found that ESL students could not perform well in their academic writing even though they knew grammatical rules. This phenomenon resulted from insufficient understanding about the academic genre of writing (Coxhead, 2000; Sasagawa, 2011; Wingate & Tribble, 2012). Lacking awareness of genre causes problems in ESL international students' academic writing. Writing in an academic community requires students' writing to fit the standard and requirements of their disciplines and to engage the audience in that domain (Giridharan, 2012). In the UK, research found that writing support could not help international students to solve writing problems if it just offered help on linguistic difficulties rather than disciplinary issues (Wingate & Tribble, 2012). Due to insufficient knowledge on genre, Japanese students faced difficulties when they had to write articles to abide by the disciplinary requirements (Sasagawa, 2011).

The introduction of knowledge on genre benefits students' writing. Lax (2002) developed a discipline-specific course of writing for international graduate students in engineering. The course also introduced languages that could be used for different writing purposes. When the course ended, students offered more positive feedback on their writing. Wang (2013) studied whether genre approach could strengthen the quality of Chinese ESL students' writing. After implementing genre-based writing instruction for 16 weeks, the researcher found students' writing ability on cohesion and organization were all improved.

However, genre teaching faces a challenge in the new century as genre can change (Bauman, 1999). In modern times, with the development of the information and

communication technology (ICT), digital texts are disseminated online globally. This phenomenon results in the emergence of a new genre, the “internet genre” (Bauman, 1999; Radia & Stapleton, 2008). The major feature of the genre is that it is written mostly by companies, interest groups, and individuals (Martin & Lambert, 2015, p. 217; Radia & Stapleton, 2008). The internet genre arouses worries for ESL international students’ writing. Stapleton, Helms-Park, and Radia (2006) examined 19 ESL students’ use of web sources for writing research papers. Among the 190 sources cited by students, there were eight types of internet genres such as government documents, news, and articles of fashion magazines. Compared with conventional genres which are scrutinized and selected strictly by experts, reviewers, and librarians, the new genres not only bear more bias or ideological agenda but also lack authority (Radia & Stapleton, 2008). With the popularity of the internet genre, they are cited as sources in ESL students’ academic writing. However, because international students’ language proficiency and cognitive understanding about different cultures could make it difficult for them to identify the bias or agenda embedded in the Internet genre (Radia & Stapleton, 2008; Stapleton et al., 2006), there is concern about the quality and credibility of students’ writing. Therefore, students’ critical thinking ability becomes crucial when they are accessing resources on the internet.

Critical thinking. Critical thinking is regarded as one of the essential abilities assessed in academic writings (Borglin, 2012; Nikou, Bonyadi, & Amirikar, 2015; Singh Thakur & Al-Mahrooqi, 2015). Carroll and Dunkelblau (2011) studied the types of academic writing that ESL students usually did in a college. They found that critical thinking ability was the common expectation of writing assignments. Since critical

thinking is important in students' academic writing, one must understand what critical thinking is.

Educators state that critical thinking is a kind of skill which comprises many subskills (Carroll & Dunkelblau, 2011; Paul & Elder, 2002; Vardi, 2012). Vardi (2012) stated that “critical thinking and writing involve evaluating, analyzing, interpreting and arguing – the types of higher order thinking skills that universities experts expect of their students” (p. 924). Paul and Elder (2002) wrote that critical thinking was “ thinking that displays mastery of intellectual skills and abilities” (p. 376). Carroll and Dunkelblau (2011) illustrated that writing assignments required students to have the critical thinking skills “such as analysis, synthesis, and evaluation” (p. 278). However, although critical thinking involves a series of complicated cognitive skills, there was still argument about how the word ‘critical’ was defined (Gimenez, 2008); this might be one of the reasons that students felt difficulty in understanding what critical thinking was and demonstrating it in academic writing (Elander, Harrington, Norton, Robinson, & Reddy, 2006; Gimenez, 2008). Gimenez (2008) studied students’ academic writing in the discipline of nursing and midwifery in a university in London. He found students could not figure out what ‘critical’ exactly meant in writing. Lydia, one of the participants, said: “ I sometimes wonder how can I make this more reflective and more critical when I am not at all sure what they mean” (p. 158). Sara, another participant, stated: “the typical comment ‘this is not critical enough’ that you sometimes get in your feedback does not help much” (p. 158). It seems that sometimes, students engage in critical thinking, but their writing does not demonstrate the features that professors consider as critical thinking (Elander et al., 2006). All of these reflect a situation that the word ‘critical’ is

not defined thoroughly; additionally, there exists a gap between students' and teachers' understanding of it.

In fact, there is not a consistent definition of critical thinking (Nikou et al., 2015). However, international students, in particular students who come from Asia, usually are criticized for lacking critical thinking ability when they study in English speaking countries (Egege & Kutieleh, 2004; Stapleton, 2002; Vandermensbrugge, 2004). Their performances in academic writing resulted from the influence of their cultural, social, and educational background, making their writing sometimes different from traditional English writing. Thus, at times, their critical thinking ability is questioned. For instance, Qian and Krugly-Smolka (2008) studied four Chinese graduate students' experiences of composing a literature review in a Canadian university. One of the participants stated that he did not think that evaluating the sources was necessary. This participant's behavior rooted in Chinese culture. In his culture, not evaluating others critically is a way to respect people (Matalene, 1985). The cultural factor influences students' writing and their understanding about academic writing. Littlewood (2000) explored a study to investigate if there was a kind of stereotype about Asian students because they were usually considered as a group of people who never questioned the knowledge they received. By comparing data on 2,307 students who came from eight Asian countries and three European countries, Littlewood found there was little difference between Asian and European students' learning. Asian students also questioned the knowledge they received. Stapleton (2002) investigated 70 Japanese students' opinions and performances on critical thinking in a Japanese university. He found the arguments of these students' essays were similar to the English way of reasoning. So he blamed the stereotype about

ESL students' critical thinking on a desire to hold power over people who were not Westerners.

Even if there exist disputes about what critical thinking means and if international students have the critical thinking ability, however, it was hard to ignore the ability of analysis and evaluation because they are important parts of critical thinking (Carroll & Dunkelblau, 2011; Ganapathy & Kaur, 2014; Vardi, 2012). Giridharan (2012) stated the ability to select relevant information from reading for writing is a necessary part of critical thinking skills. Borglin (2012) said that critical thinking could also be seen as an appraisal skill that represented students' ability to read and evaluate materials. Multiliteracies also proposes that evaluating others' perspectives and values critically, are important for students (Cope & Kalantzis, 2009). In a time when innumerable amounts of information are available online for people to access with ease, not only genre but also critical thinking faces challenges.

Nowadays, students depend a lot on the Internet to get information; they show trust about the online information (Cook, 2000; Graham & Metaxas, 2003). Nevertheless, the high frequency of online search does not correlate with a high ability of evaluation on online information. Graham and Metaxas (2003) did a survey on students' critical thinking about the Internet information. They found that students were easily misled by political claims and advertising information. Furthermore, majority of the students preferred to use only one source without checking the credibility of it. Considering these concerns, international students' ability to analyze and evaluate the quality of numerous online information critically becomes crucial to their academic writing. Accordingly, how to use online information appropriately involves understanding about plagiarism as well.

Plagiarism. All writing, including academic writing, reflects one's originality and creativity and does not support plagiarism. Concerning the attitude toward plagiarism, there is a unanimous recognition in higher education that plagiarism is intolerable (Li & Casanave, 2012; Murray, 2008; Purdy, 2005; Valentine, 2006). Plagiarism is usually connected with students' moral views and behaviours because it is defined as a cheating behavior that uses others' ideas, statistics, or words as their own contribution without giving credit to the original creators (Liu, 2005; Murray, 2008; Park, 2004). Research about plagiarism commonly categorizes it into intentional and unintentional types. Intentional plagiarism is intentionally using anything that belongs to the original creators without citation, or quotation; the definition of unintentional plagiarism is the converse (Liu, 2005; Murray, 2008; Pecorari, 2003). However, to judge if someone's plagiarism is intentional or unintentional is not as easy as what people think. Perhaps, as Pecorari (2003) said: "the only conclusive evidence of intention exists within the head of the perpetrator" (p. 334).

Plagiarism not only happens on non-English speaking students but also English-speaking students. It is not a phenomenon which only exists among international student. McGowan (2005) stated that as freshmen of the academia, no matter what language they spoke, they all needed to adapt to the new rules in the new environment, for example, how to use sources to argue and defend their ideas. However, because international students faced difficulties in many aspects such as language and culture when they wrote, they could easily be involved in the problem of plagiarism (McGowan, 2005; Pecorari, 2003). Shi (2004) analyzed previous studies on students' summary writing and commented that the reason why students copied a lot from the source for their summary

writing resulted from their incompetence in paraphrasing and understanding the language. Lax (2002) said that the different ideas about plagiarism between international students' home country and the North American countries usually caused misunderstanding on international students' behavior in their academic writing. Moreover, many other factors could influence students' use of sources such as the deadline of writing, the high standard of writing (Abasi & Akbari, 2008; DeVoss & Rosati, 2002; Li & Casanave, 2012; Park, 2004); skills of citation (Park, 2004; Pecorari, 2003); and writing skills (Liu, 2005). However, no matter how complicated plagiarism is, Valentine (2006) thought people in academia usually ignored the complex nature of plagiarism and took extreme attitude and measures to deal with it no matter whether it was intentional or unintentional.

Lastly the popular use of online sources arouses worry about a new form of plagiarism (Li & Casanave, 2012; Park, 2004). DeVoss and Rosati (2002) named it "online plagiarism" (p. 196); Atkins and Nelson (2001) used the phrase "Net-based plagiarism" (p. 101), and Howard (2007) called it "Internet Plagiarism" (p. 3). The new form of plagiarism also involves copying without giving credit to the original writers; however, the difference is that now it is hard to locate all the sources used by students because there is too much information online (Atkins & Nelson, 2001; DeVoss & Rosati, 2002).

From the discussion above about academic writing, we identify that ESL international students face lots of challenges in academic writing, especially challenges related to genre, critical thinking, and plagiarism all have evolved because of the development of ICT. In next section, I switch my discussion to the commonly used online

resources for academic writing to see what benefits and problems these resources bring to ESL students' academic writing.

Importance of Resources for English Language Learning

According to the Oxford English Dictionary (Oxford University Press, n.d., “resource”), ‘resources’ refers to “a means of supplying a deficiency or need; something that is a source of help, information, strength.” Accordingly, ‘resources’ could range from a tangible form such as books to an intangible mode such as information. Hence, in my study, online resources are not restricted to a certain kind of form. If participants think that a resource online is useful for their academic writing and use it, the resource will be accounted as an online resource. Within a multiliteracies framework, resources can include an expanded notion of text and multimodalities, such as digital articles as well as audio and video information. However, no matter what kind of resource it is, the point of the resource is ‘to help’ the learner. For ELL, resources play an important role. My own experiences and demonstrate that resources such as books and dictionaries help language learners to practice English (Palfreyman, 2006). The Internet as a newer resource as well as a platform offers lots of resources to assist ELL learners in many aspects such as vocabulary learning, writing, and communication (Bizi & Shittu, 2014; Islam & Inkpen, 2009; Stapleton, 2005b).

ELL nowadays has a close relationship with resources. It uses “a diverse set of technological tools and resources” (Blurton, 1999), such as “computers, the Internet, broadcasting technologies (Radio and Television) and telephony” (Bizi & Shittu, 2014, p. 88), and mobile devices such as cell phone (Li & Hegelheimer, 2013; Canuel & Crichton, 2011) to assist language study. In my study, I decided to focus on online resources

because the popularity of ICT make online resources easy to be accessed and to some extent it has relationship with academic writing. Next, I review the commonly used online resources for academic writing.

Online Resources Used for Academic Writing

Online dictionary.

Online dictionaries are usually free to use, searchable dictionaries accessible via the Internet, and users can cut and paste from texts they are reading and to texts they are composing (Pasfield-Neofitou, 2009, para. 7).

Considering these features of an online dictionary, online dictionary applications (App) will also be regarded as online dictionaries in my study. Even if they are downloaded on portable devices as a stand-alone one, they usually ask users to connect with the network for further definition of a word. All of the participants in my study, their portable devices such as tablet and smartphone can access the Internet easily without considering technical issue or expense, so online dictionary Apps for them can be used as online version rather than merely stand-alone one when they needed.

Since language, especially vocabulary, is a problem for ESL students' academic writing, an online dictionary seems a solution to this issue to some extent. "An online dictionary is a kind of electronic dictionary which serves through the internet network," it could be called "Internet Dictionary or Web Dictionary" (Asswachaipaisan, 2014, p. 11). There are bilingual and monolingual online dictionaries; the former ones offer definitions with users' native language while the latter ones provide users with information in the target language (Asswachaipaisan, 2014). The online dictionary is applied in writing instruction nowadays (Chon, 2009; Groves & Mundt, 2015; Lan, 2005; McAlpine &

Myles, 2003). It mainly influences students' vocabulary learning because an online dictionary offers definition, parts of speech, pronunciation, spelling, sentence example, slang, and synonym (Abraham, 2008; McAlpine & Myles, 2003; Mustafa, Sain, & Razak, 2012; Schryver, 2003; Tseng, 2009) to students. People believe using online dictionaries could help students to learn the authentic language, be aware of grammar errors, and manage self-learning (Abraham, 2008; Ebner & Ehri, 2013; Kozlova & Presas, 2013; Lin & Liou, 2009; Tang, 1997). Chiu & Liu (2013) found an online dictionary aided students in finding words with inflection. So, an online dictionary could solve the problem that students usually separated a word from its inflection incorrectly. Chon (2009) studied ten Korean university students' use of the online dictionary in writing. The researcher found students not only recognized their language problems but also solved alphabetic problems.

However, there were different opinions about the effect of online dictionaries on students' vocabulary learning. Nesi (2000) stated that because people could access an online dictionary fast and easily, they would spend few time studying the word, which could result in shallow vocabulary retention. Also, the ease of finding information on online dictionary influences students' long-term vocabulary retention (De Ridder, 2002). In Chiu and Liu's (2013) study about the effects of printed dictionaries, pocket electronic dictionaries, and online dictionaries on thirty-three seventh graders' English vocabulary retention, researchers found that participants could be distracted by the game embedded in the online dictionary while they were using it. This function of an online dictionary affected their vocabulary retention. Furthermore, monolingual online dictionaries could cause difficulties for users because the complicated definition provided by it sometimes

confuses users (Scholfield, 2005). In contrast, an online bilingual dictionary has problems such as presenting incorrect usage of words, offering outdated vocabulary, or lacking collocation information (McAlpine & Myles, 2003).

Web search engines. Web search engine is also used by international students to face language challenge of writing. However, the function of it is far beyond solving its users' language problems of writing.

Google. In the past, 'Google' was a noun that referred to the name of a search engine. Now, the word is used as a verb which symbolizes the popularity of the search engine. For English learners, Google offers genuine language patterns for English writing such as spelling, definition, synonym, and language context (Islam & Inkpen, 2009; Panah, Yunus, & Embi, 2013). However, the major function of it on academic writing is to provide users with endless information (Brophy & Bawden, 2005; Markland, 2005; Jacsó, 2005). So, many writers, including students, consider Google as a channel of getting academic sources (Swan & Brown, 2005; Traphagan, Traphagan, Dickens, & Resta, 2014).

However, although Google has many advantages for its users, it also causes disputes. The major dispute is about the credibility of its search results. Brophy and Bawden (2005) compared Google with a library database on the following aspects: relative value, merits, and defects. They found that the credibility of the search results on Google was as good as what were found in the library database to some extent. On the contrary, Stapleton (2005a) suspected the information provided by Google because users did not know how the search results were ranked. This phenomenon means that the quality and credibility of the search results on Google are not as trustworthy as what

people think. In addition, Stapleton (2005a) thought that because few people would skim through all of the search results, it was impossible that users would notice the bias or ideological agenda hidden in the information. Stapleton's worry relates to the concerns about the internet genre and the critical thinking ability when students search online information for writing.

The quality and credibility of search results on Google cause concerns toward ESL students' writing (Helms-Park & Stapleton, 2006; Slaouti, 2002). At first, ESL writers lack the experiences of selecting English information on Google so they have difficulty in distinguishing unbiased scholarly information from biased non-scholarly ones (Helms-Park, Radia, & Stapleton, 2007; Radia & Stapleton, 2008; Stapleton, 2005b; Stapleton et al., 2006). Secondly, ESL students' language proficiency and culture background impact their selection of information on Google (Ramanathan and Atkinson, 1999; Stapleton, 2005a). Ramanathan and Atkinson (1999) argued that ESL students who were less proficient in English and grown up in a culture that paid less attention to critical thinking would be more easily influenced by the information they found online. Stapleton (2005a) found that ESL students whose English was less proficient were more easily persuaded by the hidden agenda of online information.

Google Scholar. Google Scholar is also a kind of web search engine, but it is scholarly one. Google Scholar shares some similar advantages with Google such as offering lots of information in a quick and convenient way. Jacsó (2005) stated that Google Scholar provided digital documents and made database documents available free of charge. However, at the same time, Google Scholar also demonstrates special feature

that distinguishes itself from Google: the documents it offers are mainly for academic use (Brezina, 2012; Helms-Park et al., 2007; Jacsó, 2005).

Even if Google Scholar provides academic information, people are still concerned about the quality and credibility of the search results on it, similar to their concerns about the search results on Google. On the one hand, Google Scholar is confident about its sources because the search results on it are “scholarly papers, theses, books, abstracts and articles, from academic publishers, professional societies, preprint repositories, universities and other scholarly organizations” (Google, n.d., “About Google Scholar”, para. 1). On the other hand, some research showed that the credibility of search results on Google Scholar were not as ideal as what people thought. Brady (2005) found some search results on Google Scholar linked with less-scholarly sites, such as course content and PowerPoint Slides. Furthermore, Google Scholar is still owned by Google, which requires sponsorship; so, the search results on Google Scholar could include an agenda that is not suitable for academic research (Helms-Park et al., 2007; Radia & Stapleton, 2008; Stapleton et al., 2006).

Wikipedia. Apart from web search engines, Wikipedia has become very popular among online users, particularly for people in tertiary education. According to Knight and Pryke (2012), on the list of the most popular website in the world, Wikipedia was listed number seven. Based on their survey about the application of Wikipedia in tertiary education, they confirmed that Wikipedia was widely used by students and academia. The popularity of Wikipedia in higher education resulted from the advantages that Wikipedia has on “its profile, range, ease of use, contemporary feel and general quality” (Knight & Pryke, 2012, p. 10). The most obvious feature of Wikipedia is people can

construct the website collaboratively and voluntarily, hence, it is open to anyone who wants to participate in and share their interests and creativity (Knight & Pryke, 2012; Prensky, 2011). This advantage of Wikipedia is used by ESL English writing teachers. To improve students' writing, teachers use it as a tool for collaborative writing because it could help students to pay attention to the "spelling, grammar, sentence, and paragraph structure" (Kuteeva, 2011, p. 51; Mak & Coniam, 2008; Prensky, 2011).

However, simultaneously, the feature of Wikipedia that it welcomes any user to create and edit the web pages causes worries about the correctness of its contents. Magnus (2009) used five criteria to assess if the information on Wikipedia was trustworthy, the criteria were "authority, plausible style, plausible content, calibration, and sampling" (p. 79). He finally suggested students not to use sources on Wikipedia as a major channel of information. Purdy (2009) pointed out that continuous edit and changes of the sources on Wikipedia resulted in the credibility problem of information. Furthermore, contributors of Wikipedia are mostly university students rather than experts or academics (O'Sullivan, 2009, as cited in Knight & Pryke, 2012). These contributors could write anything they want to share, but there is not an authority to screen their contributions as what professional editors do to publications (Knight & Pryke, 2012; Purdy, 2009). Moreover, information on Wikipedia are reused by other websites without acknowledging the sources. Magnus (2009) found that many websites liked to copy and use the content on Wikipedia, but these websites did not tell their users the information came from Wikipedia.

Additionally, Wikipedia has a close relationship with Google. In Judd and Kennedy's (2010) five years (2005-2009) research on students' use of websites and

technologies, they found that articles created on Wikipedia frequently appeared on the search results of Google. This study is in line with Rainie and Tancer's (2007) that Wikipedia articles ranked very high on the search results of Google. The relationship between Google and Wikipedia can be uncovered through an academic's words in Knight and Pryke's (2012) study: "Google searches nearly always call Wikipedia up in one of the first five finds. So it is empty talk to tell students not to use it, they will (and do use it)" (p. 654). This phenomenon reemphasizes the concerns about the credibility of search results on Google as well.

Due to these worries about the information offered by Wikipedia, academics' attitudes toward Wikipedia are not as positive as students'. Knight & Pryke (2012) found that only 24% of academics in his study on the use of Wikipedia in a Liverpool university allowed their students to use Wikipedia. 18% of teachers did not refer it to students, and 58% of teachers told students not to use it. 92% of academics questioned the reliability of information on Wikipedia, which became the biggest reason that teachers did not allow students to use it. Nevertheless, Chen's (2010) survey on university academics' perspectives on Wikipedia demonstrated another interesting angle. While academics who usually used databases presented negative viewpoints on the credibility of information on Wikipedia, the academics who usually used Wikipedia for research showed an opposite attitude. However, no matter what attitudes teachers had, as what Magnus (2009) suggested that the real users would not believe anything posted on Wikipedia, it all depended on how to use it; for example, using Wikipedia sources for research paper may be acceptable, however, it is not wise to use these sources as substantive information in research paper.

According to the literature review about the commonly used online resources for academic writing, it can conclude that an online dictionary could be utilized for solving language problems while the web search engine and Wikipedia are primarily used for offering information about academic writing. Superficially, it is hard to find a connection between ESL students' use of online resources and the challenges they face in academic writing except for solving language problems. However, the challenges of critical thinking, plagiarism, and genre are still hidden in the application of online resources in academic writing. When students use an online dictionary, the web search engine, and Wikipedia for searching information for their writing, the biggest concern is the credibility of the search results. For ESL students, to confirm the credibility of their search results and to select appropriate sources involves the ability of critical thinking and understanding about the internet genre per se. Furthermore, the ability of evaluation on search results could influence their appropriate application of sources in writing to some extent as well.

Throughout this chapter I have presented the salient literature regarding the theoretical framework of the study – multiliteracies; academic writing for ESL students; ESL students' challenges of academic writing; and the commonly used online resources for academic writing. To conclude, I discuss the potential contribution of my study to the literature.

Potential Contribution of My Study

Academic writing in university is a systematic recursive process. It includes many steps such as understanding writing requirements, constructing ideas, selecting and evaluating information, writing, revision, and formatting. Hence, in the whole process of

academic writing, how ESL international students select online resources actively to assist their academic writing is important for instructors to know. However, among research on ESL international students' academic writing, most of them studied the factors that influenced students' writing, for example, language, genre, critical thinking, and plagiarism (Hyland, 2007; Pecorari, 2003; Watcharapunyawong & Usaha, 2012). Some studied one step of the whole writing process, for example, selecting information (Markland, 2005). Moreover, the studies about the relationship between academic writing and the Internet usually focused on the effect of one kind of tool that was selected by teachers such as Facebook or Blog (Kitchakarn, 2012; Yunus & Salehi, 2012) rather than by students. Little research has studied students' active choice of online resources in the whole process of academic writing.

In addition, according to the multiliteracies, literacy education nowadays should care about not only students who come from different cultures and speak different languages, but also the influence of different modes of meaning making that resulted from the development of technology on students' learning. What's more, Multiliteracies emphasizes the transformation of students in the process of learning from passive knowledge receivers to active participants of learning (Cope & Kalantzis, 2009; The New London Group, 1996). This study investigates ESL international students' active choice of online resources for academic writing according to their needs that could be resulted from different languages, cultures, and learning experiences. It also explores the students' experiences of using online resources that compose various models of meaning making for writing. It helps educators to better understand ESL international students' learning experiences in the digital times so that instructors and educators can design more

effective curriculum or apply more appropriate teaching pedagogy for ELL learners.

Chapter 3 Methodology

Purpose of the Study

The purpose of my study is to explore the relationship between online resources and ESL international students' academic writing. By doing so, the study helps educators to better understand how students use online resources to assist their academic writing and what problems can emerge in students' application of online resources in their academic writing. The goal of this study is to inform both students and instructors in academic writing. In this chapter, I explain the methodology that I used to collect data to answer my research question: What is the relationship between online resources and ESL international students' academic writing?

Methodology

This study is a qualitative descriptive case study. Qualitative methodology is described “as the study of the empirical world from the viewpoint of the person under study” (Krefting, 1991). It “includes the voices of participants, the reflexivity of the researcher, a complex description and interpretation of the problem, and its contribution to the literature or a call for change” (Creswell, 2013, p. 44). Further, according to Creswell (2013), “case study research is a qualitative approach” and “explores a real-life, contemporary case or cases over time through detailed, in-depth data collection such as interviews, audiovisual materials and documents and reports.” (p. 97). Throughout my research, I conferred with my supervisor. He helped to answer questions that I had about the study. My experiences and choices as a researcher for each of those stages are described below.

Recruitment

The selection of participants in my study focused on ESL international students in a Canadian university – the University of Victoria (UVic) -- without considering issues of gender, race, nationality or class. This group of international students was of interest because, at first, when they are studying at a university of an English-speaking country, they are required to do lots of academic writing in English which is a foreign language to them. Secondly, as mentioned above in Chapter Two, ESL international students' mother tongue, culture, ideology, and education background bring challenges to their English academic writing, which may increase their possibility and frequency of using online resources for assisting their writing. Finally, as contemporary students, they could have previous experience in online searching, and computer and mobile technology which would lead them to use these resources again. Considering these reasons, international students were of direct interest to my study.

Upon receiving ethical approval from UVic, I used word of mouth, snowball sampling, and personal contact to recruit participants. Although I did not plan to recruit participants from the same culture, I ended up with all of my participants being Chinese international students. This was due to several challenges that I faced during participant recruitment. For ESL international students, writing could bring anxiety and pressure (Younas, Subhani, & Arshad, 2014). During the recruitment, some potential participants heard that there was a writing task needed to do in the study, their interest of joining in the research waned. One participant who confirmed the consent form and agreed to participate in the study quit before data collection began without informing and reason. Hence, the study faced difficulty in recruiting sufficient participants at the beginning. Later, the friends and international students who helped me to recruit approached many

Chinese international students because they thought same cultural background between participants and researchers could be easier to build a relationship for the study. Their consideration is reasonable because both the potential Chinese international student participants and I are “cultural insiders” who “share a similar cultural, linguistic, ethnic, national and religious heritage” (Ganga & Scott, 2006, p. 2). The same cultural background increases the possibility of recruiting potential participants because they feel more comfortable (Renert, Russell-Mayhew, & Arthur, 2013). Subsequently, the data collection and analysis were based on four Chinese international students’ contributions regarding their personal experiences of using online resources for academic writing.

During the recruitment, all the participants were told that they had the right to withdraw from the study at any time without any penalty or consequence for their academic standing. Also, because the study had two sections – a one hour interview and a one hour computerized writing task, I offered a twenty dollar gift certificate from the UVic bookstore to each participant for their time. They were also informed that if they withdrew from the process of data collection, all the information pertained to the participants would be destroyed, but the gift certificate they received would not be reclaimed.

Participants

Four Chinese international students were recruited as participants in my study. Their data will be presented according to their sequence of joining in the study. To protect participants’ confidentiality, each of them chose a pseudonym. Therefore, Billy, Jennifer, Tiffany, and Sarah were used to substitute participants’ real names. During the data collection, all the participants were current Chinese international students at UVic.

After the data collection, two of them graduated from UVic. All my participants came from mainland China and studied different majors. Furthermore, they were all competent at using computers and digital devices such as smartphones and tablets to surf the Internet. The four participants were usually required to do academic writing in their university studies. They also all had experience in using online resources for academic writing. Except for one participant, all of the participants have not been studying in Canada for a long time.

Data Collection

To better understand the four selected participants' experiences of using online resources for their academic writing, I used methodological triangulation to collect data. Methodological triangulation employs various ways of data collection to investigate a phenomenon (Polit & Beck, 2012, as cited in Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014, p. 545). I used triangulation because the study focused on understanding the relationship between online resources and ESL international students' academic writing. Therefore, close observation of participants' online searching behavior, motivation, and thoughts behind their behaviors were necessary. Further, using multiple methods rather than a single method to collect data is important for me as a researcher to construct a more reliable perspective to understand participants' experiences. The four participants provided deep and rich data for the study.

The methodological triangulation in this study included: a semi-structured interview, a computerized writing task, and a think-aloud activity for each participant. Each participant took part in all the data collection activities on separate dates. The data was collected by audio and screen recording respectively. As this study was conducted in

an English speaking university and the daily language that participants used was English, the language used in data collection was English. Participants' writing samples are not presented as data in this study because the thoughts behind participants' behavior of using online resources for academic writing is the focus of this study.

Semi-structured interview. A one-hour face-to-face interview was conducted with each participant in a quiet UVic group study room. The interview was audio recorded with each participant's consent. The research question of the study is: What is the relationship between online resources and ESL international students' academic writing? In order to get thorough answers about the research question, eight sub-questions were used to expand the main research question. The full version of the interview questions is presented in Appendix A. Here, some of them are selected to help readers to understand the interview better:

1. Which online resource(s) do you usually use to assist your academic writing?
2. What is the online dictionary used for when you do academic writing? Multiple choices:
Parts of speech; Tense; Definition; Synonym; Collocation; Language context; Phrase, Idiom, Slang; Spelling; Pronunciation; Others (please specify it)
3. What effects do you think the online resources have on your academic writing?

A computerized writing task.

Writing task. With the hope of comprehending participants' experiences of using online resources for their academic writing, a computerized writing task was considered as a good way to verify participants' experiences. The task lasted 60 minutes in a quiet UVic group study room and included two activities: a writing and a think-aloud activity.

The task required participants to write a 250 word short response on my personal laptop according to the extracted passages from “Technology-Enhanced Language Learning: A Case Study” (Yang & Chen, 2007). Participants were asked to fulfill the following requirements in their writing: the short response should include (1) a summary of the reading material, and (2) personal opinions about the claims in the reading material. What is more, the writing direction emphasized that participants could use references if they felt necessary. Each participant’s process of doing the task was recorded by a free Chinese screen recording software named ‘KK’ with participants’ consent. Thus, only participants’ online surfing behavior and writing process rather than their images were recorded, which protected participants’ confidentiality.

Concerning the design of the writing task, there are some ideas behind it. Firstly, I selected a reading material as the basis of the writing task because students nowadays do lots of reading while they are writing (Blackburn, 2010). Secondly, I wanted to observe how participants use online resources to solve language problems when they do writing task. Thirdly, I wanted to see how participants collect, analyze, select, and cite information when they surf online. Finally, I wanted to understand what online resources participants chose actively in their writing process.

During the data collection, I changed several words of the original reading material before collecting the second participant’s data. Because when I finished data collection of the first participant, I found the participant did not use online resources a lot. In order to increase the opportunity of observing participants’ use of online resources for solving language challenge, I used synonyms to substitute several words of the original reading material. Accordingly, the reading material for writing used a few different words

since the second participant. The computerized writing task is presented as Appendix B as well, and the word in the bracket is the one used for substituting the original word in front of it.

Think-aloud activity. For understanding participants' thoughts behind their behavior of using online resources for writing, they were asked to do a think-aloud activity while they were writing. A think-aloud activity is "the data elicitation method that subjects are asked to perform a task and to verbalize whatever crosses their mind during the task performance" (Gambier & Doorslaer, 2010). This activity was considered necessary because it is regarded as a useful way of elaborating what information is focused on and how the information is used to solve the problem (Fonteyn, Kuipers, & Grobe, 1993). The think-aloud activity was audio recorded.

Pilot Study

Chenail (2011) stated that a pilot study is a useful way to evaluate whether the initially planned research methods are reasonable, and a means of finding researchers' potential prejudice. Also, a pilot study is valuable for qualitative research because the preliminary data it collects could help researchers to modify inappropriate questions and an unreasonable time frame (Sampson, 2004; Teijlingen & Hundley, 2001). Before implementing the main research, I did a small size pilot study to see if there was anything needs to be modified. The pilot study only focused on the semi-structured interview because of volunteer participants' busy schedule. I interviewed two ESL international students who were current UVic students in different disciplines and came from different cultural backgrounds. From the preliminary data collected from them, I rescheduled the time frame of the interview from 45 minutes to 60 minutes. What is more, some

interview questions that asked similar information were combined, so, there were some minor changes to the interview questions after the pilot study.

Data Analysis

Audio. I transcribed the audio data from the four semi-structured interviews and the four think-aloud computerized writing activities respectively. After checking the transcriptions myself with the audio record several times, I sent the transcription to participants for member checks in case there were misunderstanding in it. Jennifer helped me to revise a chemical terminology and names of the specialized database and websites she usually used in the transcription. All other participants approved of their respective interviews' transcriptions.

Visual next. I analyzed the screen records of the participants' writing process and made notes in a journal about their online searching behaviors. The notes are presented in Appendix C.

Coding the data. After I transcribed the data, I used Nvivo – a popular mixed method research software – to help me to code. According to my interview questions and the points of literature review discussed in the study, I used Nvivo to categorize the similar data that appeared in the audio data into different and detailed themes (see Figure 1). Meanwhile, I categorized themes that emerged from the data of the screen record on the basis of my observation notes on paper. Then, by combining the themes that emerged from the audio and screen record, the final themes which have close and direct connections with my study were discussed.

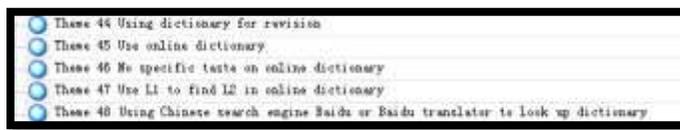


Figure 1. Categorized themes on NVivo

Limitations

The limitation of the study is about the time frame of the computerized writing task. Within one hour, participants had to finish writing according to writing requirements. In particular, they were allowed to use online resources during writing. Meanwhile, they were asked to do a think-aloud activity while they were writing. Therefore, all of these tasks might influence students' writing in speed and concentration. Another limitation of the study is that all the participants had to finish the writing task on my laptop. Their unfamiliarity with my laptop might have impacted their writing as well.

Throughout this chapter I discussed the stages of my research study. In the next chapter I present the data from my study; first for each of the four individual case studies and then across case studies.

Chapter 4 Data Analysis

Within Case Analysis

This study is about ESL international students' experiences of using online resources for academic writing in a western Canadian university. Qualitative descriptive case study is used as methodology. In this chapter I present the data collected from the interview, the screen record of students' writing task, and their think-aloud activity. The four participants' data will be presented as separate cases, analyzed within case and then across the cases respectively. By doing so, the study presents a comprehensive understanding of four selected international students' experiences of using online resources for academic writing.

The following sections will introduce each participant's data by discussing eight aspects: online resources selected to use for academic writing; intentions of using these online resources; strategies for using these resource; opinions about the credibility of online information; influence of using online resources for academic writing; challenges of using online resources for academic writing; roles of professors; and interesting phenomenon about using online resources for academic writing.

Billy. As an undergraduate student who was major in Economics, Billy transferred from a Chinese university to UVic when he entered the third year of his academic life. He had been studying at UVic for thirteen months when he joined in the research. He graduated from UVic after he contributed his data to the study several months later. He had had not any overseas study experience before he came to Canada. During his study in Canada, he was requested to write mainly economic papers almost every week. He said: "When I come to Canada, I think there are lots of chances for me to

use English in daily life, such as taking the classes and writing homework”. He used laptop and smartphone as daily devices to surf the Internet. All of his experiences offered me a good opportunity to understand how he uses online resources for academic writing as well as the ideas behind his behaviors.

Billy used different online resources for his academic writing. These resources included UVic online library, Google, Google Translate, online dictionary, Wikipedia, format website, and reference resource.

Online resources selected to use for academic writing. Billy usually used the UVic online library to assist his writing. “I always go to the online library to find some resources like a book, magazine or some statistics to support my idea ...”, “Online library, like UVic library” he mentioned. He also used Google because it helped him to target online dictionary websites. He said in the interview: “I just type some words in Google, and the first several pages are dictionary websites.” What he expressed was verified by his behavior in the writing task. With the help of Google, he found Google Translate and used it as the tool for solving language problems. In addition, Google assisted Billy to find a clue about how to use a word as well. “I type the word in Google, there will be some sentences that use the word, so I can know how to use the word.” Regarding Google Translate, Billy used it twice during the writing task. When he read the extract, he met an unknown word ‘synchronous’, so he used Google Translate to find the Chinese translation of it (see Figure 2, 3). Later on, when he was not sure about the spelling of ‘convenient’ in his writing, he used Google Translate again to solve the problem (see Figure 4, 5).

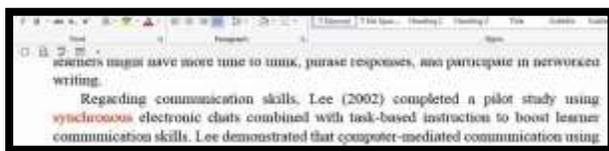


Figure 2. An unknown word 'synchronous'



Figure 3. Billy used Google Translate (I)

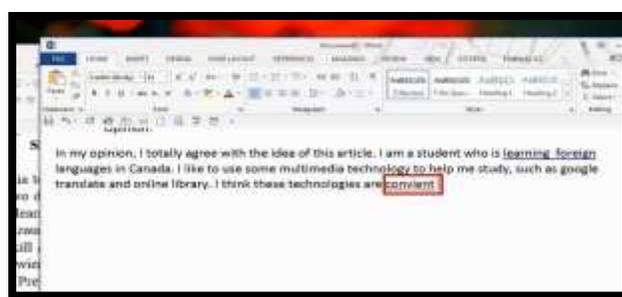


Figure 4. Billy misspelled 'convenient'



Figure 5. Billy used Google Translate (II)

Other than Google Translate, Billy told me that he usually visited a website called www.dictionary.com. Furthermore, he installed a bilingual dictionary App Youdao on his smartphone. Sometimes, he used it because “it is convenient than opening the website”.

Billy also used Wikipedia to search for “some words I do not understand, some academic words”, or “The definition of a theory,” “for example, some theories about economics”.

In the interview, Billy told me the writing format he had to follow was the American Psychological Association (APA) style according to the disciplinary requirement. To deal with the format, he said:

I have a website, OWL (the Purdue Online Writing Lab)..., there is an APA style format on the website. So, when I write my paper, I have to check the website at first, and I will check the format and style, then I will ask my professor if it is right or wrong. So, check the website first, and then go to professor’s office.

Billy used the online reference resource to ensure if the format was correct. He told me: “The UVic online library has a citation machine... I do not know what that is, when I find the book, I use the citation machine, just click it, and there will be a reference to the book.” The ‘citation machine’ referred by Billy was RefWorks, “a web-based citation management tool that is available to students, faculty, and staff at participating universities, colleges, and health institutes”(Appleby, n.d.). The UVic online library provided RefWorks as part of its service to its users, but it is no longer listed on the UVic online library resource and is replaced by other citation management tools (University of Victoria, 2015, “FAQs: What is RefWorks?”, para.1).

Intentions of using these online resources. The first major intention Billy used these online resources for academic writing was to solve language problems. At the beginning of the interview, Billy introduced his English learning background briefly. He has studied English for about seven years since high school. However, he did not have many opportunities to use English before he came to Canada. His self-assessment about

his language proficiency was intermediate. He thought his academic writing was not very good because of the difficulties he had in the English. Therefore, in the interview, Billy selected ‘parts of speech, definition, synonym, spelling, pronunciation, and the language context’ as his answers to the question about what the online dictionary was used for academic writing.

From the screenshots of his writing task, Billy’s behavior of using Google Translate for figuring out definition and spelling of English words verified what he had said in the interview. Furthermore, using online resources for solving language problems in writing was mentioned many times by Billy in the data. For example, he used online dictionary website and Google to know a word. And when he was asked if Youdao was useful for writing, he answered “there are some examples on it. If I look up the word, I can have a sentence, yes, some sentences of the word. So, I will know how to use the word”.

Apart from using online resources for solving language problems, Billy used the UVic online library for searching information to support his ideas of writing. He used an example to explain it in the interview, “I have an idea about drinking alcohol. So, I need to type ‘alcohol’ in the website and search some books or resources about alcohol”, “I can type several words in it, and it will present some articles or websites, then I will select some information that approaches to my idea”.

Furthermore, because Billy’s major was Economics, he usually needed to write papers on economics. Therefore, to know some economic terminologies or theories is also necessary for his writing. Wikipedia helped him to deal with the problem.

Lastly, Billy used online resources to search other online resources and to manage reference and format of writing. For example, he used Google to find useful online dictionaries, and used RefWorks and Purdue OWL website to manage references and format.

Billy's strategies for using online resources focused on using UVic library databases and online dictionary respectively.

Strategies for using online resources for academic writing. When he used the UVic library databases, Billy paid attention to the limiters that can eliminate a lot of irrelevant results to narrow down his search by "the title or author, within a certain date range" (University of Victoria, n.d., "Search smarter, not harder", para. 4). When I asked if he selected peer-reviewed or scholarly publications, he answered: "Yes. I check these too". And when I asked if he selected the year of publication, he said: "Yes".

Billy also had his way to look up words on online dictionary. He said: "some words have some different definitions, and the word can be a verb, noun, or adjective. So, if I use the word as a noun, I just look up the definition of the word that acts as a noun". Although Billy had his strategies, his opinion about the quality of the information on the online resources he used varied.

Opinions about the credibility of online information. Billy's opinions about the credibility of online information demonstrated in two different ways. Concerning the quality of information he found online, Billy did not fully trust them. He said: "Some articles are not academic articles, just something people write it for fun. So, I need to use some academic websites to find my resources, like the library". This attitude was reflected in his opinion about the quality of information on Wikipedia:

Most of them I think are good. However, you know, everyone can add it to Wikipedia, so, some of them are not good. I cannot trust them. I just have a look. If I find some information on Wikipedia, I can ask my professor if that is correct or not. So, I can confirm it.

In contrast, Billy fully trusted the search results on online dictionaries. This kind of trust depended on what he said “just a feeling”. For example, he thought that the pronunciations on Youdao App were pronounced by native speakers, “Because it is pronounced by a native speaker, so I believe it,” he said. However, no matter what kind of opinion Billy had on the quality of online information, it could not deny the positive influences online resources had on his academic writing.

Influences of using online resources for academic writing. Online resources gave Billy a positive attitude about academic writing. He said: “Online resources can give me some information I do not know”. He explained the advantages that the UVic online library brought to him:

I can find more information about my topic from the website. The second one is, some resources can help me to create a new idea. The third one is, maybe I can find some articles about my topic so that I can know other authors' thoughts.

Billy also discussed the influences of online dictionaries toward his writing: “The first one is spelling, how to spell the word. The second one is how to use the word. The third one may be about synonym”.

Furthermore, because to follow the APA style is challenging for him, he said: “Some formats are easy to follow, but some are not. For example, the requirement about the reference list is very hard to follow. The writer’s name, the name of the book, and the

year is very difficult for us to remember”. So, reference resources helped Billy to handle the problems of format and references. But using online resources for academic writing also brought challenges to Billy.

Challenges of using online resources for academic writing. In the data, Billy told me that he used the bilingual online dictionary App Youdao on his smartphone. From his screenshots, it can be seen that no matter what kind of online dictionaries Billy used, he used the bilingual dictionary a lot. For example, when he used Google Translate, he searched the Chinese equivalent of the English word. His behavior may be explained by his opinion about the monolingual dictionary, “Because some definitions on the monolingual dictionary, I cannot understand”.

After discussing Billy’s individual experiences of using online resources for academic writing, I now turn to discussing other indirect but important factors which influence Billy’s use of online resources – his professors.

Roles of professors. Professors were mentioned several times by Billy in the data. His realization about the UVic online library came from his professor, “Last semester, I took a course named English 135, my professor told us we could search some information on the online library”. Furthermore, professors influenced Billy’s use of online resources. Although Billy used various kinds of online dictionaries, he still used a paper dictionary which was bought in Canada. He used it because “last semester I took a class, the professor did not allow us to use the online dictionary. We could not use a cell phone and computer in his class. So, we just could use paper dictionary”. Also, when Billy did not believe the information he found on Wikipedia, he would go to his professors and ask whether the information was correct or not.

In addition to major experiences found from Billy's data, there are some other interesting findings that existed in his data.

Interesting phenomenon about using online resources for writing. As the data showed, Billy used online dictionaries to satisfy his needs to know a word. Among these needs, he mentioned the needs of knowing synonym. However, when he was asked if he knew the 'Thesaurus' function of online dictionaries, his answer was "No." Thesaurus refers to "a dictionary of synonyms and antonyms" (Oxford University Press, n.d., "thesaurus"). After he heard what 'Thesaurus' meant, he said he had used this function, but "not so many times, just several times". He also admitted that even if he had used this feature for looking up synonym several times, he still did not know what the word 'Thesaurus' meant. It is important to consider why Billy rarely used the embedded thesaurus function of online dictionary to meet his important needs in language even if he knew what the function was used for. In addition, why he never tried to know the definition of 'Thesaurus' while he used it several times.

Since Billy said he used UVic online library a lot, he was asked if he knew that there were dictionaries and encyclopedia databases in it. Billy's answer was "I do not know." In addition, when he was asked, "could you tell me which database you usually use?" Billy's answer was "article and book". In fact, there are dictionary and encyclopedia databases in the UVic library database, but there is not a database named "article and book". It seems Billy did not familiar with the library he used daily.

Having completed a within case analysis of Billy, I now present the second participant in my study.

Jennifer. Jennifer was a second-year Master's student who studied in the Department of Chemistry. She has studied at UVic for thirteen months when she participated in my study. Jennifer did not have any overseas study experience until she came to the UVic. She used a laptop, iPad, and computer in daily life. She wrote academic writing which mainly was research reports, and she used different online resources for academic writing.

Online resources selected to use for academic writing. According to Jennifer, she used the UVic online library, Google scholar, specialized database SciFinder, and an online calculator Chemcalc for writing. She said:

... because I am from Chemistry, the first thing I usually use is Google Scholar because it is easy and fast. Moreover, sometimes I use SciFinder to find some specific papers for my research. And sometimes I need to use Chemcalc because what I am doing is about the weight of some molecular.

In addition, Jennifer used online dictionary. In the interview, Jennifer mentioned she only used monolingual online dictionaries. The monolingual dictionary she usually used was Merriam-Webster. In addition to this, Jennifer used Youdao App on iPad. During the writing task, she visited www.youdao.com when she did not know which English word was appropriate to express the equivalent definition of Chinese word '证明' that means 'prove' (Youdao. n.d., "prove") (see Figure 6). Assisted by Youdao, she determined to use 'demonstration' in her writing (see Figure 7).



Figure 6. Jennifer used www.youdao.com



Figure 7. Jennifer used 'demonstration'

Other resources Jennifer used included Google and Wikipedia which are two commonly used online resources by students. During the writing task, Jennifer used Google to find the website of Youdao (see Figure 8). She used Wikipedia because:

Wikipedia is good for me to figure out the definition of specific things. And also at the bottom of the page on Wikipedia, there are references. If I am interested in a specific definition, and I want to have more idea about this definition, I can read the references.



Figure 8. Jennifer found Youdao on Google

Finally, Jennifer also used some online resources which had an indirect relationship with her academic writing. They were YouTube and American Chemical Society (ACS) website. Jennifer had difficulties in knowing how to use the specialized database and online calculator at the beginning. She commented:

...at the beginning, when I use these websites, I need to spend some time to learn how to use them. Especially for the SciFinder and Chemcalc, you need to draw some structures, and any typo will make your result zero, so, you need to spend some time to study how to use these special websites.

Thus, she used YouTube as an approach to learn how to use the database and calculator.

In order to confirm the information she searched on Google Scholar, Jennifer chose to see reviews on ACS which is “the largest scientific society in the world, and a leading and authoritative source of scientific information” (American Chemical Society, n.d. “About ACS”). “We have a website, and the short name is ACS. You just type in ‘review’ and other keywords about your research, a whole bunch of reviews will show up, and you just choose one and read it”. What, then, were Jennifer’s intentions in using these resources for academic writing?

Intentions of using these online resources. Solving language problems is one of the major intentions that Jennifer used online resources for her academic writing. Jennifer has studied English for more than ten years since Grade Three. The difficulties in her academic writing were summarized by her:

I will think something in Chinese when I am thinking about how I do this step, how I describe the reaction or compounds. I usually have some Chinese language

in my mind. Then I will translate them into English, so I think that is the reason why some people do not understand what I am talking about.

When she was asked to give more detailed explanation about the difficulty she had in writing, she stated:

I think it is the sentence structure and the words I use. Sometimes the words I usually use are not the words native speakers usually use. And the sentence, I just have limited sentence patterns to use over and over again. I do not know how to change, and I do not know how to make my idea easier for native speakers to understand.

What's more, she said: "my spelling is not very good right now... After I write my whole topic, the Word (MS Word) usually gives me a red line, or green line, to ask me to notice my word spelling or sentence structure". I asked if she believed the accuracy of the reminding made by MS Word, she told me: "Not all the time, so I need to check not only in the Word, I will begin to check the online dictionary". Another reason why she hoped to know the spelling of a word was "sometimes I need to remember some words. You know, the chemical words have different parts. So, according to the different parts, maybe I can understand the structure of a thing".

In the interview, Jennifer chose 'definition, spelling, pronunciation, and language context' as her intentions of using an online dictionary for academic writing. From the screenshots of her writing task, she was observed to use an online dictionary for finding L2 word for her L1 expression, which echoes her problem that sometimes, L1 influences her L2 expression.

Except for solving language problems, Jennifer used the UVic online library, Google Scholar, and specialized database for searching the literature of writing. She also used online resources to find other online resources that could benefit her writing. For instance, she used Google to target an online dictionary website. She used YouTube to learn how to use SciFinder and Chemcalc. She said: “SciFinder and Chemcalc, I think, are famous in chemistry field, so if you type something like ‘how to use SciFinder’ in YouTube, there will have some videos presented to you quickly”. In her later explanation about why she liked to use YouTube, she said: “I would like to choose YouTube because the video people post on YouTube is easier for people to understand”.

Other reasons that Jennifer used online resources for academic writing included understanding terminologies and ensuring the credibility of literature. Jennifer used Wikipedia to understand terminology. She noted that there were many terminologies in chemistry, so Wikipedia played a major role in her understanding of these terminologies. And once Jennifer was asked if she totally believed the information she found online, she replied “No”. Her way of checking the credibility of the information was to read reviews on ACS website.

Strategies for using online resources for academic writing. Jennifer’s strategies for using online resources were reflected on how she searched literature for writing and how she used online dictionary. When she searched literature, she did a generic search and a specialized search:

These three websites are what I commonly use, but I use them for different purposes. Sometimes, if I just need a general knowledge, I usually use Google Scholar because I am not sure what specific things I want. I just know some

general keywords, so I just use Google Scholar to search some keywords.

Sometimes, I truly know what I want, like some synthesis, conditions, or how to improve the reaction and research, I usually like to use SciFinder because it will narrow down the range of my search. This makes me find what I really want more efficiently. And sometimes I need to deal with data, I need some examples, I need some specific math for my own data, I use Chemcalc.

Later on, Jennifer discussed the difference between Google Scholar and the specialized database:

Google Scholar has a huge range. You can find lots of things just by using keywords. But for SciFinder, because I am from Chemistry, I can use the structure or some conditions of my reactions to find specific papers, which is not easy for Google Scholar to do like this.

The special feature of SciFinder helps Jennifer to find literature easier. She said: “You can also draw the structure on SciFinder, and it gives you the papers which include the things you draw”. Furthermore, when Jennifer used databases, she used limiters and keywords. Jennifer said: “The literature I usually find is within recent five to ten years”. Furthermore, “I think one way I do is to find more keywords”. She also paid attention to literature of famous scholars and journals:

For some famous authors in my field of research, I definitely will read them in detail. So according to the author, and then is the journal, as I told you before, like the famous journal, I will read them in detail.

When faced with information on Wikipedia, Jennifer would read the references offered by Wikipedia if she was interested in knowing more information about the thing she was looking at.

Once Jennifer searched on online dictionary, she had her strategies as well. During the writing task, Jennifer used www.youdao.com. Before she determined which word to use, she saw sentence examples at first (see Figure 9). She said in the think-aloud activity: “I saw the example on the dictionary, and the way it uses is what I want to use”.



Figure 9. Jennifer read sentence examples

Opinions about the credibility of online information. Jennifer trusted Wikipedia.

When we talked about what kind of genre she knew about academic writing, she said: “And another kind of academic writing, like the Wikipedia I wrote before”. She thought writing on Wikipedia was a sort of academic writing. However, she demonstrated critical trust on the information she found online and on online dictionaries. When Jennifer was asked if she fully believed the information she found online, she replied: “No, especially

when I used Google Scholar”. Additionally, Jennifer did not fully believe the pronunciation she heard on online dictionaries. She talked about her experience:

I give you an instance, like the solvent I usually use, it is ‘toluene’. And when I first heard about it from the dictionary, I think it is very weird. It does not sound like an English word. I do not trust it. So I look up many dictionaries, they tell me the word is just pronounced /'tɒl(j)u:i:n/ (Oxford University Press, n.d., “toluene”). And when we discuss in class, native speaker began to talk about the solvent, and the word is pronounced /'tɒl(j)u:i:n/ (Oxford University Press, n.d., “toluene”).

Influences of using online resources for academic writing. Jennifer believed in the benefit of using online resources for her writing. For example, she thought that using the UVic library was very useful for her academic writing, especially when she needed to download papers. She said: “if I use UVic online library, I can use them for free”. In addition, Jennifer thought online dictionary was helpful, “First, it will help us to solve problems of typo”; “and another thing is the example. They teach us about language context. I can study some sentences structure from it”, and “it is convenient”. Regarding the advantages of using online databases, Jennifer has a positive attitude about the effect of it on her academic writing:

I think, it will make me more knowledgeable because when I am writing, some parts are about the background of my research. Besides, do more reading help me to have more ideas about what I am doing and the whole field of my research. The third thing, I think, is about studying the language. I can study more words and more ways about how to describe the things I do; I think that is very good.

Challenges of using online resources for academic writing. Jennifer met terminology problems when she used online dictionaries. When she faced terminologies that she could not understand sometimes, she had to switch to Wikipedia for help. Her need to know chemistry terminologies could be reflected in her idea about the vocabulary volume of online dictionaries, she said: “I need chemistry dictionary not just a dictionary”. Moreover, Jennifer did not know how to use the specialized database and online calculator at the beginning, which was her motivation for using YouTube.

Role of professors. Jennifer used SciFinder and Chemcalc because of her major. She did not know these resources until her supervisor told her. “For SciFinder and Chemcalc, specifically from my supervisor,” she said.

Interesting phenomenon about using online resources for writing. When Jennifer was asked if she knew the Thesaurus function of an online dictionary, she answered: “No”. And because Jennifer did not mention a lot about how she used the UVic online library, I was interested in asking: “Which database of the UVic online library do you use?” her answer was: “Do we have many choices?” “I am not sure if my answer relates to your question. I just type in the things I want, they give me some links. I type them in UVic, sometimes in Google Scholar”. Therefore, she confirmed that she did not know there were databases about dictionaries and encyclopedia. It seems that Jennifer did not familiar with the university library.

I now present data regarding the third participant in my study.

Tiffany. Tiffany was an undergraduate student who also came from Economics, but her major was Financial Math and Economics. Before she came to Canada to pursue her Bachelor’s degree, she had studied in China. She had studied at another Canadian

university for one year before she transferred to UVic as a sophomore. She graduated from UVic several months later after she took part in the study. She did lots of academic writing, “We need to pass the English academic writing, so we need to write a paper, and we need to use online resources”. According to her explanation, the English academic writing she had to pass was two English courses: ENGL (English) 135 and ECON (Economics) 225. She said: “the first one is about the basic writing skills, and the second one teaches you writing format and skills on economic papers”:

They teach us format first, like APA and MLA (Modern Language Association) style, which are two professional writing styles and recognized widely. Moreover, the second taught me that you should write a sentence in a more professional way to let the reader understand.

In addition to, she learned “how to use the citation and resources, how to cite to express ideas”. Her experiences of learning, writing, and using the Internet provided lots of data to the study.

Online resources selected to use for academic writing. Tiffany introduced: “If I get a topic, at first I will use the Google Scholar to find some papers which relate to this topic”. Google Scholar was one of the online resources she used daily. Furthermore, she said: “after Google Scholar, I would search the library of UVic”. In addition, Tiffany used Baidu, a Chinese web search engine, for solving language problems. “I type Chinese word in Baidu website, and I click ‘translate,’ it will give me the translation”. For instance, when she met an unknown word ‘egalitarian’ in the extract, after she failed to understand what the word meant on an online dictionary, she switched to Baidu to see Chinese definition (see Figure 10).



Figure 10. Tiffany searched on Baidu

Moreover, Tiffany used Google. At first, after Tiffany finished the summary of her writing, she started to write her opinion. She began to use Google and explained in the think-aloud activity: “I only know I agree with it, but I do not know what to say”. And during her writing task, when she did not know what ‘expedite’ and ‘espouse’ meant in the extract, she used Google to find online dictionary Merriam-Webster and www.dictionary.com respectively (see Figure 11, 12, 13). Secondly, when she did not know what ‘anxiety’ meant in the extract, she searched the definition on Google (see Figure 14).

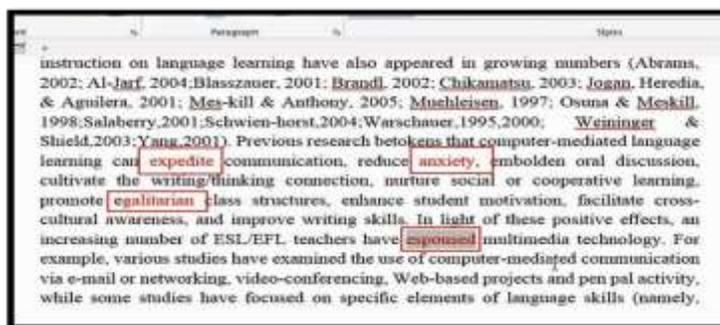


Figure 11. Unknown words in the extract



Figure 12. Tiffany typed word in Google to find online dictionaries



Figure 13. Tiffany used Merriam-Webster



Figure 14. Tiffany searched word on Google

From the aforementioned screenshots, it can find that Tiffany used online dictionaries such as Merriam-Webster. Meanwhile, she also used Youdao App on iPad and iPhone.

The last type of online resource that Tiffany used was reference resource. She said: “They introduce the UVic online library, if you search any resource and want to make a bookmark, you have your own management of the resource”. In order to confirm what

kind of reference resource she talked about, I asked: “is it RefWorks?” she replied: “Yeah. They teach you how to use RefWorks”.

Intentions of using these online resources. According to Tiffany, her intentions of using an online dictionary are: to figure out synonym, collocation, and definition. She said: “I cannot use the same word over and over again in one paper, we need to change it”. For the collocation, she gave an example why she used an online dictionary for this

Like something happened on Tue, the preposition here is ‘on’. However, if something happened ‘at’ three o'clock ‘on’ Tue, I am not sure whether the preposition here is correct, so I will search online to make sure everything is correct.

In order to solve language problems she had in academic writing, she used the web search engines Google and Baidu, and different kinds of online dictionaries.

Tiffany also used Google Scholar and Google to search information to inspire her ideas of writing, and she used online resources for managing references of writing or finding other online resources as well.

Strategies for using online resources for academic writing. When Tiffany searched information for writing, she used Google at first, then she used Google Scholar. During Tiffany’s writing task, Tiffany used Google at first to find the general idea of what she wanted to write, then, since she could not find anything on Google, she switched to Google Scholar. “I did not see anything I want, so I transfer to Google Scholar”, she said in the think-aloud activity. Finally, she used the literature she found on Google Scholar as a reference in her writing (see Figure 15).

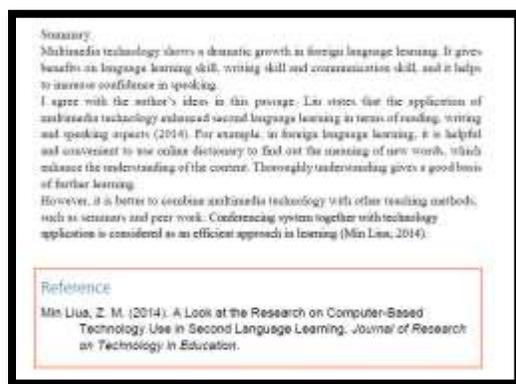


Figure 15. Reference found from Google Scholar

When Tiffany used Google Scholar and the UVic online library, she used Google Scholar at first and then the UVic online library. When Tiffany was asked if she usually used Google Scholar, she replied: “for the beginning search”. She explained:

Because Google Scholar gives you more generic ideas about the topic ... if I need to write a paper, I will find supporting ideas from the UVic library because they are professional, and they give you a clear and concise idea about it.

When searching literature, Tiffany had an efficient strategy to determine if the digital literature correlates with her writing, she read the abstract of literature. Furthermore, she used limiters of online databases to narrow down her research. She told me that she did not choose papers published in specific date range:

I did not use the year limitation because the results showed up in the first few pages will be recently and most related to the topic, most of the time, I will not go to the page more than three, four, five.

She also paid attention to the peer-reviewed articles, “professor told us we need to take the peer-reviewed one”.

With regard to online resources used for solving language issues, Tiffany used two monolingual dictionaries when she was doing the writing task. She explained her behavior:

I want to guess the meaning of these English words at first. If I still cannot understand, I will try Chinese ones. If I try the Chinese one at first, it will give me the definition I already know, so I will use the vocabulary in the same way as I use it in Chinese. Sometimes, it is not right.

But she still searched for the Chinese equivalent of an English word when she could not figure out the definition of it on the monolingual online dictionaries.

Furthermore, I observed that sentence examples on online dictionaries were important for Tiffany. She said: “I use examples to make sure the meaning,” which could be observed from her search behavior in the writing task. She thought an online dictionary:

...will give you example sentences, help you to understand whether the meaning you think is right. Because English and Chinese version cannot match directly, some words you cannot express in Chinese or English, you need to understand it in an English context to see whether the word is used properly.

Moreover, the synonym of a word on online dictionaries also important for Tiffany. She told me that “synonym is also important when you understand the new vocabulary”. So, when she looked up the online bilingual dictionary to understand the definition of ‘expedite,’ she looked at the synonyms of it while there was not many sentence examples using this word.

Last but not least, in the interview Tiffany commented that when she was not sure about the definition she found on Baidu, she would use Google for a double check.

Opinions about the credibility of online information. Tiffany trusted Youdao. Her attitude towards it was as follows:

I feel at least it is the most professional one. It covers most of the vocabulary I need to search. But if I search online, the translation sometimes is not correct. The example sentences of Youdao are like from English newspapers, so it is more reliable because native speakers say it like that.

Tiffany also trusted resources provided by the UVic online library, she believed all the search results on it because her professor told her that all the resources on the UVic online library were professional and could be used as a citation.

However, Tiffany showed critical trust about Google Scholar as well as online dictionaries except Youdao. She thought that the search results on Google Scholar were not as credible as what people thought. “At first, I will use the Google Scholar to find some papers that relate to this topic. But some of them are not professional, we cannot cite it. So, I want some journals and papers, magazines about that,” she said.

Even if Tiffany fully trusted the information on Youdao, her trust did not involve other online dictionaries. She still questioned online dictionaries. “I do not know where the sentences come from on the online dictionary, most of the time, I do not trust the sentences, and I just get the rough idea”.

Influences of using online resources for academic writing. Tiffany thought that online dictionaries bring convenience not only to the speed of looking up dictionary but also on further understanding and learning about a word. She commented: “it is quick”,

and “it gives you an extra idea about what it is talking about... it also gives you website links which tell you where the sentence comes. If you are not sure, you still can click the link and to see and get a deeper understanding”.

About the convenience that online databases bring to her academic writing, Tiffany mentioned:

I can do it anywhere if I have a computer with me, and it is charged. If it is not online, I need to go to the library and search it on the bookshelf; it will take longer time. Most of the time, I can find something to support my idea, that is the second advantage.

Moreover, she thought that an online database could offer the abstract of a paper was helpful. She stated:

like the UVic library, if you find something, they will first give you an outline and abstract of the paper. But if you find it in the magazine, you need to read it through, and then you can get what is talking about.

Furthermore, the benefit of downloading literature free of charge by using UVic online library was another advantage that she felt was helpful:

As long as I am an UVic student, I do not feel any inconvenience because library resources are paid by the university, but if I am not a student, I need to find the resources by myself, and sometimes I cannot get access to the paper I am searching. I need to pay, but if I found it is useless, it wastes money.

Challenges of using online resources for academic writing. Because the service of RefWorks was canceled on the UVic online library, Tiffany thought it was “inconvenient than before”. Furthermore, Tiffany expressed her views on the credibility

of information on Google: “there are too many resources online; you cannot verify every source that you use”.

Roles of professors. Tiffany used the UVic online library, and she also believed the search results on it. She said: “the professor told us that on the UVic online library, all the resources are professional, we can use them as citation.” In addition, Tiffany’s professors told her that there were dictionaries and encyclopedia databases on the UVic online library, she said: “I remember our professor told us, but I never use it”. What’s more, Tiffany knew and used the reference resource RefWorks offered by the UVic online library because of her professors.

Meanwhile, Tiffany’s knowledge about selecting peer-reviewed article on online databases came from her professors too.

Interesting phenomenon about using online resources for writing. Tiffany usually used the UVic online library to search accurate information about her writing topics. She also used Google Scholar for searching generic information about her topics. When I asked: “do you know you can also access to Google Scholar through UVic online library,” she answered: “No”. In addition, she knew there were dictionaries and encyclopedia databases on the UVic online library, but she never used them. In conclusion, Tiffany used the UVic library a lot, but she did not know Google Scholar was one of the databases listed on the UVic online library. As well, she knew there were resources that would help her to solve language problems of writing, but she never tried to use it.

Another interesting thing was that although Tiffany enjoyed the benefits caused by online resources, she expressed her worry about using online databases. “It makes the

writing easier, you do not need to spend much time on your papers to find resources. Really fast to find the resource. But because of the convenience, it will make people think less". She also said:

You can get what you want from the website fast and easily, but if you read a book, it will take time as long as you are reading. You also think about what you want to write and what the relation between the book and your topic is. It gives you more space to think. But online resources just like fast food.

Having presented the third case study, I now present the data for my final participant.

Sarah. She was a second-year Master's student in the Department of Computer Science. She had received her education in China before she came to Canada. She worked in China for many years. Because of her job, sometimes she wrote English documents for products that her company was developing. She has studied at UVic for thirteen months when she agreed to join in the research. Her degree is thesis-based, which means she has to write much academic writing during her study. She said: "The first year, I focused on my courses, homework, and project. It likes academic writing". The academic writing that she wrote, according to her, was "literature review. Also, for the project, I have to write about 20 or 30 pages report about what I did". According to these experiences and Sarah's data collected from her writing task, I got the following information.

Online resources selected to use for academic writing. When Sarah was asked which online resources she usually used, she replied: "Google Scholar, you can search any paper there" and "I used Wikipedia for understanding the concept".

Regarding online dictionaries, she said:

For online dictionary, I use one that is Chinese version. I want to get a Chinese meaning firstly, and I have a sense of this concept in Chinese, then I will use Wikipedia, I will search more about this concept.

In the interview, Sarah said she used a bilingual online dictionary website www.iciba.com, she did what she stated in the writing task. She searched the antonym of ‘negligible’ that means “insignificant” (Oxford Dictionaries, n.d., “negligible”) on www.iciba.com (see Figure 16).



Figure 16. Sarah searched the antonym of ‘negligible’ on ICIBA

Furthermore, she also used online dictionaries offered by Google. These behaviors could be observed from her writing task (see Figure 17).



Figure 17. Sarah selected an online dictionary on Google

During the writing task, when the dictionary website that Sarah usually visited crashed, she switched to Google for help. She typed the word ‘phenominous’ in it, later on, Google helped her to correct the misspelling (see Figure 18).



Figure 18. Google corrected the misspelling

At last, Sarah found a software named LaTeX online. The software could help her to check spelling and grammar. She said: “it is a text editor, and it is more than text editor.” “If you make a spelling mistake, it will highlight the word; then you will put attention to it”. She explained the benefit of LaTeX:

This one you can define the format by yourself, and you will just write the content. It is an open source. Most of us in computer science use LaTeX, it is good for science writing, especially when you write equations, it is really better than Word.

Intentions of using these online resources. Sarah had studied English since middle school, at least fifteen years. The difficulty she has in English is vocabulary, especially the spelling, which has influence on her listening, reading, and writing:

...especially like an academic discussion group. There are some big words that I have never encountered; then it just gives me difficulties to understand other people's talking. Even when I am reading my own materials, like papers, I have to check dictionary quite often, and sometimes, use Wikipedia. Especially the spellings, sometimes after the certain step of the study, I already know how to

pronounce and have no problem in listening to other people. But when I start to write, even spelling, I have to check regularly.

During the writing task, she used online dictionary and Google mostly for spelling, which is already presented in the screenshots. In the interview, Sarah chose 'definition, pronunciation, and slang' as her major reasons for using an online dictionary for academic writing. Therefore, solving language problems is one of her intentions of using online resources for writing.

Furthermore, she used online resource LaTeX for checking grammar, spelling, and formatting. Other reason Sarah used online resources for writing is as what she explained; she used Wikipedia to understand further about the definition of a word she got from online dictionaries. What's more, she used online resource to imitate writing structures:

I do search online to see if there is any similar paper which has the structure that I want, I will use the structure of it. Sometimes, I do not know how to write introduction part, which is more challenge than writing the result of my project. The introduction part I have to acquire how other people write about this, then I will combine their thinking.

Strategies for using online resources for academic writing. The abstract of online digital literature was important for Sarah when she read literature for writing. She said:

Google Scholar searches all the paper that relates to your keywords. Then, you read through the list it provides, see which one is very close to what you want. Then, you really know the abstract of the paper, to see if it relates to your work. If

it does, I download a paper and quickly read through that, and make sure if it is really related to my work. If it is not, I just put the paper away.

When Sarah searched literature, she noticed the numbers of citation that a literature was used, as well as the year of publication. She said: “You can look how many times the paper has been cited. I also check the published year”. She usually selected papers that were published within the past twenty years because she thought “you do not want to read a paper that is really old unless it is very good”.

Regarding the strategies of using online resources for solving language problems, Sarah said: “I usually use online tools when I have difficulties in spelling or if I ran out of adjective to use”. Sarah’s difficulty in spelling was reflected on her behavior in the writing task. For example, she used Google to correct misspelling of ‘phenomenous’. And when facing so many definitions and usages of a word in an online dictionary, her strategy of selecting appropriate words was: “If it is a noun, but in my dictionary, it has a different meaning, sometimes, it can be used as a noun, or it can be used as a verb. It depends on the content”.

Further to what Sarah mentioned in the interview, she used the Chinese bilingual online dictionary a lot. Her first reaction to using an online dictionary was to use www.iciba.com when she did not know how to spell ‘phenomenous.’ Moreover, when she used the online dictionary, she read the sentence examples to see if the word was appropriate to use. For example, she read the sentence examples of the English word ‘ignore’ so that she could determine if she would use the word in her writing (see Figure 19).

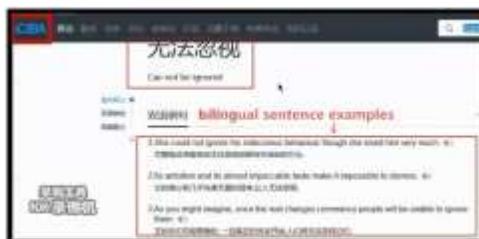


Figure 19. Sarah read sentence examples about ‘ignore’

The Thesaurus function of online dictionaries was also what Sarah used when she wrote:

Because sometimes the dictionary gives you unclear definition of the word you are checking, I need to check Thesaurus to see maybe I recognize some words that I have learnt, then, it will help me to understand a new word better... especially for adjective, 'big, huge, enormous, significant', I will check those adjectives and then start to learn how to use the new one, and apply it in my writing.

Opinions about the credibility of online information. In the interview, Sarah talked about her opinion about www.iciba.com, “I find the Chinese dictionary is not very accurate”. Moreover, even if she rarely used Google Translate, she expressed her idea about it according to her work experience:

I rarely use Google translate, I do not like it, I do not think it is very accurate... I did some translation work in China. When I used Google translate, it just translated words by words, the sentence it came up can be awkward. It does not make sense quite often.

She also expressed her opinion about online dictionaries. “It is really fast. You just need to type in what you want, and then it just gives you the answer. It does not mean it is always accurate”.

Influences of using online resources for academic writing. Sarah saved the online dictionary website in her browser list. “It is on my browser list. It is very easy to open”. The online dictionary becomes an indispensable part of Sarah’s life and writing in the think-aloud activity:

You cannot live without it. If I have difficulty in spelling this word, I just check it online. It likes drinking water; it becomes a habit, sometimes you neglect it, and you just do it every day. I think I have to check it all the time because I want to know whether my writing is correct or not.

With regard to the online databases, she had a positive opinion about it. She said: “you do not need to carry a whole book with you. I do not need to buy any book, any print book right now, I can have a digital copy of everything”. Besides, the design of online databases made she understand literature fast and easily. “If you look at the old paper, there are some papers have not abstract. But all the paper needs abstract so that people can quickly read through and have an idea of what the paper is talking about”.

Challenges of using online resources for academic writing. The accuracy of the online bilingual dictionary proposed challenges to Sarah. Sarah thought the information provided by the Chinese dictionary was not very accurate. Additionally, the technical problem of the dictionary website sometimes caused problems to her. Sarah tried to use www.iciba.com during the writing task, but the website could not be connected (see Figure 20). She explained, “Sometimes the speed is slow because we are in Canada...

sometimes the website crashes, and you do not know why. Or maybe when you type in some special characters, it crashes too. I think those websites are not developed well at the beginning”.

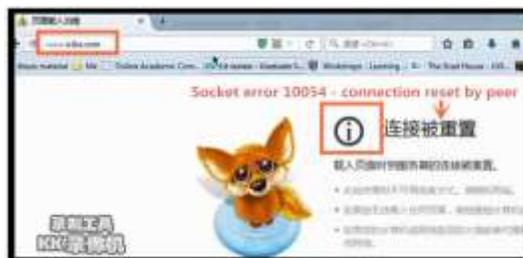


Figure 20. Technical problems of www.iciba.com

Interesting phenomenon about using online resources for writing. When I asked Sarah if she would notice whether the paper came from peer-reviewed journals, conferences, meetings, and newspapers, she said: “I do not pay much attention to if it is a journal or conference article”. Also, in Sarah’s data, she mainly used Google Scholar. The UVic online library was rarely mentioned by her except the benefit of downloading articles free of charge as an UVic student. For checking whether she mainly or only used Google Scholar to search information for writing, I asked: “You just search the Google Scholar and find the papers?” and she replied: “Yes”.

Furthermore, Sarah had a critical opinion about the search results on online dictionary including the dictionary she used daily. However, she still keep using the dictionary as the major choice for solving language problems of writing.

In addition, she had an opinion on the negative influence that online resources brought to people. When she searched online to correct the misspelling of ‘phenomenon’, she said: “Because right now, you can check online all the time. That is why some people, including myself, do not remember the spelling of ‘phenomenon’”.

Cross-Case Analysis and Interpretation

In the remainder of this chapter, I synthesize the data of the individual case analyses to analyze similarities and differences that participants used online resources for academic writing. I will present the analysis in seven aspects: types of online resources participants selected to use actively; intentions of using these resources; strategies for using these resources; opinions about the credibility of online information; influences of online resources on participants' academic writing; challenges of using these resources for writing; and knowledge about the UVic online library.

Table 1

Online Resources Participants Used

	Web Search Engine	Online Database	Encyclopedia	Online Dictionary	Format/Reference Resources	Others
Billy	Google	UVic online library	Wikipedia	Dictionary Google Translate Youdao	Purdue OWL website RefWorks	
Jennifer	Google Google Scholar	UVic online library SciFinder	Wikipedia	Merriam-Webster Youdao		YouTube ACS Chemcalc
Tiffany	Google Google Scholar Baidu	UVic online library		Merriam-Webster Dictionary Youdao	RefWorks	
Sarah	Google Google Scholar		Wikipedia	ICIBA English-Greek online dictionary	LaTeX	

Types of online resources selected actively to use for academic writing.

According to the data, there are five major types of online resources participants actively use for their academic writing. They are web search engine, online database,

encyclopedia, online dictionary, and format or reference resources. Some online resources could not be categorized into a specific type, but they have close connection with participants' academic writing. So they are presented as 'Others'.

The web search engines commonly used by participants are Google and Google Scholar. Among all of the participants, Billy is the only one who does not use Google Scholar. In the interview, when I asked if he used Google Scholar, he told me: "No". The reason is he knew some information online was informal, and he needed academic information, so he checked mainly on the UVic online library. Another reason result from the influence of his professor because the professor introduced UVic online library to all of the people in his class. Tiffany is the only participant who used another web search engine Baidu in the writing task.

The online database used by participants mainly was the UVic online library. Three participants used it except for Sarah. For her, Google Scholar is the major online resource she used to search literature for writing. This phenomenon is similar to Wu and Chen's (2014) that students in science and technology prefer more to use Google Scholar. Jennifer is the only participant who used specialized online database.

For an encyclopedia resource, Wikipedia is the common choice for all of the participants except Tiffany. This phenomenon proves what Knight and Pryke (2012) said that Wikipedia was widely used by students. Tiffany did not use Wikipedia could be found in her think-aloud activity:

If there is a symptom of a disease, it will not give you a definition at first, it will describe the disease at first, and say the reason of the symptom, and so, it is not a dictionary. I do not like it when I do my writing.

Tiffany preferred to use an online dictionary rather than Wikipedia to find a direct and quick solution for her language difficulties in writing.

All of the participants used online dictionaries. It seemed that participants used both monolingual and bilingual online dictionaries. However, they still liked to use online bilingual dictionaries or the bilingual function of online dictionaries and web search engine. In the interview, Billy and Jennifer said they used monolingual online dictionary www.dictionary.com and Merriam-Webster respectively. But, in the writing task, Billy used Google Translate twice, and Jennifer searched on online bilingual dictionary www.youdao.com immediately when she met language difficulty. Moreover, for Tiffany, in the writing task, even if she did not use online bilingual dictionaries, she still used the bilingual translation function of Google and Baidu respectively to figure out what the English words meant in the extract. For Sarah, she liked to use www.iciba.com, a bilingual online dictionary. Her search behavior in the writing task also proved her words in the interview. Furthermore, majority of the participants used bilingual online dictionary App Youdao on their portable devices.

Another phenomenon about participants' use of online dictionaries is that some participants used the same online dictionary. Both Billy and Tiffany used www.dictionary.com, and both Jennifer and Tiffany used Merriam-Webster. This phenomenon seemed like a coincidence; but, it is caused by the convenience that Google brings to resource search. Billy told me how he found www.dictionary.com: "Just type the word in Google, and the first several websites are dictionary websites." According to what he said, I typed the word 'dictionary' in Google, then, www.dictionary.com appears on the first page of Google (see Figure 21).

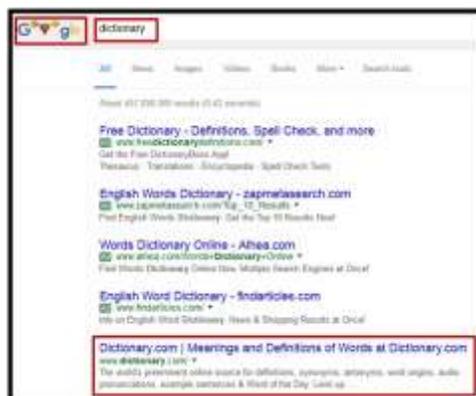


Figure 21. Dictionary was on the first page of Google

From Tiffany's screenshots, we also can find that she chose www.dictionary.com and Merriam-Webster randomly on the first page of Google. Both Billy and Tiffany selected the online dictionary randomly, but the randomness has connections with Google. The randomness of choosing an online dictionary also result in an interesting observation that Sarah made. Even if she did not have learning background on Greek, but she chose an English-Greek online dictionary on the first page of Google to know the antonym of 'negligible'. After she found the word 'inegligible', she did not double check if the word was appropriate or correct, finally she used it in her writing (see Figure 22).

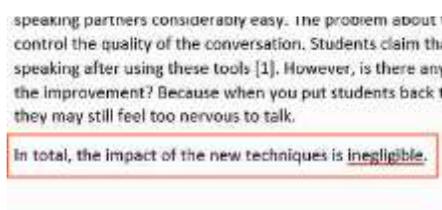


Figure 22. Sarah used 'inegligible'

The last type of online resource that was selected actively by participants to use for their academic writing is the format and reference online resources. Both Billy and Tiffany used RefWorks. Billy also used the Purdue OWL website to guide him to format

and manage references. Sarah found software LaTeX on the Internet, which helped her to deal with not only the format but also spelling and grammar.

The ‘Others’ group of online resource is used only by Jennifer, they supported her academic writing indirectly. YouTube helped her to know how to use the specialized database and online calculator. ACS website helped her to know the quality of literature. Chemcalc assisted her molecular calculation.

Table 2

Participants’ Intentions of Using Online Resources

Intentions	The Online Resources Participants Used			
	Billy	Jennifer	Tiffany	Sarah
Solving Language Problems	Google Online dictionaries	Online dictionaries	Google Baidu Online dictionaries	Google Online dictionaries
Searching Resources	Google UVic online library Wikipedia	Google Google Scholar SciFinder Chemcalc YouTube Wikipedia ACS website	Google Google Scholar	Google Scholar Wikipedia
Formatting and Referencing	OWL website RefWorks		RefWorks	LaTeX
Imitating Writing Structure				e.g., introduction
Inspiring Ideas	UVic online library		★ mentioned it	

Intentions of using online resources for academic writing. From Table 2, it can find that online resources are used for satisfying the following needs of participants’: solving language problems; searching resources; formatting and referencing; imitating writing structure; and inspiring ideas.

All the participants used online resources for solving language problems. The online resources they used to deal with the language problems are online dictionaries and web search engines. Google plays a major role in helping participants to handle language difficulties in writing, three participants mentioned or used it.

Another major reason that participants used online resources for academic writing is to search resources. The online resources used for this intention are mainly the web search engine Google and Google Scholar, the UVic online library, specialized database, and Wikipedia. Participants used Google to search online dictionary or information about writing topics and ideas. Meanwhile, Google Scholar, the UVic online library, and specialized database SciFinder provided participants with more scholarly information for writing. Wikipedia helped participants to understand terminologies or concepts related to their writing. Moreover, YouTube, ACS website, and Chemcalc supported participant's use of specialized database, evaluation of the quality of literature, and molecular calculation respectively.

The third important intention is to format or manage references. These online resources included OWL website, RefWorks, and LaTeX.

For other intentions, both Tiffany and Billy used online resources for inspiring their ideas of writing. Sarah used the literature she found online to imitate the structure of writing such as the introduction part.

Table 3

Strategies for Using Online Resources

Strategies	Billy	Jennifer	Tiffany	Sarah
			Limiters	

	Peer-reviewed and scholarly publications The year of publication	The year of publication (5 to 10 years)	Peer-reviewed literature on the first 3,4, and 5 pages of the database	The year of publication (within 20 years)
Searching on Online Database		More keywords Famous scholars Famous journals	Others The abstract of online digital literature	The abstract of online digital literature Times that an article was cited She did not pay attention to the feature of an article such as peer-reviewed, conference, or newspaper article
Ways of Using Online Database & Web Search Engine		Used Google Scholar for generic search Used specialized database for specialized academic literature	Used Google or Google Scholar for generic search Used the UVic online library for academic literature	
Searching on Online Dictionary	Parts of speech Sentence examples	Sentence examples	Synonym Sentence examples	Thesaurus Context Sentence examples
Ways of Using Online Dictionary	Dictionary Google Translate Youdao	Merriam-Webster Youdao	Merriam-Webster Dictionary Google Baidu Youdao	ICIBA An English-Greek online dictionary

Strategies for using online resources for academic writing. Participants'

strategies for using online resources for their academic writing could be categorized into four types: strategies for searching online databases; ways of using online databases and web search engine; strategies for searching on online dictionaries; and ways of using an online dictionary. Each participant used limiters of online databases to select literature for

writing. Billy focused on peer-reviewed scholarly publications and the year of publication. Jennifer selected literature published within the past 5 to 10 years. Even if she did not pay attention to the peer-reviewed scholarly publication, she would notice if the literature were written by famous scholars or published in famous journals. Another strategy Jennifer mentioned was to type more keywords in the database when she searched literature. Tiffany usually selected peer-reviewed literature on the first 3 to 5 pages of online databases. She did not care about the year of publication because she thought literature on the first few pages of online databases were the latest publications. Tiffany read through the abstract of digital literature, as did Sarah. For Sarah, she also noticed the year of publication when she searched literature, and she preferred to select literature published within recent 20 years. In addition to, she paid attention to the times that an article was cited. Nevertheless, she did not care whether an article came from peer-reviewed journals, conference proceedings, or newspapers.

The way that participants used the online databases and web search engine concentrated on how to use Google, Google Scholar, and online academic databases simultaneously. But the discussion only focused on Jennifer and Tiffany because Billy and Sarah mainly used the UVic online library and Google Scholar respectively. According to the data, although Jennifer and Tiffany used different online databases and web search engine simultaneously when they searched information for their writing, they mainly used Google and Google Scholar for searching generic information. Once they had general ideas about what they wanted to write, they switched to academic databases such as SciFinder or the UVic online library to get academic information.

Regarding the strategies for using online dictionaries for academic writing, each participant introduced some of his or her strategies. Billy considered the parts of speech of a word when he selected words. All the participants read the sentence examples that a word is used. Both Tiffany and Sarah regarded synonym as an essential element for them to know a word. “Synonym is also important when you understand the new vocabulary,” Tiffany said. Moreover, synonym influenced her strategies of using Google. Because in the interview, Tiffany introduced once she wanted to use Google for searching English word; sometimes she could type the description of her idea in English in Google. She said: “I cannot be sure if it will help me to find a word, but it shows so many replacements of the words”. Replacement of a word here refers to the synonym of words. For Sarah, she used the Thesaurus function of the online dictionary because she specifically wanted to use different adjectives to describe a thing in her writing. She also understood a word through the context the word is used.

Table 4

Opinions on the Quality of Search Results

	Billy	Jennifer	Tiffany	Sarah
Wikipedia	Trust critically	Trust		
Web Search Engine		Trust critically e.g. Google Scholar	Trust critically e.g. Google Scholar	Almost used Google Scholar only
Online Database	Trust UVic online library		Trust UVic online library	
Online Dictionary	Trust e.g. pronunciation on Youdao	Trust critically e.g. pronunciation	Trust Youdao & Trust others critically	Trust critically e.g. ICIBA Google Translate

Opinions about the credibility of online information. Participants' opinions about the credibility of online information can be classified into four major groups: opinions about information on Wikipedia; web search engine; online databases; and online dictionaries respectively. Billy and Jennifer had opposite opinions about the credibility of information on Wikipedia. Billy thought everyone could add information to Wikipedia, so he did not fully trust the information on it. On the contrary, Jennifer thought writing on Wikipedia was a kind of academic writing because she wrote on it sometimes. About the web search engine, Both Jennifer and Tiffany did not entirely trust what they searched on Google Scholar. However, both Billy and Tiffany trusted the UVic online library. The reason why they trusted it has a connection with their professors' introduction and encouragement to using the UVic online library. All except Billy trusted online dictionaries, and both Jennifer and Sarah did not fully trust the information offered by online dictionaries. Jennifer took pronunciation on online dictionary as an example. She found the pronunciation of a solvent in her field was not pronounced as what she found in real life. However, Jennifer's doubt about the accuracy of pronunciation on the online dictionary is opposite to Billy's opinion about the pronunciation on the dictionary. Billy thought the pronunciation sounded exactly like what native speakers pronounced. Sarah had doubt about the accuracy of the online dictionary www.iciba.com. She did not believe the translation on Google Translate because of her former work experience. Tiffany trusted Youdao and thought it was the most professional dictionary she used while she did not fully trust other online dictionaries because she thought sometimes the information was incorrect.

Table 5

Influences of Online Resources on Academic Writing

Influence	Billy	Jennifer	Tiffany	Sarah
Online Databases	Ideas of Writing	Inspiring new ideas	Having more ideas	
	Information Collection	Getting more information about writing Knowing different thoughts	Making people more knowledgeable	Getting information conveniently Getting much information
	Influence of Digital Literature		Studying the language To learn how to write a research	Abstract is helpful Easy to find proofs Learning the structure of writing
Online Dictionary	Spelling Usage of a word Synonyms Pronunciation Part of speech Definition Context	Sentence examples Sentence structures Language context Solving typo problems Convenient	Offering extra idea Offering extra website links about the usage of a word Quick	Solving spelling problems To know if the writing is correct or not Convenient
Format and Reference Resources	Helpful			Helpful

Influences of online resources on participants' academic writing. The most significant influence of online databases on participants could be categorized into three major aspects: the impact on the ideas of writing; information collection; and the influence of digital literature. Both Billy and Jennifer thought the information they collected from online databases inspired their ideas of writing. Regarding gathering information for writing, Billy and Tiffany thought the information on the databases made them know lots of things or different ideas about their topic of writing. Meanwhile, online databases helped them to access to the information quickly and conveniently.

Another influence of online databases on participants' academic writing results from the digital literature it provides. Tiffany and Sarah stressed the convenience and importance of the abstracts of digital literature. They thought the abstract helped them to get the gist of an article quickly, which benefited their search on the databases. Besides, Jennifer thought she learned how to use English by reading literature. What's more, the digital literature has an impact on participants' writing. For example, Jennifer learned how to describe research. Tiffany could find proof for her ideas of writing. Sarah learned the structure of writing such as the introduction part.

When participants used online dictionaries, they all had positive feedback about it. Except for the convenience of using it, participants thought it influenced their language learning. Billy, Jennifer, and Sarah all thought an online dictionary could solve spelling problems for them. Also, both Billy and Jennifer learned language knowledge of a word from it. Billy learned the definition, parts of speech, pronunciation, synonym and the usage of a word as well as language context. Jennifer learned sentence structure from sentence examples and language context. The influence of an online dictionary on Tiffany is that she could have a further understanding about a word because an online dictionary provided extra website links on a word sometimes.

Sarah summarized her needs on online dictionaries: "I think I have to check it all the time. Because I want to know whether my writing is correct or not".

The last influence of online resource on participants' academic writing comes from the format and reference resources. Billy thought the OWL website and RefWorks were helpful. Sarah thought LaTeX was "pretty cool".

Table 6

Challenges of Using Online Resources for Academic Writing

	Billy	Jennifer	Tiffany	Sarah
Online Dictionary	Could not understand some words on monolingual dictionary	Insufficient definition about terminologies Few chemical vocabulary		Accuracy problem and technical problem of www.iciba.com
Online Database or tool		Do not know how to use specialized online database and online calculator	Cancellation of RefWorks causes inconvenience	
Online Information			Verification of information is challenging	
Worries			The online databases made people think less	Online resources made people forget spelling

Challenges of using online resources for academic writing. Apart from the positive influences of online resources on participants' academic writing, they also experienced challenges when they used these resources for writing. Billy sometimes could not understand words on monolingual online dictionaries. This also could explain why he liked to use online bilingual dictionaries. Jennifer thought the brief definition of chemical terminologies on online dictionaries could not help her to understand the terminology thoroughly. This can be the reason why she also used Wikipedia to understand chemical terminologies deeply. In addition, she thought there were few chemical vocabulary on online dictionaries. Sarah thought the accuracy of information on the online bilingual dictionary was a problem. Furthermore, when she searched the dictionary website, sometimes, the technical issue of the website made her search unsuccessful.

On the aspect of using online databases and tool, Jennifer did not know how to use SciFinder and Chemcalc at the beginning, so she had to search on YouTube to find instructions. Tiffany thought the cancellation of RefWorks caused inconvenience to her reference management.

Additionally, Tiffany expressed her opinion on the quality of information online. She thought it was hard for people to verify the credibility of information because there was much information online. Her opinion reflected what Atkins and Nelson's (2001) as well as DeVoss and Rosati's (2002) worries on the influence of large quantity of online information on students' information selection. Meanwhile, participants expressed their worries on using online resources for writing. Both Tiffany and Sarah thought using online resource made people think less and become lazy.

Table 7

Professors' Instructions

	Billy	Jennifer	Tiffany	Sarah
Influence of Professors	Introducing the UVic online library Helping to verify the information found on Wikipedia Not allow to use online dictionaries and portable devices in the class	Introducing the specialized online database and calculator	Introducing the UVic online library including the dictionary and encyclopedia databases and RefWorks in it Introducing the importance of selecting peer-reviewed article	

Roles of professors. It is hard to ignore the influences of professors on participants' choice and application of online resources as well as attitude about using these resources for academic writing. Billy, Jennifer, and Tiffany knew about the UVic

online library or specialized online database and calculator because of their professors' introduction. In particular, Tiffany was the only participant who knew there were Dictionaries and Encyclopedia databases on the UVic online library, and her knowledge was passed on from her professors. The reason that she knew she needed to select peer-reviewed literature also came from her professors.

Furthermore, professors influenced participants' choice of online resources. When Billy found some information on Wikipedia, he would like to ask his professor to ensure the credibility of the information. Moreover, the reason why he bought a paper dictionary in Canada resulted from his professor's requirements in class.

Another phenomenon needs to be discussed. It seems that there was not as much involvement of professor on Jennifer and Sarah's use of online resources for academic writing compared to the experiences of Billy and Tiffany's.

Table 8

Knowledge about the UVic Online Library

	The UVic online library
Billy	He did not know the Dictionaries and Encyclopedia databases on it He thought the database he usually used was 'article and book'
Jennifer	She did not know the Dictionaries and Encyclopedia databases on it She did not know there were many databases categorized by subjects on it
Tiffany	She knew there were Dictionaries and Encyclopedia databases on it, but she never used it
Sarah	She almost mainly used Google Scholar but the UVic online library

Knowledge about the UVic online library. When collecting data, participants' knowledge about the UVic online library was presented. When they were asked if they knew there were Dictionaries and Encyclopedia databases on the UVic online library, most of them did not know. Billy answered: "I do not know." Jennifer said: "I have not

heard about that. I am not sure. I do not know there are many different databases”.

Tiffany was the only participant who knew the databases but never used them. In addition, for Billy, he is the only participant who mainly searched on the UVic online library, however, when he was asked if he could remember the name of the databases he usually visited, he did not know. Sarah is the only participant who mainly used Google Scholar but the UVic online library to search the literature for writing.

Throughout this chapter I presented deep and rich qualitative data from my study which investigated the impact of online resources use on four international students' academic writing. Within case presentation of the data was followed by a cross-case analysis. In the next, and final chapter of this thesis, I discuss the findings and implications of my empirical research.

Chapter 5 Discussion of Findings and Conclusion

In this chapter I present and discuss seven major themes that have emerged from the data. These themes include: indispensable role of online resources in academic writing; a solution to language problems; ability of evaluation; a solution to plagiarism; influences of search habits; differences between undergraduate students and graduate students; and the importance of professors. These themes have emerged from the synthesized analysis of within case and cross-case analysis. The findings are informed by the literature I reviewed in Chapter Two, thus adding to the discourse on academic writing by ELL in a digital age.

Indispensable Role of Online Resources in Academic Writing

According to the data from this qualitative study, online resources play an important supportive role in the four participants' academic writing. There are five major types of online resources the participants chose to actively use to assist their academic writing: the web search engine, online databases, Wikipedia, online dictionary, and format or reference resources. The selection of these online resources matches with participants' needs of academic writing. Academic writing involves knowing and selecting information that relates to writers' idea (Jaidka, Khoo, & Na, 2013). The application of Google, Google Scholar, Wikipedia, and different kinds of online databases support participants to get information about writing. At the same time, as ESL international students, language is a challenge for participants in academic writing (Nakamaru, 2010). The application of online resources helps participants to solve their language problems in writing, for example, web search engines and online dictionaries. Moreover, academic writing is expected to be accomplished according to disciplinary

requirements (Hyland, 2008). Hence, format and reference resources are used by participants to help them to abide by the writing style of disciplinary requirements. In the whole process of writing, online resources were employed in different steps of writing by participants.

As participants shared, online resources offer lots of benefits to their academic writing. They could use them with portable devices anywhere anytime to find information conveniently and fast. The attitude that participants regarded online resources as an indispensable role in their academic writing could also be found from their words about these resources. For instance, when Billy was asked if he depended a lot on online resources to assist his academic writing, he said: “If I write an academic article, I need to use it”.

A Solution to Language Problems

As discussed in the literature review, language is a challenge for ESL international students in their academic writing (Nakamaru, 2010). Sarah’s word about her dependency on using online dictionaries for academic writing reflects a fact that language is an obvious aspect that participants would consider in their writing. Each participant used online resources to help him or her to solve language problems. The online resources used for solving language problems in writing are mainly online dictionaries and web search engine. This finding accords with the features of online dictionary and web search engine. The online dictionary offers definitions, parts of speech, pronunciation, and spelling of a word as well as sentence examples, slang, and synonym (Abraham, 2008; McAlpine & Myles, 2003; Mustafa et al., 2012; Schryver, 2003; Tseng, 2009) to students. Moreover, a web search engine such as Google offers

genuine language patterns for English writing, which benefits language learners in spelling, definition, synonym, or language context (Islam & Inkpen, 2009; Panah et al., 2013). Both online dictionaries and web search engine embody the characteristics that could help participants to face language challenges of writing.

According to the data, participants used online resources to solve the following language problems.

Table 9

What are Online Resources Used for?

	Billy	Jennifer	Tiffany	Sarah
Definition	√	√	√	√
Spelling	√	√		√
Synonym	√		√	√
Language context	√	√		
Parts of speech	√			
Collocation			√	
Pronunciation	√	√		√
Slang				√

From the table, it can find that participants mainly used online resources to know the definition of a word. This finding echoes the research that ESL international students' language difficulties of academic writing are primarily reflected in lexical aspects (Giridharan, 2012; Watcharapunyawong & Usaha, 2012; Zhang, 2011). In particular, if participants need to know terminologies because of disciplinary demands, their language difficulties on a lexical aspect of writing becomes more evident. For instance, Jennifer felt lacking chemical terminologies was a disadvantage online dictionaries have. Second, to know the spelling of a word is also important for participants. This situation echoes Chon's (2009) study which found students used an online dictionary to solve alphabetic problems. In the study, except Tiffany, all the other participants had problems of spelling.

Sarah expressed her idea about the influence of online resource on her spelling retention. She thought the ease of using online resources to find vocabulary decreased her ability to remember a word. In fact, both Nesi (2000) and De Ridder (2002) thought the ease of accessing to online dictionaries would result in students' shallow vocabulary retention and influence their long-term vocabulary retention. Next, according to this study, a synonym is critical for participants when they use online resources because they could use a synonym to understand the word they are searching or to make writing more vivid.

Language context and collocation are also what participants look for. In the data, all of the participants read sentence examples on online dictionaries which helped them to understand language context or collocation of a word. It can be concluded from the data that to know the definition of a word, except for finding meaning directly from online resources, to make use of synonym, language context that sentence examples offer, and parts of speech are the common ways that participants usually use.

Finally, it can be found from the table that majority of participants would notice the pronunciation of a word even if they search a word for writing. This habit reflects that participants really care about the pronunciation of English words.

Preference for online bilingual dictionaries. Participants used monolingual and bilingual online dictionaries when they faced language challenges in writing. However, from the observation of their behavior in the writing task, the study found that participants had preferences for online bilingual dictionaries even though some of them claimed in the interview that they usually used a monolingual online dictionary. This finding can be explained by the challenge that participants met when they used a

monolingual online dictionary. Some unknown words, including terminologies, in monolingual online dictionaries made participants' search more difficult.

The influence of L1 to L2 also result in participants' preference for online bilingual dictionaries; for example, Jennifer expressed the influence of L1 to her writing. In addition, when Sarah was asked why she did not use a monolingual online dictionary, she replied: "Because there are some words I want to have a sense in Chinese". Further, she said: "Because I think this concept also exist in Chinese, maybe I have learnt but I forget, if I just quickly check into Chinese meaning, it provides me information very fast, and I do not need to use Wikipedia". This habit shows Sarah's dependency on L1 to understand L2 knowledge. What's more, the dependency on L1 also can be influenced by the reason that she considered learning efficiency a lot when she searched information. According to Naseri and Zarei (2008), bilingual dictionary provides equivalents of the target language by users' L1, it could relieve participants' pressure of using a monolingual dictionary; furthermore, it offers instant results for participants' writing needs. Monolingual dictionaries are compiled in the users' target language, and demand more sophisticated language proficiency of their users (Bejoint, 1981; Naseri & Zarei, 2008). It could cause difficulties for users because the complicated definition (Scholfield, 2005). Therefore, as Atkins (1985) described: "there can be little surprise at the reluctance of most students to reach for the monolingual if there is a bilingual at hand." (p.22).

Preference for Youdao. An interesting phenomenon is that three participants used the same online dictionary App Youdao on their portable devices to assist their academic writing sometimes, one participant also searched on www.youdao.com when she did the

writing task. This finding complies with previous research (Song & Zheng, 2014) that among 227 Chinese students, 87.7% of them installed a dictionary App on their smartphone. Moreover, 182 participants used Youdao dictionary. Chinese students' preference for Youdao was demonstrated in Song and Zheng's (2014) study, similar to my own research. It seems that using Youdao for language study becomes a tendency among Chinese students no matter where they are studying. Since there are large population of Chinese students choose Youdao as commonly used online dictionary, it is worth to know whether the dictionary benefits students' language learning as what they thought. And the most important thing is to know the advantages and disadvantages of the dictionary in order to help students to choose and use the dictionary for ELL appropriately.

The popularity of Youdao among its users does not necessarily correlate with the appropriateness and accuracy needed in language learning. The language data of Youdao mainly come from three channels: authorized dictionaries such as *Collins COBUILD Advanced Dictionary of English*; data collected from the Youdao search engine and the Internet on the basis of people's language interaction with computer; and data collected from www.baike.com which is the largest for-profit wiki site in China ("Baike.com," 2016; "Youdao," 2016; Zhang & Lu, 2014). These features of Youdao are like two different sides of the same coin. On the one side, they ensure Youdao has a significant amount of updated vocabulary; on the other side, they influence the accuracy of language information on Youdao.

According to Zhang and Lu (2014), language data collected via the Youdao search engine and the Internet on Youdao dictionary usually lacks experts' evaluation;

therefore, some phrases offered by this channel could not be regarded as a linguistically correct phrase because they just appear by accident. Secondly, the sentences examples listed on Youdao are far less valuable than the ones on the authorized dictionaries (Zhang & Lu, 2014). Regarding the language data collected from www.baike.com, Zhang and Lu (2014) thought as a wiki website, the characteristic that any web users could contribute information on it made Youdao hard to ensure the quality and accuracy of its information.

What's more, Xiao (2015) commented that even if there are human voices of words on Youdao, the human voice only exists when there is human voice data that Youdao could collect. Therefore, most of the time, words on Youdao are pronounced by an unnatural text-to-speech (TTS) synthesis system which converts texts into speech (Handley, 2009; Xiao, 2015). This explains why Jennifer found that the pronunciation on the dictionary sounded weird.

Preference for Google. Except for online dictionaries, Google takes up an important role in helping participants to deal with language problems. It does not like what discussed in the literature review that many students use Google for searching academic articles (Swan & Brown, 2005; Traphagan et al., 2014). On the contrary, participants in the study prefer to use Google as a tool to solve language problems.

Ability of Evaluation

Carroll and Dunkelblau (2011) illustrated that writing assignments required students to have the essential thinking skills 'such as analysis, synthesis, and evaluation' (p. 278). Even though international students', especially Asian international students', critical thinking ability is questioned (Egege & Kutieleh, 2004; Stapleton, 2002;

Vandermensbrughe, 2004), yet, in the study, all of the participants presented the ability at some extent toward the credibility of information they searched online. Jennifer and Tiffany did not fully trust what they found on Google Scholar. Billy did not trust information on Wikipedia. What's more, Jennifer doubted about the accuracy of information she searched on online dictionaries, Sarah questioned the precision of the information on her preferred online dictionary, and Tiffany did not believe the sentence examples on online dictionaries.

Experiences influence the ability of evaluation. Participants' experiences of using online resources has an influence on their evaluation of the credibility of the information on online resources. Jennifer's trust of Wikipedia resulted from her experience of contributing to it. Billy, Tiffany, and Jennifer's trust of the UVic online library and specialized database have connection with their experiences of being instructed by their professors. In addition, Jennifer doubted the information offered by online dictionary because she found the pronunciation on it was weird once, Sarah did not use Google Translate because she had found the translation results on it were incorrect when she was working in China.

Uneven ability of evaluation. From the data, it also can find that participants' ability of evaluation about the credibility of the information they searched online is uneven. Comparing with Billy, Jennifer trusted the information on Wikipedia more. For the aspect of collecting information for writing, Sarah is the only participant who almost exclusively used Google Scholar only. Other participants used the UVic online library only or use both Google Scholar and scholarly database strategically. Regarding participants' attitudes on the credibility of information on online dictionaries, Jennifer

and Sarah doubted them while Billy trusted them. Tiffany also expressed two different opinions on online dictionaries. She trusted Youdao more than other online dictionaries.

A Solution to Plagiarism

From participants' behavior of using online formats and reference resources, I can conclude that they have awareness about avoiding plagiarism at some extent. Billy, Tiffany, and Sarah all used online reference resources or format resources. This kind of awareness was also reflected in Tiffany's behavior of using the reference function of MS Word even if it was not counted as an online resource for the study. When Tiffany decided to use the reference she found online to support her claim in the writing, she used the reference function of MS Word (see Figure 23).



Figure 23. Tiffany used the reference function of MS Word

She explained this behavior in the think-aloud activity:

If I finish writing, and then cite it, if it is a longer paper, sometimes I will forget where to cite, which sentence is used from the article I find. So, it may cause the plagiarism, usually, cite firstly, and then, write my sentence.

For Jennifer, although she never mentioned or used online resources to avoid plagiarism in the data, she still had concept about plagiarism because in the interview, she said: “Anything you cite from other papers needs to be written in the reference part.” She

explained this sentence after she finished the interview. Because she studies in Chemistry, once she uses others' works, she inserts numbers as in-text citation. These numbers will be presented in the references part with specific information about authors and works.

Influences of Search Habits

Concerns on selection of online dictionary. Both Billy and Tiffany used www.dictionary.com, and both Jennifer and Tiffany used Merriam-Webster. This phenomenon seems like a coincidence. However, once realizing the reason why participants selected the dictionary, it can find the problem on participants' choice and use of an online dictionary. Billy usually found online dictionaries on the first page of Google. From Tiffany's screenshots, it can also conclude that she chose online dictionaries randomly on the first page of Google. These findings match with Stapleton's (2005a) research that few people would skim through all of the search results on Google.

Does the search results rank at the top of web search engine more relevant to users' needs? The answer is 'no'. Stapleton (2005a) suspected the information listed on Google because users did not know how the search results were ranked. According to Hariri (2011), rankings on a search engine cannot fully accord with the relevance that users thought. She suggested search engine users, in particular the Google users, search more pages for increasing the possibility of finding more relevant information. In fact, in the data, participants' search habit that mainly used the information listed on the first page of Google resulted in Sarah's behavior of using an English-Greek online dictionary to find the antonym of 'negligible'. She found a word 'inegligible' on the dictionary and used it in her writing. However, according to her self-introduction, she did not have

learning background about Greek; furthermore, she did not double check the word. So it is hard to evaluate whether the word she finally used is correct and appropriate. But, there is not ‘ineglible’ on OED or Merriam-Webster (see Figure 24).

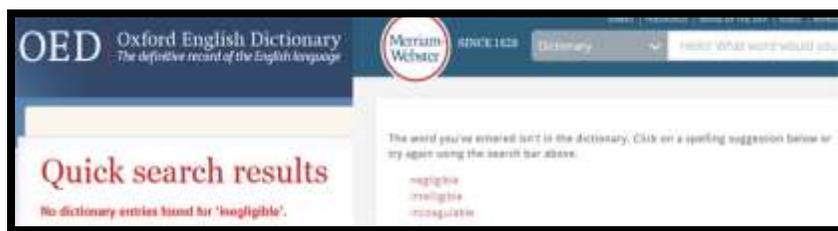


Figure 24. Search results about ‘ineglible’ on OED and Merriam-Webster

Incomprehensive understanding about limiters. From participants’ search habits of using online databases, it seems that they all knew they could use limiters to find literature for writing. However, their skills of using limiters vary. Sarah only focused on the year of publication, and the numbers of citation that a literature was used. However, she did not consider whether a literature was peer-reviewed and scholarly one. Tiffany mainly noticed the peer-reviewed articles. However, she did not pay attention to the year of publication or how many times a literature was cited. For Jennifer, she selected literature published within the past 5 to 10 years. She also read carefully about famous scholars’ literature or famous journals. Although each participant could select limiters differently to satisfy their personal search needs, their application of limiters on online databases still have some problems. For example, the selection of peer-reviewed articles could help participants to search more high-quality and reliable literature for writing because it involves a panel of experts’ evaluation on the contents of articles, such as “context in relation to prior literature, the strengths and weakness of the research methodology, the validity of the analyses and conclusions, and the relevance and

implications of the research findings” (Borders, 2011, p. 1). So, if participants choose this limiter, it could help them to search more reliable sources for writing. To know the function of limiters and to use them correctly could result in better search results than searching without them (Cassidy, Jones, McMain, Shen, & Vieira, 2014)

Incomprehensive knowledge about the UVic online library. It seems that participants do not know the function and resources of the UVic online library well. At the end of Jennifer’s interview, she said: “Maybe UVic library can give me some courses about how to use the online resource academically, and how to use the source of UVic library”. Her idea resulted from many reasons. At first, she did not know how to use the specialized online database at the beginning of her study. Second, she did not know there were Dictionaries and Encyclopedia databases on the UVic online library. Her unfamiliarity with the UVic online library also reflected on her unawareness about the fact that there were many databases on it including SciFinder and ACS she used daily (see Figure 25). This phenomenon even existed in her understanding about librarians. When she was asked if she communicated with a librarian, she asked: “No, I have not. Can I?”



Figure 25. Chemistry databases on the UVic library

Billy also did not know there were dictionary and encyclopedia databases on the UVic online library. For Billy, his search mainly depended on ‘Summon 2.0’ of the

online library, which “is an intuitive and fast search engine that helps users to discover relevant information on any topic from the UVic Libraries collections” (University of Victoria, n.d., “What is Summon 2.0?”, para. 1). But, he told me the databases he usually used on the UVic online library were ‘article and book.’ According to what he said, I searched the UVic online library, and I found there was not a database named ‘article and book’ (see Figure 26, 27). In contrast, I found it on the homepage of the library, which is the function of Summon 2.0 (see Figure 28).



Figure 26. Alphabetic order of the UVic databases

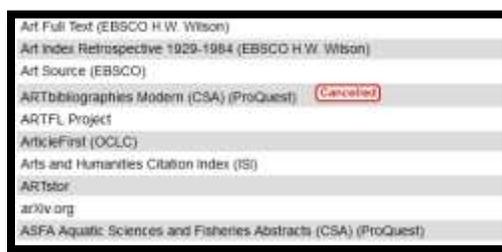


Figure 27. Databases which start with ‘A’

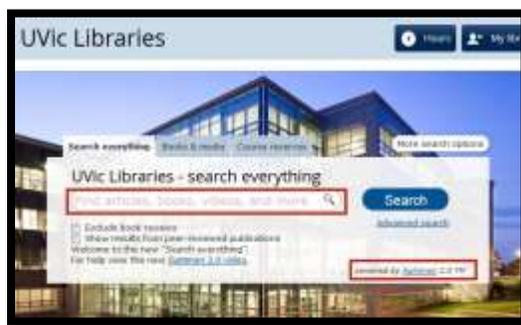


Figure 28. Function of Summon 2.0

Sarah’s search mainly depended on Google Scholar. And Tiffany used the UVic online library a lot, but she did not know Google Scholar was included in the UVic

library database. So, there could be a possibility that she did not search further on the university library because Google Scholar is on the frequently used databases list of the library. When students search databases to select literature, the list can be seen (see Figure 29).



Figure 29. Google Scholar listed on the databases

The observation about participants is similar to D'Couto and Rosenhan's (2015) that students were not familiar with the majority of resources that university library offers, and students usually searched on the single search box rather than exploring more on university online library.

Influence of learning habits on search skills. The phenomenon discussed in the last passage raises a question on participants' learning habits. Based on their length of study, they have studied at UVic for at least 13 months. It seems that participants' use of the UVic online library is not developed and extended further no matter whether they were instructed by instructor at the beginning of their academic study or not. Tiffany could be another example of participants' learning habits. As the only participant who knew there were Dictionaries and Encyclopedia databases on the UVic online library, she never tried to use them even if she had needs on language of academic writing as well as doubts on the credibility of information on online dictionaries she used. She ignored the resources which may have been more appropriate for her to use for writing. In addition,

Billy had similar situation as well. He used and knew thesaurus function of online dictionaries, but he still did not use the function a lot even though he had needs on synonym. He ignored the function which may offer him more chances to find appropriate synonyms for writing.

Concerns about Graduate Students' Search Skills

Strictly speaking, Billy and Tiffany are the only two participants who regularly use the UVic online library. Jennifer and Sarah mainly used specialized database and Google Scholar respectively.

Moreover, Jennifer and Sarah did not pay attention to peer-reviewed publications when they selected literature on the online databases. On the contrary, Billy and Tiffany knew the importance of peer-reviewed publication to their selection of literature. What's more, Tiffany is the only participant who knew there were Dictionaries and Encyclopedia databases on the UVic online library.

Billy and Tiffany were undergraduate students while Jennifer and Sarah are graduate students. Both Billy and Tiffany took a course named ENGL 135 which offered lots of information about the UVic online library. Excluding Tiffany, whose study experience in Canada is longer than any other participants, Billy and the other two participants came to the university at the same time. So, it can exclude the influence of time that participants stay in Canada to their knowledge about the university library. It can conclude in the study that undergraduate students and graduate students' realization and knowledge about the UVic online library is different.

The Importance of Professors

From the data, it is obvious that professors play a major role in participants' use of online resources for their academic writing, even academic study. Billy and Tiffany's trust and realization on the UVic online library came from their professors' introduction in the class. Jennifer knew the specialized database and online calculator because of her supervisor. Furthermore, Billy needed to ask professors to help him to verify the information he found on Wikipedia. And Billy and Tiffany's skills in using the UVic online library were passed on by their professors. Even the participants' choice of not using an online resource was influenced by the professor. Having discussed the major themes that emerged from the data of the study, I now conclude my thesis with its key findings and implications.

Conclusion

In my study, I regard academic writing as a specific genre of writing and a process that includes the writer's understanding of requirements, collection of information, writing, editing as well as formatting for specific academic disciplines. Instead of providing any certain kind of online resource to participants, the study tried to understand and observe which online resources that participants used actively to assist their academic writing. By doing so, the study described and presented understandings of participants' experiences of using online resources for academic writing.

According to the data, participants regard academic writing as a process, which is reflected in their choice of online resources. In addition, because their selection of online resources responds to their different needs of writing at various stages, online resources become an indispensable part of their academic writing. During their writing, they used these online resources to solve language problems such as definition, synonym, and

spelling. Furthermore, participants presented ability of evaluation about the credibility of information they searched online at some extent. In addition, the study found participants applied format and referenced online resources in their writing to avoid plagiarism, which proves they have some realization and awareness about plagiarism.

Although participants showed positive attitudes regarding the application and impact of online resources on their academic writing, their understanding, knowledge, and skills in using online resources are still lacking. This has led me to understand four main findings from the study, namely: key uses of online resources in solving language problems; search skills on online databases; application of the UVic online library, and the importance of Professors' instruction.

Key uses of online resources in solving language problems. Participants used a few main online resources including online dictionaries and web search engines such as Google or Baidu to solve language problems in writing. Participants' search habits of online dictionaries relate mainly to knowing the definition of a word. A common alternative way that they use online dictionaries is to read a sentence example and synonym. The quality of information offered by online resources becomes very important for participants to find appropriate information for their academic writing. However, although participants used different online resources to help them to solve language problems of writing, the online resources they mainly used is Google, the online bilingual dictionary, especially Youdao, and online dictionaries listed on the first page of Google. In the literature review, the quality and credibility of the information on Google are questioned by many researchers, in particular, the information ranked on it (Helms-Park & Stapleton, 2006; Slaouti, 2002; Stapleton, 2005a). The worries about the quality of

information on Youdao is also presented by scholars (Xiao, 2015; Zhang & Lu, 2014). In particular, in the data, participants expressed their doubt about the accuracy of information of the online resources they used. Therefore, it is necessary to think about participants' alternative ways of searching and using online resources for solving language problems in their writing.

Search skills in online databases. It is understandable that different individual has different search skills when she or he searches on online databases. However, for academic writing, the credibility of the sources participants use determines the validity of the writing. For participants who study in an academic institution, their different selection of limiters on online databases reflect the fact that they do not have a comprehensive understanding about the function of limiters and how to use them suitably to select more appropriate sources for their writing. In this study, as in others (Carroll and Dunkelblau, 2011; Borglin, 2012), it is necessary for participants to know the importance of evaluating sources of writing as well as the way of choosing literature on online databases for their academic success.

Application of the UVic online library. Except for the basic skills of selecting sources on the online databases, participants' use of the UVic online library could cause some concerns. At first, for Jennifer and Sarah, the UVic online library was applied less than Billy and Tiffany, especially for Sarah who mostly used the Google Scholar for searching literature of writing. Even though Google Scholar is a scholarly web search engine, the validity of its information is not as ideal as what people think (Helms-Park et al., 2007; Radia & Stapleton, 2008; Stapleton et al., 2006). In contrast, library databases could offer high quality and comprehensive information (Brophy & Bawden, 2005).

Secondly, participants felt challenging about the accuracy of information, vocabulary volume and category, and sometimes technical problems of online dictionaries. Therefore, the importance of the resources that online libraries subscribe to, such as online dictionaries, is important for ESL international students to solve language problems. But as seen in my study, there needs to be instructional support as to the range and location of these online resources that go well beyond page-based resources. In addition to, regarding participants' search skills discussed in the study, the different specialized databases could help participants to find information that they could not find on Summon 2.0 (see Figure 30).



Figure 30. Different databases according to subjects

Importance of Professors' instruction. From the data analysis, it can conclude that professors play a very important role in international students' use of online resources in academic writing. When there was sufficient instruction, participants knew more about the online resources they could use for writing. For example, compare Billy and Tiffany with Jennifer and Sarah's knowledge about the UVic online library or limiters. Even if there are different requirements in academic writing in different discipline genres, the professors influence participants' understanding and knowledge of online resources for writing. However, considering the position that academic writing

takes in students' academic study, especially in graduate students' academic achievements, it is necessary to input more instruction on the application of online resources, especially knowledge about the UVic online library to international students. This final finding coincides with what D' Couto and Rosenhan (2015) found that faculty instruction had great impact on students' choice of research resources.

Implications

As first identified through the Multiliteracies framework, and as is clearly evident in this study of four selected ESL international students' experiences, emerging technologies and social cultural contexts play an important role in literacy learning. The importance of online resources in ESL international students' academic writing is evident throughout this study, as is the positive attitude participants have toward the use and application of online resources to help to improve their academic writing. The students have the ability to personalize their academic writing experience through the resources that they choose – but these choices are also made within the social context of their disciplinary genres, the courses they take, the professors they have, and other students or friends they encounter during their academic studies.

It is impossible to ignore the important role that online resources play in contemporary ESL international students' academic study. As students who live in contemporary times surrounded by ubiquitous communication technologies, they have much awareness and experience of using online resources. However, such knowledge and experience does not necessarily mean proficiency. As has been seen throughout this study, such challenges directly imply that universities should offer international students writing support – in their academic courses and academic libraries - through the modelling and

guidance of online resource location, selection and evaluation. In this way, students may become more efficient in both their literacy learning and academic writing. This can hold tremendous benefits for the students personally, but also for the development and design of academic courses for EFL/ESL.

References

- Abasi, A. R., & Akbari, N. (2008). Are we encouraging patchwriting? Reconsidering the role of the pedagogical context in ESL student writers' transgressive intertextuality. *English for Specific Purposes*, 27(3), 267–284.
<https://doi.org/10.1016/j.esp.2008.02.001>
- Abraham, L. B. (2008). Computer-mediated glosses in second language reading comprehension and vocabulary learning: A meta-analysis. *Computer Assisted Language Learning*, 21(3), 199–226.
<http://dx.doi.org.ezproxy.library.uvic.ca/10.1080/09588220802090246>
- Akanwa, E. E. (2015). International students in western developed countries: History, challenges, and prospects. *Journal of International Students*, 5(3), 271–284.
- Albalawi, F.S. (2016). Investigating the effect of grammatical differences between English (L2) and Arabic (L1) on Saudi female students' writing of English. *European Scientific Journal, ESJ*, 12(14), 185-197. Retrieved from
<http://eujournal.org/index.php/esj/article/view/7443>
- American Chemical Society (n.d.). *Our brands*. Retrieved from <https://www-acso.org.ezproxy.library.uvic.ca/content/acs/en/about.html>
- Appleby, J. W. (n.d.). *Guides: RefWorks: Home*. Retrieved August 11, 2016, from
<http://guides.scholarsportal.info/RefWorks>
- Asswachaipaisan, N. (2014). A survey study of the online dictionary use: A case study of Thai undergraduate students in the international college for sustainability studies. Retrieved from <http://library1.nida.ac.th/termpaper6/lang/2014/20084.pdf>

- Atkins, B. T. (1985). Monolingual and bilingual learners' dictionaries: A comparison. In I. Robert (Ed.), *Dictionaries, lexicography and language learning* (pp.15-24). Oxford, New York, Toronto, Sydney, Frankfurt: Pergamon Press.
- Atkins, T., & Nelson, G. (2001). Plagiarism and the Internet: Turning the tables. *The English Journal*, 90(4), 101–104. <https://doi.org/10.2307/821911>
- Baike.com. (n.d). In *Wikipedia*. Retrieved from <https://en.wikipedia.org/w/index.php?title=Baike.com&oldid=726690831>
- Bailey, S., 1947. (2006). *Academic writing: A handbook for international students* (2nd ed.). New York; London: Routledge. Retrieved from <http://www.tandfebooks.com.ezproxy.library.uvic.ca/isbn/9780203087909>
- Bauman, M.L. (1999). The evolution of internet genres. *Computers and Composition*, 16(2), 269–282. [https://doi.org/10.1016/S8755-4615\(99\)00007-9](https://doi.org/10.1016/S8755-4615(99)00007-9)
- Bejoint, H. (1981). The foreign student's use of monolingual English dictionaries: A study of language needs and reference skills. *Applied Linguistics*, II(3), 207–222. <https://doi.org/10.1093/applin/II.3.207>
- Bizi, A. M., & Shittu, F. (2014). Information and Communication Technology (ICT) and education. *Journal of Educational and Social Research*, 4(7), 88. <https://doi:10.5901/jesr.2014>
- Blackburn, J. (2010). The Web surfer: What (literacy) skills does it take to surf anyway?. In *Composition Forum* (Vol. 21). ERIC. Retrieved from <http://eric.ed.gov/?id=EJ1080501>
- Blurton, C. (1999): *New directions of ICT-use in education*. Retrieved from <https://www.google.ca/search?q=http://www.unesco.org/education/echicprog/inst/>

edict.pd/&ie=utf-8&oe=utf-

8&gws_rd=cr&ei=BZyCV56wIsmwjwO1w7mACA#safe=active&q=Blurton%2

C+C.(2005);+New+Direction+of+use+in+education+available+online

Borders, T. F. (2011). The importance of peer-reviewed scholarly research for rural health practice and policy. *The Journal of Rural Health, 27*(1), 1–2.

<https://doi.org/10.1111/j.1748-0361.2010.00358.x>

Borglin, G. (2012). Promoting critical thinking and academic writing skills in nurse education. *Nurse Education Today, 32*(5), 611–613.

<https://doi.org/10.1016/j.nedt.2011.06.009>

Brady (2005). *Google Scholar*. Retrieved from Essential Teacher- Volume 2 (2005)

[https://www.tesol.org/read-and-publish/journals/other-serial-publications/essential-teacher-volume-2-\(2005\)](https://www.tesol.org/read-and-publish/journals/other-serial-publications/essential-teacher-volume-2-(2005))

Brezina, V. (2012). Use of Google Scholar in corpus-driven EAP research. *Journal of English for Academic Purposes, 11*(4), 319–331.

<https://doi.org/10.1016/j.jeap.2012.08.001>

Brophy, J. & Bawden, D. (2005). Is Google enough? Comparison of an internet search engine with academic library resources. *Aslib Proceedings, 57*(6), 498–512.

<https://doi.org/10.1108/00012530510634235>

Canuel, R., & Crichton, C. (2011). Canadian academic libraries and the mobile web. *New Library World, 112*(3/4), 107–120. <https://doi.org/10.1108/03074801111117014>

Carroll, J., & Dunkelblau, H. (2011). Preparing ESL students for "real" college writing: A glimpse of common writing tasks ESL students encounter at one community college. *Teaching English in the Two-Year College, 38*(3), 271–281.

- Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The Use of Triangulation in Qualitative Research. *Oncology Nursing Forum*, 41(5), 545–547 3p. <https://doi.org/10.1188/14.ONF.545-547>
- Cassidy, E.D., Britsch, J., Griffin, G., Manolovitz, T., Shen, L., & Turney, L. (2011). Higher education and emerging technologies: Student usage, preferences, and lessons for library services. *Reference & User Services Quarterly*, 50(4), 380-391. <http://www.jstor.org.ezproxy.library.uvic.ca/stable/20865428>
- Cassidy, E. D., Jones, G., McMain, L., Shen, L., & Vieira, S. (2014). Student searching with EBSCO discovery: A usability study. *Journal of Electronic Resources Librarianship*, 26(1), 17–35. <https://doi.org/10.1080/1941126X.2014.877331>
- Chen, H.L. (2010). The perspectives of higher education faculty on Wikipedia. *The Electronic Library*, 28(3), 361–373. <https://doi.org/10.1108/02640471011051954>
- Chen, Y. (2011). Studies on bilingualized dictionaries: The user perspective. *International Journal of Lexicography*, 24(2), 161–197. <https://doi.org/10.1093/ijl/ecr002>
- Chenail, R. J. (2011). Interviewing the investigator: Strategies for addressing instrumentation and researcher bias concerns in qualitative research. *The Qualitative Report*, 16(1), 255–262.
- China Internet Network Information Center. (2004). 14th Statistical survey on the Internet development in China. Retrieved April 19, 2016, from https://www.google.ca/search?q=14th+Statistical+Survey+on+the+Internet+Development+in+China&ie=utf-8&oe=utf-8&gws_rd=cr&ei=CogWV4XFAoPkjwOX1a-oAQ

- Chiu, L.L., & Liu, G.Z. (2013). Effects of printed, pocket electronic, and online dictionaries on high school students' English vocabulary retention. *The Asia-Pacific Education Researcher*, 22(4), 619–634. [http:// doi:10.1007/s40299-013-0065-1](http://doi:10.1007/s40299-013-0065-1)
- Chon, Y. V. (2009). The electronic dictionary for writing: A solution or a problem? *International Journal of Lexicography*, 22(1), 23–54. <http://doi:10.1093/ijl/ecn034>
- Chung, J. (1999). The effects of using video texts supported with advance organizers and captions on Chinese college students' listening comprehension: An empirical study. *Foreign Language Annals*, 32(3), 295–308. <https://doi.org/10.1111/j.1944-9720.1999.tb01342.x>
- Confucius (n.d.). *The analects of Confucius: Lun yü. English* (W.E. Soothill, Trans.). Agent in U.S.A; Yokohama: The Author. (Original work published n.d.). Retrieved from <http://archive.org/details/theanalectsofcon00sootuoft/>
- Cons, A. M. (2012). The use and misuse of academic words in writing: Analyzing the writing of secondary English learners and redesignated learners. *TESOL Journal*, 3(4), 610–638. <https://doi.org/10.1002/tesj.36>
- Cook, D. (2000). Collaboration to teach the critical thinking skills needed to become a successful Internet searcher: The planning of a WWW search engine workshop. *Research Strategies*, 17(2–3), 195–199. [https://doi.org/10.1016/S0734-3310\(00\)00047-1](https://doi.org/10.1016/S0734-3310(00)00047-1)
- Cooper, A., & Bikowski, D. (2007). Writing at the graduate level: What tasks do professors actually require? *Journal of English for Academic Purposes*, 6(3), 206–

221. <https://doi.org/10.1016/j.jeap.2007.09.008>

Cope, B., & Kalantzis, M. (2009). "Multiliteracies": New literacies, New learning.

Pedagogies: An International Journal, 4(3), 164–195.

<https://doi.org/10.1080/15544800903076044>

Cortazzi, M., & Jin, L. (1996). English teaching and learning in China. *Language*

Teaching, 29(2), 61–80. <https://doi.org/10.1017/S0261444800008351>

Courtland, M. C., & Gambell, T. J. (2010). *Literature, media & multiliteracies in*

adolescent language arts. Pacific Educational Press.

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 213–238.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five*

approaches. SAGE.

D'Couto, M., & Rosenhan, S.H.(2015). How students research: Implications for the

library and faculty. *Journal of Library Administration*, 55(7), 562-576. [http://](http://doi:10.1080/01930826.2015.1076312)

doi:10.1080/01930826.2015.1076312

De Ridder, I. (2002). Visible or invisible links: Does the highlighting of hyperlinks affect

incidental vocabulary learning, text comprehension, and the reading process.

Language Learning & Technology, 6(1), 123–146.

DeVoss, D., & Rosati, A. C. (2002). "It wasn't me, was it?" Plagiarism and the Web.

Computers and Composition, 19(2), 191–203. [https://doi.org/10.1016/S8755-](https://doi.org/10.1016/S8755-4615(02)00112-3)

[4615\(02\)00112-3](https://doi.org/10.1016/S8755-4615(02)00112-3)

Ding, J. (2015). A study of English majors in a Chinese university as dictionary users.

Lexicography, 2(1), 5–34. <https://doi.org/10.1007/s40607-015-0016-5>

Doris Brougham. (2016). In *Wikipedia*. Retrieved from

https://en.wikipedia.org/w/index.php?title=Doris_Brougham&oldid=726364228

Du, X. (1999). Internet diffusion and usage in China. *Prometheus*, 17(4), 405–420.

<https://doi.org/10.1080/08109029908632119>

Duanmu, J.-L., Li, G., & Chen, W. (2009). Determinants of international students' academic performance: A comparison between Chinese and other international students. *Journal of Studies in International Education*.

<https://doi.org/10.1177/1028315309331490>

Ebner, R. J., & Ehri, L. C. (2013). Vocabulary learning on the Internet: Using a structured think-aloud procedure. *Journal of Adolescent & Adult Literacy*, 56(6), 480–489. <https://doi.org/10.1002/JAAL.169>

Egege, S., & Kutieleh, S. (2004). Critical thinking: Teaching foreign notions to foreign students. *International Education Journal*, 4(4), 75–85.

Elander, J., Harrington, K., Norton, L., Robinson, H., & Reddy, P. (2006). Complex skills and academic writing: A review of evidence about the types of learning required to meet core assessment criteria. *Assessment & Evaluation in Higher Education*, 31(1), 71–90. <https://doi.org/10.1080/02602930500262379>

Esharenana E. Adomi, Rose B. Okiy, & Josiah O. Ruteyan. (2003). A survey of cybercafés in Delta State, Nigeria. *The Electronic Library*, 21(5), 487–495. <https://doi.org/10.1108/02640470310499876>

Fang, X.D., Pan, K.W., Li, Z.M., & Zhang, J. (2014). Zhongguo hu lian wang er shi nian: San ci lang chao he san da chuang xin [China's Internet in twenty years: Development and innovation]. *Contemporary China History Studies*, 5, 3-14.

Flower, L., & Hayes, J. R. (1980). The dynamics of the composing process: making plans

- and juggling constraints. In L. Gregg & E. Steinberg, (Eds.). *Cognitive processes in writing: An interdisciplinary approach* (pp. 31–50). Hillsdale, NJ: Lawrence Erlbaum. NJ: Lawrence Erlbaum.
- Fonteyn, M. E., Kuipers, B., & Grobe, S. J. (1993). A description of think aloud method and protocol analysis. *Qualitative Health Research*, 3(4), 430–441.
<https://doi.org/10.1177/104973239300300403>
- Gambier, Y., & Doorslaer, L. V. (2010). *Handbook of translation studies*. John Benjamins Publishing.
- Ganapathy, M., & Kaur, S. (2014). ESL students’ perceptions of the use of higher order thinking skills in English language writing. *Advances in Language and Literary Studies*, 5(5), 80–87.
- Ganga, D., & Scott, S. (2006). *Cultural “insiders” and the issue of positionality in qualitative migration research: Moving “across” and moving “along” researcher-participant divides*. Retrieved from <http://www.qualitative-research.net.ezproxy.library.uvic.ca/index.php/fqs/article/view/134>
- Gee, J.P. (2005). *An introduction to discourse analysis: theory and method*. Retrieved from <http://lib.myilibrary.com.ezproxy.library.uvic.ca/Open.aspx?id=15435>
- Gimenez, J. (2008). Beyond the academic essay: Discipline-specific writing in nursing and midwifery. *Journal of English for Academic Purposes*, 7(3), 151–164.
<https://doi.org/10.1016/j.jeap.2008.03.005>
- Giridharan, B. (2012). *Identifying Gaps in Academic Writing of ESL Students*. Retrieved from <http://eric.ed.gov/?id=ED535491>
- Glossary. (n.d.). In *Google Search*. Retrieved from

https://www.google.com.hk/search?q=glossary&oq=glossary&gs_l=serp.3..0i67j019.2748069.2750091.0.2750456.8.8.0.0.0.0.461.1008.1j3j4-1.5.0....0...1c.1.64.serp..3.5.1006...0i131j0i3.vP8cIINr1e0

Google (n.d.). *Stand on the shoulder of giants*. Retrieved from <https://scholar-google-com.ezproxy.library.uvic.ca/scholar/about.html>

Graham, L., & Metaxas, P. T. (2003). “Of course it’s true; I saw it on the Internet!”: Critical thinking in the Internet era. *Commun. ACM*, 46(5), 70–75.
<https://doi.org/10.1145/769800.769804>

Groves, M., & Mundt, K. (2015). Friend or foe? Google Translate in language for academic purposes. *English for Specific Purposes*, 37, 112–121. <http://doi:10.1016/j.esp.2014.09.001>

Guzmán, L. A. A. (2012). University students’ digital reading and writing migration. *RUSC. Universities and Knowledge Society Journal*, 9(1), 5-21-216.

Handley, Z. (2009). Is text-to-speech synthesis ready for use in computer-assisted language learning? *Speech Communication*, 51(10), 906–919.
<https://doi.org/10.1016/j.specom.2008.12.004>

Hariri, N. (2011). Relevance ranking on Google: Are top ranked results really considered more relevant by the users? *Online Information Review*, 35(4), 598–610.
<https://doi.org/10.1108/14684521111161954>

Helms-Park, R., & Stapleton, P. (2006). How the views of faculty can inform undergraduate Web-based research: Implications for academic writing. *Computers and Composition*, 23(4), 444–461.
<https://doi.org/10.1016/j.compcom.2006.08.003>

- Helms-Park, R., Radia, P., & Stapleton, P. (2007). A preliminary assessment of Google Scholar as a source of EAP students' research materials. *The Internet and Higher Education, 10*(1), 65–76. <https://doi.org/10.1016/j.iheduc.2006.10.002>
- Howard, R. M. (2007). Understanding “Internet plagiarism.” *Computers and composition, 24*(1), 3–15. <https://doi.org/10.1016/j.compcom.2006.12.005>
- Hu, M. (2014). Toward the understanding of Chinese ESL writing. *English Today, 30*(1), 55–59. <https://doi.org/10.1017/S0266078413000576>
- Huang, X.L. (2005). Hunan sheng gao xiao tu shu guan shu zi zi yuan jian she tan xi [Discussion on the construction of digital resources in the university libraries of Hunan province]. *Library and Information Service, 49*(9), 116-118+63.
- Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing, 16*(3), 148–164. <https://doi.org/10.1016/j.jslw.2007.07.005>
- Hyland, K. (2008). Genre and academic writing in the disciplines. *Language Teaching, 41*(4), 543–562. <https://doi.org/10.1017/S0261444808005235>
- Islam, A., & Inkpen, D. (2009). *Real-word spelling correction using Google web IT 3-grams*. Retrieved from <http://dl.acm.org/citation.cfm?id=1699648.1699670>
- Jacsó, P. (2005). Google Scholar: the pros and the cons. *Online Information Review, 29*(2), 208–214. <https://doi.org/10.1108/14684520510598066>
- Jaidka, K., Khoo, C.S.G., & Na, J.C. (2013). Literature review writing: how information is selected and transformed. *Aslib Proceedings, 65*(3), 303–325. <https://doi.org/10.1108/00012531311330665>
- Jones, J. (2008). Patterns of revision in online writing: A study of Wikipedia's featured

articles. *Written Communication*, 25(2), 262–289.

<https://doi.org/10.1177/0741088307312940>

Judd, E. L. (1981). Language Policy, Curriculum Development, and TESOL Instruction:

A Search for Compatibility. *TESOL Quarterly*, 15(1), 59–66.

<https://doi.org/10.2307/3586374>

Judd, T., & Kennedy, G. (2010). A five-year study of on-campus Internet use by

undergraduate biomedical students. *Computers & Education*, 55(4), 1564–1571.

<https://doi.org/10.1016/j.compedu.2010.06.022>

Kalantzis, M., & Cope, B. (2005). *Learning by design*. Common Ground.

Kallenborn, R., & Becker, C. (2009). Digital discovery: strategies and solutions: Report

on the 29th annual Conference of the International Association of Technological

University Libraries (IATUL) held in Auckland, New Zealand, 21-24 April 2008.

New Library World, 110(5/6), 280–290.

<https://doi.org/10.1108/03074800910954299>

Kitchakarn, O. (2012). Using blogs to improve students' summary writing abilities.

Turkish Online Journal of Distance Education, 13(4), 209–219.

Knight, C., & Pryke, S. (2012). Wikipedia and the university, a case study. *Teaching in*

Higher Education, 17(6), 649–659. <http://doi:10.1080/13562517.2012.666734>

Kozlova, I., & Presas, M. (2013). ESP students' views on online language resources for

L2 text production purposes. *Teaching English with Technology*, (3), 35–52.

Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness.

American Journal of Occupational Therapy, 45(3), 214–222.

Kuteeva, M. (2011). Wikis and academic writing: Changing the writer–reader

relationship. *English for Specific Purposes*, 30(1), 44–57.

<https://doi.org/10.1016/j.esp.2010.04.007>

Lan, L. (2005). The growing prosperity of on-line dictionaries. *English Today*, 21(3), 16–21. <http://doi:10.1017/S0266078405003044>

Lax, J. (2002). Academic writing for international graduate students. In *Frontiers in Education, 2002. FIE 2002. 32nd Annual (Vol. 2, p. F3H–8–F3H–12 vol. 2)*. IEEE.

Lee, E. J. E. (2016). Advanced ESL students' prior EFL education and their perceptions of oral corrective feedback. *Journal of International Students 2016 Vol 6 Issue 3*, 6(3), 798–816.

Li, Y., & Casanave, C. P. (2012). Two first-year students' strategies for writing from sources: Patchwriting or plagiarism? *Journal of Second Language Writing*, 21(2), 165–180. <https://doi.org/10.1016/j.jslw.2012.03.002>

Li, Z., & Hegelheimer, V. (2013). Mobile-assisted grammar exercises: Effects on self-editing in L2 writing. *Language Learning & Technology*, 17(3), 135–156.

Li, Z.R. (2009). Zai tan ying yu zhuan ye ben ke sheng de ci dian shi yong [On the English majors' use of dictionaries]. *Journal of Guangdong University of Foreign Studies*, 20(6), 97-100.

Lillis, T., & Curry, M. J. (2006). Professional academic writing by multilingual scholars interactions with literacy brokers in the production of English-medium texts. *Written Communication*, 23(1), 3–35. <https://doi.org/10.1177/0741088305283754>

Lin, M.C., & Liou, H. (2009). Expansion of EFL academic vocabulary for writing via web-enhanced lexical instruction. *English Teaching & Learning*, 33(2), 95–146.

- Littlewood, W. (2000). Do Asian students really want to listen and obey? *ELT Journal*, 54(1), 31–36. <https://doi.org/10.1093/elt/54.1.31>
- Liu, D. (2005). Plagiarism in ESOL students: is cultural conditioning truly the major culprit? *ELT Journal*, 59(3), 234–241. <https://doi.org/10.1093/elt/cci043>
- Lu, W., Du, J., Zhang, J., Ma, F., & Le, T. (2002). Internet development in China. *Journal of Information Science*, 28(3), 207–223. <https://doi.org/10.1177/016555150202800303>
- Ma, L. (2003). Qian tan dian zi ci dian zai ying yu ci hui xue xi zhong de ying yong [The application of electronic dictionaries in English vocabulary learning]. *Journal of Henan University of Economics and Law*, 5, 159-160.
- Magnus, P. D. (2009). On trusting Wikipedia. *Episteme*, 6(1), 74–90. <https://doi.org/10.3366/E1742360008000555>
- Mak, B., & Coniam, D. (2008). Using wikis to enhance and develop writing skills among secondary school students in Hong Kong. *System*, 36(3), 437–455. <https://doi.org/10.1016/j.system.2008.02.004>
- Maringe, F., & Jenkins, J. (2015). Stigma, tensions, and apprehension: The academic writing experience of international students. *International Journal of Educational Management*, 29(5), 609–626. <https://doi.org/10.1108/IJEM-04-2014-0049>
- Markland, M. (2005). Does the student's love of the search engine mean that high quality online academic resources are being missed? *Performance Measurement and Metrics*, 6(1), 19–31. <https://doi.org/10.1108/14678040510588562>
- Martin, N. M., & Lambert, C. (2015). Differentiating digital writing instruction. *Journal of Adolescent & Adult Literacy*, 59(2), 217–227. <https://doi.org/10.1002/jaal.435>

- Matalene, C. (1985). Contrastive rhetoric: An American writing teacher in China. *College English*, 47(8), 789. <https://doi.org/10.2307/376613>
- McAlpine, J., & Myles, J. (2003). Capturing phraseology in an online dictionary for advanced users of English as a second language: a response to user needs. *System*, 31(1), 71–84.
- McGowan, U. (2005). Does educational integrity mean teaching students NOT to “use their own words”? *International Journal for Educational Integrity*, 1(1). Retrieved from <http://ojs.unisa.edu.au.ezproxy.library.uvic.ca/index.php/IJEI/article/view/16>
- Midlane, V. (2005). *Students’ Use of Portable Electronic Dictionaries in the EFL\ ESL Classroom: A Survey of Teacher Attitudes*. (Master dissertation, University of Manchester, Britain). Retrieved from <http://www.bankgatetutors.co.uk/PEDs.htm>
- Muniandy, B. (2010). Academic use of Internet among undergraduate students: A preliminary case study in a Malaysian university. *International Journal of Cyber Society and Education*, 3(2), 171–178.
- Munoz-Luna, R. (2015). Main ingredients for success in L2 academic writing: Outlining, drafting and proofreading. *PLoS ONE*, 10(6). Retrieved from <http://ezproxy.library.uvic.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psych&AN=2015-26370-001&site=ehost-live&scope=site>
- Murray, L. J. (2008). *Plagiarism and copyright infringement: The costs of confusion*. Retrieved from <http://library.queensu.ca.ezproxy.library.uvic.ca/webisi/ai/murrayplagiarism200606.pdf>

- Mustafa, H. R., Sain, N., & Razak, N. Z. A. (2012). Using Internet for learning vocabulary among second language learners in a suburban school. *Procedia - Social and Behavioral Sciences*, 66, 425–431.
<https://doi.org/10.1016/j.sbspro.2012.11.286>
- Nakamaru, S. (2010). Lexical issues in writing center tutorials with international and US-educated multilingual writers. *Journal of Second Language Writing*, 19(2), 95–113. <https://doi.org/10.1016/j.jslw.2010.01.001>
- Naseri, D., & Zarei, A.A. (2008). *The Effect of Monolingual, Bilingual, and Bilingualized Dictionaries on Vocabulary Comprehension and Production*. Retrieved from http://www.ikiu.ac.ir/public_files/profiles/items/090ad_1390389645.pdf
- Nesi, H. (2000). Electronic dictionaries in second language vocabulary comprehension and acquisition: the state of the art (pp. 839–847). Retrieved from https://www.researchgate.net/publication/265198260_ELECTRONIC_DICTIONARIES_IN_SECOND_LANGUAGE_COMPREHENSION_Electronic_Dictionaries_in_Second_Language_Vocabulary_Comprehension_and_Acquisition_the_State_of_the_Art
- Nikou, F. R., Bonyadi, A., & Amirikar, N. (2015). Investigating the relationship between critical thinking skills and the quality of Iranian intermediate TEFL students' writing. *Advances in Language and Literary Studies*, 6(2), 57–64.
- OECD Publishing (2015). *Education at a Glance 2015*. Retrieved from http://www.oecd-ilibrary.org/education/education-at-a-glance-2015_eag-2015-en
- Oxford University Press (n.d.). *Guide to the Third Edition of the OED*. Retrieved July 9, 2016, from <http://public.oed.com.ezproxy.library.uvic.ca/the-oed-today/guide-to>

the-third-edition-of-the-oed/

Oxford Dictionaries (n.d.). *Negligible*. Retrieved from

<https://en.oxforddictionaries.com/definition/negligible>

Oxford University Press (n.d.). *Resource, n*. Retrieved from

<http://www.oed.com.ezproxy.library.uvic.ca/view/Entry/163768>

Oxford English Dictionary (n.d.). *Synonym, n*. Retrieved from

<http://www.oed.com.ezproxy.library.uvic.ca/view/Entry/196522?rskey=sptG3r&result=1&isAdvanced=false#eid>

Oxford University Press (n.d.). *Thesaurus, n*. Retrieved from

<http://www.oed.com.ezproxy.library.uvic.ca/view/Entry/200648>

Oxford University Press (n.d.). *Toluene, n*. Retrieved from

<http://www.oed.com.ezproxy.library.uvic.ca/view/Entry/203061?redirectedFrom=toluene#eid18273367>

Palfreyman, D. (2006). Social context and resources for language learning. *System*, 34(3),

352–370. <https://doi.org/10.1016/j.system.2006.05.001>

Paltridge, B. (2004). Academic writing. *Language Teaching*, 37(2), 87–105.

<https://doi.org/10.1017/S0261444804002216>

Panah, E., Yunus, M. M., & Embi, M. A. (2013). Google-informed patter-hunting and

pattern-defining: Implication for language pedagogy. *Asian Social Science*, 9(3), 229–238.

Park, C. (2004). Rebels without a clause: towards an institutional framework for dealing

with plagiarism by students. *Journal of Further and Higher Education*, 28(3),

291–306. <https://doi.org/10.1080/0309877042000241760>

- Pasfield-Neofitou, S. (2009). Paper, electronic or online? Different dictionaries for different activities. *Babel*, 43(2), 12+.
- Paul, R. W., & Elder, L. (2002). *Critical thinking: Tools for taking charge of your professional and personal life*. Retrieved from <http://taupe.free.fr/book/psycho/success/Financial%20Times%20Prentice%20Hall%20-%20Critical%20Thinking%20Tools%20For%20Taking%20Charge%20Of%20Your%20Professional%20And%20Personal%20Life.pdf>
- Pecorari, D. (2003). Good and original: Plagiarism and patchwriting in academic second-language writing. *Journal of Second Language Writing*, 12(4), 317–345. <https://doi.org/10.1016/j.jslw.2003.08.004>
- Peng, X.W. (1995). Guan yu shuang yu ci dian de xing shi miao xie [Formal descriptions of bilingual dictionaries]. *Foreign Languages and Their Teaching*, (1), 31-36+52
- Prensky, M. (2011). *Making (and not making) connections with Web 2.0 technology in the ESL composition classroom*. Retrieved from <http://faculty.bmcc.cuny.edu/faculty/upload/TETYC0384Making.pdf>
- Purdy, J. P. (2005). Calling off the hounds: Technology and the visibility of plagiarism. *Pedagogy*, 5(2), 275–296. [http:// doi:10.1215/15314200-5-2-275](http://doi:10.1215/15314200-5-2-275)
- Purdy, J. P. (2009). When the tenets of composition go public: A study of writing in Wikipedia. *College Composition & Communication*, 61(2), 383.
- Radia, P., & Stapleton, P. (2008). Unconventional Internet genres and their impact on second language undergraduate students' writing process. *The Internet and Higher Education*, 11(1), 9–17. <https://doi.org/10.1016/j.iheduc.2007.12.004>

- Rainie, L., & Tancer, B. (2007). *Wikipedia users*. Retrieved from <http://www.pewinternet.org/2007/04/24/wikipedia-users/>
- Ramanathan, V., & Atkinson, D. (1999). Individualism, academic writing, and ESL writers. *Journal of Second Language Writing, 8*(1), 45–75.
[https://doi.org/10.1016/S1060-3743\(99\)80112-X](https://doi.org/10.1016/S1060-3743(99)80112-X)
- Renert, H., Russell-Mayhew, S., & Arthur, N. (2013). Recruiting ethnically diverse participants into qualitative health research: Lessons learned. *The Qualitative Report, 18*(12), 1–13.
- Qian, J., & Krugly-Smolka, E. (2008). Chinese graduate students' experiences with writing a literature review. *TESL Canada Journal, 26*(1), 68–86.
- Sampson, H. (2004). Navigating the waves: the usefulness of a pilot in qualitative research. *Qualitative Research, 4*(3), 383–402.
<https://doi.org/10.1177/1468794104047236>
- Sasagawa, E. (2011). *Exploring Japanese graduate students' perceptions of English and Japanese academic writing: A case study* (Master thesis). Retrieved from <http://pqdtopen.proquest.com/doc/903226066.html?FMT=ABS>
- Scholfield, P. (2005). *Why shouldn't Monolingual Dictionaries be as Easy to Use as Bilingual Ones*. Retrieved from <http://www.pearsonlongman.com/dictionaries/pdfs/mono-bilingual.pdf>
- Schryver, G.-M. de. (2003). Lexicographers' dreams in the electronic-dictionary age. *International Journal of Lexicography, 16*(2), 143–199.
<https://doi.org/10.1093/ijl/16.2.143>
- Shi, L. (2004). Textual borrowing in second-language writing. *Written Communication, 21*(1), 1–20.

21(2), 171–200. <https://doi.org/10.1177/0741088303262846>

- Singh Thakur, V., & Al-Mahrooqi, R. (2015). Orienting ESL/EFL students towards critical thinking through pictorial inferences and elucidation: A fruitful pedagogic approach. *English Language Teaching*, 8(2). <https://doi.org/10.5539/elt.v8n2p126>
- Slaouti, D. (2002). The World Wide Web for academic purposes: Old study skills for new? *English for Specific Purposes*, 21(2), 105–124.
[https://doi.org/10.1016/S0889-4906\(00\)00035-1](https://doi.org/10.1016/S0889-4906(00)00035-1)
- Solé, C. R. I. (2007). Language learners' sociocultural positions in the L2: A narrative approach. *Language and Intercultural Communication*, 7(3), 203–216.
<https://doi.org/10.2167/laic203.0>
- Stapleton, P. (2002). Critical thinking in Japanese L2 writing: rethinking tired constructs. *ELT Journal*, 56(3), 250–257. <https://doi.org/10.1093/elt/56.3.250>
- Stapleton, P. (2005a). Evaluating web-sources: Internet literacy and L2 academic writing. *ELT Journal*, 59(2), 135–143. <https://doi.org/10.1093/eltj/cci027>
- Stapleton, P. (2005b). Using the Web as a research source: Implications for L2 academic writing. *Modern Language Journal*, 89(2), 177–189.
- Stapleton, P., Helms-Park, R., & Radia, P. (2006). The Web as a source of unconventional research materials in second language academic writing. *The Internet and Higher Education*, 9(1), 63–75.
<https://doi.org/10.1016/j.iheduc.2005.12.003>
- Song, W.J. & Zheng, H.B. (2014). Ci dian shou ji ying yong hua yu zhu liu shou ji ci dian ping ce yan jiu [The application of dictionary Apps and the study on famous dictionary Apps]. *Journal of Language and Literature Studies*, 8, 13-16+60.

- Swan, A., & Brown, S. (2005). *Open access self-archiving: An author study*. UK FE and HE funding councils. Retrieved from <http://cogprints.org/4385/>
- Tang, G. M. (1997). Pocket electronic dictionaries for second language learning: Help of hindrance. *TESL Canada Journal*, 15(1), 39–57.
- Teijlingen, E. R. V., & Hundley, V. (2001). *The importance of pilot studies*. Retrieved from <http://aura.abdn.ac.uk/handle/2164/157>
- The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review*, 66(1), 60–93.
<https://doi.org/10.17763/haer.66.1.17370n67v22j160u>
- The Scientist Magazine (n.d.). *Supervising International Students Requires Cultural Sensitivity*. Retrieved November 8, 2015, from <http://www.the-scientist.com/?articles.view/articleNo/18618/title/Supervising-International-Students-Requires-Cultural-Sensitivity/>
- Time Warner Inc. (2001). *ICQ Celebrates 100 Million Registered Users*. Retrieved July 9, 2016, from <http://www.timewarner.com/newsroom/press-releases/2001/05/09/icq-celebrates-100-million-registered-users>
- Traphagan, T., Traphagan, J., Dickens, L. N., & Resta, P. (2014). Changes in college students' perceptions of use of web-based resources for academic tasks with Wikipedia projects: A preliminary exploration. *Interactive Learning Environments*, 22(3), 253–270. [http:// doi:10.1080/10494820.2011.641685](http://doi:10.1080/10494820.2011.641685)
- Tseng, F. (2009). EFL students' Yahoo! Online bilingual dictionary use behavior. *English Language Teaching*, 2(3), p98. [http:// doi:10.5539/elt](http://doi:10.5539/elt)
- University of Victoria (n.d.). *FAQs: What is RefWorks?* Retrieved August 11, 2016, from

<http://libanswers.uvic.ca/a.php?qid=28607>

University of Victoria (n.d.). *Search smarter, not harder*. Retrieved from

<http://www.uvic.ca/library/research/tips/searchsmart/index.php>

University of Victoria (n.d.). *What is Summon 2.0?* Retrieved from

<http://www.uvic.ca/library/research/tips/whatissummon/index.php>

Valentine, K. (2006). Plagiarism as literacy practice: Recognizing and rethinking ethical binaries. *College Composition and Communication*, 58(1), 89–109.

Vandermensbrugge, J. (2004). The unbearable vagueness of critical thinking in the context of the Anglo-Saxonisation of education. *International Education Journal*, 5(3), 417–422.

Vardi, I. (2012). Developing students' referencing skills: a matter of plagiarism, punishment and morality or of learning to write critically? *Higher Education Research & Development*, 31(6), 921–930.

<https://doi.org/10.1080/07294360.2012.673120>

Wang, C. (2013). A study of genre approach in EFL writing. *Theory and Practice in Language Studies*, 3(11). <https://doi.org/10.4304/tpls.3.11.2128-2135>

Wang, X.H. (2003). Xiu zhen dian zi ci dian dui zhongguo xue sheng xue xi ying yu you yi hai shi you hai? [Pocket electronic dictionary for Chinese EFL students: Help or hindrance?]. *Teaching English in China*, 26(1), 2-5.

Watcharapunyawong, S., & Usaha, S. (2012). Thai EFL students' writing errors in different text types: The interference of the first language. *English Language Teaching*, 6(1). <https://doi.org/10.5539/elt.v6n1p67>

Wingate, U., & Tribble, C. (2012). The best of both worlds? Towards an English for

- Academic Purposes/Academic Literacies writing pedagogy. *Studies in Higher Education*, 37(4), 481–495. [http:// doi:10.1080/03075079.2010.525630](http://doi:10.1080/03075079.2010.525630)
- Wu, M., & Chen, S. (2014). Graduate students appreciate Google Scholar, but still find use for libraries. *Electronic Library*, 32(3), 375–389. <https://doi.org/10.1108/EL-08-2012-0102>
- Wu, J., & Huang, R. (2003). The academic library development in China. *The Journal of Academic Librarianship*, 29(4), 249–253. [https://doi.org/10.1016/S0099-1333\(03\)00044-2](https://doi.org/10.1016/S0099-1333(03)00044-2)
- Xiao, Z.Q. (2015). Zhi neng shou ji ping jie [A review of smartphone dictionaries]. *Journal of Guangdong University of Foreign Studies*. 5, 54-59.
- Yang, S. C., & Chen, Y.-J. (2007). Technology-enhanced language learning: A case study. *Computers in Human Behavior*, 23(1), 860–879. <http://doi:10.1016/j.chb.2006.02.015>
- Yang, W. X. (2003). Er shi shi ji ying han xue xi ci dian hui mou [The English-Chinese dictionaries in 20th century]. *Foreign Languages Research*, (3), 45–49.
- Yao, X.M., & Liu, S.S. (2003). Dian zi ci dian yu ying yu jiao xue [E-dictionaries and English teaching]. *Technology Enhanced Foreign Language Education*, 90, 16-20.
- Yong, Z., & Campbell, K. P. (1995). English in China. *World Englishes*, 14(3), 377–390. <https://doi.org/10.1111/j.1467-971X.1995.tb00080.x>
- Youdao. (n.d). In *Wikipedia*. Retrieved from <https://en.wikipedia.org/w/index.php?title=Youdao&oldid=733153791>

Youdao. (n.d). *prove.v*. Retrieved from

<http://youdao.com/w/eng/%E8%AF%81%E6%98%8E/#keyfrom=dict2.index>

Younas, M., Subhani, A., & Arshad, S. (2014). *Exploring the causes of writing anxiety: A case of BS English students*. Retrieved from

http://www.academia.edu/download/36266125/younaswritinganxiety1_rec.pdf

Yunus, M. M., & Salehi, H. (2012). The effectiveness of Facebook groups on Teaching and Improving Writing: Students' perceptions. *Journal of Education and Information Technologies, 1*(6), 87–96.

Zhu, W. (2004). Writing in business courses: an analysis of assignment types, their characteristics, and required skills. *English for Specific Purposes, 23*(2), 111–135.

[https://doi.org/10.1016/S0889-4906\(02\)00046-7](https://doi.org/10.1016/S0889-4906(02)00046-7)

Zhang, Y. & Lu, G.H. (2014). Wang luo ci dian ci ku pei zhi de zhu ti jian xing si kao [Inter-subjectivity approach to lexicon configuration in cyber dictionaries: with Particular reference to Youdao dictionary]. *Publishing Journal, 5*(22), 87-90.

Zhang, Y.H. (2007). Dui wo guo dian zi ci dian fa zhan ce lue de ji dian si kao [On the development of electronic dictionaries in China]. *Lexicographical Studies, 2*, 1-11+61.

Zhang, Z. (2011). A nested model of academic writing approaches: Chinese international graduate students' views of English academic writing. *Language and Literacy, 13*(1), 39–59.

Appendix A

Semi-Structured Interview Questions

International students' experiences of using online resources for academic writing

Time: 60 minutes

1. Which online resource(s) do you usually use to assist your academic writing?
 2. What is the online dictionary used for when you do the academic writing? Multiple choices:
Part of speech; Tense; Definition; Synonyms; Collocations; Language context ; Phrases, idioms, slangs; Spelling; Pronunciation; Others (please specify it)
 3. What effects do you think the online resources have with your academic writing?
 4. What are your opinions about the credibility of the search results when you use the online resources?
 5. What are your strategies for preventing plagiarism from using online resources?
 6. What three things that work well when you use online resources for academic writing?
 7. What three things that you feel difficult when you use online resources for academic writing?
 8. How do you avoid plagiarism when you use online resources for academic writing?
- Is there anything else you would like to tell me as you think about your experiences of using online resources for academic writing?

THANK YOU for your time and for sharing your ideas.

Appendix B

Computerized Writing Task (Including Think-Aloud Activity)

Time: 60 minutes

Writing task direction (250 words): please finish the task in one hour

1. Please read the attached academic passages, and then write a short response according to the passages. The short response should include: (1) summary of the passages, (2) your opinion about its claims, and (3) please use citation and reference if it is necessary
2. In the course of writing, you will be asked to do a ‘think-aloud activity’ that invites you to say out loud what you are doing and what you are thinking about while you are writing
3. Please highlight anything that you could not understand in the passages, and you could also use any online resource to assist your reading and writing if necessary.
4. You could use any online resource to check your writing format, spelling, and grammar if necessary.
5. Please use the format that you usually use to write the short response. (For example, APA, MLA, and Chicago)

Note: This whole process of writing and think-aloud activity will be screen captured and audio recorded.

Technology-Enhanced Language Learning: A Case Study

Shu Ching Yang, Yi-Ju Chen

-Extract-

The use of multimedia technology for foreign language instruction has expanded rapidly during the past two decades. Studies of the influence of technology-enhanced instruction on language learning have also appeared in growing numbers (Abrams, 2002; Al-Jarf, 2004; Blasszauer, 2001; Brandl, 2002; Chikamatsu, 2003; Jogan, Heredia, & Aguilera, 2001; Mes-kill & Anthony, 2005; Muehleisen, 1997; Osuna & Meskill, 1998; Salaberry, 2001; Schwien-horst, 2004; Warschauer, 1995, 2000; Weininger & Shield, 2003; Yang, 2001). Previous research indicates (betokens) that computer-mediated language learning can facilitate (expedite) communication, reduce anxiety, encourage (embolden) oral discussion, develop (cultivate) the writing/thinking connection, nurture social or cooperative learning, promote egalitarian class structures, enhance student

motivation, facilitate cross-cultural awareness, and improve writing skills. In light of these positive effects, an increasing number of ESL/EFL teachers have embraced (espoused) multimedia technology. For example, various studies have examined the use of computer-mediated communication via e-mail or networking, video-conferencing, Web-based projects and pen pal activity, while some studies have focused on specific elements of language skills (namely, reading, listening, speaking, and writing), or cultural awareness, and some have reported student or instructor perceptions of technology-enhanced language learning.

Researchers have reported that student writing skills can be improved (enriched) via networked computers. Foreign language teachers integrate e-mail-based activities into their curriculum (Hertel, 2003; Knight, 1994; LeLoup, 1997; Warschauer, 1995). For example, international key pal projects that enable students to correspond with native speakers of the target language are easily implemented provided, the participants have the necessary access, equipment, and foreign contacts. While examining peer response through net-worked computers in writing classrooms, researchers have reported that Web-based response is easier than face-to-face response, being characterized by more participation, more discussion during interactions, more feedback, and gradually increased confidence (Beauvois, 1998; Braine & Yorozu, 1998; Cononelos & Oliva, 1993; Curtis & Ruska's, 1999; Davis & Thiede, 2000; Hartman et al., 1991; Kivela, 1996; Ortega, 1997). Researchers who have compared small group interactions in oral and network-based modes have shown increased participation in electronic classroom discussions (Sullivan & Pratt, 1996; Warschauer, 1996). In reviewing early research on innovative use of networked computers in language learning, Beauvois (1998) found that students in networked writing projects demonstrated more fluid conversation. ESL learners might have more time to think, phrase responses, and participate in networked writing.

Regarding (With regard to) communication skills, Lee (2002) completed a pilot study using synchronous electronic chats combined with task-based instruction to boost learner communication skills. Lee demonstrated that computer-mediated communication using less structure-controlled but more open-ended exchange significantly impacted the language learning process. In studying electronic mail as a medium for foreign language

study and instruction, Lunde (1990) reported that students of Japanese enrolled in computer mediated communication projects improved reading comprehension.

Furthermore, follow-up interviews in Beauvois (1994) revealed that many students expressed increased confidence in speaking. The conversational aspect of writing via the network may have helped students to routinize certain expressions, thus promoting the development of automatic structures that assists speaking. In a case study of an ESL senior secondary course integrating computer networking, Sanaoui and Lapkin (1992) also found that “considerable growth occurred in French-speaking skills, and possibly also in listening and reading comprehension, which implies that an explicit focus on one area can have an effect on the other skills” (p. 544).

Reference:

Yang, S., & Chen, Y. (2006). Technology-enhanced language learning: A case study. *Computers in Human Behavior*, 23, 860-879.

(Remarks: Since the second participant, the word in bracket is used for substituting the original word with underline in the passages)

Appendix C
Notes of Screen Record

	Notes
Billy	<p>Time of reading: 1:10-11:30 (1:10-2:40 read writing directions) Time of writing: 12:50-27:30 Times of checking reading material while writing: many times Times of checking writing directions: 3 Times of revision: 0 Using online resources for writing: using Google Translate to search 'synchronous' and 'convenient' respectively</p>
Jennifer	<p>Time of reading: 1:00-5:35 (5:10-5:30 read writing directions) Time of writing: 7:20-34:23; 38:10 finishing format adjustment and revision Times of checking reading material while writing: 3 Times of checking writing directions: 0 Times of revision: 0 Using online resources for writing: using Youdao dictionary to look up English equivalent of Chinese word</p>
Tiffany	<p>Time of reading: 00:54-6:45 Time of writing: 14:08-19:19 she finished the summary; 19:19-23:54 she searched articles online; 6:39-7:26 she skimmed the reading article again; 7:29- 11:38 Citation; 11:39-12:20 she searched more information in the reading article again; 12:20-16:19 Times of checking reading material while writing: many times Times of checking writing directions: 2 Times of revision: 0 Using online resources for writing: using Merriam-Webster to understand 'expedite' (she searched 'expedite' on www.google.ca, and she used the third link which lead her to Merriam-Webster); using Google (Chinese version) to know the definition of 'anxiety'; using Dictionary.com to search 'egalitarian', and use Baidu to emphasize her understanding about the definition of this word (at the beginning, she searched 'egalitarian' on Google, but she ignored the first link which is Wikipedia because she did not like it. She chose the second link which is Dictionary.com. Later, after she still could not understand the definition on the online dictionary, she used Baidu.com to see the Chinese definition of the word. Then, she revisited the example on the Dictionary.com to check the definition again; using Dictionary.com to know 'expouse' (she searched 'espouse' on Google, and she chose the first link of the page, which is Dictionary.com. After she read the examples, she still used Baidu to check the Chinese definition of the word. Others: 1. She finished summary writing very fast. Later, she used Google to find supporting material for her critique and comment part. She typed in 'multimedia technology foreign language' in Google,</p>

	<p>then she chose the first link which was Google Scholar to open a window. However, she did not look at it immediately, she kept looking other links offered by Google. She opened the fourth link which was a PDF file named “Applying multimedia technology to the teaching” (the file asked her to download, she refused it). She closed the window. She chose the fifth link which was a website named “Springer”. And the article was ‘The application of multimedia technology in foreign language teaching’. She read the abstract at first and then she decided not to read the article because it did not match with her intention. After searched some articles, she still did not find anything she wanted on Google, so she went to Google Scholar (GS). She chose ‘On multimedia learning and multimodal learning’ on GS, and read the abstract at first. But, the article was not what she wanted, so she kept looking on GS. Finally, she found an article named ‘A look at the research on computer-based technology use in second language learning’ (Liu, Moore, Graham & Lee, 2014). After reading the abstract, she decided to use this article. She downloaded it, and looked at the ‘Findings’ of the article. 2. She copied a sentence from the article and paste it to her writing. Then, she kept looking at the article again, but she did not find anything more. 3. She used References of the Microsoft Word (MS Word) to do in-text citation and reference.</p> <p>Liu, M., Moore, Z., Graham, L. & Lee, S. (2014). A look at the research on computer-based technology use in second language learning. <i>Journal of Research on Technology in Education</i>, 34(3), 250-273.</p>
Sarah	<p>Time of reading: 7’45” (including the time of reading writing directions) Time of writing: 11:02-46:23 Times of checking reading material while writing: 5 (the third time was for citation) Times of checking writing directions: 1 Times of revision: 1 (44:05-44:30, 25 seconds, then changed the last sentence)</p> <p>Using online resources for writing: using Google to search ‘phenominous’; using www.iciba.com and an English-Greek online dictionary respectively to search the antonym of ‘negligible’</p> <p>Others: 1. Participant asked if she needed to write underneath the reading material, or open a new file for writing. In addition to, she asked where to save the file. 2. There was an obvious typo at the last paragraph, but interestingly, MS Word does not show any notification about it. 3. My laptop keyboard does not work functionally sometimes.</p>