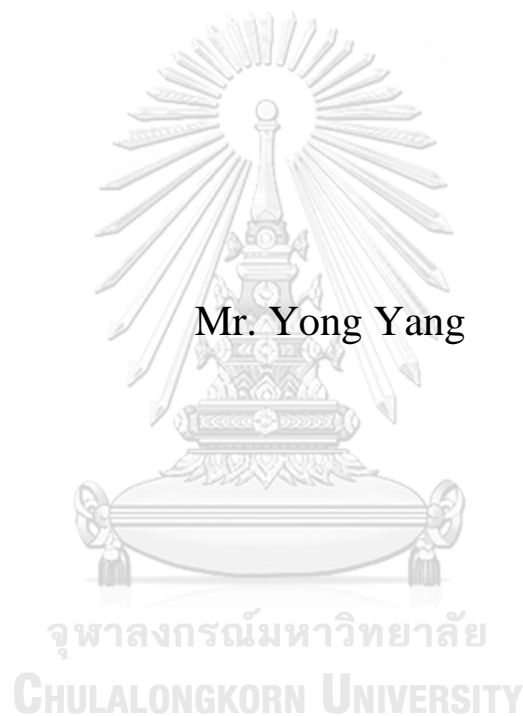


A STUDY OF ONLINE SELF-REGULATION ON ENGLISH  
PROFICIENCY AMONG CHINESE EFL  
UNDERGRADUATE STUDENTS



Mr. Yong Yang

An Independent Study Submitted in Partial Fulfillment of the  
Requirements  
for the Degree of Master of Arts in English as an International Language  
Inter-Department of English as an International Language  
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ภาษาอังกฤษของนักศึกษาจีนระดับปริญญาตรีที่เรียนภาษาอังกฤษเป็นภ  
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UNDERGRADUATE STUDENTS  
By                                      Mr. Yong Yang  
Field of Study                      English as an International Language  
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Accepted by the Graduate School, Chulalongkorn University in Partial  
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หยง หยาง :

การศึกษาการกำกับตนเองทางการเรียนรู้ออนไลน์ต่อความสามารถด้านภาษาอังกฤษของนักศึกษาจีนระดับปริญญาตรีที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศ. ( A STUDY OF ONLINE SELF-REGULATION ON ENGLISH PROFICIENCY AMONG CHINESE EFL UNDERGRADUATE STUDENTS ) อ.ที่ปรึกษาหลัก : ผศ. ดร.อาภัสรา ชินวรรโณ

การศึกษานี้มีวัตถุประสงค์เพื่อที่จะ 1) สืบหาการกำกับดูแลตนเองออนไลน์ที่ถูกใช้โดยนักศึกษาชาวจีนระดับปริญญาตรีซึ่งเรียนภาษาอังกฤษเป็นภาษาต่างชาติ และ 2) สืบหาความสัมพันธ์ระหว่างการกำกับดูแลตนเองออนไลน์ของนักศึกษาและความสามารถทางภาษาอังกฤษของพวกเธอ กลุ่มตัวอย่างในงานวิจัยนี้ประกอบด้วยนักศึกษาชาวจีนระดับปริญญาตรีจำนวน 101 คนที่ลงทะเบียนเรียนหลักสูตรเตรียมสอบภาษาอังกฤษออนไลน์ ณ มหาวิทยาลัยแห่งหนึ่งทางตะวันตกเฉียงใต้ของประเทศจีน เครื่องมือที่ใช้ในงานวิจัยนี้ประกอบด้วยแบบสอบถามการเรียนรู้กำกับตนเองออนไลน์ (the Online Self-regulated Learning Questionnaire (OSLQ)) และแบบทดสอบภาษาอังกฤษมหาวิทยาลัยแห่งชาติ ระดับ 4 (National College English Test Band 4 or CET-4) ข้อมูลถูกวิเคราะห์ด้วยการใช้สถิติเชิงพรรณนาและสัมประสิทธิ์สหสัมพันธ์ของเพียร์สัน (Pearson correlation Coefficient) ผลจากการวิจัยเปิดเผยว่า 1) กลุ่มตัวอย่างใช้ทักษะการกำกับตนเองออนไลน์ในระดับปานกลาง โดยใช้ระดับสูงสุดใช้ในส่วนของการจัดหาสถานที่ที่เหมาะสมในการเรียนรู้ (Environment Structuring) และระดับต่ำที่สุดที่พบคือ การประเมินตนเอง (Self evaluation) และ 2) ผลจากการวิจัยยังได้แสดงให้เห็นถึงความสัมพันธ์เชิงบวกอย่างมีนัยยะสำคัญระหว่างการกำกับดูแลตนเองออนไลน์และความสามารถภาษาอังกฤษ โดยที่พบความสัมพันธ์สูงสุดในส่วนของการจัดการเวลา (Time Management) และการจัดหาสถานที่ที่เหมาะสมในการเรียนรู้ (Environmental Structuring) ตามลำดับ ส่วนการกำกับดูแลตนเองออนไลน์ของนักศึกษาที่เรียนภาษาอังกฤษเป็นภาษาต่างชาติและการประยุกต์ใช้แนวคิดในการสอนได้ถูกนำเสนอและอภิปรายไว้ในงานวิจัยนี้เช่นกัน

สาขาวิชา	ภาษาอังกฤษเป็นภาษานานาชาติ	ลายมือชื่อนิสิต
ปีการศึกษา	2562	ลายมือชื่อ อ.ที่ปรึกษาหลัก
๗		

## 6187563120 : MAJOR ENGLISH AS AN INTERNATIONAL LANGUAGE  
 KEYWORD ONLINE SELF-REGULATION, THE ONLINE SELF-  
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 TEST BAND 4(CET-4)

Yong Yang : A STUDY OF ONLINE SELF-REGULATION ON  
 ENGLISH PROFICIENCY AMONG CHINESE EFL  
 UNDERGRADUATE STUDENTS . Advisor: Asst. Prof. APASARA  
 CHINWONNO, Ph.D.

This study aimed to 1) explore the online self-regulation used by Chinese EFL students, and 2) investigate the correlation between students' online self-regulation and their English proficiency. Participants included 101 Chinese undergraduate students enrolled in an English test prep online course at a university in southwestern China. The research instruments consisted of the Online Self-regulated Learning Questionnaire (OSLQ) and National College English Test Band 4 (CET-4). The data were analyzed through descriptive statistics and Pearson correlation coefficient. The results revealed that 1) the participants had a moderate level of using online self-regulatory skills with the highest level for 'Environment Structuring' whilst the lowest level for 'Self-evaluation' and 2) there was a significant positive relationship between online self-regulation and English proficiency with the highest on 'Time Management' and 'Environment Structuring' respectively. EFL students' online self-regulation and pedagogical implications were presented and discussed.



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Field of Study:	English as an International Language	Student's Signature
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		.....

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# INTRODUCTION

## 1.1 Background of the study

English has been widely accepted and used as an international language among users with diverse lingual and culture backgrounds (Matsuda, 2017). One challenge of the varieties of English is the growing demand for learners' English proficiency in effectively using English in the EIL context (McKay, 2018). With the globalization of English learning and the popularization of information and communications technology (ICT), educators have implemented EIL pedagogy employing various digital resources, such as videoconferencing and social media (J. S. Lee & Dressman, 2018; J. S. N. Lee & Y.Sadler, 2017). In China, the ICTs have been integrated into English language teaching, further generating various pedagogical models, such as online or blended learning (Ren, Zheng, & Wu, 2016; Wang, Liu, & Zhang, 2018). The advantages of online learning had been widely discussed; for example, students were able to attend their online courses with less limitation of geographical locales and schedule (Waschull, 2001), online learning system enabled students to get access to additional online learning materials and review specific content based upon their preferences and needs(Liaw & Huang, 2003), and online communities could be established to facilitate students' learning collaboration (Ko & Rossen, 2017; Zeitoun, 2008).

The flexibility and accessibility of online learning have challenged many students. As shown in previous studies, online learners were less engaged in classes and faced lower retention rates than those in the traditional classroom-based learning environment(Bawa, 2016; Y. Lee & Choi, 2011).In face-to-face classroom instructors generally provided students with direct guidance and immediate supervision. In

contrast, online learning was more requiring students' ability to regulate their learning on their own (Lehmann, Hähnlein, & Ifenthaler, 2014). Such learning competence was conceptualized as self-regulated learning (B. J. Zimmerman, 2008).

Self-regulated learning has become a heated topic since there was a theoretical shift from behaviorism to cognitivism among educators. Under the cognitivism theory, learners' capability in affecting their learning behaviors and outcomes had been emphasized (Bandura, 1986; Inan, 2013; Steffens, 2008). Students' self-regulation had a positive relationship with their academic achievement (P. Pintrich, 2004; B. J. Zimmerman, 2008; B. J. Zimmerman & Pons, 1986). In other words, the better students who were capable of regulating their learning, the more it is likely for them to achieve better academic outcomes. In the field of English language learning, self-regulation has also been identified as a useful language learning strategy (Oxford, 2016; Seker, 2016). Studies have been conducted on the contributive role of self-regulation on EFL students' English proficiency, proving that higher self-regulated students were more capable of gaining a higher level of English language proficiency (Elham, 2015; Young & Jee, 2018).

Many studies were largely conducted on students' use of self-regulation and their English proficiency in the traditional classroom-based learning setting. As the number of online students continuously increases, similar studies should be conducted in the context of online learning.

## **1.2 Research Questions**

This study aimed to answer the following research questions:

1. What online self-regulation do Chinese EFL students use?

2. Is there any correlation between Chinese EFL students' online self-regulation and their English proficiency?

### **1.3 Objectives of the study**

This study aims to:

1. explore the online self-regulation used by Chinese EFL students;
2. investigate the correlation between Chinese EFL students' online self-regulation and their English proficiency.

### **1.4 Scope of the Study**

Participants included 101 undergraduate students enrolled in the National College English Test Band 4 (CET-4) prep online course in the second semester of the academic year 2018 at the College of Arts and Sciences, Yunnan Normal University, China. The instrument was the Online Self-regulated Learning Questionnaire (OSLQ) (Barnard, Lan, To, Paton, & Lai, 2009). The online self-regulation skills explored in the OSLQ involved goal setting, time management, environment structuring, help seeking, task strategies, and self-evaluation. In this study, a translated and adapted Chinese version OSLQ was employed to explore the self-regulatory learning skills used by Chinese EFL undergraduate students enrolled in the online course. The correlation between online self-regulation and students' English proficiency was also investigated. Students' English proficiency was measured based on students' test scores in the CET-4. The findings of the study were presented through descriptive statistics and Pearson correlation coefficient. According to the finding, EFL students' online self-regulation and pedagogical implications were presented and discussed.

## 1.5 Definition of Terms

### 1.5.1 Online Self-regulation

Among previous literature in educational domains, self-regulation was used interchangeably with self-regulated learning (SRL), which referred to students' continuous proactive attempts and constructive adjustments to monitor, regulate and control their cognition, emotion, and behavior to achieve self-set goals (B. J. Zimmerman, 2008). In light of the definition, online self-regulation can be generally defined as the regulation of students' thoughts and endeavors specified in the online learning environment. In this study, online self-regulation refers to the self-regulatory learning skills used by Chinese EFL students enrolled in an English test prep online course.

### 1.5.2 English Proficiency

Language proficiency was defined as language ability or ability in language use (Bachman, 1990). In the context of English language acquisition, English proficiency can be interpreted as the ability of students' performance in particular tasks by using the English language. According to Stern (1983), proficiency can be regarded as a goal, objectives or standards, based on which students' actual performance is assessed. In this study, students' English proficiency, covering writing, listening, and reading was evaluated by National College English Test Band 4 (CET-4). CET-4 is a large-scale national standardized English test. It has been widely accepted as an English test with high reliability and validity, reflecting whether Chinese undergraduates have reached the required English proficiency specified in the National College English Teaching Syllabus (NCETS) and Teaching Requirements (Sun & Henrichsen, 2011).

### **1.6 Significance of the Study**

This study aimed to explore the online self-regulation used by Chinese EFL undergraduate students' and investigate the correlation between EFL students' online self-regulation and their English proficiency. The results were expected to provide some new insights into EFL students' self-regulation in the online learning environment. Furthermore, the result might provide some guidelines for teachers who desired to adjust and optimize their online English instruction as well as those students who wish to gain better academic outcomes in online English learning.



## LITERATURE REVIEW

This chapter discussed the relevance of online self-regulation to the contexts of online learning and EIL. First, the expansion of English language instruction under the EIL context was laid out. Then, the current situation of English language teaching (ELT) in China was presented. Lastly, the study on online self-regulation was analyzed. Hence, the conceptual framework of this study was offered.

### 2.1 English as an International Language (EIL) Instruction

English is now widely used as an international language by speakers with different demographic backgrounds in various international cultural and economic contexts. One of the consequence was the development of different varieties of English (Graddol, 2001; Kachru, 1986). According to Kachru (1986) 's category of English varieties, apart from the inner-circle countries such as the US or the UK where English is used as their first language, English is also used as a second language by non-native English speakers from the outer-circle countries such as India and Hong Kong, and a foreign language in expanding circle countries such as China and Thailand.

In the EIL context, students were required to successfully participate in international communication with other English users with different lingua-cultural backgrounds(Matsuda, 2017). Therefore, comprehensive improvement of students' English proficiency has been emphasized. As proposed by McKay (2018) and Matsuda (2012) EIL students should recognize and master the knowledge of different varieties of English and diverse cultures in a broader perspective.

Moreover, scholars have called for new instructional approaches to teach English in the EIL context (Marlina & Giri, 2014). J. S. N. Lee and Y. Sadler (2017) developed and implemented videoconference-embedded classrooms (VEC) to raise university students' perceptions of EIL. The results indicated that the VEC pedagogy had made the learning environment more interactive and enhanced students' understanding of the EIL content, eventually contributing to students' positive perceptions of EIL.

Apart from the formal instructional intervention study, researchers have also highlighted the importance of informal out-of-class English language learning regarding EIL. J. S. Lee and Lee (2019) conducted a study to explain how Informal Digital Learning of English (IDLE) practice related to EFL university students' EIL perception. The results showed that IDLE activities had a significantly positive relationship with students' EIL perception.

It could be concluded that in the EIL context, English language instruction, both in formal and informal settings, was embedded with Internet-based technology. With the support of the technology, students' learning context could be expanded to Internet-based online learning where students were more likely to get access to the diverse Englishes and deeply understand EIL content. Furthermore, students' English proficiency should be further improved so that they could confidently adapt to the EIL context.

## **2.2 English language teaching (ELT) in China**

In China, enhancing students' English proficiency has continuously been emphasized since 1978 (Hu, 2002). English has been set as a compulsory subject in mainstream education system from primary schools to graduate school (Ruan &

Leung, 2012). Influenced by the Grammar-Translation method, Chinese English learners had been long criticized as they could not effectively use English for authentic communication. Given this situation, Chinese authorities has reformed the English curriculum system emphasizing the significance of student-centered learning and students' communicative ability to use English in real contexts (Ruan & Leung, 2012).

As the information and communications technologies rapidly develop, ICT has been used in China's English teaching classroom by educators (Ren et al., 2016). The use of ICTs has contributed to various pedagogical methods, such as online or blended learning (Wang et al., 2018). In Chinese higher education domain, online learning has gained huge popularity among Chinese universities (Insight, 2015).

Students' ability to regulate their learning was considered as a significant factor in online learning (McConnell, 2014). Zhao, Chen, and Panda (2014) conducted a study to investigate Chinese students' self-regulated learning in a distance learning setting. The results indicated that students overall had above-average levels of SRL, and there was still a huge margin of improvement for the students to be taught how to appropriately select and employ self-regulated learning strategies.

### **2.3 Self-regulation and online self-regulation**

Broadly defined, self-regulation is a psychological construct, referring to the regulation of individuals' thinking and actions (B. J. Zimmerman & Schunk, 2011). Based on social cognitive theory in which human behavior was proposed to be largely motivated and regulated by the ongoing process of self-observation, self-judgment, and self-reaction, Bandura (1986) defined self-regulation as a process in which



individuals actively participated in their lives and self-generate and adapted their thoughts, behaviors, and environmental factors to achieve personal goals.

According to (B. J. Zimmerman, 2008, 2011) 's self-regulated learning theory founded on self-regulation, the definition of students' self-regulated learning can be demonstrated in the following two perspectives. For one thing, it involves a proactive and constructive process in which students direct and activate themselves to achieve self-set goals. For another, it includes students' continuous attempts and adjustments to regulate their cognition, emotion, and behavior based on their goals.

### 2.3.1 The phases of Self-regulation process

P. Pintrich (2004) conceptualized self-regulation into four phases, namely (1) forethought, (2) monitoring, (3) control, and (4) reflection. In phase one, students plan, set goals and activate their learning according to their goals. Phase two involves various monitoring processes in which students raise metacognitive awareness of themselves, task or context from different perspectives. In phase three, students make efforts to control themselves in different aspects. Phase four represents various kinds of students' reflections. Those four phases can occur either sequentially or not.

B. J. Zimmerman (2011) combined monitoring and control/regulation phases and postulated that self-regulation occurs in three phases: (1) forethought, (2) monitoring and performance and (3) self-reflection. In the first phase, students begin to prepare their learning including analyzing the task, context and themselves, setting goals, outline the tentative strategies to achieve the goals, setting a proper schedule or confirming a suitable place for studying. In the second phase, the students put their plans into action and by implementing various learning strategies and continuously

monitor their performance and then regulate the methods they chose, such as time management and seeking assistance when in need. The last phase is the reflection phase. After tasks are completed and the results are presented, students use strategies to look back on how and why they perform the tasks and adjust future behaviors and methods according to their goals.

Although the phases of the self-regulation process differ among studies, both of them depicted self-regulation as a dynamic and cyclical process. In other words, all phases of self-regulation are interplayed and each phase involves various strategies that students might use to complete different tasks.

### 2.3.2 The dimensions of Self-regulation

Self-regulation is acknowledged as a multidimensional construct (Dörnyei, 2015). As described by (B. J. Zimmerman, 2008, 2011), a self-regulated student would implement various appropriate self-regulatory learning strategies in each phase of the learning process when tasks and contexts change.

B. J. Zimmerman and Pons (1986) conducted a study in which 40 gifted students and 40 average students were interviewed and identified 14 types of self-regulatory strategies in six different learning contexts. Those 14 self-regulated learning strategies included (1) Self-evaluation; (2) Organizing and transforming; (3) Goal setting and planning; (4) Seeking information; (5) Keeping records and monitoring; (6) Environmental structuring; (7) Self-consequences; (8) Rehearsing and memorizing; (9)-(11) Seeking social assistance, and (12)-(14). Reviewing records.

P. Pintrich (2005) categorized self-regulation in a broader view into four dimensions: (1) Metacognitive regulation. It represents the metacognitive strategies

involving planning, goals setting, organizing, self-monitoring, and self-evaluation. (2) Affective regulation. It included strategies that students employ to optimize their motivations and affective reactions. (3) Behavioral regulation. It reflected the effort of students to ask for help during their tasks, and (4) Environmental regulation. It represented the activities of students to manage the environment where their study

Based on these studies, it could be concluded that self-regulated learners have the potential to analysis their learning activities in different contexts and implement various corresponding strategies. When it comes to the context of the online learning environment, students' self-regulation might be specific in terms of their cognition, motivation, and behavior, as well as other relevant aspects.

### 2.3.3 Assessing Online Self-regulation

Self-report questionnaires are the instrument used most frequently to measure self-regulation as an aptitude (Winne & Perry, 2000). The Learning and Study Strategies Inventory (LASSI) (Weinstein, Schulte, & Palmer, 1987) and The Motivated Strategies for Learning Questionnaire (MSLQ) (P. R. Pintrich, Smith, Duncan, & McKeachie, 1991) were the most two popular questionnaires widely used among previous studies.

However, self-regulation was recognized as a context-specific process ( B. J. Zimmerman, 1998). In other words, instruments need to be modified to assess students' self-regulation in specific learning settings. An instrument might become invalid when it is used in different contexts. One typical argument was given by McManus (2000)'s study in which the MSLQ was used to investigate how self-regulated learning related to academic performance in online courses. The puzzling

findings showed that students with lower levels of self-regulated learning academically performed significantly better than those with higher levels.

Given the context of the current study, the Online Self-regulated Learning Questionnaire (OSLQ) was employed because it is the only existing questionnaire to exclusively measure students' self-regulation in the online or blended learning environment (Barnard-Brak, Lan, & Paton, 2010).

#### 2.3.4 Previous Studies

According to previous literature, the online self-regulated learning questionnaire (OSLQ) had been widely used by researchers to explore the students' online self-regulation and its relationship with other variables.

Cazan (2014) adapted and administered the OSLQ within the Romanian domain to investigate how self-regulated learning associated to academic achievement measured in terms of GPA among undergraduate students enrolled in online Moodle courses. The findings indicated that self-regulation is positively related to academic achievement for the online courses with the highest two factors namely 'Goal setting' and 'Environment Structuring' respectively.

Onah and Sinclair (2016) conducted a case study to investigate students' perceptions of self-regulated learning in a blended classroom context. By applying the OSLQ, most of the students showed a low level of perception in 'Self-Evaluation' among, while a considerable high level in 'Environment Structuring'.

Martinez-Lopez, Yot, Tuovila, and Perera-Rodríguez (2017) adapted and piloted the OSLQ in the Russian context. According to the assessment of the adaptation, the Russian version of OSLQ demonstrated a good index of validity and reliability. The

results showed that the highest level of the sample's online self-regulation was 'Environment Structuring' followed by 'goal setting' while the least level is 'help seeking'.

Fung, Yuen, and Yuen (2018) adapted the Chinese version of the OSLQ in Hong Kong to explore the difference of online self-regulation between students of average ability and students talented in mathematics. The finding showed that the mathematically talented students showed better use than average students in terms of good use of online self-regulation. Moreover, the instrument proved to be valid and reliable to assess online self-regulation among Chinese students.

Handoko, Gronseth, McNeil, Bonk, and Robin (2019) surveyed 643 MOOC students by using the OSLQ. The study aimed to examine the association between the use of SRL and MOOC completion. The result showed that those two variables have a positive relationship among which 'Goal Setting' ranked the highest.

In the field of English language learning, the OSLQ had been adapted to investigate the relationship between online self-regulation and relevant English learning variables.

Zheng, Liang, Yang, and Tsai (2016) conducted a study on the relationship between Chinese college students' conceptions of language learning and their online self-regulation. In this study, students' online self-regulation was assessed adapting and using the OSLQ and the findings showed that the highest levels of online self-regulation were 'Environment Structuring' followed by 'Self-evaluation'.

Zheng, Liang, Li, and Tsai (2018) presented a structural relationship model between English language learners' motivation and their online self-regulation. In this study, students' online self-regulation was assessed adapting and using the OSLQ and

the finding showed that the highest levels of online self-regulation were 'Environment Structuring' followed by 'Goal Setting'.

To sum up, researchers had adapted the OSLQ and surveyed students in various research contexts. The foci of research variables involved GPA, math score and course completion in education domain, as well as variables specified in the English language learning domain such as students' concept of language learning and learner's motivation. However, there were few studies which have related students' online self-regulation to their English proficiency. Therefore, the current study, situated in mainland China, attempted to investigate the use of students' online self-regulation and their English proficiency.

#### **2.4 Conceptual framework**

The conceptual framework of this study included two variables, namely online self-regulation and English proficiency. The study aimed to explore the online self-regulation employed by Chinese EFL students and investigate the correlation between Chinese EFL students' online self-regulation and their English proficiency. Students' online self-regulation will be measured using the Online Self-regulated Learning Questionnaire (OSLQ) (Barnard et al., 2009). English proficiency will be measured based on students' scores in National College English Test Band 4 (CET 4). Figure 1 presented the conceptual framework of this study.

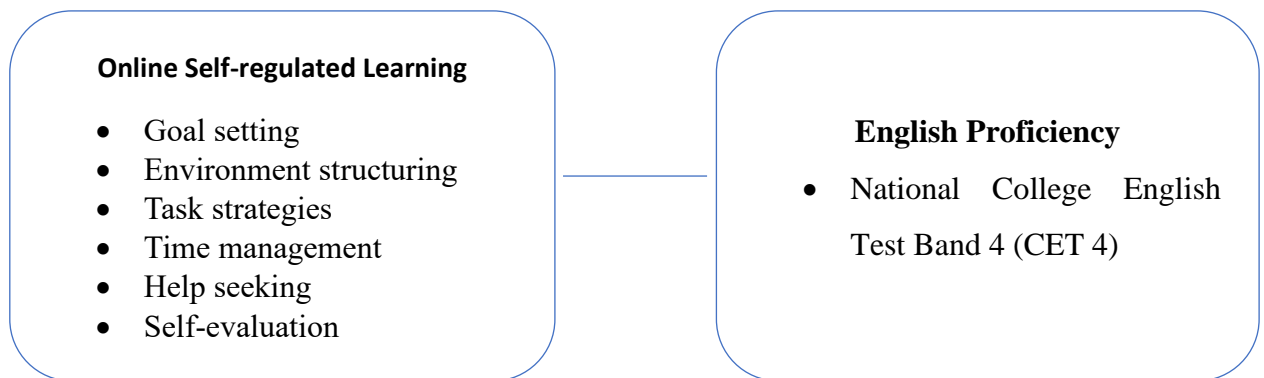


Figure 1 *Conceptual framework of this study*



## METHODOLOGY

This chapter presented the following topics: (1) research design; (2) context of the study; (3) population and samples; (4) research instruments (5) data collection and (6) data analysis.

### 3.1 Research Design

This study utilized the quantitative research method to explore the online self-regulation employed by Chinese EFL students enrolled in an English test prep online course and to investigate the correlation between Chinese EFL students' online self-regulation and their English proficiency.

### 3.2 Context of the study

The data was collected from undergraduate students who enrolled in the CET-4 prep online course in the second semester of the academic year 2018 at the College of Arts and Sciences, Yunnan Normal University, China. The CET-4 prep online course has been offered twice a year by the Language Training Center affiliated to this university. The objectives of the online course were to enhance students' English language proficiency covering writing, listening, and writing with an aim of enabling students to pass National College English Test Band 4. Based on the online instruction mode, instructor and students meet for two hours a week, for a twelve-week period through an online learning 'Tencent' Classroom. During the online course, students could not only get access to the instructional material post online before class but also participated in group discussion and watched instructional video recordings repeatedly after class.



### 3.3 Population and Samples

Participants included 130 students who enrolled in the CET-4 prep online course in the second semester of the academic year 2018 at the university in southwestern China. The intact group was chosen because the researcher was the only instructor responsible for the online course and the authenticity of participants' test scores could be ensured. Based on Yamane's formula of sample size (Yamane, 1967), at least 98 participants were required as samples in this study. To avoid some invalid responses, all 130 students were invited to answer the questionnaire on a volunteer basis. Out of 130 participants, 101 students completed the Online Self-regulated Learning Questionnaire.

### 3.4 Research Instruments

The instruments used in this study were The Online Self-regulated Learning Questionnaire (OSLQ) and National College English Test Band 4 (CET 4).

#### 3.4.1 The Online Self-regulated Learning Questionnaire (OSLQ)

The questionnaire aimed to assess the self-regulatory learning skills used by students enrolled in both blended and online course (Barnard et al., 2009) The questionnaire had 24 items adapted from the original 86 items pool. The questionnaire included six sub-skill factors, namely goal setting, environment structuring, task strategies, time management, help seeking, and self-evaluation. There were 5 items in factor 'Goal setting', 4 items in factor 'Environment structuring', 4 items in factor 'Task strategies', 3 items in factor 'Time management', 4 items in factor 'Help seeking', and 4 items in factor 'Self-evaluation'. 24 items were presented in the format of a five-

point Likert scale. Students rated from 1 to 5 according to the extent to which their perception agree with these statements:

'1' means 'Very untrue of me'

'2' means 'Somewhat untrue of me'

'3' means 'Neutral'

'4' means 'Somewhat true of me'

'5' means 'Very true of me'

#### *3.4.1.1 Validation of the OSLQ*

The OSLQ was initially written in English. Considering English is a foreign language for the participants in this study, the questionnaire was then translated into Chinese employing back-translation method to facilitate participants' understanding.

To evaluate the validity of the Chinese version of OSLQ, the Index of Item Objective Congruence (IOC) form was sent to three language teachers who had experience in language teaching with a bilingual background of Chinese and English. Appendix B presented the background information of these three experts. The overall IOC value of the questionnaire was 0.94, indicating the validity and acceptability of the Chinese version of OSLQ. Appendix A presented the validation of the Index of Item Objective Congruence (IOC) given by the three experts.

As shown below were experts' suggestions of revising three items to make the items easier to understand.

**Item 8** I know where I can study most efficiently for online courses.

我知道在哪进行在线课程学习最有效。



我知道在什么场所进行在线课程学习最有效。（Modified）

**Item 14** I allocate extra studying time for my online courses because I know it is time-demanding.

我知道在线课程学习费时，所以我分配额外更多的时间进行在线课程学习。



我知道在线课程学习费时，所以我分配更多的时间进行在线课程学习。  
（Modified）

**Item 15** I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule.

我试着规划每天（或每周）的学习时间，并且遵循这个规划进行在线课程学习。

CHULALONGKORN UNIVERSITY



我试着规划每天（或每周）的固定学习时间，并遵循这个时间规划进行在线课程学习。（Modified）

#### 3.4.1.2 Reliability of the OSLQ

The Pilot study was conducted to assess the reliability of the questionnaire. The questionnaire was distributed to thirty students who have experience of studying online CET-4 prep course at this university. Those students did not participate in the

subsequent main study.

The questionnaire was delivered through an online questionnaire website 'wenjuan.com'. The data was analyzed by using SPSS 22.0 to determine the reliability of the questionnaire. The Reliability Coefficient of the questionnaire was 0.94, indicating high reliability of the Chinese version of OSLQ. Figure 2 showed the online interface of the Chinese version of OLSQ.



The screenshot shows a web browser window with the URL 'wenjuan.com'. The page title is '在线自我调节学习问卷' (Online Self-Regulation Learning Questionnaire). Below the title, there is a paragraph of introductory text in Chinese: '感谢您参与本次的调查研究。该问卷是用于调查学生在在线课程学习环境下的自我调节学习。请认真阅读每一题，根据你的实际情况进行选择。数字说明：1=非常不符合 2=不符合 3=不确定 4=符合 5=非常符合。所有数据仅供学术研究使用，绝对保护个人隐私。' (Thank you for participating in this research. This questionnaire is used to investigate students' self-regulation learning in the online course learning environment. Please read each question carefully and choose according to your actual situation. The numbers indicate: 1=Very不符合, 2=不符合, 3=不确定, 4=符合, 5=非常符合. All data is for academic research use only, and personal privacy is absolutely protected.)

Below the text, there are four numbered items, each with a five-point Likert scale:

1. 我对自己的在线课程学习任务设定标准。\*  
 1 非常不符合     2     3     4     5 非常符合
2. 我制定短期（每天或每周）和长期（每月或每学期）的学习目标。\*  
 1 非常不符合     2     3     4     5 非常符合
3. 我对自己的在线课程学习保持高标准。\*  
 1 非常不符合     2     3     4     5 非常符合
4. 我制定目标去帮助自己管理在线课程学习时间。\*  
 1 非常不符合     2     3     4     5 非常符合

Figure 2 The online interface of online Chinese version of OLSQ

### 3.4.2 National College English Test Band 4 (CET-4)

National College English Test Band 4 (CET-4) was used in this study to measure the participants' English proficiency which was expressed in terms of their test score. The CET-4 consists of four sections, namely writing, listening comprehension, reading comprehension and translation. The highest possible cumulative score is 710 and the cumulative passing score is 425. In this study, the grand mean of CET-4 score of the participants was 418 (SD=31.72), which was lower than the cumulative passing score.

In the writing section, test-takers are required to write one short essay. In the listening section, there are 25 items in the format of multiple-choice, which contents cover short news, daily conversations, and passages. In the reading section, test-takers are required to read four passages and answer 30 questions in various formats, including filling-in-the-blanks with appropriate words, matching the given information with relevant paragraphs and multiple choices. In the translation section, test-takers are required to translate one paragraph from Chinese to English (National College English Test, 2016). Table 1 summarized the breakdown of National College English Test (CET-4).

Table 1 The breakdown of National College English Test Band 4 (CET-4)

<b>Section</b>	<b>Construct</b>	<b>Format</b>	<b>Number of Items</b>	<b>Score</b>	<b>Time</b>
Writing	Essay	Short essay	1	106.5	30mins
Listening	News		7	248.5	25mins
	Conversations	Multiple Choice	8		
	Passages		10		

Reading	Vocabulary	Fill in the blanks			
	Grammar	with appropriate words	10		
	Skimming	Matching		248.5	40 mins
	Scanning	statement with relevant paragraph	10		
	Close Reading	Multiple Choice	10		
Translation	Chinese to English	Paragraph translation	1	106.5	30 mins
Total			57	710	125mins

### 3.5 Data Collection

The questionnaire was distributed to the target participants using the online questionnaire website 'wenjuan.com'. Before responding to the questionnaire, all participants were informed of the purpose of the study and the anonymous nature of the data collection process. To ensure the authenticity and confidentiality of collecting the test scores, all participants were required to fill in their test registration numbers so that the data of their test scores can be confirmed based on the database provided by the department of teaching affairs of this university. The process of data collection was illustrated in Table 2.

Table 2

## Summary of Data Collection

Stage	Data Collection
Before the main study	<ul style="list-style-type: none"> <li>-Back-translate the English version of the OLSQ</li> <li>- IOC validation the Chinese version of the OLSQ and revision</li> <li>- Pilot study</li> </ul>
Conducting the main study	<ul style="list-style-type: none"> <li>-The Chinese version of the OLSQ was administered online</li> <li>- Collecting and confirming students' test score</li> </ul>

### 3.6 Data Analysis

#### Data analysis for research question 1

Research question 1 of this study aimed to explore the online self-regulation used by Chinese EFL students. The data was drawn from the Chinese version of the Online Self-regulated Learning Questionnaire (OLSQ). Mean score and Standard deviation (S.D) were used to interpret the results.

#### Data analysis for research question 2

Research question 1 of this study aimed to investigate the correlation between Chinese EFL students' online self-regulation and their' English proficiency. Pearson correlation analysis was applied to indicate the results. The summary of this chapter was presented in Table 3.

Table 3

Summary of research objectives, instruments, validity and reliability check and data analysis

<b>Research Objectives</b>	<b>Instruments</b>	<b>Validity and Reliability Check</b>	<b>Data Analysis</b>
1. To explore the online self-regulation used by Chinese EFL students	The Chinese version of the OLSQ	-Back-translation - IOC validation - Pilot study	Descriptive Statistics (Mean, S.D.)
2. To investigate the correlation between Chinese EFL students' online self-regulation and their English proficiency	The National College English Test (CET-4)		Pearson correlation coefficient



## FINDINGS

The chapter presented the findings of the study regarding the online self-regulation employed by Chinese EFL students and how the students' self-regulated learning in online learning setting correlated to their English proficiency.

The first part of this chapter explored the online self-regulation used by Chinese EFL students. The mean value and S.D. of the overall online self-regulation, 6 factors, and 24 items were compared and presented.

The second part of this chapter investigated the correlation between Chinese EFL students' online self-regulation and their' English proficiency. The Pearson correlation coefficient values were presented between students' online self-regulation and their English proficiency.

The third part of this chapter presented the additional unexpected findings given by participants

### 4.1 Online Self-regulation

Research question 1: What online self-regulation do Chinese EFL students use?

This research question aimed to explore the online self-regulation used by Chinese EFL students. The instrument used to answer these research questions was the Chinese version of Online Self-regulated Learning Questionnaire (OSLQ). To answer the research question one, a comparison analysis of online self-regulation among all 101 participants was carried out. Table 4 presented the overall result of the Online Self-regulated Learning Questionnaire (OSLQ).

Table 4 *Descriptive statistics of the result of the OSLQ (N=101)*

<b>Item</b>	<b>Statement</b>	<b>Mean</b>	<b>SD</b>	<b>Meaning</b>
	<b>Goal setting</b>	<b>3.21</b>	<b>1.06</b>	<b>Neutral</b>
1	I set standards for my assignments in online courses.	3.15	0.91	Neutral
2	I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the semester).	3.23	1.10	Neutral
3	I keep a high standard for my learning in my online courses.	3.24	0.99	Neutral
4	I set goals to help me manage studying time for my online courses.	3.01	1.08	Neutral
5	I don't compromise the quality of my work because it is online.	3.45	1.15	Neutral
	<b>Environment structuring</b>	<b>3.58</b>	<b>1.14</b>	<b>Neutral</b>
6	I choose the location where I study to avoid too much distraction.	3.83	0.96	Neutral
7	I find a comfortable place to study.	3.57	1.24	Neutral
8	I know where I can study most efficiently for online courses.	3.32	1.15	Neutral
9	I choose a time with few distractions for studying for my online courses.	3.61	1.14	Neutral
	<b>Task strategies</b>	<b>3.13</b>	<b>1.12</b>	<b>Neutral</b>

10	I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom.	3.09	1.27	Neutral
11	I read aloud instructional materials posted online to fight against distractions.	3.12	1.13	Neutral
12	I prepare my questions before joining in the chat room and discussion.	3.00	1.05	Neutral
13	I work extra problems in my online courses in addition to the assigned ones to master the course content.	3.33	1.02	Neutral
<b>Time management</b>		<b>3.18</b>	<b>1.01</b>	<b>Neutral</b>
14	I allocate extra studying time for my online courses because I know it is time-demanding.	3.23	1.00	Neutral
15	I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule.	3.22	1.05	Neutral
16	Although we don't have to attend daily classes, I still try to distribute my studying time evenly across days.	3.10	1.00	Neutral
<b>Help seeking</b>		<b>3.17</b>	<b>1.13</b>	<b>Neutral</b>
17	I find someone who is knowledgeable in course content so that I can consult with him or her when I need help.	3.04	1.20	Neutral

18	I share my problems with my classmates online so we know what we are struggling with and how to solve our problems.	3.23	1.15	Neutral
19	If needed, I try to meet my classmates face-to-face.	3.27	1.10	Neutral
20	I am persistent in getting help from the instructor through WeChat; Tencent QQ or e-mail.	3.16	1.08	Neutral
<b>Self-evaluation</b>		<b>3.03</b>	<b>1.12</b>	<b>Neutral</b>
21	I summarize my learning in online courses to examine my understanding of what I have learned.	3.18	1.16	Neutral
22	I ask myself a lot of questions about the course material when studying for an online course.	3.16	0.95	Neutral
23	I communicate with my classmates to find out how I am doing in my online classes.	2.84	1.23	Somewhat untrue
24	I communicate with my classmates to find out what I am learning that is different from what they are learning.	2.94	1.12	Somewhat untrue
<b>Total</b>		<b>3.22</b>	<b>1.11</b>	<b>Neutral</b>

According to table 4, the grand mean score of the overall result of the questionnaire was 3.22 (SD=1.11). Neutral refers to moderate in this study. By applying the Weight Mean Score (WMS) method, it could be interpreted that the participants had a moderate level of using online self-regulation.

The highest mean value was taken by 'Environment Structuring' at 3.58 (SD = 1.14), and the second-highest one was 'Goal Setting' at 3.21 (SD = 1.06), followed by 'Time Management' at 3.18 (SD = 1.01). In addition, the rest were 'Help Seeking', 'Task Strategies', and 'Self-Evaluation' with 3.17 (SD = 1.13), 3.13 (SD = 1.12), and 3.03 (SD = 1.12) respectively.

The items that achieved the highest mean scores were all from factor 'Environment Structuring', namely item 6 "I choose the location where I study to avoid too much distraction", item 9 "I choose a time with few distractions for studying for my online courses", and item 7 "I find a comfortable place to study" at 3.83 (SD=0.96), 3.61 (SD=1.14), 3.57 (SD=1.24) respectively.

In contrast, the items that gained the lowest mean score were item 23 "I communicate with my classmates to find out how I am doing in my online classes", item 24 "I communicate with my classmates to find out what I am learning that is different from what they are learning" at 2.84 (SD=1.23) and 2.94 (SD=1.12) respectively.

In summary, the mean scores of all six factors shown the participants in this study had a moderate level of using online self-regulation in terms of these six factors, among which 'Environment Structuring' ranked the highest level while 'Self-evaluation' ranked the lowest.

#### **4.2 The correlation between online self-regulation and English proficiency**

**Research question 2:** Is there any correlation between Chinese EFL students' online self-regulation and their English proficiency?

This research question aimed to investigate the correlation between online self-regulation and students' English proficiency using the Pearson correlation coefficient.

Pearson correlation coefficient is a statistic measure of the strength of the linear correlation between two variables to draw a line of best fit.

In this study, online self-regulation covering six factors and students' English test scores were served as the two variables to detect a linear relationship formation. Table 5 represented the overall English proficiency test scores of all students.

Table 5 Overall English proficiency test scores of all students (N=101)

English Proficiency Test	Mean Score	S.D.	Max	Min
CET-4	418	31.72	530	357

The English Proficiency Test employed in this study was National College English Test (CET-4), whose total score is 710. The grand mean score among the participants was 418 (SD=31.72), which was lower than the cumulative passing score of 425. The results showed that participants' English proficiency was averagely below the national requirements. Table 6 illustrated the correlation between students' online self-regulation and their English proficiency.

Table 6 Results of the Pearson correlation coefficient between online self-regulation and English proficiency (N=101)

Variables	English Proficiency	Sig. (2-tailed)
Goal Setting	.336**	.001
Environment Structuring	.397**	.000
Task Strategies	.329**	.001

Time Management	.400**	.000
Help Seeking	.375**	.000
Self-Evaluation	.379**	.000
Online self-regulation	.510**	.000

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

According to table 6, it was reported that there was a significant positive relationship between students' online self-regulation and their English proficiency ( $r = 0.510^{**}$ ,  $P < 0.01$ ), which indicated that there was a moderate correlation between the two variables (Hinkle, Wiersma, & Jurs, 2003).

When each factor of online self-regulation was analyzed, the six factors of online self-regulation showed significant positive correlations with and students' English proficiency at a low correlation level. Among the six factors, the factor showing the highest Pearson correlation with English Proficiency was 'Time Management' ( $r=0.400^{**}$ ,  $P < 0.01$ ). It was also found that there was a significant relative higher Pearson correlation between 'Environment Structuring' and students' English Proficiency ( $r=0.397^{**}$ ,  $P < 0.01$ ).

### 4.3 Additional Findings

Although feedback was not part of this study, it was interesting to mention that two participants offered their experiences in online learning. The feedback was translated and presented as follows.

“答完问卷，不仅看出自己在线学习的效率有多底，而且看出自己一贯的学习习惯和学习体系的漏洞有多大了，定期检测自己的成果，定期规划学习目标哪

些都是不符合，也很少会通过网络求助老师，再学习上感觉自己还活在古代的私塾里，一板一眼的。”

(Translation)

"After I completed the questionnaire, I realized how inefficiency my online learning was; accordingly, my learning habits need adjusting. According to the items description, neither did I regularly examine my understanding of what I have learned nor did I regularly set learning goals. Also, I seldom turned to teachers via the internet. I think those aforementioned learning strategies are most helpful to me. It seemed that there is still big room for improvement of my online learning."

Participants 2

“对待网课我还是认真的，每次网课我都上。快考试的时候，我看了两次视频回放。不重要的就快进，不会一些的就慢一些。把讲到的重点知识放到小本本里，每次有空，拿出来背背。

(Translation)

*"Overall, I took the online course seriously and never had I been absent from class. When the test was approaching, I watched the recorded course videos twice and I adopted different methods according to the importance of learning content. I kept taking note of learning focus and review them repeatedly."*



## DISCUSSION AND RECOMMENDATIONS

This chapter presented a summary of the study, discussion of the findings, pedagogical implications, and recommendations for future research.

### 5.1 Summary of the study

This study has explored the online self-regulation used by Chinese EFL students and investigated the correlation between the students' online self-regulation and English proficiency. Participants included 101 Chinese undergraduate students enrolled in an English Test prep online course in the second semester of the academic year 2018 at a university in southwestern China. The research instruments consisted of the Online Self-regulated Learning Questionnaire (OSLQ) and National College English Test Band 4 (CET-4). The data were analyzed through descriptive statistics and Pearson correlation coefficient.

The result revealed that the participants had a moderate level of using online self-regulatory skills with the highest level in terms of 'Environment Structuring' while the lowest in 'Self-evaluation'. Moreover, there was a significant positive relationship between online self-regulation and English proficiency at a moderate level ( $r = 0.510^{**}$ ,  $P < 0.01$ ). All six factors showed a positive correlation with students' English proficiency at a low level. The factors showing the highest Pearson correlation value with English Proficiency were 'Time Management' ( $r=0.400^{**}$ ,  $P < 0.01$ ) and 'Environment Structuring' ( $r=0.397^{**}$ ,  $P < 0.01$ ).

## 5.2 Discussion

The results of this study were discussed in relation to the previous literature.

### 5.2.1 The online self-regulation used by Chinese EFL students

The highest level of online self-regulation skills perceived by the participants in this study was 'Environment Structuring'. It could be concluded that when students self-regulate their English learning in the online learning environment, they might analyze and optimize their learning environment with some efforts; for example, they may deliberately select a particular location for learning which is comfortable and with few distractions. This was consistent with Onah and Sinclair (2016)'s study, revealing that the students showed much consideration for the significance of space in an online blended classroom context. Moreover, the result confirmed the findings of studies that Chinese college students showed a noticeable effect in structuring online learning environment (Zheng et al., 2018; Zheng et al., 2016).

By contrast, the lowest level of online self-regulation skills perceived by the participants was 'Self-evaluation'. It could be seen that students use self-evaluation strategies the least to reflect their online English learning performance. Moreover, it is noted that the students were most unlikely to evaluate their own online English learning performance communicating with their classmates. This result was consistent with the findings of Onah and Sinclair (2016) 's study, revealing that students had a weak understanding of the significance of self-evaluation in blended MOOC course. It was eventually suggested that proper training could be provided to enable students reflect their studies in online learning environment.

### 5.2.2 The correlation between Chinese EFL students' online self-regulation and their' English proficiency

Students' online self-regulation showed a significant positive correlation with their English proficiency at a moderate level in this study ( $r = 0.510^{**}$ ,  $P < 0.01$ ). The result indicated that the more students self-regulate their English language learning in the online learning environment, the more likely it is for them to achieve higher scores in English tests, presenting higher English proficiency. In light of this, it was seen that the participants' moderate level of online self-regulation had a significant positive correlation with their English proficiency averagely below the national requirements. Thus, it further showed the need for teaching the students online self-regulated learning skills; consequently, enhancing their English proficiency.

Moreover, the significant positive correlation between the six factors and students' English proficiency indicated that those students who had a high English proficiency may be more likely to self-regulate their online English learning employing these six online self-regulated learning strategies. Among these six factors, 'Time Management' and 'Environment Structuring' had the highest Pearson correlation with students' English proficiency. These results indicated that the students who got high scores in the English test were more likely to self-regulate their online learning in terms of 'Time Management' and 'Environment Structuring'.

The factor showing the highest Pearson correlation with English Proficiency was "Time Management" ( $r=0.400^{**}$ ,  $P<0.01$ ). The result indicated that the participants with high English proficiency were more likely to manage their time in the online learning environment. The regulation of time management included allocating more

time for online courses, schedule the same time on a daily or weekly basis, and observe the time evenly. This was consistent with the finding from Liu and Feng (2011)'s study that the more time students invested in learning online such as taking more online mock tests, the more it is likely for them to achieved higher scores on the final examination.

'Environment Structuring' also showed a high Pearson correlation with English Proficiency ( $r=0.397^{**}$ ,  $P<0.01$ ). The result suggested that the participants with high English proficiency also intended to regulate their online learning structuring their learning environment to be a comfortable location with fewer distractions. The result was in line with Cazan (2014)'s study indicating a significant positive relationship between online self-regulated learning in terms of 'Environment Structuring' and academic achievement measured in terms of GPA among undergraduate students enrolled in online Moodle courses.

### **5.3 Recommendations**

#### **5.3.1 Pedagogical Implications**

Given the results of this study, self-regulated strategies were suggested to be incorporated into instructional design and explicitly taught to students in online learning English courses. A proposed English instructional online course design incorporating 'Time Management' strategy was provided as follows.

In the forethought phase, instructor could initially create a learning schedule to determine each small task based on teaching objectives. Instructor then shared the timeline with students in the format of task list or timetable sheet. Afterward, students were required to customize their study timeline setting personal reminders or notifications. Instructor could provide assistance or feedback as necessary. For example,

instructor could guide students how to prioritize tasks based on their learning goals.

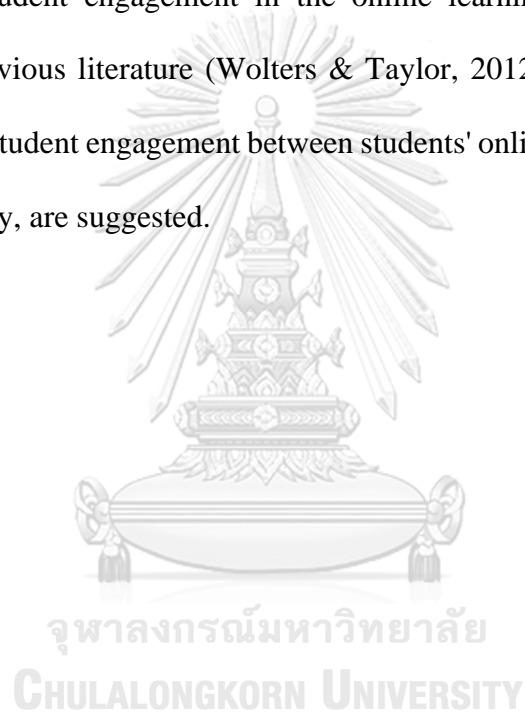
In the performance phase, text message reminders could be sent to students based on the learning schedule. The text message reminders might include: 1) important dates (e.g., upcoming quizzes or tasks due dates), 2) content focus, and 3) motivational messages. This proposed activity was grounded on the finding reported in study that students who received text messages during the learning showed better academic performance at the end of the term (Goh, Seet, & Chen, 2012). Accordingly, students were required to share and update their online learning progress within groups on a daily basis using mobile technology. In Tabuenca, Kalz, Drachsler, and Specht (2015)'s study, a self-regulated learning activity incorporating mobile technology provided evidence that students' time management behaviors could be improved under the effect of the approach.

In the self-reflection phase, instructor could design portfolios or checklists to ask students to regularly self-evaluate their progress and task completion and adjust their learning timeline correspondingly. Instructor could provide support as requested.

Besides, instructor could encourage online collaborative learning through designing more group work or organize workshops in which students could share their experience on reasonably scheduling their learning or structuring their learning environment. Instructor could also optimize their instruction mode to motivate students to invest more time in online learning. For example, Lai and Hwang (2016) investigated a self-regulated flipped classroom approach using quasi-experimental method. The finding indicated that the approach could improve students' ability to plan and allocate study time, helping them achieve better outcomes.

### 5.3.2 Recommendations for future research

Given the positive correlation between students' online self-regulation and their English proficiency, future experimental studies could be conducted to explore how and to what extent online self-regulation could enhance students' English proficiency. Moreover, the differences in terms of online self-regulation among students with different English proficiency levels could be further explored. Lastly, as the significance of student engagement in the online learning environment had been highlighted in previous literature (Wolters & Taylor, 2012), studies focusing on the mediating role of student engagement between students' online self-regulation and their English proficiency, are suggested.



## Appendix A: The Analysis of the Index of Item Objective Congruence

Items	Analysis of IOC from Experts			IOC Score	Results
	1	2	3		
<b>A. Goal setting 目标设定</b>					
1. 我对自己的在线课程学习任务设定学习标准。 I set standards for my assignments in online courses.	+1	+1	+1	1	Valid
2. 我制定短期（每天或每周）和长期（每月或每学期）的学习目标。 I set short-term (daily or weekly) goals as well as long-term goals (monthly or for the semester).	+1	+1	+1	1	Valid
3. 我保持高标准的在线课程学习。 I keep a high standard for my learning in my online courses.	+1	+1	+1	1	Valid
4. 我制定目标去帮助自己管理在线课程学习时间。 I set goals to help me manage studying time for my online courses.	+1	+1	+1	1	Valid
5. 我不会因为是在线课程学习而降低自己的学习质量。 I don't compromise the quality of my work because it is online.	+1	+1	+1	1	Valid
<b>B. Environment structuring 环境构建</b>					
6. 为了避免分散太多注意力，我会选择学习所需的场所。 I choose the location where I study to avoid too much distraction.	+1	+1	+1	1	Valid
7. 我找一个舒适的场所进行学习。 I find a comfortable place to study.	+1	+1	+1	1	Valid
8. 我知道自己能进行最高效在线课程学习的地方在哪里。 I know where I can study most efficiently for online courses.	+1	+1	0	0.666	Valid
9. 我会选择一个没有（或者很少）干扰的时间段进行在线课程学习。 I choose a time with few distractions for studying for my online courses.	+1	+1	+1	1	Valid

<b>C. Task strategies 任务策略</b>					
10. 在线课程学习时，我试着做更完整的笔记，因为在线学习中的笔记比传统学习中的更重要。 I try to take more thorough notes for my online courses because notes are even more important for learning online than in a regular classroom.	+1	+1	+1	1	Valid
11. 我会大声地朗读在线课程学习材料以避免分散注意力。 I read aloud instructional materials posted online to fight against distractions.	+1	+1	+1	1	Valid
12. 在参与在线课程交流和讨论之前，我会准备好自己的问题。 I prepare my questions before joining in the chat room and discussion.	+1	+1	+1	1	Valid
13. 在线课程学习时，除了老师布置的作业外，我会做额外的练习来掌握课程内容。 I work extra problems in my online courses in addition to the assigned ones to master the course content.	+1	+1	+1	1	Valid
<b>D. Time management 时间管理</b>					
14. 我知道在线课程学习费时，所以我分配额外更多的时间进行在线课程学习。 I allocate extra studying time for my online courses because I know it is time-demanding.	+1	0	+1	0.666	Valid
15. 我试着规划每天（或每周）的学习时间，并且遵循这个规划进行在线课程学习。 I try to schedule the same time every day or every week to study for my online courses, and I observe the schedule.	+1	0	+1	0.666	Valid
16. 尽管不用每天进行在线课程学习，我还是尽量把每天的学习时间均匀地分配。 Although we don't have to attend daily classes, I still try to distribute my studying time evenly across days.	+1	+1	+1	1	Valid
<b>E. Help seeking 寻求帮助</b>					
17. 当需要帮助的时候，我会请教对课程内容比较博学的同学。 I find someone who is knowledgeable in course content so that I can consult with him or her when I need help.	+1	+1	+1	1	Valid



18. 我和线上的同学分享自己的问题以便我们一起努力攻克和解决这些问题。 I share my problems with my classmates online so we know what we are struggling with and how to solve our problems.	+1	+1	+1	1	Valid
19. 如果有需要的话，我试着和同学进行面对面的交流。 If needed, I try to meet my classmates face-to-face.	+1	+1	+1	1	Valid
20. 我坚持通过微信、QQ 或邮件从老师那里获得帮助。 I am persistent in getting help from the instructor through WeChat; Tencent QQ or e-mail.	+1	+1	0	0.666	Valid
<b>F. Self-evaluation 自我评价</b>					
21. 我对在线课程学习进行总结来测试自己对已学内容的理解程度。 I summarize my learning in online courses to examine my understanding of what I have learned.	+1	+1	+1	1	Valid
22. 在线课程学习时，我会问自己很多有关课程学习材料的问题。 I ask myself a lot of questions about the course material when studying for an online course.	+1	+1	+1	1	Valid
23. 我通过与同学交流来发现自己在在线课程学习中的表现如何。 I communicate with my classmates to find out how I am doing in my online classes.	+1	+1	+1	1	Valid
24. 我通过与同学交流来发现自己学到的和他们学到的有何不同。 I communicate with my classmates to find out what I am learning that is different from what they are learning.	+1	+1	+1	1	Valid

## Appendix B: List of experts validating the instruments

1. Shao Limin, Ph.D.

Faculty of Education, Chulalongkorn University

2. I Wei, Liu, Ph.D.

English as an international language, Chulalongkorn University

3. Jie Wang,

English as an international language, Chulalongkorn University



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