

**Chinese EFL Students' Self-Regulated
Learning Through WeChat: An Intervention
Case Study in a University**

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Thesis statement of originality

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged. This thesis has not been submitted for any other degree or purposes. This thesis meets the *University of Sydney Human Research Ethics Committee (HREC) requirements for the conduct of research*.

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Abstract

This study explores EFL (English as a foreign language) students' self-regulated learning (SRL) in the context of social media in a university setting in China. Informed broadly by Vygotsky's (1978) sociocultural theory, the study is framed by four theoretical constructs: SRL, Zone of Proximal Development (ZPD) (Vygotsky, 1978), scaffolding (Dabbagh, 2003; De Guerrero & Villamil, 2000), and interaction (Van Lier, 2014).

Underpinned by this theoretical framework, an intervention case study design was adopted to examine how a group of EFL students engaged in English learning through WeChat (a Chinese social media application). Specifically, this study focuses on participants' perceptions of SRL, their use of SRL strategies while learning via WeChat, and factors impacting their SRL in the online learning environment.

This study aims to answer the following questions:

Q1: What are students' perceptions of SRL in English learning via WeChat?

Q2: How do EFL students engage in self-regulated learning in the new learning environment?

Q3: What are the factors impacting EFL students' self-regulated learning in the new learning environment?

Data were collected from questionnaires, discussion records and files on WeChat, and semi-structured focus group interviews. The numerical data gathered from the questionnaires were analysed by percentages with the help of REDCap to give a broad picture about students' perceptions about SRL and using WeChat for EFL learning. The qualitative data gathered from the WeChat group and the focus group interviews were coded and analysed following a process of successive approximation (Neuman, 2014). Dialogue analysis (Hennessy et al., 2016) was also employed to analyse the interactions occurring in the WeChat group.

Five key findings addressed the research questions: 1) Students' SRL awareness was limited at the beginning of this study but they showed enhanced knowledge of SRL strategies after joining the WeChat group. 2) Students' perceptions changed in regard to advantages of using WeChat as a learning tool. 3) Students were able to apply and adjust different SRL strategies and their SRL ability was improved in general with the support of appropriate intervention. 4) Students used two new SRL strategies (planning and peer support). 5) Scaffolding and interaction were factors closely related to students' SRL development, which, in turn, contributed to their ZPD.

This study provides a new conceptual framework for assessing university students' self-regulated EFL learning in the context of WeChat. It also contributes to the research literature on SRL via social media in China. The intervention case study design offers methodological contributions that will assist future similar studies. This research also has pedagogical implications for the

effective use of social media to enhance EFL learning in a self-regulated mode in similar contexts.

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Chapter 1: Introduction

The significant role of self-regulated learning (SRL) in language education has been highlighted for decades (Tomak & Seferoğlu, 2021). SRL has been shown to be a pivotal driving force for students' learning motivation, academic achievement and for lifelong learning (Al-Hawamleh et al., 2022; Güngör, 2021), all of which require learners to make decisions and take charge of their own study (Kulusakli, 2022; Tomak & Seferoğlu, 2021). Learners who are viewed as self-regulated learners tend to be goal-oriented, self-motivated and able to monitor and manage their learning process with flexible use of SRL strategies (Güngör, 2021; Yan et al., 2021).

SRL is “highly context-dependent” (Zimmerman & Schunk, 2001, p. 125). In other words, the performance of SRL ability will vary from traditional learning settings to the online learning environment. Compared to learning in the classroom under a teacher's supervision, learning online is more self-driven, requiring students to be highly self-regulated in order to maintain their learning motivation and active engagement (Yan, et al., 2021). The COVID-19 pandemic since 2020 has had an enormous impact on, or even has changed modes of learning all over the world (Kulusakli, 2022). Online learning has been implemented as an indispensable and alternative strategy worldwide to keep educational programs operational with minimal interruptions. In this situation, SRL has attracted more and more attention, especially in the context of the online learning environment.

Long before the rapid adoption of online delivery of educational programs, The *College English Curriculum Requirements* (2007) in China has highlighted the need to develop students' abilities in learning English, especially the need to learn English independently. The *Requirements* also encourages the application of technology into EFL learning and teaching as a means to broadening ways of learning and using English, made possible by information technology, in an open learning environment. In particular, the learning and teaching mode in China saw a swift shift from the traditional face-to-face to online in 2020 due to the global outbreak of COVID-19 (Cui, 2021; Bai & Gu, 2022). This has created a new learning environment that is more flexible, with less supervision compared to learning in the classroom; however, it requires students to be more self-regulated to learn effectively in the online environment (Bai & Gu, 2022).

It is within this changing context that this intervention case study has been designed to explore and enhance Chinese university students' self-regulated English learning in the online environment, specifically with the help of the WeChat application. This chapter outlines the research background, in terms of self-regulated English language learning in China, SRL in the context of WeChat, and SRL within the recent environment of COVID-19. It will then present the research purpose and questions and will define some key terms, concluding with an outline of the whole thesis.

1.1 Background

1.1.1 Self-regulated learning and EFL in China

In order to afford students with lifelong learning ability, EFL education in China has experienced major reforms since the 1970s to make English language learning more student-centred (Bai & González, 2019). It is thought that the traditional teacher-centred approach does not encourage students to be active learners (Huang, 2022; Loh & Teo, 2017; Wang & Guan, 2020; Wu, 2021). The pressure of the college entrance examination (GaoKao) leads to a test-oriented learning mode that is another obstacle to students' SRL development, constraining their ability to make their own decisions (Wang & Guan, 2020; Wang & Lu, 2016). Therefore, the importance of being self-regulated in learning, especially in EFL learning, has been emphasised by the Chinese government in its 2007 document *College English Curriculum Requirements*.

Influenced by Confucianism, students in East Asia often demonstrate a strong belief in personal effort that explains their persistence when facing academic difficulties or failure (Fwu et al., 2018), which is strongly related to SRL. However, a lack of confidence when using English has also been found to be common among EFL students (Wu, 2021; Zhang, 2021). Students were afraid of embarrassment after making mistakes, which further impeded their confidence in speaking English (Wu, 2021). More specifically, in China, many students, at both undergraduate or high school level “suffered from language anxiety” (Chen & Chew, 2021, p. 43), a factor that impedes motivation and engagement in learning English. In addition to that, with limited opportunities to engage and interact in English in the Chinese-speaking community, it is

understandable that many students lack self-confidence, which calls for a more relaxed environment for students to learn and practise their English (Zhang, 2021). This highlights an argument of considerable significance to this thesis, and a need to gather a set of context-specific empirical evidence to inform a language program that focuses on learning.

Today, learning English through multimedia has become a popular choice for students who are too shy to speak in front of an audience; it has also facilitated the shift from teacher-centred to more student-centred learning in an online environment (Huang, 2021). The new learning environment allows students to learn English out of class and requires them to take responsibility for their own academic progress, with more freedom to access a wide range of learning materials (Huang, 2021). All of these factors are key features of student-centred learning. In this case, the ability to be self-regulated and autonomous in learning fits well into the context of an online learning environment (Huang, 2021).

1.1.2 SRL in the context of WeChat

Since the development of the internet in China, social media has come to play an indispensable role in people's daily life; it has also become an important learning tool for university students. According to the China Internet Network Development Report, the usage of social media in China is now over 90% (China Internet Network Information Centre, 2018). Social media applications, like WeChat and QQ, keep extending their reach, from real-time communication to

education, commerce, entertainment and the public service. With the extension of functions offered by these applications, the learning modes of university students have diversified to include tasks like building study groups, sharing resources, and uploading and discussing ideas. All these can all be done through the technical functionality of social media.

WeChat is an instant communication app used mostly in the Chinese-speaking community, for whom it was developed. As a powerful social media app, WeChat combines the functions of Facebook, Instagram, Skype, and Twitter (Guo & Wang, 2018, p. 1), but its most widely used functions are those that support communication and interaction (Wu & Ding, 2017, p. 5851) that allow people to contact others individually or in a group through text, voice message, pictures or videos (Guo & Wang, 2018; Jin, 2018; Wu & Ding, 2017). With its characteristics of convenience, instant communication, and interaction, WeChat has become popular among university students for academic purposes, as a supplemental learning platform (Guo & Wang, 2018) that functions without the constraint of time or location (Fu & Wang, 2020). As such, it is “used in college English classes to assist students in learning English in their fragmented time” (Sun & Asmawi, 2022, p. 44). WeChat is also used in some schools in China within EFL courses, as teachers can use it to create study groups to share information, and students can also ask questions and have a discussion with their teachers or peers (Teng & Wang, 2021). Thus, WeChat is now closely involved in the EFL learning and teaching process and has been found “indispensable to the virtual teacher–student communication” (Teng & Wang, 2021, p. 5).

From a macroscopic perspective, China's national policies now call for the integration of digital technologies, including the WeChat platform, into curriculum design to ensure optimal learning outcomes. The 13th Five-Year Plan for National Economic and Social Development of the Republic of China (2016) attached huge importance to the development of online education in promoting the notion of lifelong learning. Other policies such as the 'Internet Plus' and the National Development Plan for Information and Communications Technology (ICT) in Education also highlighted the potential of knowledge sharing with the aid of social media (Qiao, 2018). Because most Chinese EFL students have limited opportunities to use English in their daily life, social media like WeChat can also be a useful way to support their EFL learning (Paul & Liu, 2018).

In this changed context, self-regulation in learning via social media must be an increasingly important skill to be assessed as part of learners' overall academic performance. Self-regulation can be understood as a self-directed process that plays a significant role in transforming one's thoughts into measurable academic skills (Zimmerman, 2002). According to one university student survey in 2018, 40% of university students in China spend over four hours per day online and 20% of them spend over six hours per day, so social media has a big influence on students' academic and daily life. University students typically have a large workload and a relatively flexible learning regime compared with their experience in high school. Unfortunately, 6.2% of university students have reported that their grades declined due to overuse of social media (Guo & Liu, 2019), whereas students who can control and regulate their learning process effectively have been characterised as self-regulated learners (Schunk & Zimmerman, 1994). Some studies

have investigated the relationship between self-regulation and academic achievement in the classroom environment (Broadbent & Poon, 2015; Lai & Gu, 2011), but very little research has been conducted in the context of social media used out of class, where students can manage expanded learning by themselves without the limitations of time and space. Therefore, this research aims to explore what influences EFL students' engagement in self-regulated learning in the context of social media use.

1.1.3 SRL in the environment of COVID-19

According to a UNESCO report in 2020, learners from all over the world were (and still are) heavily affected by disruptions to learning caused by the COVID-19 pandemic. Moving to online teaching and learning has quickly become a global strategy to minimise the impact of lockdown (Ardington et al., 2021). China's Ministry of Education immediately implemented an emergency plan of "non-stop classes" where student learning could continue with the support of online education during extended periods of lockdown (Bai & Gu, 2022; Cui, 2021; Yan & Wang, 2022). Learning online flexibly ensured the continuation of education during this extraordinary period of time (Bai & Gu, 2022; Cui, 2021), and also demonstrated the effectiveness and enjoyment of a different mode of learning (Medriano & Bautista, 2020).

However, the lack of supervision also led to some challenges. Previous studies (Su & Wu, 2021; Zhu et al., 2020) have pointed out that many students struggled with managing their study when

learning online as “online learners seldom interact with or receive guidance and supervision from instructors” (He et al., 2022, p. 27). Students’ SRL skills attracted particular attention (Bai & Gu, 2022; Cui, 2021). Many researchers suggested the need for programs to improve students’ SRL abilities in practice (Berger et al., 2021), and the need to investigate students’ perceptions and experiences of online SRL (Cui, 2021; Li et al., 2022). Such studies could help to strengthen students’ SRL ability as a lifelong competence in post-COVID times.

1.2 Research Purposes and Research Questions

Prior studies mainly focused on students’ perceptions of SRL and the type of strategies they employed (Akhiar et al., 2017; Al-Bahrani et al., 2015; Aleksandrova & Parusheva, 2019; Broadbent, 2017; Giannikas, 2020; Kizilec et al., 2017), but few have been conducted in China. With the support of online language learning platforms, especially enabled by social media, previous research focused more on English language skills (i.e., listening, speaking, reading, and writing) (Hu, 2018; Lei, 2018; Liu, 2018; Jia & Hew, 2019; Jiang, 2018; Ju & Liu, 2019; Zhu, 2018). However, the importance of SRL and the effectiveness of integrating information technology into EFL teaching and learning have been addressed by previous studies (He et al., 2022; Zhang, 2021), even though some teachers and students in China may “undervalue the advantages” of using social media to facilitate EFL and have had little practice in learning with the support of technology (Zhang, 2021, p. 22). Therefore, more research is needed to investigate the process of EFL students’ SRL in the context of social media, particularly in the context of

education in mainland China. To this end, this research study aims to explore the following three research questions:

Q1: What are students' perceptions of SRL in English learning via WeChat?

Q2: How do EFL students engage in self-regulated learning in the new learning environment?

Q3: What are the factors impacting EFL students' self-regulated learning in the new learning environment?

1.3 Significance

Social media has been used for learning purposes in recent years, especially among young people like university students (Al-Bahrani et al., 2015; Al-Qaysi et al., 2019). While young people are of course already immersed in the environment of social media, the power of technology also offers ways for language learners to enrich their learning (McLoughlin & Lee, 2010). However, the way they go about their learning remains to be fully explored, particularly in respect of self-regulated learning and the use of strategies that may help them to leverage the use of social media as they seek academic achievement.

The value of the study is manifold: at the methodological level, it is noted that the use of an intervention research design to explore the use of SRL strategies has been rather rare to date (Chen, 2022). Accordingly, this research takes the form of an intervention case study to explore

qualitatively students' SRL processes when using WeChat to learn English. This distinguishes it from prior research, which has included mostly quantitative studies using surveys, or experimental designs, or qualitative case studies focusing on identifying students' SRL strategies in different contexts. The present study design provides an alternative intervention approach, focusing on how task design can monitor and support students' SRL skills development and performance in the context of WeChat use (Bai et al., 2021; Gu & Lee, 2019; Suhandoko & Hsu, 2020; Teng & Zhang, 2020).

In addition, many research studies have examined students' self-regulated learning in the classroom environment, but very little research has been conducted in the online environment out of class (Broadbent & Poon, 2015; Lai & Gu, 2011), especially in the context of social media use in China. It will obviously be useful to extend this kind of research by examining EFL students' SRL with social media in the Chinese context.

The empirical findings of this study will contribute to pedagogical insights into EFL education in Chinese universities. Examination of the WeChat-supported SRL process, including the use of various SRL strategies could indicate the feasibility of extending EFL out-of-class learning. It may be practicable to adapt the SRL strategies suggested by this study when students learn on their own or in a group, with the help of WeChat or similar social media apps.

Further, a set of context-specific empirical evidence provides insights into what may support SRL facilitated by social media. Detailed analysis of this study's data will lead to a framework to inform curriculum design, instructional procedures, and strategy development to enhance language learning via social media in China and similar contexts.

1.4 Definition of Key Terms

English as a foreign language (EFL)

The term EFL was first introduced in the 1940s (Darian, 1971, p. 3). It means that English is taught as a foreign language in countries where English is not the official language. ESL (English as a second language) refers to English language learning taking place in countries where English is the official language. Thus, the key difference between EFL and ESL is the context of language learning.

Self-regulated learning (SRL)

Self-regulated learning involves learners' metacognition, motivation, and behaviour. It is a proactive and self-directed process to transform learners' mental skills into academic skills, which means that learners are able to manage their motivation and behaviour with appropriate strategies in order to achieve certain learning goals (Zimmerman, 1986; 2002).

Social media

Social media are applications where people can share sources and ideas, which are based on Web 2.0 and embrace the power of user-generated content (Kaplan & Haenlein, 2010).

Zone of proximal development (ZPD)

The zone of proximal development (ZPD) “is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

Scaffolding

Scaffolding refers to learning assistance received from others. The notion of scaffolding was introduced by Vygotsky and Luria (De Guerrero & Villamil, 2000), which is “based on the idea of providing supportive assistance to the learner within the parameters of a learner’s zone of proximal development” (Dabbagh, 2003, p. 39).

1.5 Thesis Outline

This thesis is organised into seven chapters. Chapter 1 presents an introduction of this study by introducing the research background (i.e., self-regulated English learning in China, self-regulated learning (SRL) in the context of WeChat, and SRL under the environment of COVID-19). The research purposes, research questions, significance, as well as definitions of key terms are also highlighted in this chapter.

In Chapter 2, recent empirical studies regarding SRL (i.e., SRL strategies and SRL in different contexts), social media in language learning, and more specifically, the employment of WeChat in EFL learning are reviewed and related to the present research focus and study design.

In Chapter 3, the theoretical framework which guides the current study is outlined. The nature of SRL, as the key concept in this study, is explained. Underpinned by Vygotsky's (1978) sociocultural theory, a synthesised theoretical framework incorporated with scaffolding, interaction, and the ZPD is introduced.

In Chapter 4, the detailed design of the methodology is presented, including who the participants are, the instruments used to collect data, how these data are analysed and coded. Also included is a discussion of ethical considerations and trustworthiness of the current study.

Chapter 5 reports on the data collected from the questionnaires, the WeChat group tasks, and semi-structured focus group interviews, especially highlighting those most relevant to the research questions. Key findings are listed based on the themes with the help of tables and figures.

Chapter 6 consists of an in-depth discussion of this study and an interpretation of its data in relation to the literature reviewed in Chapter 2 as well as to the theoretical concepts introduced in Chapter 3. The chapter is framed to answer the three research questions.

Chapter 7 discusses the major findings of this study, including its implications, limitations, and suggestions for further research studies.

Chapter 2: Literature Review

This chapter reviews previous literature and empirical studies covering the topics of SRL, social media and the use of WeChat in language learning. Previous studies that were closely related to the topic of SRL, such as those about learner autonomy, SRL strategies, SRL in the online learning environment, and SRL research in the context of China are also covered in this chapter. The key findings from the review provide insights for the current study and are also linked to the discussion chapter as supporting references.

2.1 Self-Regulated Learning (SRL)

Self-regulated learning (SRL) is defined as “the self-directed process by which learners transform their mental abilities into academic skills” (Zimmerman, 2002, p. 65), in which process being proactive is the key driver, involving metacognition, motivation, and behaviours (Zimmerman, 2002; Zeidener, 2000). SRL is also viewed as a composite of strategies that learners use to regulate their study both cognitively and motivationally (Garcia & Pintrich, 1994; Paris & Winograd, 2003; Pintrich, 1999; Pintrich & Schrauben, 1992). Although there is as yet no conclusive definition of SRL, the current study still follows Zimmerman’s (2002) definition above, where SRL is viewed as a process that includes numerous strategies. This definition also alludes to the cyclical phases of SRL (Zimmerman, 2002), which will be discussed in detail in the next chapter.

SRL is extremely important at the point when students enter college since they have more freedom and fewer instructions from their teachers, requiring them to take more responsibility for their own study (Antonelli et al., 2020). Kim et al. (2018) explored the patterns of students' SRL behaviours. Among 284 undergraduate students, those findings revealed three SRL patterns: 1) self-regulation, in which students were highly disciplined to regulate their study and were good at asking for help; 2) partial self-regulation, in which students were proficient in managing their learning process but less likely to ask for assistance; 3) non-self-regulation, in which students displayed lack of ability to regulate their learning, seeking for help, including in how to manage their time. This study was in line with Dörrenbächer and Perels's (2016) research, which found that the stronger students' SRL ability and learning motivation were, the better their academic performance was. Students with stronger SRL strategies performed with "lower test anxiety, lower neuroticism, and higher values in extraversion, conscientiousness, agreeableness, and openness to experiences" (p. 229), which is also a point of concern of this thesis.

An experiment about how students learned with the help of an SRL guide was conducted by Al-Hawamleh et al. in 2022. The researchers divided 40 masters students at a university in the United Arab Emirates into two groups: students in group A had online lessons with their teachers, and students in group B had online lessons with the SRL guide. The results showed that students in group B, who studied with the SRL guide, demonstrated a higher ability to manage their academic performance than students in group A. Moreover, the SRL guide was also found to be beneficial in improving students' self-esteem, which also contributed to their raised level of

SRL. In comparison, although there was no printed guide in the current study, the researcher provided guidance, in the form of scaffolding, to assist the participants to be more self-regulated in learning, and how this contributed to students' SRL improvement will be explored in this thesis.

SRL has been recognised as an important building block of “academic achievement and lifelong learning” (Viberg et al., 2020; Zhu & Mok, 2018, p. 1106) and has been discussed from various perspectives. The following sections will review further studies of SRL and learner autonomy, SRL strategies, SRL in the online learning environment, and SRL research in the context of China.

2.1.1 SRL and learner autonomy

SRL is closely related to the topic of learner autonomy, which can be viewed as the ultimate aim of self-regulation in learning, and thus is an important element in SRL research. This section reviews the literature on learner autonomy in terms of the relationships and differences between SRL and autonomy (Carter Jr et al., 2020; Holec, 1981; Littlewood, 1999; Papamitsiou & Economides, 2019), and learner autonomy in different contexts, such as in class (Shen et al., 2020) and out of class (Noviana & Ardi, 2020).

SRL is “a self-determined learner effort” driven by SRL strategies such as goal setting, time management, and motivation, so there are some overlaps with learner autonomy (Carter Jr et al., 2020, p.322; Kormos & Csizer, 2014; Papamitsiou & Economides, 2019). Holec (1981) defined learner autonomy as the “ability to take charge of one’s own learning”, which is also the aim of education (p. 3). It is correlated to students’ willingness and capacity to control their own study (Noviana & Ardi, 2020; Wenden, 1991). Therefore, people who are viewed as autonomous learners are usually independent in making choices, managing learning strategies, and being responsible for their decisions in the learning process (Littlewood, 1996; Rivers & Golonka, 2009; Tran & Duong, 2018). According to Little (1991), learner autonomy not only means how students learn but also how they use what they learn in different contexts. Therefore, autonomous learning is never restricted to traditional learning settings like the classroom (Chik, 2014).

In terms of the relationship between SRL and learner autonomy, Littlewood (1999) proposed two levels of self-regulation: proactive autonomy and reactive autonomy. Proactive autonomy refers to the situation when students are the ones to take responsibility and make their own decisions of what to learn and how to learn, whereas reactive autonomy refers to cooperative and collaborative learning in which other people, such as teachers, might be involved in the student learning process. In addition, in order to avoid certain stereotypes when comparing students in the context of East Asia and students from Western countries, Littlewood (1999) proposed that students from East Asia were capable of being autonomous learners though their level of reactive autonomy was still higher. However, Littlewood (1999) also emphasised the importance of

learning in a group to support students' development in autonomy both academically and emotionally.

In this sense, the concept of learner autonomy is broader than SRL, since it not only entails learners' usage of SRL strategies and responsibility for managing the learning process but also encompasses learners' freedom to choose learning resources or even to shape the curriculum itself (Andrade & Bunker, 2009; Benson, 2001; Kormos & Csizer, 2014). Autonomous learning has been a worldwide principal focus in language teaching and learning, both in formal learning contexts or the online environment (Godwin-Jones, 2019; Kormos & Csizer, 2014; Reinders & White, 2016). Many research studies have affirmed that autonomous ability is a prerequisite for being a self-regulated learner (Kormos & Csizer, 2014; Papamitsiou & Economides, 2019); and have explored students' beliefs and experiences of learner autonomy (Hermagustiana & Anggriyani, 2020; Noviana & Ardi, 2020; Shen et al., 2020; Tran & Duong, 2018).

To examine the relationship between SRL strategies and autonomous learning, Papamitsiou and Economides (2019) conducted a research study among 113 undergraduate students in Europe. The results showed that SRL strategies like “goal setting and time management” were the most influential factors for learner autonomy, while effort regulation was a moderate predictor (p. 3138). All three strategies were positively related to learner autonomy, which was in line with Kormos and Csizer's (2014) study in which 638 Hungarian language learners were studied to see how SRL strategies impacted their level of autonomous learning. The findings showed that time

management was an effective skill related to “autonomous use of traditional learning resources” (p. 275) and the importance of motivational beliefs was also stressed. However, in Papamitsiou and Economides’s (2019) study, an unexpected finding was that help-seeking was negatively related to learner autonomy, which was also consistent with Kizilcec et al.’s (2017) finding. Learners who tried to avoid asking for assistance to maintain autonomy might be the reason for this finding, which is also a part of concern of this thesis.

Due to limited class contact hours, pursuing a higher score means that students need to study autonomously in their own time. Noviana and Ardi (2020) explored learner autonomy with a sample of five students who were learning TOEFL out of class in Indonesia. The results showed that all five students could be viewed as autonomous learners, as they already used strategies to complete learning tasks out of the classroom. These learning strategies also equipped students to concentrate on what they considered to be difficult or to explore topics they were interested in. The study findings also indicated the effectiveness of technology in helping students access learning resources outside of class. Similar findings in Hermagustiana and Anggriyani’s (2020) study showed that university students of EFL believed that learning activities outside of the classroom fostered their autonomous learning ability. The usefulness of technology, especially social media, in connection with SRL will be discussed in the following sections in detail.

In short, the concept of learner autonomy is broader than SRL, while the two concepts share overlapping areas. Previous studies have developed our knowledge of how learner autonomy is

influenced by SRL strategies such as goal setting and feedback. They also provided insights into the development of learner autonomy within or outside of the classroom in different contexts.

The next section reviews studies of how students employ SRL strategies and the potential effects on their academic performance.

2.1.2 SRL strategies

As the steppingstone to being self-regulated in learning, we need to identify SRL strategies and how they are involved in students' learning. Table 1 summarises previous studies of SRL strategies that are reviewed in this section as follows: the influence of SRL strategies on students' English learning (Fukuda, 2019; Tomak & Seferoglu, 2021); students' application of SRL strategies (Güngör, 2021; Jossverger et al., 2019); self-efficacy in SRL (Lee et al., 2021; Lee & List, 2021); and self-assessment in SRL (Cho et al., 2020; Urban & Urban, 2019).

Table 1

Literature of SRL Strategies

Author(s)	Year	SRL strategies	Key finding(s)
Güngör	2021	<ul style="list-style-type: none"> • Goal setting • Finding a suitable learning environment 	Students were able to apply SRL strategies.
Jossverger et al.	2019	<ul style="list-style-type: none"> • Time management • Planning • Monitoring • Adjustments 	Vocational school students' usage of SRL strategies was more outcome oriented.

		<ul style="list-style-type: none"> • Help-seeking 	
Ömer & Akçayoğlu	2021	<ul style="list-style-type: none"> • Self-efficacy 	Self-efficacy was positively related to SRL.
Lee et al.	2021	<ul style="list-style-type: none"> • Self-efficacy 	Self-efficacy was a strong predictor of SRL strategies.
Lee & List	2021	<ul style="list-style-type: none"> • Self-efficacy 	Self-efficacy was negatively related to task difficulty.
Cho et al.	2020	<ul style="list-style-type: none"> • Self-assessment 	Students had an adaptive view of self-assessment.
Urban & Urban	2019	<ul style="list-style-type: none"> • Self-evaluation 	Self-evaluation was difficult for students, but an effective tool with the help of feedback.

In studying the relationship between SRL strategies and students' English proficiency, Tomak and Seferoglu (2021) collected data from questionnaires completed by 169 English learning students at a university in Turkey to assess their language proficiency followed by interviews with 10 individual students. The results showed that students with higher proficiency in English tended to be more self-regulated in learning in terms of having more self-study time and performing better in evaluation. Based on the findings, the researchers suggested that students needed more guidance from their teachers to help them to build up habits of learning on their own, which is one of the focuses of this thesis.

In the context of EFL, Fukuda (2019) explored how Japanese learners with low language proficiency regulated their EFL learning, using interviews and the Motivated Strategies for Learning Questionnaire (MSLQ). In general, students with lower English proficiency lacked intrinsic motivation to learn English and did not use SRL strategies well. For instance, they were more likely to memorise what the teacher taught and lacked metacognitive strategies, such as elaboration and making connections between new information and their prior knowledge. They were passive in regard to help-seeking when they met problems. That study gives a possible direction for the current study, which will seek to identify EFL students' SRL strategies in the Chinese context.

Another study (Güngör, 2021) looked at how students used various SRL strategies during their learning process. This was a phenomenological research study to identify high school students' usage of SRL strategies, particularly from the students' point of view. Data were collected through semi-structured interviews with 20 students in a high school. The results demonstrated that influencing factors for successful learning were students' interests, their view of its value and the level of difficulty of the lesson. During the task definition phase (Güngör, 2021, p. 2551), students were asked to determine their priorities based on certain influencing factors. During the goal setting phase (p. 2552), students were found to be capable of setting up and adjusting their learning goals. During the performance phase (p. 2552), students tended to be focused on finding a good learning environment. During the evaluation phase (p. 2553), students commented on influencing factors such as their parents and the learning environment. In the current study, SRL

strategies and influencing factors were discussed in a similar way in the context of Chinese university students.

Students' usage of SRL strategies in vocational education yielded some different findings, as vocational education requires students to be more independent and to develop hands-on skills through practical training in real life (Jossverger et al., 2019). Through observations, self-reports, and interviews, the authors explored students' SRL strategies in three phases: preparation, execution, and completion. The 18 vocational student participants employed SRL strategies, such as time management, making plans, monitoring progress, making adjustments, help-seeking, and outcome-oriented behaviour. Vocational students were tested mostly by their final physical product or outcome rather than by their study and learning processes, in contrast to the current study, which will focus more on how students regulate their English learning via social media.

Self-efficacy has been studied as one key SRL strategy (Zimmerman, 2002) by a number of other research studies (Honicke & Broadbent, 2016; Kim et al., 2015; Lee & List, 2021; Ömer & Akçayoğlu, 2021; Sariçoban & Behjoo, 2016). Ömer & Akçayoğlu (2021) explored the relationship between self-efficacy, SRL, and foreign language anxiety. According to the quantitative data gathered from 344 EFL students in Turkey, the findings revealed that self-efficacy was positively related to SRL, which was in line with previous studies (Honicke & Broadbent, 2016; Kim et al., 2015; Sariçoban & Behjoo, 2016). However, foreign language anxiety, in particular, was found to be a negative factor influencing students' academic

performance, corroborating the results of Zheng and Cheng's (2018) study, which is an important point to be examined in this thesis.

In the general context of English Language learning (ELL), self-efficacy has been explored recently by Lee and colleagues. Their data were collected from the Motivated Strategies for Learning Questionnaire (MSLQ) with 117 international undergraduate students in the United States. The findings revealed that self-efficacy was a strong predictor of students' utilisation of SRL strategies in terms of “rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation, and time management strategies” (Lee et al., 2021, p. 577), with the exception of peer learning strategy. This was in line with previous studies (Ayllón et al., 2019; Ozer & Akçayoğlu, 2021) finding that self-efficacy was significantly associated with language students' academic success, and also echoed Wang and Bai's (2017) study confirming that self-efficacy positively influenced students' usage of SRL strategies. However, Lee and colleagues also noted that self-efficacy was not a strong predictor of successful peer learning, whereas, conversely, peer learning strategy did positively impact self-efficacy. Changing the context from ELL to EFL, self-efficacy was also one of the key strategies observed in the current study, which is discussed in detail in the following chapter.

In addition, Lee and List (2021) investigated the relationship between self-efficacy and task difficulty by gathering perceptions from 215 university students in the US. Self-efficacy as a motivational belief was associated with students' perceptions of task difficulty, which was

influenced by various factors, such as student learning goals set before the task, employment of SRL strategies during the task, and self-evaluation after the task. The results demonstrated that self-efficacy was negatively correlated to their perceptions of task difficulty, which suggests that students who showed greater self-efficacy also considered tasks as easier to complete. Moreover, the authors also found that students' self-evaluation was also influenced by their level of self-efficacy: those with "higher self-efficacy, are more accurate in their self-evaluations of task performance" (Lee & List, 2021, p. 13). Both self-efficacy and self-evaluation were also assessed in the current study, and Lee and List's (2021) study offered a new perspective for the current study to take task difficulty into consideration when exploring EFL students' SRL processes.

Self-assessment (called self-evaluation in the cyclical phases proposed by Zimmerman (2002)), is one of the key learning strategies involved in SRL. Students' perceptions of assessment were explored by Cho et al. (2020), and the relationship between students' perceptions of assessment and their SRL was examined. Data were collected from 320 international students who took TOEFL courses to prepare for studying in an English-speaking country. The findings revealed that students' adaptive view of assessment was a strong predictor of their SRL, as students were more willing to use SRL strategies autonomously when they understood the value of assessment, which confirms that understanding the role of assessment is a vital part of SRL (Baird et al., 2017). Although there was no external assessment included in the current study, students' adaptive beliefs based on their own self-evaluation as an essential part in promoting their ongoing SRL development, will be explored in this thesis.

In relation to feedback, Urban and Urban (2019) explored undergraduate students' SRL process; in particular, how the accuracy of these students' self-evaluation was more accurate with the help of feedback. A total of 30 participants were involved in this study and their SRL process was observed in three phases: the preparatory phase (i.e., goal setting and planning), the performance phase, and the appraisal phase (i.e., self-evaluation). The researchers found that self-evaluation was a difficult process for students as they were likely to compare themselves with their peers and "either underestimate or overestimate their performance" (p. 9005). In order to improve the accuracy of students' self-evaluation, the intervention of calibrated feedback from both their peers and the lecturer was tried and proved to be an effective tool (Urban & Urban, 2018). Urban and Urban's (2019) findings also reflected those of the current study, where students also tended to underestimate their performance using SRL processes. This led to a relatively lower level of reported self-satisfaction and might also influence the accuracy of their self-evaluation. The value of feedback, such as peer feedback, is also considered and discussed in the current study.

Previous research has shown that the use of SRL strategies is an important part of mediating students' learning process and outcome (Tomak & Seferoglu, 2021). Students' SRL ability and their learning motivation were found to be positively related to their English proficiency (Fukuda, 2019; Tomak & Seferoglu, 2021). Important SRL strategies, such as self-efficacy and self-assessment, are also noted as strong indicators of EFL students' academic achievement (Cho et al., 2020; Lee et al., 2021; Lee & List, 2021).

In short, SRL has been studied in many different contexts and these studies confirm that students' academic performance can be improved with the aid of SRL strategies. Previous studies confirm that students can employ various SRL strategies to support their learning. However, other studies have shifted their attention from the traditional learning environment to the online learning environment, to assess how well students could regulate their study in the new learning environment and how they could adjust their SRL strategies accordingly.

2.1.3 SRL in the online learning environment

With the burgeoning use of technology in education, it is vital to explore SRL in online settings. This section reviews previous studies that have explored student perceptions of SRL in an online context (Kulusakli, 2020; Sahin et al., 2016), students' SRL strategies via online education platforms (Lee et al., 2021), and the effects of online SRL on students' academic achievement (Dai et al., 2021; Seker & Karagül, 2022).

Kulusakli (2020) examined university students' perceptions of SRL in the context of distance education. By investigating the results from a questionnaire completed by 120 students at a university in Turkey, Kulusakli (2020) found that these students were good at finding suitable study settings for effective learning. The researcher found that students were only “moderately successful” in some areas, such as: 1) metacognitive strategies, as they were able to use

strategies efficiently in the online course, whereas they were not so good at asking questions, which called for more teacher guidance; 2) time management, due to distractions from other activities; 3) persistence, which implied that online learning often required more effort; and 4) help-seeking as students tended to be embarrassed when asking questions. The current study also shared some similar findings to Kulusakli's (2020) study, such as a mixed capability to use learning strategies and cope with distractions in the online learning environment. Moreover, as Kulusakli (2020) suggested, the researcher also applied scaffolding in the current study.

Many EFL or ESL (English as a second language) learners are now keen to use social media beyond school as a supplemental learning tool to improve their English proficiency (Celik et al., 2012). Sahin et al. (2016) conducted a study investigating students' perceptions of SRL with ICT with a total of 777 EFL university students from Turkey. Similar to Celik et al.'s (2012) study, the findings revealed that these students regarded ICT as a useful out-of-class EFL learning resource to help them to reach their learning goals. Sahin et al. (2016) also suggested the importance of teachers using scaffolding in connection with ICT, which was in line with Zarei and Abdi's (2016) study that scaffolding was vital to students' developing SRL in the new learning context. In the light of those findings, scaffolding (for example, creating a relaxing learning atmosphere, modelling, and offering guidance) will be provided to this study's participants.

Over the period of the COVID-19 pandemic, another study explored how students effectively regulated their study with the support of a live streaming video called “Study with me” (Lee et al., 2021). According to the data from the responses of semi-structured interviews from 12 viewers, these learners autonomously watched these videos to create an interactive and manageable learning environment, which indicated self-regulation in learning. Learning motivation was generated internally by a desire to maintain concentration and to extend learning time. This supported SRL development as well as learning satisfaction (Lee et al., 2021). Although EFL participants in the current study were asked to manage their study interactively in the WeChat group rather than via live streaming videos, they also faced a similar challenge of avoiding distractions during their self-study process, thus showing evidence of developing SRL in a similar fashion to students studied by Lee and her colleagues (2021).

Seker and Karagül (2022) investigated students' self-regulated writing ability with the help of a tool called a Self-Monitoring Chart in the context of an online writing course in higher education. This case study was conducted in two universities in Turkey with 48 students. The findings indicated that the self-monitoring chart was beneficial for students in terms of improving their awareness and utilisation of SRL strategies (specifically writing strategies in this study), and also increasing students' learning motivation and interest in English. The researchers also emphasised the necessity of training students to be more self-regulated, collaborative, and interactive in the new learning environment with more knowledge of SRL and online study. In the current study, understanding of SRL techniques was introduced and scaffolded to participants

by the researcher; this formed a stepping stone for learners who were new to SRL, especially in the online learning environment.

It appears that previous studies have proved the positive effects of SRL in promoting students' academic performance in the online context. It was also highlighted in these studies that appropriate scaffolding from teachers is necessary to guide students to make better use of technology while regulating their own study habits. Some studies have explored particular SRL strategies for the online environment, as reviewed in the next section.

2.1.4 SRL strategies in the online learning environment

In the online context, learners are expected to be more independent and engaged in learning, with the help of appropriate SRL strategies, than in a traditional learning environment (Broadbent, 2017; Chou & Zou, 2020; Kizilec et al., 2017; Seidel et al., 2021; Yen et al., 2019; Yot-Dom ínguez & Marcelo, 2017). Table 2 summarises some previous studies of SRL strategies in the online learning environment:

Table 2

Studies of SRL Strategies in the Online Learning Environment

Author(s)	Year	SRL strategies	Key finding(s)
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Broadbent	2017	<ul style="list-style-type: none"> • Time management • Elaboration 	They were positively related to academic performance
Kizilec et al.	2017	<ul style="list-style-type: none"> • Goal setting • Strategic planning • Help-seeking 	Goal setting and strategic planning had a strong effect on students' goal attainment, whereas help-seeking was a weak influencing factor.
Lee et al.	2020	<ul style="list-style-type: none"> • Self-efficacy • Task value 	Self-efficacy and task value were important factors influencing SRL and positively related to academic performance.
Seidel et al.	2021	<ul style="list-style-type: none"> • Planning • Monitoring • Reflection 	Planning and monitoring were frequently applied but the reflection was not.
Chou & Zou	2020	<ul style="list-style-type: none"> • External feedback 	External feedback was helpful for students' reflection and goal setting.

Clearly students will need to use different SRL strategies in online and other learning contexts. Broadbent (2017) conducted a study to compare learners' usage of SRL strategies between online and a blended learning environment. Data were collected from the Motivated Strategies for Learning Questionnaire (MSLQ) submitted by 606 college students (140 for the online learning group and 466 for the blended learning group) in Australia. The findings indicated that SRL strategies were used more frequently among students from the online learning group, as the online learning environment required students to be more independent and employ a wider range of SRL strategies. In addition, the results also highlighted the significant role of time management as well as use of elaboration as predictors of students' academic performance. It would be interesting to find if there are similar findings resulting from this study conducted in a different (Chinese EFL) context.

Kizilec et al. (2017) surveyed 4831 students in Chile about the relationship between learners' SRL strategies and their attainment of goals when they were in Massive Open Online Courses (MOOCs) (p. 18). In this study, six SRL strategies (goal setting, strategic planning, self-evaluation, task strategy, elaboration and help-seeking) were examined (Kizilec et al., 2017, p. 23). The findings demonstrated that students who were good at using SRL strategies tended to review previous knowledge more autonomously. Especially, goal setting and strategic planning had a stronger effect on student goal attainment, whereas the role of help-seeking was comparatively weaker. Lee et al. (2020) also explored the usage of SRL strategies in MOOCs among 184 learners from different countries. The findings showed that both self-efficacy and task value were important factors impacting students' SRL which were positively correlated to their academic performance in the online learning environment, which is one of the focuses of this thesis.

Similar findings were revealed in Yot-Domínguez and Marcelo's (2017) study, with a total of 711 college students in Spain participating in a survey called "Survey of Self-regulated Learning with Technology at the University" (p. 3). However, it was noted that many of these students were reluctant to use digital technologies to manage their study. Therefore, the researchers concluded that instructors should provide more guidance for students to recognise the value of technology and self-regulation for academic success. Taking cultural differences into

consideration, university students in China might have different attitudes to using SRL strategies with social media, which supposition will be explored in the current study.

In addition to the individual SRL strategies, students in the online learning context also demonstrated collective goal setting and the intention to form a community of practice (Yen et al., 2019). Those authors conducted a qualitative study among 33 American graduate students who were taking online courses. The students tended to be more collaborative in discussion during online learning. Students with stronger SRL abilities not only set goals for themselves, but also for the whole study group. They organised group learning based on their collective learning goals. In other words, these highly self-regulated learners “not just learn for themselves, they learn for and with the network community. They are community learners” (Yen et al., 2019, p. 18). The authors suggested that it was crucial to understanding students’ learning goals before giving instructions. Therefore, the current study will use a questionnaire to survey participants’ learning goals when using WeChat and observe their interactions and intended collaboration.

From the results of field studies collected from two groups of undergraduate students at a university in Germany, Seidel et al. (2021) found that SRL strategies like planning were mostly used at the beginning of the semester (p. 409). Monitoring was frequently applied, whereas reflection was not. However, the role of reflection was emphasised in the study because “it is the most important step of a successful SRL interaction” (Seidel et al., 2021, p. 421). How planning, monitoring, and reflection were employed in students' SRL process was also presented in the

current study, which shared a similar finding that planning was normally used at the beginning of a learning task as it was the first step in the phases of SRL. Students in the current study also applied multiple strategies during the self-reflection phase, whether the findings oppose to results from the reviewed study (Seidel et al., 2021) is discussed in this thesis.

Chou and Zou (2020) analysed how external feedback mediated students' SRL and internal feedback. The researchers designed SRL tools and open learner models (OLM) to provide external feedback in assisting students' SRL. According to the results, students often overestimated their ability, which led to poorer self-assessment. Students also failed to set up and achieve appropriate learning goals as well as being aware of appropriate follow-up learning. These were all signs of poor SRL performance due to a lack of internal feedback. Later, with the support of the external feedback provided by OLM, the researchers found that it was helpful for most of the students to reflect on their learning process, such as by setting appropriate goals, a step that further supported students' SRL improvement. More importantly, the researchers also called for extra feedback to prompt students' SRL. In the current study, in addition to students' self-evaluation, peer feedback was also employed as a kind of external feedback mechanism. It would be interesting to find if there is a similar finding resulting from the current study.

2.1.5 SRL research in the context of China

SRL research has been carried out in various Chinese educational sectors, from primary schools (Bai & Wang, 2020; Bai et al., 2021; Zhu & Mok, 2018) to higher education (Kim et al., 2018; Suhandoko & Hsu, 2020; Teng & Zhang, 2020). SRL studies reviewed here cover several aspects, such as the influence of motivational beliefs (Bai & Wang, 2020); impacting elements (Wang et al., 2019; Zhu & Mok, 2018); SRL strategies (Buendía, 2015; Yan, 2020); SRL in the online learning environment (Dai et al., 2021); and other interventions (Bai et al., 2021).

Bai and Wang (2020) explored the influence of motivational beliefs among primary school students. A total of 690 primary school students in Hong Kong, China, participated in this study. The results confirmed that motivational elements, such as self-confidence and belief in task value, played an important role in students' evolving SRL as well as predicting their overall academic performance. Students who enjoyed learning English reached a higher level of academic achievement, as they were more likely to monitor their efforts and keep their focus on learning for a longer period, which also echoed findings from Noels et al.'s (2019) study. Those authors also concluded that SRL strategies were all positively related to students' academic performance, while some strategies, like goal setting, did not influence students' learning significantly. This was contrary to Robison et al.'s (2021) finding that setting specific learning goals benefitted students' ability to focus attention. It was also contrary to Shih and Reynolds' (2018) study, which showed EFL students' reading ability was largely improved with the introduction of goal setting. That study also confirmed the effect of motivational beliefs on

students' academic achievement; however, its participants were young learners, as opposed to university students in the current study.

In a recent study of primary school students in Hong Kong, Zhu and Mok (2018) explored the relationship between SRL and three impacting factors: “prior knowledge, interest, and personal best goal orientation” (p. 1107). The findings indicated that 1) students' prior knowledge had a weak association with their SRL process; 2) students' goal orientation was indirectly related to their planning during the learning process; 3) students' motivation to learn is closely associated with planning and monitoring of their study. The participants who had a strong interest in learning demonstrated more self-regulation in learning, which also supports the hypothesis of Yu and Martin's (2014) study.

The social and cultural educational context may also impact students' SRL. In China, the college entrance examination is highly competitive for high school students. With high family expectations, the parent-oriented academic goal is usually a salient motivation for Chinese students (Wang et al., 2019). In this context, goals relating to social status (i.e., learners see academic success as a way to achieve a better social position) play an important role in Chinese students' commitment to SRL (Wang et al., 2019). Wang and colleagues surveyed 553 11th-grade students from an underdeveloped rural area and 449 11th-grade students from an urban area. Their results revealed that although parent-oriented goals had a weaker influence on participants' SRL than social status goals, both of these factors had a positive effect on students'

developing SRL. Similar findings were also presented in Wang and Lu's (2016) study, which found that Chinese students' motivation towards SRL was mainly governed by extrinsic or social goals, such as "pleasing others, meeting expectations, social status, social conformity, and social responsibility" (p. 14). Clearly, social status goals are important to Asian students (Lee & Bong, 2016; Wang et al., 2019), leading the current study of university students to take them into consideration.

Due to the traditional teacher-centred mode of instruction, many students in China lack autonomous learning ability, especially at the university level (Shen et al., 2020). The Ministry of Education in China called for improved autonomous learning as far back as 2004. Since then, learner autonomy has become the theme in the reform of English teaching and learning in China's higher education (Lin, 2018). Shen et al. (2020) conducted a study to examine how peer assessment influenced EFL students' autonomous learning. A total of 70 Chinese university students were divided into two groups. One group of students received feedback from their teachers while the other group of students received assessment from their peers. The findings showed that, within the peer assessment group, the teacher's role became that of a facilitator. With decreased dependence on teacher feedback, students began to assume more responsibility for their study. Peer assessment requires students to evaluate each other's tasks based on their own judgement, a process that is also likely to raise student self-efficacy in completing the learning tasks on their own. Thus, Shen et al.'s (2020) study also confirmed the effectiveness of peer assessment in promoting learner autonomy. It aligned with the results from Schünemann et al.'s (2017) research study, which found that student engagement in the SRL process could be

mediated by the inclusion of peer feedback. The shift from co-regulation to self-regulation could be fostered in an atmosphere of interaction and collaboration among students. That study provided an interesting perspective for the current study, which also involved investigating students' interaction with peers in the WeChat group.

In terms of SRL strategies, Yan (2020) evaluated the relationship between students' self-assessment and SRL. A sample of 63 students who were undergoing a teacher education program in Hong Kong, took part in this study. The study's findings confirmed that self-assessment was an important predictor of students' academic performance and had a positive relationship to their SRL, which also aligned with findings of Panadero and colleagues (2018). According to Yan's findings, "self-assessment is an ongoing practice across the whole SRL process, rather than a one-off action occurring at a particular time point" (p. 233). However, Buendía (2015) also noted that Chinese students lacked practice in self-assessment, as assessment was normally their teachers' responsibility and students were not confident about evaluating their own performance. As self-assessment is an important SRL strategy in the self-reflection phase, these research studies have provided insights useful for the current study into how students perceived and employed this strategy.

Dai et al. (2021) conducted an experimental study among 332 university students in China to investigate whether students' academic achievement was mediated more by academic entitlement (a kind of expectation of academic achievement without relating it to the effort they put in) or by

SRL in the online learning environment. The findings revealed that students' academic achievement was significantly associated with their academic entitlement rather than SRL, especially for students who had previous experience in online study. These findings were contrary to those of other research studies (Bai & Wang, 2020; El-Adl & Alkharusi, 2020; Yabukoshi, 2018; Yan, 2020), which found that SRL was a strong indicator of successful academic performance as well as promoting sustainable lifelong learning (Anthonysamy et al., 2020), which is a key point to be explored in this thesis.

Students' developing SRL could also be linked to the support of the teacher's intervention. Teng and Zhang (2020) explored how teacher intervention impacted students in a writing class. A total of 80 undergraduate students in China were divided into two groups: one group of students received explicit instruction in SRL techniques, while the other group did not. The results showed that students who received SRL instruction became more proactive in the learning process compared with the other group. These students were more confident in finishing various learning tasks and were more likely to use different SRL skills to manage their study. The authors also stressed the importance of peer interaction in facilitating students' successful completion of tasks. This study shared similar findings with Suhandoko and Hsu's (2020)'s study, which was conducted with 84 students at a university in Indonesia. That study found that SRL and academic performance were positively influenced by the application of SRL strategies. In addition, students' ability to use SRL strategies also improved with the help of external intervention. Similarly, Gu and Lee's (2019) study used interventions to improve students' learning motivation and academic success, as well as the use of SRL strategies. Although that

study focused more on teacher education whereas the current study focuses on students, it confirmed the value of teacher intervention in students' SRL improvement, and this was also found in the current study.

Moving from the traditional classroom to the online environment, Bai et al. (2021) conducted an intervention study to explore how the intervention from an e-learning tool influenced SRL in a writing task given to ESL and EFL students. By analysing the data collected from questionnaires completed by 468 primary school students in Hong Kong, the researchers found that the intervention of e-learning tools did contribute to SRL when students wrote in English. More specifically, those authors found that students' use of strategies and their learning motivation were generally improved with the aid of the intervention, whereas their self-efficacy was only moderately increased. That study confirmed the value of employing an intervention study as a means to develop SRL, which was also applied in the current study. The detailed process and effects will be presented in detail in the following chapters.

2.2 Social Media in Language Learning

Social media are applications where people can share their resources and ideas (Dal & Dal, 2014). In general, social media play a significant role in people's daily lives (Al-Qaysi et al., 2019; Aleksandrova & Parusheva, 2019; Mirembe et al., 2019). In addition to resource sharing, emojis are popular with social media users; these also enable enjoyment of the learning process

and are another form of “information richness” (Hsieh & Tseng, 2017, p. 405). In the academic environment social media acts as an effective and innovative pedagogical tool that is supporting the ways students engage and perform in both formal and informal learning environments (Al-Bahrani et al., 2015; Sharma et al., 2016).

This section will review some recent studies that focus on the use of social media for learning in general (Aleksandrova & Parusheva, 2019); on students’ perceptions of using social media for academic purposes (Al-Qaysi et al., 2019; Rahman et al., 2019); on the uses of social media in education (Giannikas, 2020); and on the relationship of social media to SRL (Matzat & Vrieling, 2016). Also reviewed are studies on using social media in language learning in relation to students’ perceptions (Al Arif, 2019; Lin et al., 2016) and also studies of students’ learning experiences (Ismail et al., 2019; Malik & Asnur, 2019; Ozturk, 2019; Rohr et al., 2022; Wargadinata et al., 2020).

Aleksandrova and Parusheva (2019) conducted a research study on the patterns of students’ usage of social media for learning, focusing on communication and the knowledge acquisition process. The data from their online survey revealed that: a) students used communication channels like Facebook and Skype with their peers, and used electronic learning management platforms to communicate with their teachers; b) students used Wikipedia mostly for content creation; c) Facebook groups were used for communicating and sharing information with peers; d) students preferred using social media for additional learning rather than databases or books.

The authors concluded that “the usage of social media in higher education is mostly initiated by students”, which means that students are proactively using social media as a helpful tool in their learning process (Aleksandrova & Parusheva, 2019, p.119). It would be interesting to find if university students in China have similar initiatives to use social media as a learning tool in the current study.

Rahman et al. (2019) conducted a quantitative study to investigate the impact and students’ perceptions towards social media usage in higher education from three aspects: perceived usefulness (PU), perceived risk (PR), and social media use (SMU). The findings indicated that social media usage in the classroom had a positive influence on students’ satisfaction with the course, especially when used to foster student discussion and collaboration. Similarly, Al-Bahrani et al. (2015) carried out a quantitative study focusing on perceptions of social media usage in the classroom in the USA held by 500 university students. They found that most of the students were more comfortable using social media to contact their teachers compared to using emails. In this case, social media like Facebook and Twitter presented an additional opportunity for students to connect with their teachers and share knowledge out of class. There is no access to Facebook or Twitter in mainland China but, with similar functions, WeChat can be adopted as the platform to examine students’ perceptions of using online social media for study purposes.

A more comprehensive study on students’ perceptions of using social media in higher education was conducted by Al-Qaysi et al. (2019). The results of that online survey with 1307 students in

Oman showed that students who were interested in social media were willing to use those platforms for learning purposes. Participants' choices of different applications had no significant influence on their perceptions regarding social media use for learning. Similarly, Al-Bahrani et al. (2015) suggested that with appropriate guidance and design of social media, students' learning interests might be increased, which is also a key point to be explored in the current study.

Social media also plays an important role in connecting formal learning and informal learning. Compared with formal learning, informal learning is relatively less structured and more learner-directed but it provides more chances for learners to study without the limitations of time and location. Giannikas (2020) conducted a research study among postgraduate students to examine their experience of using Facebook for learning. Students showed a positive attitude towards using Facebook in their learning process and agreed it could significantly enhance interactive learning. It is not clear how the heightened interaction enabled by social media impacted students' SRL. The current study will therefore focus on how students interacted on a different learning platform (WeChat) and how that impacted their level of SRL.

The use of social media in SRL practices was explored from teachers' perspectives in Matzat and Vrieling's (2016) study. Conducting a survey of 459 teachers in a secondary school in the Netherlands, the results revealed that "the use of social media would be 'naturally allied' with SRL" (p. 73). Many teachers used social media as a means to communicate with their students,

and some teachers used social media for class teaching purposes, whereas only a few of them used social media for SRL practice. However, it should be noted that the teachers who offered SRL guidance in class were also more likely to apply social media in their teaching. However, those teachers normally used social media in connection with SRL during the performance phase, which was limited and had no significant influence on the teacher-student relationship. This study provided a new perspective on the relationship between SRL and social media. The current study will use WeChat to facilitate students' SRL throughout all its three phases, meaning that in this case, students' experience of SRL in the context of WeChat (and the researcher's use of scaffolding) will be different from Matzat and Vrieling's (2016) study.

Another study found that, in the context of Web 2.0, most students enjoyed and were motivated to learn a foreign language with the support of social media (Baytekin & Su-Bergil, 2021). In this case, applying SRL skills with the support of smartphones was proved to be effective in promoting students' English-speaking ability in a higher education context (Menggo et al., 2022). These researchers also advocated that various other learning apps would be a beneficial way to extend students' English learning outside of class, which is a key point to be examined in this thesis.

Social media has been used widely to facilitate students' learning interaction overcoming the boundary of time and place (Namaziandost & Nasri, 2019), which confirmed the importance of using social media in language learning (Ismail, 2020). Previous studies on social media in

assisting language learning from a general view have been carried out (Al Arif, 2019; Ismail et al., 2019; Lin et al., 2016; Malik & Asnur, 2019; Ozturk, 2019); and many research studies have focused on specific platforms, such as Twitter (Rohr et al., 2022); Facebook (Duong & Pham, 2022; Fithriani et al., 2019; Kitchakarn, 2016; Leung et al., 2022; Talafhah et al., 2019; Wongsu & Son, 2022); Instagram (Erarslan, 2019; Gonulal, 2019; Wulandari, 2019), and YouTube (Chien et al., 2020; Ilyas & Putri, 2020; Ismail, 2020; Wang & Chen, 2020).

An exploratory study focusing on students' perspectives of learning English through social media was conducted by Al Arif in 2019. A group of 67 students who enrolled in an English learning program at a Jambi university filled out the questionnaires and 10 of them participated in the interview. Based on the responses on questionnaires, Instagram, Facebook and YouTube were most frequently used among these students for English language learning. Students preferred using social media in learning English because it was easy for them to discuss and communicate with peers or other group members, which encouraged them to practise their English language skills. Students also stated that using social media improved their learning motivation, which plays an important role in students developing SRL. Having an improved academic performance after using social media also encouraged these students to apply social media to their language learning process more frequently. The findings are compatible with a previous study (Habibbi et al., 2018) which indicated that social media is helpful for students to exchange ideas, have more frequent interactions, and finish their tasks or assignments more efficiently, which will also be discovered in this thesis.

Lin et al. (2016) also investigated how language learners felt and participated in social networking sites (taking Livemocha which was a popular language learning social network site as an example). Through analysing data from over 4000 users and 20 case studies, the authors found that Livemocha created an encouraging and comfortable study atmosphere for these learners to socialise and interact. Participants' learning motivation and self-efficacy were increased due to their engagement with native speakers. These learners stated that compared with the traditional face-to-face learning mode, their interactions with native speakers were less pressured through social networking sites like Livemocha. Although there are no native English speakers involved in the current study, it would be interesting to explore if there is a similar finding resulting from this study conducted in the context of WeChat.

The COVID-19 outbreak in 2020 has affected the traditional teaching mode all around the world. Educational institutions have to change the face-to-face learning mode to online, in which social media has now become an indispensable tool for both learning and teaching. The use of social media for academic purposes has been found to be an effective tool in encouraging active learning among students in higher education (Papademeriou et al., 2022).

During the COVID-19 pandemic, Rohr et al. (2022) investigated university students' engagement via Twitter in online courses. Twitter was found to be effective in helping students better

understand their course knowledge as well as in creating a space to communicate with each other. However, most of the students in Rohr et al.'s (2022) study also noted that the sense of closeness with their peers was not much improved, a finding that is contrary to that of the current study. The effectiveness of using Twitter in language learning has also been assessed in previous studies (Bushaala et al., 2020; Malik & Haidar, 2021). Student participants agreed that learning a language via Twitter was an engaging and interesting experience with more cultural exposure (Bushaala et al., 2020), and more communication and interaction with others as well (Bushaala et al., 2020; Malik & Haidar, 2021), which are also the focuses to be examined in this thesis in the context of WeChat.

Wargadinata et al. (2020) conducted a research study to explore how Indonesian students learned Arabic during the pandemic situation. By analysing 129 responses, the results showed that 1) social media was perceived as a helpful learning tool among students, which was in line with Demuyakor's (2020) study which investigated whether Ghanaian students who were studying in China were satisfied with learning online during COVID-19; and 2) students used WhatsApp the most to learn Arabic since it was easy for them to discuss in groups, share resources or host a meeting. SRL was a particular feature of this study in that, with a huge amount of information provided on social media, it was easy for students to choose different learning materials, and it offered flexibility for them to experiment with self-learning strategies in order to keep up their learning motivation. However, this study was conducted in the Indonesian context with students who were learning Arabic through social media like WhatsApp. With no access to WhatsApp in China, the results might be different for students who are learning English through WeChat.

Focusing on students' attitudes toward using social media in English language learning, Ismail et al. (2019) conducted a study among students in the English department at an Indonesian university. According to the data collected from questionnaires and interviews, the student participants stated that social media was helpful for their English language skills. The reasons why these students preferred using social media for their English learning included: 1) social media was easy to access; 2) social media provided them with additional sources and knowledge; 3) social media was interesting and fun to use; 4) accessing extensive information on social media was flexible in terms of time and space. In terms of students' perceptions of using social media to learn English, most of the participants agreed that social media was positively related to their learning motivation and interests (23% strongly agreed and 74% agreed). In particular, 85% of the participants said that they were more engaged in learning since they could access various sources and ask questions and get feedback from others "anytime and everywhere" (p. 496), which is also one of the focuses of this thesis.

Aiming to explore how social media influences students' language learning experience, Malik and Asnur (2019) collected data from students who were learning foreign languages in Indonesia. The results indicated that 1) students used their phones and accessed social media on a daily basis and they agreed that social media was helpful for their language learning since they were able to find learning materials anywhere anytime for their foreign language study; 2) many students stated that social media worked as their "vocabulary pool" (p. 171), supporting their

vocabulary acquisition because they could join learning groups or read news in the target language(s); 3) YouTube was the most popular social media used for language learning purpose among these students as it was attractive for them to develop learning interests through watching videos; 4) student motivation was also stimulated by searching and listening to songs in foreign languages; 5) students also claimed that their foreign language study was improved by language exchange with native speakers from all over the world. The affordance of easy access to social media made such networking much easier to achieve. The affordance of WeChat in influencing students' English learning experience will also be discussed in this thesis.

Social media enables frequent connections to other language learners or native speakers, and also facilitates more communication between students and teachers. Ozturk (2019) conducted a study among 176 students who were learning French at a university in Turkey. The findings suggested that the learners interacted and engaged actively when learning French by means of social media, and such platforms also offered students the opportunity to have direct communication with their teachers, which encouraged them to practise more. With the ability to share information through social media, this study encouraged teachers to join in and use social media as a tool to access and spread authentic content and sources with students.

In short, social media as an educational tool has been applied in both formal and informal learning. According to this literature review, many research studies have explored students' perceptions and experiences of using social media in formal and informal learning environments,

but few have examined the use of social media specifically to develop SRL. Therefore, the current study, set within China, will contribute a new perspective to the research literature. In addition, as examples of mainstream social media around the world, studies that explored Facebook, Instagram, and YouTube in language learning will be presented in the following sections of this literature review.

2.2.1 Facebook

Facebook's uses as a learning platform have been examined in many studies (Duong & Pham, 2022; Fithriani et al., 2019; Kitchakarn, 2016; Leung et al., 2022; Talafhah et al., 2019; Wongs & Son, 2022). A case study was conducted to identify EFL students' learning experiences with the help of social media, focusing particularly by the use of Facebook (Talahfah et al., 2019). Data were collected from 144 EFL undergraduate students in Jordan. Most of the participants stated that Facebook was the most used social media in their daily life. The results indicated that students showed strong willingness to use Facebook to learn English, which was consistent with the findings from previous studies (Al Arif, 2019; Fithriani et al., 2019).

Facebook as one of the most popular social media across the world, offers an open space for language learning in terms of exchanging ideas, asking and answering questions, sharing resources and so on (Ekahitanond, 2018). Leung et al. (2022) examined the advantages and disadvantages of using Facebook in Japanese learning by analysing the quantitative data gathered

from a questionnaire completed by 100 Japanese learners in Hong Kong. The researchers found that being convenient, free, and interactive, with rich information, were the benefits of using Facebook in Japanese learning, whereas being distracted by other feeds and a lack of systematic learning materials were cited as the disadvantages (also one of the constraining factors over students' SRL noted in the current study). The use of Facebook for EFL learners was also found to be beneficial in previous studies (Duong & Pham, 2022; Wongsas & Son, 2022) in terms of creating a flexible and interactive learning community that further promoted students' engagement, motivation and communication.

In addition to exploring students' language learning on Facebook in general, the effects of using Facebook to provide and receive feedback were also investigated by Ekahitanond in 2018. This experimental study was conducted with 40 university students and concluded that Facebook could be a helpful tool for instant feedback between the teacher and students, and also between students and students. Its use resulted in reduced linguistic errors and improved students' language ability. Peer feedback, as one of the SRL strategies observed in the current study, was also identified as a factor in promoting students' SRL development.

Kitchakarn (2016) conducted a study among a group of 86 university students who were taking an English course, to explore how students perceived social media, such as Facebook, as a learning platform with which to improve their English language performance. The results indicated that students preferred to use social media in class. The possible reason was that use of

social media like Facebook is a popular part of people's everyday life, so it is now easy to communicate with others through Facebook. In addition, students also felt that Facebook provided a space for them to study by themselves or in a group. As a user-friendly tool, Facebook also offered a good place for students to share posts and sources with each other. The results also indicated that learning through Facebook motivated students to acquire more English language knowledge by learning alongside peers and solving problems together. Another possible reason was that Facebook is a kind of environment where students are encouraged to be active learners: completing tasks on Facebook was interesting and this had a positive impact on the self-study experience of students. The author also stated that having the motivation to learn was a key factor in their students' English learning performance. The more positive their attitudes toward using Facebook to learn English, the better their course performance would be, which is also one of the focuses of this thesis in terms of students' perceptions of using WeChat for academic purposes.

Some research studies also found that particular language skills were improved with the help of Facebook, such as writing and speaking abilities (Fithriani et al., 2019; Vikneswaran & Krish, 2016). A case study conducted by Fithriani and his colleagues (2019) investigated the effectiveness of learning English through Facebook from EFL students' point of view. Based on the data analysed from "questionnaires, interview and observation" (p. 634) with 53 Indonesian university students, the results showed that all the participants used various social media applications actively, such as Facebook, Instagram, Twitter (p. 639), which showed similar results as Al Arif's study (2019), in which Facebook was the most frequently used social media

among those students. In terms of students' feelings about using Facebook to support their English study, students' responses revealed that 1) their confidence in communicating in English was improved due to their use of Facebook; 2) students' participation and engagement in English learning activities were more active with the help of Facebook. Students also liked reading their classmates' posts on Facebook and leaving their comments; 3) most of the participants claimed that after participating in an English learning group and completing writing tasks on Facebook, they were able to express their ideas in English more freely and write more in a shorter time. This all suggests that the integration of social media like Facebook has great potential to enhance EFL students' learning experience. Similar results were highlighted in Vikneswaran and Krish's (2016) study which indicated that Chinese students' English writing ability was improved by learning from each other's feedback on Facebook. They were more likely to write and discuss in English on Facebook than in class since they were less stressed and more confident about sharing their ideas with the help of "spellcheck and grammar check" (p. 297) on Facebook. Similarly, the interactive learning via WeChat will be explored in this thesis.

2.2.2 Instagram

Mainstream social media such as Instagram were not designed for educational purposes but expanded its functionality into language learning with their affordances of 'multimodality, mobility, instantaneous participation, and interactivity' (Lee, 2022, p. 14). Gonulal (2019) conducted a mixed-methods study among 97 English learners to investigate English language learners' self-led learning in the context of informal learning by means of Instagram. Similar to

Wulandari's (2019) findings, most of the participants used Instagram actively for learning English even though this app was not designed for academic purposes. The way some of the participants improved their English through Instagram was to use English only when messaging, posting, or replying to a comment. Other participants used Instagram to follow some pages which they believed were helpful for their English learning, such as BBC Learning English (p. 318). With the enjoyment of using English and the authenticity of learning materials on Instagram, the participants showed high acceptance of using Instagram for the purpose of learning English. In particular, these learners' vocabulary was improved due to the affordance of "suitability for contextualising text with visual data" (p. 318), which confirmed the effectiveness of using social media for vocabulary acquisition (Abbas et al., 2019; Malik & Asnur, 2019; Taskiran et al., 2018). In addition, almost all the participants reported that their speaking ability was improved with the affordances of social media like Instagram, which created a learning community where they could interact with others (peers, learners, and native speakers) easily without limitations of time and space, a factor that was also emphasised in other research studies (Namaziandost & Nasri, 2019; Solmaz, 2017), which is also a key point to be examined in the current study in the context of WeChat.

Wulandari (2019) conducted a study aimed to explore how EFL students perceive the use of Instagram in a speaking class and how Instagram influenced their speaking ability. A total of 28 undergraduate students who were taking an English-speaking class in an Indonesian university took part in this study. The findings showed that applying Instagram Vlog improved these students' spoken English because 1) it provided students with more opportunities to practise their

oral English out of class. Students could also review and reflect on their learning process by watching their videos; 2) the implementation of Instagram activities also contributed to vocabulary acquisition since learners could learn from peers and use words in context, which made it easier for them to memorise vocabulary; 3) the participants also stated that reviewing their own videos had a positive impact on improving their confidence and motivation to speak English more. Sharing their videos with peers was stressful at the very beginning, but also pushed them to practise more and perform better. The advantages of using video recording technologies in the EFL context were also demonstrated in previous studies (Okada et al., 2017), which also showed the usefulness of video recordings for EFL students to improve their English proficiency and to encourage them to be more confident and motivated in learning English.

In another study, Akhilar et al. (2017) examined students' perceptions of Instagram in English writing among 101 undergraduate students from Malaysia. The findings demonstrated that most of the participants agreed that both their communication with teachers and peers and their English proficiency were improved with the help of Instagram. Overall, these students were satisfied with using Instagram in their English learning experience. Mirembe et al. (2019) did a mixed-method study on how students from Ugandan universities use WhatsApp and Facebook in their learning process. They found that more than 95% of students like to use their mobile phones to access social media applications, followed by computers, and over 90% of students reported that they used social media mainly for academic purposes. With the high percentage of students using social media for learning, the authors suggested strongly that educators could link social media to their curriculum design, which is also discussed in this thesis.

Erarslan (2019) also focused on EFL university students' perceptions and experiences of using Instagram to learn English. A total of 219 participants filled in the survey, 80 students participated in the experimental stage and six of those were interviewed to gather their opinions of learning English through Instagram. The results showed that Instagram had become a part of these students' everyday life and they also used it for academic purposes, which was in line with Gonulal's (2019) findings. Similarly, another study found that students preferred to use Instagram to learn English as it encouraged them to "create a cooperative, collaborative and sharing atmosphere" (Erarslan, 2019, p. 66) and Instagram also had showed positive influence as a supplemental learning platform to support students to study autonomously out of class. As Mansor and Rahim (2017) stated, Instagram could serve as a basis for language learners to study with other people all over the world and engage in a relaxing and spontaneous environment in which to improve their language skills. WeChat shares similar functions as Instagram, so the effects of using WeChat in English learning is a major focus in this thesis.

2.2.3 YouTube

YouTube as a video sharing website has been used as a learning tool since 2005 (Ilyas & Putri, 2020, p. 80) even if the initial purpose of this platform was not for education. Wang and Chen (2020) conducted a study to examine how EFL university students in Taiwan used YouTube to regulate their English learning process. A group of 20 students was involved in this study. According to the findings, most of the participants claimed that they used YouTube to explore

resources, which not only helped them to learn the English language but also to know more about the culture. These students also agreed that using YouTube to regulate their English learning out of class was “more flexible, more interesting, and more interactive than formal learning in the classroom” because they were likely to share attractive videos with their peers after watching (p. 1).

YouTube as an English learning platform was examined by Wang and Chen (2020). Data were collected from semi-structured interviews with 20 university students from Taiwan. They found that YouTube was regarded as a “more flexible, more interesting, and more interactive” tool (Wang & Chen, 2020, p. 333) for English learning compared to learning in the classroom. Students had fairly clear goals when they watched the videos, either for academic or entertainment purposes. YouTube was watched mainly to explore and experience a different culture and find new learning resources. Many students tended to share the videos with their friends, while only a few of them would take notes from watching the videos.

Chien et al. (2020) focused on the application of YouTube to English learning with college students and investigated whether incorporating YouTube into daily English teaching would improve students’ English listening ability. A total of 38 college students in Taiwan took part in this study. The results verified that students’ listening comprehension and learning interests were improved with the help of YouTube as it provided an interactive learning atmosphere, a finding that was replicated in Ismail’s (2020) study. Students also stated that YouTube had a positive

influence on their English study as a supplemental learning tool and their English learning motivation was also encouraged when combining YouTube with traditional classroom learning, which is a part of concern in the current study.

Ilyas and Putri (2020) examined whether YouTube played an important role in improving EFL students' spoken English, rather than listening skills. A group of 48 university students from Indonesia participated in this study. The authors found that using YouTube motivated students to be more active and interactive with their classmates and teacher in class. Students were also more confident in speaking English with the help of YouTube. Hence, the authors concluded that YouTube was effective in enhancing these students' spoken English.

Previous studies have highlighted the potential of social media in supporting the language learning process as follows: assessing the various affordances of social media in facilitating the sharing and creation of new knowledge, leading to a new student-led learning mode (Ismail et al., 2019); assessing the nature of learner collaboration and interaction (Akbari et al., 2016); or examining different kinds of resources that are more entertaining and suitable for different types of learners, whatever their personality and learning style (Abbas et al., 2019; Namaziandost & Nasri, 2019); what kind of environment might allow learners to be less stressful and more confident (Abbas et al., 2019; Namaziandost & Nasri, 2019); social media opening up possibilities for learners to study anytime anywhere (Abbas et al., 2019; Reinhardt, 2019). With

all the advantages of social media mentioned above, language learning should reach for the help of social media as a learning tool (Ismail et al., 2019).

In short, the affordances offered by mainstream social media such as Facebook, Instagram, and YouTube in terms of promoting EFL learning have been well-described and developed. The effectiveness of these social media in language learning are summarised in Table 3. However, it should be noted that few such studies have been conducted in China, as those social media platforms are not available for Chinese students. This brings us to WeChat, which is one of the most prevalent social media apps in use in China and how well WeChat can support language learning will be examined in the following section.

Table 3

Comparing Affordances and Effectiveness of Social Media in Language Learning

Facebook	Instagram	YouTube
<ul style="list-style-type: none"> • convenient and easy to communicate • free • interactive • instant feedback 	<ul style="list-style-type: none"> • different ways to communicate • built learning community • collaborative • relaxing 	<ul style="list-style-type: none"> • flexible • interesting • interactive • resources sharing

2.3 WeChat in Language Learning

Due to national policy, there is no access to Facebook, Twitter, and YouTube in mainland China (Hou et al., 2021). However, the vast number of Chinese online users who are posting and messaging on social media to share their ideas has turned China into the most active online environment in the world (Chiu et al., 2012; Yu et al., 2011). Therefore, China is certainly a social-media-friendly environment and many Chinese social media applications are as famous as Facebook, especially the WeChat platform. In the current study, WeChat will be taken as the prime example of Chinese social media, which investigates students' self-regulated English learning process through a WeChat study group.

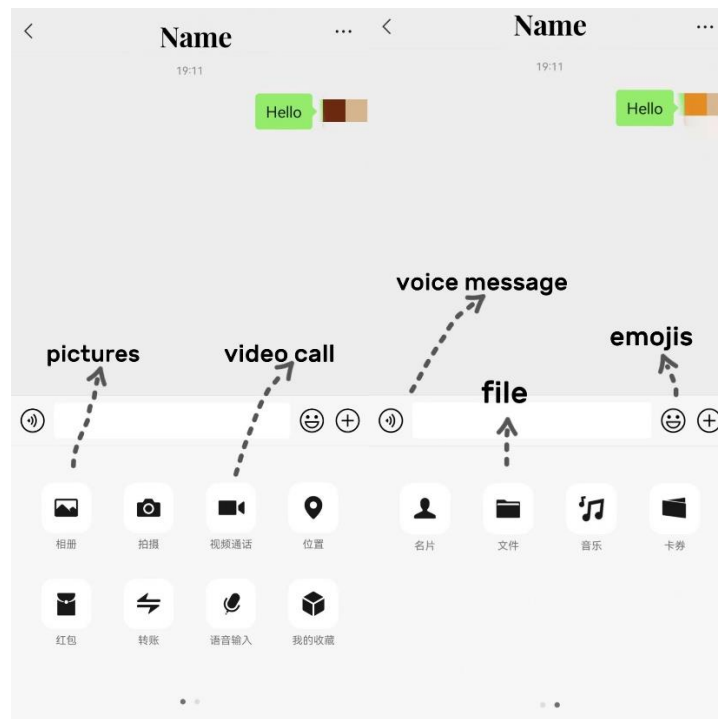
WeChat is a Chinese multi-purpose app, which was first launched in 2011 by Tencent; it offers various innovative features, such as messaging (text, voice, broadcast, video calls messaging, etc.), moments (a service where users post text, a picture and a 15-second video), and mini-programs (other apps within the WeChat app) (Guo & Huang, 2020; Jiang, 2018; Jiang & Li, 2018; Wang, 2017; Wang, 2018; Wen, 2018; Wu & Ding, 2017; Xu, 2018; Yan & Wang, 2019). There are over one billion monthly active users on WeChat, making it the most popular online service in China (Chen et al., 2020; Huang, 2019; Li, 2019; Li et al., 2020), and it has become one of the largest mobile apps in the world (Chinese Internet Network Information Centre, 2016; Hou et al., 2021; Jin, 2018). Nowadays, WeChat is no longer a simple instant messenger but has morphed into a powerful tool that is called the “app for everything” in China (Guo & Wang,

2018, p. 1). With its huge popularity and efficiency, WeChat is now being applied in education as a support tool for learning.

Designed for instant messaging, WeChat has the functionality of delivering different types of information and files in real time, having a conversation or meeting up by video anytime anywhere and so on (see Figure 1). With its “great convenience, effectiveness, and speed” (Luo & Cheng, 2020, p. 313), the advantages of using WeChat in education such as “multifunctionality, individuality, accessibility, interactivity, and affordability” have been highlighted in recent studies (Luo & Cheng, 2020; Shi et al., 2017, p. 16; Wang et al., 2016; Wu & Ding, 2017). More and more scholars believe that applying WeChat for educational purposes will enrich ways for students to learn in a more relaxing atmosphere, enable more interactions with their teachers and peers, make optimal use of their fragmented time, and provide diverse learning resources that will keep students motivated to learn (Luo & Cheng, 2020; Wang et al., 2016; Wu & Ding, 2017).

Figure 1

Screenshots of WeChat Functions



Many empirical studies have focused on the relationship between education and social media like Facebook, however, few to date have explored WeChat, even though it is heavily used in the Chinese context. Hou and his colleagues (2021) conducted a research study to investigate how WeChat impacted students' learning processes and how students felt about this experience. Data were collected from 719 university students via questionnaire responses in Tianjin, China. These students stated that WeChat helped their engagement, and they used it frequently for knowledge acquisition and discussion. However, these students also showed a neutral attitude towards the usage of WeChat for learning, since for students who could already manage their study well, WeChat had no great effect on their learning experience; while students who lack self-regulation

ability reported they might spend too much time on WeChat simply for entertainment, which would be negatively related to their academic performance. In addition to students' perceptions, this thesis also explores students' SRL process with the support WeChat.

WeChat has already been applied to the Chinese curriculum in an EFL or ESL context and people learning Chinese have also integrated WeChat into their Chinese learning process. Jiang and Li (2018) conducted a research study to investigate student attitudes towards using WeChat in Chinese language learning by using WeChat to link 15 university students who were learning Chinese in Australia with Chinese native speakers who were international students in the same university. Based on the questionnaire, ten-week WeChat group tasks, and interview, the findings indicated that these students were highly positive and satisfied with the use of WeChat as part of their Chinese learning experience because it made it interesting and enjoyable. These students also stated that WeChat provided them with opportunities to speak Chinese in a real-time situation, even if they were not in China. The usage of WeChat also encouraged more interactions among learners to practise the language in their own time after school, which "compensated for some of the limitations of classroom teaching" (p. 13). Similarly, Huang (2019) also evaluated the integration of WeChat in the Chinese as a foreign language (CFL) context. A group of 10 students who were learning Chinese at an Irish university participated in this study. The results showed that all the participants were very positive about the usage of WeChat, finding it efficient and enjoyable. WeChat helped them create a community of Chinese language and not only their linguistic knowledge but also their self-learning ability was

improved. Changing the context from Australia to China, students' attitudes and experience of using WeChat for language learning might show different results.

Searching for the literature about WeChat usage in the educational area in general, the results showed that many studies were about using WeChat for library information services in higher educational institutes (Gan, 2016; Guo & Huang, 2020; Huang & Guo, 2017; Xue et al., 2015), and many studies aimed to provide instructions or suggestions for teachers on how to integrate WeChat in their teaching programs (Li, 2019; Luo & Cheng, 2020; Wang, 2018; Wen, 2018; Wei, 2017; Yan & Wang, 2019). Others focused on learning and teaching through the WeChat public platform (Dai et al., 2018; Fu & Wang, 2020; Huang, 2020; Wang et al., 2016), which was different from the WeChat group used in the current study.

In general, previous studies of using WeChat in language learning have covered many different areas; however, studies focused on using WeChat to facilitate students' SRL have been limited, especially among EFL students studying in the Chinese context.

According to China's Development Plan of Educational Information (2010-2020), "education informatisation" has become a key term used in the drive to connect education with information technology, a drive that has led to "the reform of college English teaching", to be a compulsory course in universities in China (Wen, 2018, p. 135; Wu & Ding, 2017, p. 5847). The reform

emphasises the importance of changing the teaching mode from traditionally teacher-centred to student-centred. To achieve this, especially given restricted teaching hours in school, it has become essential to use technology as a supplemental tool (Wen, 2018; Wu & Ding, 2017). Since early 2020, due to the COVID-19 outbreak, the Ministry of Education in China has called for a national shift to online education in order to lower the risk of postponed or suspended courses (Guo et al., 2020).

As a leading social media platform in China, the use of WeChat has been prevalent among Chinese university students (Fu & Wang, 2020; Hou et al., 2021; Shi et al., 2017; Wang, 2018; Wu & Ding, 2017), and also has been heavily used in universities (Hou et al., 2021; Wu & Ding, 2017). It offers the advantages to 1) build a less stressful environment for students to express themselves compared with face-to-face learning; 2) encourage more interactions among students which makes learning more active and enjoyable; and 3) extend student's learning time beyond classroom hours to be more flexible (Na, 2018; Wang, 2018; Wu & Ding, 2017; Xu & Chen, 2020; Zeng et al., 2016). Thus, WeChat has great potential to assist students' self-regulated learning and develop a student-centred learning mode, which is consistent with the needs of college English teaching reform (Wu & Ding, 2017; Yan & Wang, 2019; Zhang et al., 2019).

According to the national syllabus and requirements for college English teaching in China, the aim is to foster university students' ability to use the English language and improve their skills comprehensively in order to fit into the development of society and meet the needs of

international communication (Jiang, 2018). Regarding out-of-school learning, Jiang (2018) explored cooperative learning with WeChat. By analysing the data from 206 Chinese university students' survey responses, the author found that all these students used WeChat and almost half of them already used WeChat to learn English. Almost all the participants agreed that they would like to use WeChat as a supplementary learning tool for their English study out of class because it is flexible, allows the sharing of resources, and facilitates communication with teachers and peers. With its multimedia aspects combining text, pictures, voice, and video, the author suggested that WeChat could construct a learning environment to keep students interested in learning and help them overcome their fear of speaking English in a way that face-to-face teaching could not: in fact, it could motivate students to learn spontaneously and autonomously. Therefore, it was believed that learning through WeChat could not only keep students engaged in learning but also be good for their ability to self-regulate their own learning. However, the questionnaire survey had no way to display the actual process of students interacting, something that will be remedied in the current study by observing participants' engagement in SRL tasks in a WeChat study group.

Guo and Wang (2018) conducted a research study to explore the integration of WeChat in college English learning and students' perceptions of using WeChat for English study. A group of 110 sophomores in Wuhan participated in this study. The results revealed that students had a positive attitude towards the implementation of WeChat to support their language learning process, which not only facilitated their communication but also enhanced their independent learning. This study was in line with Cheng and Dong's (2017) findings, which showed that 95%

of students had a positive view of using WeChat to learn English due to easy access to sharing resources, discussing with peers, seeking help from teachers, and reading and learning from other classmates' posts on WeChat. However, the data from these two studies were collected from the WeChat public platform, which is a mini program in WeChat, while the data of the current study will be collected from the WeChat study group. Compared with in the public platform, student interactions captured in the WeChat group will be more frequent and instant. Therefore, students' opinions about using WeChat to facilitate their learning might differ because of that.

Dai et al. (2018) conducted a research study to explore how the WeChat public platform influenced students' academic performance when studying English Literature. The course named English Literature is compulsory for students who major in English in China's universities and it aims to "improve students' literary appreciation and English competence" (p. 47). A total of 97 undergraduate students in Guangdong, China, were randomly divided into two groups. One group used the WeChat public platform to receive information which was complementary to what they learned in the classroom. The other group of students studied this course without the aid of WeChat. The findings confirmed the applicability of the WeChat public platform as an aid and extension for traditional teaching, and also indicated that students who studied with the help of the platform performed better in exams than the other group. These students expressed high approval of using WeChat to their daily study. In addition, learning through the WeChat public platform also stimulated these students' learning motivation, and improved both their knowledge acquisition ability and self-learning ability. However, this study was based on the WeChat public platform, which lacks an instant communication function. Hence, the current study has paid more

attention to students' SRL process and their interactions with each other in real time in the WeChat study group.

Given that most Chinese students have few opportunities to be immersed in an English-speaking environment, Shi et al. (2017) conducted a study to help students improve their English language ability by using WeChat. A total of 50 sophomores in a university in China participated in this study. Among these students, half of them were learning English in a WeChat group, and the rest were learning English without the help of WeChat. The findings showed that students who were learning English with the help of WeChat showed significant improvement in their English ability. These students agreed that they were interested in using WeChat to learn English, and found that WeChat made it easy and efficient for them to use to interact. More importantly, WeChat provided these students with an English-immersed environment which encouraged them to engage, practise and use more English. Gradually, their English proficiency was enhanced, and their learning confidence was improved at the same time. That study emphasised the benefit of using WeChat to facilitate students' English learning, even though SRL was not the focus of that study.

Jia and Hew (2022) conducted a mixed-method study to investigate the effectiveness of WeChat to support students' English listening ability. A group of 70 first-year students in the northwest of China participated in this study and were assigned to either a control group (n=33) who were asked to do the dictation test by themselves or to the experimental group (n=37) who did

dictation practice in a WeChat group. The findings showed that students were satisfied with using WeChat for English listening and the English listening ability of students in the WeChat dictation group was significantly improved. This confirmed the results from Liu's (2018) study finding that students were likely to improve their English listening through WeChat due to the advantages of instant communication and relaxed atmosphere. One significant reason might be that students learned and discussed together in the WeChat group. The frequent interaction with peers formed a kind of mutual motivation for them to practise English together (Jia & Hew, 2022), which is an important part to be explored in this thesis.

As for EFL students' English-speaking ability, Zhu (2018) conducted a study aimed to investigate university students' oral English practice on WeChat. A total of 1601 university students majoring in Business English in Wuxi participated in this study. Their teachers uploaded English resources on WeChat regularly to support student learning outside the classroom. After a semester, these students claimed that their SRL and English-speaking ability improved since they could practice their oral English at their own pace and access more learning materials on WeChat (Zhu, 2018). According to Zhu (2018), this kind of blended teaching mode also increased students' motivation for language learning. The multiple functions and resources provided by WeChat, such as voice messages, videos, and pictures, as well as instant communication, transferred the traditional teacher-centred style to a mode of learning that was more student-centred. These findings were in line with Hu's (2019) study which also focused on the integration of WeChat for students' English-speaking practice in blended teaching mode and revealed that most of the students preferred using WeChat to improve their oral English since

they could use their time flexibly to practise with their peers, seek help from teachers instantly and acquire more knowledge out of class from the resources shared on WeChat. Hence, WeChat provided a space for students to regulate their learning and interact with others freely, which is also one of the focuses in the current study.

Xu and Chen (2020) conducted a research study to investigate whether Chinese university students' speaking ability improved with the help of WeChat as an "autonomous learning community" (p. 150). A total of sixteen Chinese university students were involved in a 10-week WeChat study group: they were asked to get speaking and pronunciation materials and learn by themselves, and then upload oral recordings to the group and get feedback from their teacher. The results indicated that the group members were satisfied with the usage of WeChat as an autonomous learning platform; their pronunciation accuracy and fluency were improved, their stress about speaking reduced and the efficient instant feedback they received from their teacher was appreciated. Students' strengthened learning motivation was also emphasised by the authors. This study was in line with Xu's (2018) study in which a WeChat public account was created to share additional resources for students to learn autonomously in their own time. The results showed that the WeChat public platform had a positive influence on students' English learning evidenced by the increased learning motivation and better performance by means of the autonomous learning mode based on WeChat. Both of these two studies focused more on the results of integrating WeChat into students' SRL but offered few details about students' SRL process and how they interacted with their peers – elements to be a focus of the current study.

Zhang and Wang (2019) conducted a research study to explore the benefits and influence of using WeChat in EFL in reading. Data were collected from 65 university students in China. A total of three main advantages of using WeChat in English reading were suggested in this study: 1) with rich learning resources provided on WeChat and timely communication in the WeChat group, students' learning motivation could be stimulated and the learning time was extended outside of the classroom as well; 2) WeChat was beneficial in sharing information between teacher and students; 3) WeChat provided extra opportunities for students and teachers to communicate without the limit of time and space. Zhang and Wang's study (2019) focused more on the teacher-student relationship in the context of WeChat, whereas the current study will look at the advantages of using WeChat in EFL learning, such as instant communication and expanding learning time through SRL.

WeChat was not only popular among Chinese EFL students; it was also used by EFL learners from non-Chinese-speaking countries. Namaziandost and colleagues (2021) conducted an empirical study in Iran to explore how the EFL students used WeChat to extend vocabulary. A total of 67 EFL students were divided into two groups: one group studied via WeChat, the other via traditional instruction. The results showed that students who learned through WeChat performed better in vocabulary acquisition compared to the second group of students. The researchers suggested some possible reasons: 1) WeChat encouraged students' SRL; 2) it was convenient and efficient to share ideas through WeChat; and 3) students could access a wider

range of learning information and materials on WeChat. Other advantages of using WeChat were suggested, such as “linguistic gain, interactive convenience, feedback immediacy, and especially translation friendly to language learners of elementary level” and “a friendly and comfortable communication setting for the students” (Namaziandost et al., 2021, p. 4). These findings were in line with previous studies that found use of WeChat was positively related to EFL proficiency (Jiang & Li, 2018; Wang & Crosthwaitel, 2021), and also that it contributed to SRL development (Tong et al., 2020; Wang & Jiang, 2021). Thus, previous researchers have provided a comprehensive view of the affordances of WeChat in EFL learning, which has informed the current study aiming to explore the potential benefits of using WeChat for SRL improvement.

Although Namaziandost and colleagues (2021) noted the positive relationship between learner autonomy and usage of WeChat, they did not really explain the reasons in detail. However, Wang and Jiang (2021) conducted an empirical study among Chinese EFL students to investigate how their English writing skills and their learning autonomy were both improved with the aid of WeChat. In addition to finding that students' English writing could be improved via use of WeChat, Wang and Jiang (2021) also discussed the effect of using WeChat on learner autonomy, noting expanded opportunities to experience autonomous learning, wider availability of learning resources, benefits of peer interaction, including the opportunity to understand their strengths and weaknesses through giving and receiving feedback. Such positive results regarding WeChat's role in promoting EFL students' engagement and learning opportunities were also reflected in Wang et al.'s (2021) recent study. Similar factors were also identified in the current study and will be further discussed in the following chapter.

Several other studies confirm that WeChat is beneficial for student learning, noting the following advantages: first, it was a convenient way to access extensive resources without the limitations of time and space; second, WeChat allowed students to work at their own learning pace; third, students' interaction with peers and teachers was supported by instant communication; fourth, WeChat provided a more relaxing learning environment for students to share and express their ideas, which was motivational for students who were prone to get anxious when communicating with others face to face (Jiang, 2016; Ju & Liu, 2019; Lei, 2018). Last but not least, students using WeChat knew they could seek help and receive feedback in a timely manner, which was beneficial for their SRL experience.

Compared with the social media platforms reviewed in sections 2.2.1 to 2.2.3, WeChat shares similar affordances and benefits to language learners, as it is convenient and flexible to use and gives access to rich learning resources. It allows language learners to work within network hubs or to establish learning communities, where they can feel relaxed and often be engaged in highly interactive learning. However, WeChat has an inbuilt downside, as learners may become hooked on its social media features, which may become a distraction from their EFL learning. This could especially affect those students who lack SRL experience, as they may be tempted to use WeChat predominantly for entertainment (Hou et al., 2021).

In general, most previous studies in this area have focused on particular English language skills and knowledge with the support of WeChat, such as listening, speaking, writing, and vocabulary (Hu, 2018; Lei, 2018; Liu, 2018; Jia & Hew, 2019; Jiang, 2016; Ju & Liu, 2019; Zhang & Wang, 2019; Zhu, 2018), or have focused more on studying the results rather than the processes of SRL (Jiang, 2018; Xu & Chen, 2020). Some studies have considered the question of learner autonomy and how the support of WeChat can improve English writing ability (Wang & Jiang, 2021) or speaking ability (Xu & Chen, 2020) but none so far have considered these skills in the context of SRL. The current study will seek to fill that gap.

There is ample research on the use of popular social media in language learning (e.g., Facebook, Instagram, and YouTube) as reviewed in the previous sections (2.2.1 to 2.2.3); however, there is limited research to date that assesses the use of WeChat in language learning. Considering the large and growing number of WeChat users, it is high time that scholars explore the uses of WeChat in language learning. The findings of this study will therefore provide valuable information for the effective use of WeChat in EFL teaching and learning.

2.4 Chapter Summary

This chapter reviewed recent research studies which have informed the key content of the current study: EFL self-regulated learning in the context of social media, specifically WeChat. The review has highlighted the development of research in these fields, showing how language

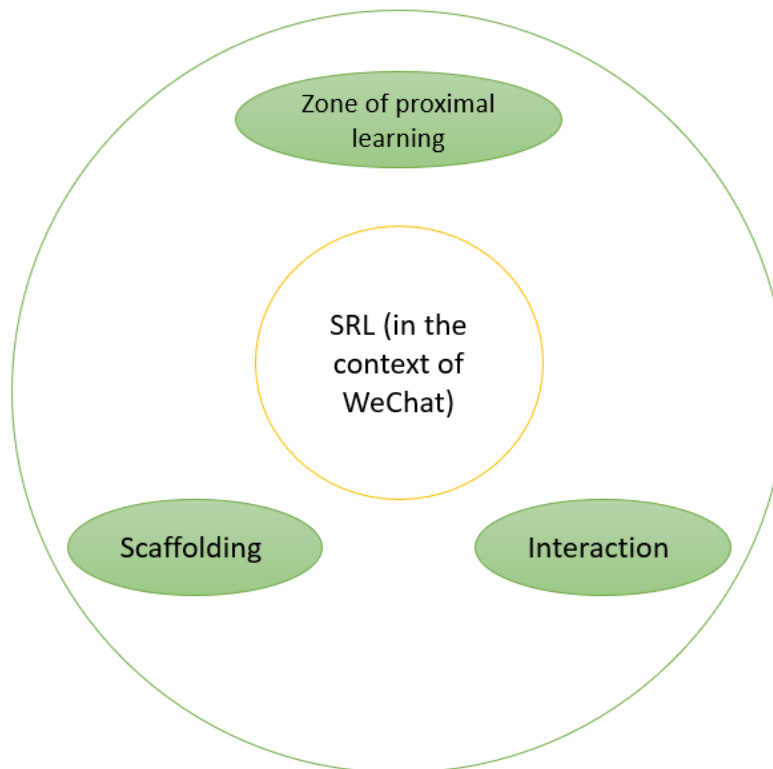
teaching and learning strategies are changing both in and out of the classroom. The online learning environment has become more and more prevalent, especially since COVID-19. Many reviewed studies pointed out the efficiency and effectiveness of using social media to regulate and extend students' language learning. Some studies examined the challenges of learning a language through social media. However, most of the reviewed studies focused on particular SRL strategies or on specific English language abilities instead of the wider SRL processes. This perceived gap in the research led to the current study's research aim to take a deeper look at Chinese students' SRL using WeChat. More specifically, the present study explored how a group of EFL university students in China understood SRL and how they used SRL strategies, and how they interacted with each other in the learning environment of WeChat.

Chapter 3: Theoretical Framework

Informed broadly by Vygotsky's (1978) sociocultural theory, this study synthesised four theoretical constructs: SRL, Zone of Proximal Development (ZPD), scaffolding, and interaction, as shown in Figure 2. This chapter discusses each construct and justifies the use of this theoretical framework in relation to the aims of this research.

Figure 2

The Theoretical Framework of the Current Study



SRL in the context of social media is the key to this model. ZPD, scaffolding and interaction, derived from Vygotsky's sociocultural theory (1978), are three essential elements influencing learners' SRL. In order to be self-regulated, learners will first go through the process of being other regulated. When learning is scaffolded by others, this can support learners to move from other-regulation to self-regulation. Students' SRL is also influenced by their interaction with the wider environment (i.e., WeChat in the current study) and with peers (Sert, 2015). With the help of scaffolding and interaction, SRL can be developed from their actual level to a proximal level, which leads to their zone of proximal learning. These concepts will guide the design of data collection and analysis to answer the research questions regarding students' perceptions of SRL, the process of SRL, as well as factors that impact SRL in the new learning environment.

3.1 Self-Regulated Learning (SRL)

SRL has been extensively explored since the 1980s as it stresses the importance of 'the emerging autonomy and responsibility of students to take charge of their own learning' (Paris & Winograd, 2001, p.5). Research has been progressively enriched and developed over decades with numerous studies conducted in different contexts, and often, from different theoretical perspectives of SRL (Paris & Byrnes, 1989; Zimmerman & Schunk, 1989) and various models of the SRL process (Boekaerts, 1996; Zimmerman, 2000) to more specific applications of SRL strategies used in different contexts (i.e., with or without technology aid). Generally speaking, SRL has shed light on research in education and related disciplines since the publication of the first papers (Panadero, 2017).

SRL refers to the self-directed learning process during which learners are able to manage their motivation and behaviours with the help of appropriate strategies in order to achieve certain learning goals (Paris & Winograd, 2003; Pintrich, 1999; Zeidener et al., 2000; Zimmerman, 2002). Self-regulated learners are usually good at managing and adjusting their learning experience with appropriate learning goals and strategies (Karlen, 2016; Zimmerman, 2002). It is especially the case that in the online learning environment students are expected to be more self-regulated in managing and monitoring their learning process (Tschofen & Mackness, 2012). As opposed to learners who are likely to use their grades as the only external sign of academic achievement, to be compared with other students, self-regulated learners pay more attention to the learning process, observing their own performance and adjusting their learning strategies based on self-reflection (Bjork et al., 2013; Karlen, 2016; Paris & Winograd, 1990; Zimmerman, 2002). In order to observe and investigate how EFL students might regulate their learning, and which SRL strategies they might use, the next subsection identifies and analyses the key elements of SRL.

3.1.1 The key elements of SRL

Self-awareness, self-motivation, and behavioural skills have been identified as the key elements of SRL (Zimmerman, 2002). Self-awareness involves learners' use of metacognitive strategies, which basically means how each individual understands their own thoughts (Cohen, 2012; Karlen, 2016; Zimmerman, 2002), and cognitive strategies, which refers to information

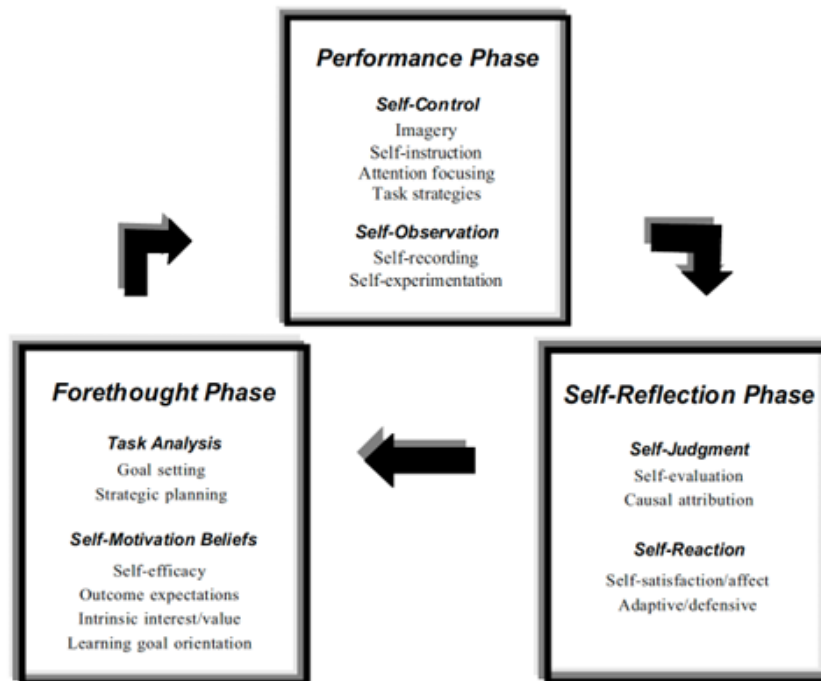
acquisition, procession, and organisation (Karlen, 2016). Self-motivation involves both self-efficacy and intrinsic interest (Zimmerman, 2002), both of which impact learners' performance and metacognitive skills (Berger & Karabenick, 2011; Bong & Skaalvik, 2003; Diseth, 2011; Liem et al., 2008; Pierce & Lange, 2000; Schraw, 1998; Sperling et al., 2004). Lastly, behavioural skills are the observable actions/strategies learners adopt to complete their learning tasks, including goal setting, strategy selection, environment selection, adaptation, self-evaluation, time management, analysis, and future planning. During this process, self-regulated learners tend to form their own learning patterns according to their particular learning environment (Zimmerman, 2002). Importantly, the process of SRL is not decided by one single factor, but involves the integration of all three key elements.

3.1.2 The process of SRL

The process of SRL has been exemplified by Zimmerman (2000, 2002) as having three cyclical phases: the forethought phase, the performance phase, and the self-reflection phase, as shown below in Figure 3:

Figure 3

The Cyclical Phases of SRL (Zimmerman, 2002)



The forethought phase refers to learners' preparation and awareness before the actual learning performance takes place: it includes "task analysis and self-motivation beliefs" (Zimmerman, 2002, p. 67). During this stage, learners are expected to set specific learning goals, as well as to plan and select appropriate learning strategies in order to complete the tasks and achieve the learning outcomes (Zimmerman, 2002). More confident learners tend to have better coping strategies for the difficulties they will encounter in learning (Bandura, 1997). Learners with intrinsic motivation usually have higher expectations for their learning goals and outcomes. During their learning process, the constant comparison between their performance with expectations could help learners to feel in control and bring a sense of satisfaction (Zimmerman,

2000, 2002). Some learners regard their achievement of the learning goals as a reward, which could maintain their long-term learning motivation (Zimmerman, 2000, 2002).

The performance phase refers to the process of learners striving to complete the learning tasks, which includes the exercise of “self-control and self-observation” (Zimmerman, 2002, p. 68). Zimmerman (2002) suggested several practical skills to help learners detect and monitor their learning behaviours, such as “imagery, self-instruction, attention focusing, and task strategies” (Zimmerman, 2002, p. 68). For example, in the context of EFL, students could memorise an English word by relating the meaning to an image or instruct themselves overtly or covertly in order to memorise the word. Students can also find their own suitable place for learning to minimise distractions. They can also use particular language learning strategies, such as targeting a keyword from a paragraph or putting different words into categories. In addition, learners can also record their learning process to discover their own learning patterns (Zimmerman, 2000, 2002).

The self-reflection phase includes “self-judgement and self-reaction” after the performance phase (Zimmerman, 2002, p. 68). Self-judgement includes self-evaluation and causal attribution. For instance, learners can evaluate their academic performance by comparing their learning process with some standards, such as their learning objective or the performance of others. They can also assess their own learning experience by analysing the causes of their failure or success. There are two forms of self-reaction: one is self-satisfaction and the other is adaptive/defensive reaction.

Being adaptive means that when facing difficulties or making mistakes, learners do not avoid these challenges but learn from them and try to perform better in the future. Learners with high self-satisfaction are more motivated and willing to engage in future learning. Learners with adaptive reactions are likely to adjust their strategies or methods in order to have a better outcome in the future. On the other hand, learners who are defensive tend to decrease or avoid learning effort in order to protect themselves from possible failure (Zimmerman, 2000, 2002).

In short, the cyclical model provides three stages within the key concepts of SRL, which will be a guide to investigate students learning goals, performance, and reflection during their learning process via social media for the current study.

3.2 Sociocultural Theory in General

Sociocultural theory was introduced by Vygotsky and his colleagues in 1930 (John-Steiner & Mahn, 1996; Vygotsky, 1978). The theory emphasises “the interdependence between individual and social process” (John-Steiner & Mahn, 1996, p. 191). According to Wertsch (1979), Vygotsky and his colleagues examined such interdependence through a developmental study following two major perceptions: a) human behaviour is mediated and influenced by symbols and tools, e.g., language; b) individual development originates from social interaction and then is internalised within a person’s internal plane.

From the perspective of sociocultural theory, the major focus is always the learning process instead of the outcome (Oxford, 1997). Embedded with assistance (i.e., scaffolding in this study) and interaction, language learning is a dialogic and collaborative process that is mediated by social and cultural contexts (Vahid & Azizullah, 2020).

Generally speaking, SRL is a key component of the learning process according to sociocultural theory. It begins with interaction with others or other-regulation, and is then internalised as self-regulation (Khaliliaqdam, 2014). The EFL student participants in this study will display the SRL process that is individually different and affected by their environment (WeChat in this study). Therefore, this study will be grounded in Vygotsky's sociocultural theoretical paradigm. In the following sections, three main aspects of the paradigm will be highlighted: zone of proximal learning, scaffolding, and interaction.

3.2.1 Zone of proximal learning

According to Vygotsky (1978), the zone of proximal development (ZPD) “is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (p. 86). Based on this definition, two levels of development are identified: “the actual development level” (Vygotsky, 1978, p. 86), which refers to what the individual can do by him/herself; the “potential development” (Vygotsky, 1978,

p. 86) level refers to what the individual can do with the assistance from an expert (De Guerrero & Villamil, 2000) or through peer interactions (Schunk, 2012).

ZPD was originally related to the development of children and viewed as a long-term process. Vygotsky (1978) explained that “learning is not development” (p. 91), but it is learning that fosters people’s ZPD. Guk and Kellogg (2007) also stressed that development will be eventually built up based on the insistence on learning. In other words, ZPD is not simply about learning; the important thing is the outcome achieved from learning (Chaiklin, 2003). Therefore, it should be noted that, as development is an ongoing and long-term process, the term *zone of proximal learning* might be more relevant for the current study than the *zone of proximal development*, considering the relatively short research period.

The ZPD emphasises the role of social interaction and mediation when people associate with others and engage in a certain context (Khaliliaqdam, 2014). Therefore, ZPD can be achieved in a socially interactive environment rather than one of individual effort (Infante & Poehner, 2019; Lantolf, 2000). The current study will focus on how participants’ ZPD or zone of proximal learning operates along with their SRL process as they study in the context of social media.

Van Lier (2014) argued that accomplishing a task individually is a performance of self-regulation, whereas ZPD relates to what learners can only achieve with others’ support. Tasks

would be beyond students' ZPD if they were not able to complete the tasks even with assistance (Baker et al., 2020; Farr, 2014). Baker and colleagues' (2020) study found that students were more likely to master what they learned when the content they received was within their ZPD. In the case of the current study, task design was meant to be strongly related to students' ZPD (or zone of proximal learning) and this guided the planning of the WeChat group tasks.

ZPD as a prerequisite is closely related to scaffolding (Fang et al., 2021; Kong-in, 2020; Mamun et al., 2020; Nazerian et al., 2021; Sharma & Hannafin, 2007; Vahid & Azizullah, 2020), which is explained in detail in the following section of this chapter. Understanding the nature of ZPD allows teachers to balance out students' strengths and weaknesses and design targeted instructions to support students to improve their academic performance and to extend their ability (Farr, 2014). However, it is worth noting that although students' individual ZPDs may vary due to differences in English proficiencies and learning abilities (Farhad & Zia, 2015; Hussin, 2008), learning new knowledge and feeling a sense of improvement in their ZPD will ultimately contribute to students' self-regulated and enjoyable learning experience (Hussin, 2008). Hence, this study paid attention to students' ZPD, giving appropriate prompting questions and instructional support to heighten students' engagement as well as to motivate them to complete their tasks.

With the integration of technology in the English language learning process, students' ZPD can be "enlarged" with the support of learning resources and frequent practice, in which the use of

technology enables easy accessibility to resources and extends opportunities for practice (Hussin, 2008). In this case, students' English learning will also enhance their ZPD as they actively access and exchange information with others in the online environment. Making use of technology effectively will also expand students' ZPD in a kind of "virtuous circle". "The more active they are in the (online environment) the higher is the tendency for them to learn and acquire new information and knowledge. Consequently, the more they learn and acquire, the bigger their potential zone will become" (Hussin, 2008, p. 2).

3.2.2 Scaffolding

Scaffolding is a concept usually discussed along with ZPD as part of sociocultural theory (De Guerrero & Villamil, 2000; Fang et al., 2021; Kong-in, 2020; Mamun et al., 2020). Scaffolding was first delineated by Wood, Bruner, and Ross in 1976 as a supportive strategy intended to help learners to complete tasks and accomplish their goals beyond their individual capabilities. From an educational perspective, scaffolding refers to the assistance provided by "peers, more able others or with a tutor" (McLoughlin et al., 1999, p. 1) to help novice learners gradually accomplish the task by themselves (Benson, 1997; Dabbagn, 2003; De Guerrero & Villamil, 2000; Sharma & Hannafin, 2007). Generally speaking, scaffolding is a kind of support given by the expert or the "more able others" (McLoughlin et al., 1999, p. 1) when necessary (Van de Pol et al., 2010). This section discusses three types of scaffolding relevant to this study: instructional, peer and technological scaffolding.

3.2.2.1 Instructional scaffolding

According to Walqui (2006), learners' ZPD can be effectively triggered if the support given by the experts is "just enough" and "just in time" (p. 165). Students' motivation to learn will be negatively influenced if they receive too much assistance with a task, or if they are unable to finish a task because of a lack of support (Dabbagh, 2003). Therefore, scaffolding can be viewed as an art of balancing assistance ([it] 'should neither be too early nor too late' (Farhad & Zia, 2015, p. 32). Scaffolding is actually a process where other-regulated learning transforms to SRL (Wertsch, 1979). In this case, scaffolding (e.g., feedback or prompting questions) forms a kind of "joint engagement" that tests students' ability in SRL (Infante & Poehner, 2019, p. 63). The point at which to remove scaffolding was addressed by Farr (2014) in a study where students "mastered the skills" and were "comfortable to do it on their own" after practising with the help of scaffolding. Gradually withdrawing scaffolding is then the key to fostering learners' SRL ability (Sharma & Hannafin, 2007). Abdullah and Yamat (2022) also emphasised the significance of scaffolding in fostering ZPD, where learners' confidence in speaking English was boosted with the help of scaffolding that guided them to complete learning tasks step by step (p. 50).

It is interesting to explore various strategies of scaffolding. Prior studies have provided several scaffolding techniques, such as identifying learning goals, giving feedback, and allowing students from different English proficiencies to share their ideas freely (Kong-in, 2020). The scaffolding process, such as clarifying, validating, and challenging students' ideas, was also

found to be beneficial for students' improvement in problem solving as well as engagement in cooperative learning (Gillies & Boyle, 2005). Moreover, several useful techniques can be applied in an online context, such as establishing an open learning atmosphere, modelling, and providing resources and guidance to complete tasks. The current study will also seek to identify a useful scaffolding process for the EFL participants and to assess how such scaffolding influenced their SRL when using social media (Dabbagh, 2003).

Instructional scaffolding, which was chosen by the researcher to use in the current study, has been previously effective in promoting students' SRL (Câmara et al., 2021; Mamun et al., 2020). According to Mamun et al. (2020), instructional scaffolding was able to “predict, observe, explain and evaluate” (p. 1) and could be embedded in students' SRL processes in an online environment. In addition to *predicting*, which referred to students' prediction of the outcomes, the following stages (*observe, explain, and evaluate*) involved students to show self-efficacy and use SRL strategies. Moreover, the researchers also pointed out several types of scaffolding questions that could support students in the online learning environment. Some questions such as “confidence check questions” as well as prompting questions were also applied in the current study to help students elaborate and reflect on their SRL process and guide them to complete learning tasks with a range of SRL strategies.

Employing instructional planning or planning prompts is another form of scaffolding initiated by more experienced teachers (Vrieling et al., 2018; Yeomans & Reich, 2017). Planning has been

shown to be an efficient mediator in relieving EFL students' anxiety when using a foreign language (Kawashima, 2019) and further improving students' engagement and academic success (Chen, 2020; Schippers et al., 2015). Facilitating students' planning for their study by asking some prompting questions was helpful for students' successful task completion and SRL development (Vrieling et al., 2018; Yeomans & Reich, 2017), and this technique was also applied in the current study by the researcher, especially in the first task when students were still unfamiliar with SRL.

3.2.2.2 Peer scaffolding

Scaffolding assistance can not only be created between teachers and students in traditional educational settings (e.g., the classroom) but also among peers in other environments (e.g., the online environment). Donato (1994) states that L2 learners were able to provide scaffolded support to their peers and positively relate to their ZPD regardless of their level of linguistic proficiency. In this case, scaffolding can not only be initiated by the more knowledgeable experts, but also by other learners with similar proficiency levels (Khaliliaqdam, 2014). Ohta (1995) also noted that scaffolding is actually a win-win strategy for both expert and novice learners since it enables both classes to benefit from learning from each other.

In addition to scaffolding from the experts, peer scaffolding is another major form of scaffolding that can promote EFL students' performance within their ZPD (Azir, 2019). It is common for

EFL students to feel anxious, embarrassed, or even frustrated when using English (Azir, 2019). Peer scaffolding is a way to create a supportive space for students to be more interactive, engaged, and confident in their EFL learning process (Azir, 2019).

Peer feedback is not only an SRL strategy but also a type of peer-initiated scaffolding. Peer feedback as a strong indicator of students' learning process, played an important role in supporting students' engagement in task completion (Robison et al., 2021) and academic performance from a different perspective (Geitz et al., 2015). Er et al. (2021) proposed dialogic peer feedback because students in higher education tend to be passive receivers, making peer feedback a one-way monologue which can lack interaction and negotiation of meaning. Taking student-centred collaborative learning which included SRL, co-regulation and shared regulation into consideration (Hadwin et al., 2017), Er et al. (2021) pointed out that effective peer feedback should be dialogic: that is, should involve planning, discussion, and transforming feedback into actual performance. In addition, prior studies have confirmed the effectiveness of peer feedback in contributing to students' development of SRL ability (Boekaerts & Cascallar, 2006; Lim et al., 2020). Thus, as an important factor impacting students' SRL process, peer feedback was evaluated based on this framework in the current study.

Winstone et al. (2017) proposed the term "proactive recipience" (p. 17) as a measure to ensure the effectiveness of peer feedback, which depends on students' engagement and responsibility. Peer feedback can be a win-win process for both the students who give and those who receive

feedback. However, being proactive is essential in “supporting self-regulated (SRL) and co-regulated learning” (Zhu & To, 2021, p. 1) as it requires students to engage and exchange opinions actively. In that study, the students who received the feedback played an important role in keeping peer feedback proactive, as the co-regulation process would be triggered when the receivers discussed feedback with their peers, and their SRL would be improved when they made further plans based on the peer feedback (Zhu & To, 2021). Students’ perceptions and performance in the peer feedback will be presented in detail in the following chapters.

Peer learning is another form of peer scaffolding. It has been defined as a learning process in which people who share similar social backgrounds support and assist each other in knowledge acquisition without direct intervention from teachers (Topping, 2005). Peer learning happens when students work together and learn from each other in both formal and informal settings (Boud et al., 2001; Lim et al., 2020). Students’ SRL ability comes into play when mutual assistance occurs among peers (Zimmerman, 1989). Therefore, peer learning has been shown to be an effective tool for improving students’ academic achievement; it also has a positive effect on students’ learning in an online environment, where the teacher's role becomes that of a facilitator and the students assume a dominant role in their mutual learning process (Lim et al., 2020; Mustafa, 2017; Sukrajh, 2018; Utha & Rinzin, 2019).

Peer learning can also occur in the context of traditional learning settings as well as in the online environment (Utha & Rinzin, 2019). Students who were too shy to speak English face to face

experienced learning satisfaction in an online environment with the help of peer learning “mediated by SRL” (Lim et al., 2020, p. 52). Peer learning enables a student-centred environment, which creates a community for active peer interactions (Lim et al., 2020). That study found that peer learning required students to be more responsible and self-regulated (Lim et al., 2020). Given the advantages of peer learning to support SRL in the new learning environment, this study aimed to investigate how students perceived and employed peer learning as a kind of scaffolding in their process of developing SRL.

3.2.2.3 Technological scaffolding

In the context of WeChat, the possible advantages of technological scaffolding must be considered. Using a foreign language presents difficulties for EFL learners which naturally impacts their performance in terms of their restricted ZPD (Fang et al., 2021). However, the use of technology-based scaffolding (often called technology-enhanced scaffolding) could alleviate these difficulties (Fang et al., 2021; Janson et al., 2020; Sharma & Hannafin, 2007). One study found that working in an online environment ensured instant feedback and provided an interactive learning atmosphere, which could “fulfil the potential” within their ZPD (Fang et al., 2021, p. 73).

Fang and colleagues (2021) categorised technology-supported scaffolding into linguistic terms, such as linguistic hints or “real-time corrective feedback” (p. 74). Similarly, Janson and

colleagues (2020) listed four kinds of technological scaffolding from previous studies: 1) procedural scaffolding, which assisted learners in being familiar with the process and resources; 2) metacognitive scaffolding, which helped learners to manage their performance based on the learning goals; 3) conceptual scaffolding, which focused on the problem solving process with the support of hints and feedback; and 4) strategic scaffolding, which further encouraged students to use various skills and strategies. Such technology-related scaffolding was also identified and discussed in the current study. In this case the scaffolding was applied in the context of WeChat use to support students as they developed SRL processes and skills, and also to encourage more interactivity during the learning process.

Previous research studies also suggested that combining technological scaffolding with other forms of scaffolding (especially teacher-directed) would be beneficial for learners as the subject experts could decide the point at which to withdraw scaffolding after evaluating learners' performance (Fretz et al., 2002; Janson et al., 2020; Puntambekar & Hubscher, 2005; Sharma & Hannafin, 2007). In the present study's context of WeChat, technology scaffolding was also used in conjunction with further scaffolding offered by the researcher. These combined scaffoldings enabled students to improve their SRL in a co-constructive and interactive way (Fang et al., 2021).

3.2.3 Interaction

Interaction as the third important concept in Vygotsky's sociocultural theory (Vahid & Azizullah, 2020), and is defined as “negotiation for meaning, and especially negotiation work that trigger interactional adjustments by the NS or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways” (Long, 1996, p. 451). Sert (2015) maintained that people interact with the environment through both verbal and nonverbal activities. He regarded interaction as essential for socialisation, and that interaction is the key “to the organisation of social actions” (Joseph, 2014, p. 7).

Interaction is also closely related to students' ZPD. Van Lier (2014) claimed that conflicts happen among learners when their ideas, knowledge, and skills are disparate. However, within social interaction, new ideas, knowledge, and skills are created when learners deal with such conflicts. Van Lier (2014) believes that it is not enough to simply provide assistance in order for learners to promote their ZPD; there are actually a variety of forms of interaction that can support students' ZPD, such as interaction with more capable, equally capable or less capable peers. The mix of learners' characteristics, context and language skills can be leveraged during the process of interaction (Van Lier, 2014). Learning occurs most readily when interactions are embedded (Vahid & Azizullah, 2020). The interaction between teachers and students as well as the interactions among students are identified as key elements that influence students' learning

process in both formal (e.g., classroom) and informal (e.g., online) settings (Hussin, 2008; Lin et al., 2020; Xie et al., 2021).

In the online learning environment, Moore (1989) identified three kinds of interactions: the interaction between students and the content, the interaction between students and teachers, and the interaction between students and their peers. The interaction between students and teachers is usually assumed to positively impact students' academic performance (Debourgh, 2003; Sun et al., 2022; Zhang et al., 2017). However, combining interactions between students and teachers, students' engagement in learning, and the learning atmosphere can form a chain and each type of interaction will mediate another. In a supportive learning environment, the interaction between students and teachers can motivate students' engagement in their learning process, and by the same token, the active engagement mediated by teacher-student interaction can promote a more motivating learning environment (Sun et al., 2022).

Routman (2005) stated that students learn more when they are able to talk to one another and when they are actively involved in their own learning. However, it is common for language learners to panic or become anxious when using a foreign language (Abdullah & Yamat, 2022). In this case, the online learning environment presents a private space for students who are too shy to speak in front of people (Hussin, 2008), and also provides opportunities for students to have more interactions with their peers beyond the limited time spent in class. EFL learning through social media is proven to be an interesting and comfortable learning environment for

such students (Abdullah & Yamat, 2022). Interaction among students is exemplified when they look for learning resources online and exchange information with their peers. In turn, with more frequent social interactions with their peers, students' self-efficacy in speaking English is promoted (Abdullah & Yamat, 2022).

Interaction also plays an important role in influencing students' SRL. The interactive regulation is the process of regulating learning through teacher–student interaction, student peer interaction, and student–content interaction (Allal, 1988). Although such joint effort has been defined in several ways — for example, as other-regulation (Donato, 2000; McCormick & Donato, 2000) or co-regulation (Allal, 2000; Hadwin & Oshige, 2011), the effectiveness of interaction in promoting student learning (Allal, 2020) is widely confirmed. In addition, peer feedback can also be scaffolded as a form of interaction that is important during the SRL process. Such communicative and collaborative interaction is a process involving students taking a shared responsibility (Jaquinto, 2017, p. 58) to reflect on their learning process and make meaningful output for their peers (Mirzaei et al., 2021; Vahid & Azizullah, 2020), which further enables the shift “from other-regulation to self-regulated functioning” (Vahid & Azizullah, 2020, p. 83).

3.3 Chapter Summary

This chapter presented the theoretical constructs which have guided the current study with the support of relevant literature. Underpinned by sociocultural theory, the integrated theoretical

framework of the current study was presented as shown in Figure 2, in which SRL was the key concept for study. The essential elements of SRL as well as the SRL process in terms of the three phases (i.e., the forethought phase, the performance phase, and the self-reflection phase) proposed by Zimmerman (2002) were explicated in this chapter. In addition, in order to illuminate the learning pathway from other-regulation to self-regulation, the chapter discussed in detail the three concepts of interaction, scaffolding, and zone of proximal learning, all of which are closely related to students' SRL development. The chapter went on to describe patterns of interaction (i.e., interactions between peers, interactions between the researcher and students), forms of scaffolding (i.e., instructional scaffolding, peer scaffolding, and technological scaffolding), as well as how students' zone of proximal learning could be relevant to their SRL development.

Chapter 4: Research Methodology

This chapter explains the design and methodology of the current study, which is based on the theoretical framework of sociocultural theory described in the previous chapter. The research design, research context and participants, data collection (questionnaires, discussion records and files on WeChat, and semi-structured focus group interviews), data analysis, trustworthiness, and ethical considerations are documented and justified in this chapter.

4.1 Research Design and Methodology

The current study is guided by the framework of research design suggested by Crotty (1998); it includes four essential elements: epistemology, which is the researchers' understanding of knowledge to guide their research studies; theoretical perspective, which is referred to as "the philosophical stance informing the methodology"; methodology, which incorporates strategies generated from a theoretical perspective applicable in the research study; and methods, which are the specific "techniques or procedures used to gather and analyse data" (p. 4).

The current study explored EFL university students' SRL process with the support of WeChat, particularly in the context of China. In this case, constructivism is the form of epistemology used in this study (Crotty, 1998). In addition, Vygotsky's (1978) sociocultural theory, and its key concepts of ZPD, scaffolding, and interaction helped to guide the research design following the chosen theoretical perspectives (see sections 3.2.1, 3.2.2, and 3.2.3).

In order to “provide the most complete analysis of problems” (Creswell & Clark, 2017, p.13), the current study is an intervention case study, because 1) an in-depth case is able to provide a holistic view of the study context (Yin, 2014). The case in this study consisted of a group of students (n=10) who formed a WeChat group to complete learning tasks; 2) the design of the WeChat group tasks was based on the cyclical phases of SRL proposed by Zimmerman (2000) and the topics of the tasks were designed to fit the *College English Curriculum Requirements* (2007) in China and also to suit other requirements, such as the Test for English Majors – Band 4 (TEM-4), a national English test for university students in China (see also section 4.3.2); 3) this study focuses more on students’ SRL process with the help of WeChat than only focusing on their learning outcomes; 4) the intervention would offer a supportive way to ‘monitor students’ learning’ and ‘reinforce positive learning’ (Araka et al., 2020, p. 2). In the current study, the intervention was initiated by the researcher to guide students to go through the SRL process by asking prompting questions; and 5) the intervention in the SRL process could trigger the improvement of students’ academic performance, especially in the online learning environment (Araka et al., 2020; Bai et al., 2021; Lodge et al., 2019; Suhandoko & Hsu, 2020; Teng & Zhang, 2020).

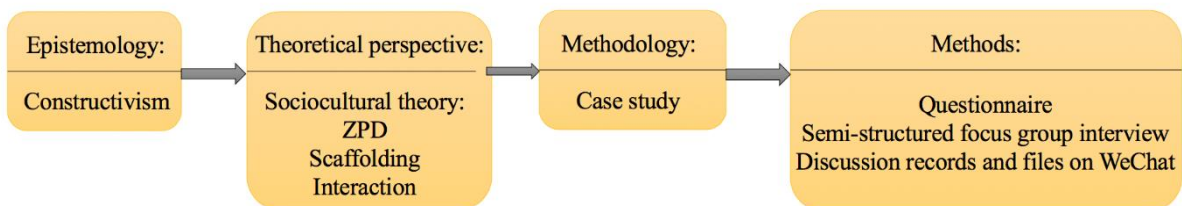
Recent research highlighted the effectiveness of providing instructional intervention in fostering students’ SRL ability (Chen, 2022; Hadwin et al., 2022; Núñez et al., 2022). The presence of the researcher as a participant who provides instructional prompts during SRL interventions was

found to help enhance undergraduate students’ “academic performance, strategy engagement, and motivation”, and at the same time, mitigate potential negative impacts caused by COVID-19 (Hadwin et al., 2022, p.4). Instructional interventions were also found to be effective in improving students’ knowledge of SRL, their usage of SRL strategies, and their engagement in SRL in the context of elementary school (Núñez et al., 2022) as well as the context of teaching and learning English as a second language (Chen, 2022). In alignment with the research findings, this study chose to apply the researcher as a participant-oriented instructional intervention to guide the target group of university students’ SRL process.

Grounded in the qualitative research study, questionnaires, discussion records and files on WeChat, and the semi-structured focus group interviews were the methods for data collection. The framework for design and methodology of the current study is shown in Figure 4.

Figure 4

Research Design and Methodology, Adapted from Crotty’s (1998) Research Process



4.2 Research Participants and Context

College English is a compulsory EFL course in Chinese higher education¹. China's College English Curriculum Requirements (2007) also requires the incorporation of information technology into English education in order to change the traditional teacher-centred learning mode to a more student-centred learning environment. The requirements highlight the importance of raising students' interest in learning English, linked with promotion of their SRL ability (Cheng & Dong, 2017; Guo & Wang, 2018). WeChat has become an integral part of people's daily life, especially among Chinese university students. It has become one of these students' favourite social media apps and can also be used as a supplementary learning platform alongside classroom teaching and learning (Wu & Ding, 2017).

Participants for the intervention case study were selected based on the purposeful sampling method (Wu et al., 2014). There were three selection criteria: 1) university students whose native language was Chinese; 2) students who had indicated in the questionnaires that they had experience of using WeChat for English learning; and 3) students who had completed the questionnaires and given consent to participate in the WeChat group tasks. The use of targeted participants in a closely defined context was expected to provide in-depth insights for this study,

¹ College English is a compulsory foundation course for all non-English major students, which is offered in the first and second semesters (Department of Public Studies, 2015). The English major is the discipline which aims to cultivate senior English professionals with a solid knowledge foundation and cultural knowledge (The Ministry of Education, 2018).

even if the sample population was small, in keeping with the parameters of many qualitative research studies (Wu et al., 2014).

The current study was conducted in a “double-first rate” university in central China. The reason for choosing this university is that it ranked as a 2nd tier higher education institution with multiple disciplines, in which over 500 students are majoring in English. Compared to 1st tier universities, there are three times more 2nd tier universities in China. Therefore, this university was chosen to represent the broad population of EFL university students in China.

An English teacher in the School of Education at this university was contacted to help share information about this research with students who were potential participants. The forms PCF and PIS, and a link to the questionnaire, designed by REDCap, were shared by the teacher in WeChat groups. A total of 78 students submitted their responses to the questionnaire, and 10 of them were willing to participate in the following stages of this research study (i.e., SRL tasks in a WeChat study group, and semi-structured focus group interviews). All these students’ native language was Chinese, so English was a foreign language for all of them.

As this is an intervention study, the researcher assumed more than one role in the study. First, the researcher acted as a facilitator by designing appropriate scaffolding to guide students on the path from their initial level to their potential raised level of ZPD. Second, since improving

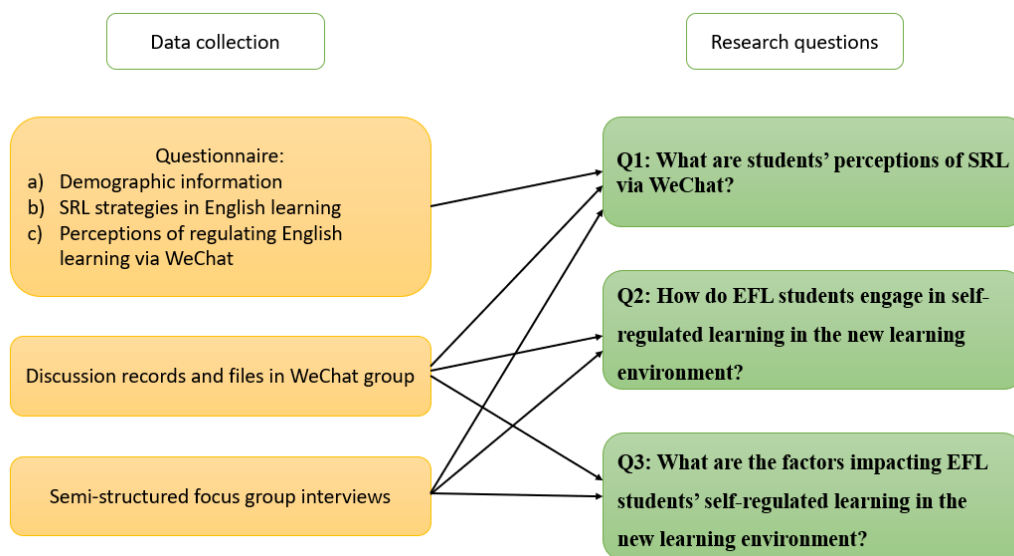
students' SRL ability is a process from other-regulation to self-regulation (Fang et al., 2021), the researcher's role switched from emic (an insider involved in students' learning process) to be more etic (an outsider or observer) in the process of withdrawing the scaffolding (Punch, 2013; Simon, 2011).

4.3 Data Collection

The study data consisted of questionnaires, students' work from the designed tasks, discussion files and records in the WeChat group, and semi-structured focus group interviews. It was planned to collect data face to face at the university but due to the travel bans caused by COVID-19, the data collection plan changed to online. The relationship between the data collection methods and the three research questions were shown in the figure below:

Figure 5

Data Collection Methods and Research Questions



4.3.1 Questionnaire

The questionnaire is an important tool to gather a large bank of information including “factual information” and participants’ “attitudes, values, opinions and beliefs” (Punch, 2013, p. 99). The use of questionnaires allows the collection of more data with lower costs and avoids interruptions or potential bias from researchers as well (Oppenheim, 2000).

The questions were adapted from previous research studies (Berger & Karabenick, 2011; Fan, 2011; Lai & Gu, 2011; Pu, 2009). A link to the questionnaire was created by REDCap and sent to students via WeChat. The questionnaire included three parts (see Appendix A). Part 1 aimed to collect data about participants’ demographic information and their experience of using WeChat to learn English. In terms of students’ learning experience, questions (1.5 to 1.7) were adapted from Fan’s (2011) questionnaire questions, which collected students’ views on Web-based learning. Part 2 of the questionnaire was designed to investigate students’ SRL strategies in English learning. Questions (2.1 to 2.18) were adapted from published questionnaires that focused on the usage of various SRL strategies and also on students’ motivation towards the SRL process (Berger & Karabenick, 2011; Fan, 2011; Pu, 2009). Part 3 of the questionnaire focused on students’ perceptions and attitudes towards using WeChat to regulate their English learning. Questions (3.1 to 3.19) were adapted from Lai and Gu’s (2011) survey questions, which gathered feedback on how students regulated their language learning through technology. Except for Part 1, which included multiple choice questions and text boxes to fill in the blanks, the other two

parts were designed to follow the Likert scale, which ranged from 5 (strongly disagree), 4 (disagree), 3 (not sure), 2 (agree), to 1 (strongly agree).

In addition, a pilot study was conducted four times to ensure the feasibility and content of the questions and answers before sending out the questionnaire link. The suggestions and amendments for each round are shown in Appendix B.

The questionnaires answered the first research question, which was about students' perceptions of SRL and the strategies they adopt to engage in English learning via WeChat. It was a part of the design process for the following case study. Students' perceptions of SRL learning could inform the scaffolding that would be provided in the WeChat group. This was also an informative process to ensure students understood the commitment for the second stage of this study.

4.3.2 Intervention tasks

As stated in 4.1, the design of the intervention tasks followed the guidance of Zimmerman's (2002) three phases of SRL (i.e., the forethought phase, the performance phase, and the self-reflection phase). As shown in Table 4, students' SRL process was scaffolded by prompting questions that did not specifically tell students what they should do but guided them to consider their learning process and reflect on their SRL experience. Generally speaking, all tasks followed

this design. However, it should be noted that not all SRL strategies were covered in Task One, especially during the forethought phase, as students were not familiar with them at that point in time. The prompting questions for strategic planning were prepared but not asked in Task One to avoid overwhelming students with too much new knowledge at the very beginning. However, additional SRL strategies and activities (e.g., the debate) were incorporated in the following tasks, as students became better at processing them. Appendix C shows the detailed design of the four WeChat group tasks.

Table 4

Design of the Intervention Tasks

	SRL strategies involved	Example of prompting questions
The forethought phase	Goal setting	What would be your learning goal for this task?
	Self-efficacy	Are you confident in finishing this task?
	Strategic planning	What do you plan to do in order to achieve your learning goal?
The performance phase	Planning	What do you want to cover in your writing?
	Self-recording	What is your learning process?
	Attention focusing	Have you been distracted by anything?
The self-reflection phase	Self-evaluation	Have you reached your learning goals?
	Self-satisfaction	What do you think of your performance (satisfied/unsatisfied), and why?

Adaptive/defensive

What do you plan to do next time?

Note: More than one prompting question for each SRL strategy was possible.

As all the participants were first year students, the College English Curriculum Requirements (CECR, 2007) as well as the compulsory TEM-4 were also taken into consideration. According to CECR (2007), there were three levels of requirements: basic, intermediate, and advanced. Considering the participants were majoring in English and Japanese but were still in their first year, the intermediate level requirement was applied to the task design as follows: 1) writing, which required students to demonstrate complete content, clear expression, and good organisation with no less than 160 words in 30 minutes; and 2) speaking, which asked students to be able to express their own ideas in English fairly fluently with reasonably correct pronunciation. The topics and skills relating to each task are shown in the table below:

Table 5

Task Topics and Skills

	Task	Skill
Task One	My vacation plans	Writing
Task Two	Recommending your favourite book/music/movie, etc.	Speaking
Task Three	Learning online & learning in class	Writing

Task Four

Choose a major for a good job vs. for interest

Speaking

As shown in Table 5, Task One was a writing task, and the designed final product was to write a narrative text with 160 to 200 words in 30 minutes. The design of this task was to foster students' writing efficiency with a time limit and help them practise English writing based on their personal experiences. Task Two was a speaking task which required students to have a short recording of their presentation with at least three reasons for their recommendation. Task Three was a writing task which asked students to write a persuasive text with over 160 words based on their understanding of the topic. Task Four was a speaking task which required students to have a short recording of their presentation about whether they would prefer to choose a major which may guarantee a good job or choose a major for personal interest.

4.3.3 Discussion records and files on WeChat

In this study, WeChat was used as the learning platform for students to learn English outside of class. English teachers were not in the study group in order to avoid potential power relations or coercive relationships. As a member of the WeChat group, the researcher conducted participatory observations and facilitated the completion of group learning tasks.

There were 10 participants in the WeChat study group. They were all first-years who were majoring in English and Japanese. During this stage, students finished four English learning

tasks (two writing tasks and two speaking tasks) in four weeks (one task for each week). The design of each task followed Zimmerman's (2002) three phases of SRL (i.e., the forethought phase, the performance phase, and the reflection phase) in order to investigate students' usage of SRL strategies as well as their overall learning process. Due to students' availability, the number of participants at each phase of each task varied, as these students had been notified at the very beginning that they were free to skip or even withdraw from this study at any point.

Each task was finished within three days in order to avoid overload and maintain consistency. Depending on students' availability, the forethought phase was covered on the first day. Students would have the second day to finish the performance phase on their own, and the reflection phase of the task would be finished on the last day. Students' engagement and interaction with each task in the WeChat group was equivalent to approximately two hours per week, which was a manageable and acceptable amount of time for the participants. When there were no tasks to do, students were also free to share English-related resources and ask questions in the group.

All the students' discussions and ideas posted to the WeChat group were collected by screenshots and transcripts, including text messages, voice messages, pictures, and files that they uploaded to the group. All these materials were analysed based on Zimmerman's (2002) three phases of SRL and the three key concepts (i.e., scaffolding, interaction, and zone of proximal learning) to answer all three research questions in terms of students' perceptions of SRL, employment of SRL strategies as well as influencing factors in the context of WeChat.

4.3.4 Semi-structured focus group interviews

The third stage of data collection included the semi-structured focus group interviews with the WeChat group members. These took place after students finished all the learning tasks with the aim to explore additional information about their SRL process in the new learning environment.

Semi-structured interview has been used in almost all kinds of qualitative research studies (Morse & Richard, 2012). With open-ended questions planned ahead of time, and with more freedom to adjust probes during the interview, interview questions were designed for focus groups after finishing the four English learning tasks in the WeChat group (see Appendix D).

The focus group interview is less time-consuming than the individual interview, and it is thought that constant interactions in a focus group might prompt participants to produce more in-depth data during the discussions (Morgan, 1996).

After finishing the four learning tasks in the WeChat group, the 10 group members were divided into two focus groups based on their preference of time slots for the interview. In order to avoid the difficulty of management and potential restriction of detailed responses due to the larger size of a focus group, each group had only five participants, which was an ideal number to explore deeper ideas from each student (Krueger, 2014). Both interviews were conducted via Tencent Meeting which is widely used in China and which has similar functions to both Zoom and Skype. One group spent one hour and 15 minutes and the other group spent one hour on the interview. Both meetings were audio only and recorded after getting consent forms from all

students. Separate transcriptions for each meeting were also sent to relevant participants, who signed to review the transcriptions on PCF.

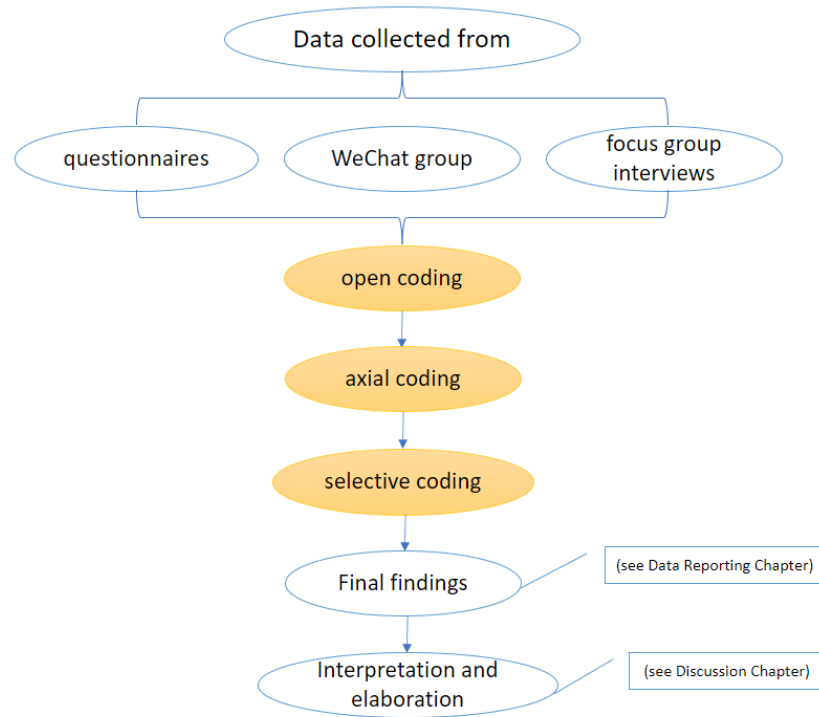
There were 12 interview questions in total, which were adapted from previous studies focusing on students' perceptions of learning with the help of technology (Abdous et al., 2009; Chou & Chen, 2010; Jarvis & Achilleos, 2013). These questions were expected to help the participants reflect on their SRL experience in the WeChat group and to see if they had extra ideas or different perceptions to add, which could provide more in-depth information on all three research questions, as shown in Figure 5.

4.4 Data Analysis

All data were analysed based on the collected questionnaires, transcripts from the discussion records and files on the WeChat group, as well as focus group interviews. Adapted from Neuman's (2014) successive approximation, the current study involved three stages of coding (see Figure 6): first, open coding, which referred to condensing the massive raw data to be categorised and theme-based; second, axial coding, which referred to identifying the links between data; third, selective coding, which referred to picking up the ones from previous stages that were well-developed and could support the statements.

Figure 6

Process of Coding, Adapted from Neuman's (2014) Analysis of Qualitative Data



4.4.1 Analysis of questionnaire responses

The questionnaires survey received 85 responses with 7 duplicated ones due to repeated submissions. They were retrieved as an Excel spreadsheet automatically with the aid of REDCap and analysed by percentage by the researcher manually. Based on the themes of the questionnaire and how each question interprets the research question, several pie charts and figures were created to present the data in detail in the next chapter.

Table 6*Coding Process of Data Collected from Questionnaire Responses*

Open coding	Axial coding	Selective coding
Demographic information	<ul style="list-style-type: none"> • Demographic information: 1.1 – 1.4 • Online English learning experience: 1.5 – 1.7 	
Students' usage of SRL strategies in English learning	<ul style="list-style-type: none"> • elaboration: 2.1 • planning of study: 2.2 • goal setting: 2.3 • planning of time: 2.4 • task strategies: 2.5 • self-evaluation: 2.6 • effort making: 2.7 & 2.9 • adaptive interference: 2.8 • motivation: 2.10 & 2.12 • help-seeking: 2.11 	<ul style="list-style-type: none"> ○ Calculated by percentage ○ Presented and compared by tables and figures ○ Referred back to RQ1: What are students' perceptions of SRL via WeChat
Students' perceptions of learning English via WeChat	<ul style="list-style-type: none"> • advantages of learning English via WeChat: 3.3, 3.4, 3.6 – 3.9, 3.16 • compared to learning in the classroom: 3.5, 3.10, 3.11 • improvement of English abilities via WeChat: 3.12 – 3.15 	

As shown in Table 6, in order to analyse questionnaire responses, themes were categorised during the open coding stage (i.e., students' demographic information, usage of SRL strategies, and perceptions of SRL via WeChat). Then during the axial coding stage, different questions were further categorised. Questions with similar focuses were coded into the same category during this stage. In the final stage of selective coding, the coded data from the previous stages were calculated by percentage and presented by tables or figures to show similarities, and

differences and overall trends. In terms of the research questions, the data extracted from the questionnaires were found to support research question one: What are students' perceptions of SRL via WeChat?

4.4.2 Coding process in relation to WeChat group tasks

Qualitative data from the WeChat study group were categorised and coded following the qualitative content analysis (Drisko & Maschi, 2015) with a process of successive approximation (Neuman, 2014). As “a systematic method for searching out and describing meanings within texts” (Drisko & Maschi, 2015, p. 88), this process involved the analysis of meaning from both manifest and latent content, covering main points and themes as well as contextual information (Mayring, 2010) and played an essential role in extracting expanded data from original texts (Drisko & Maschi, 2015). Successive approximation is a useful approach to analysing qualitative data, which “repeatedly moves back and forth between the empirical data and the abstract concepts, theories, or models, adjusting theory and refining data collection each time” (Neuman, 2014, p. 519). This kind of repetition allows abstract concepts to be linked to concrete evidence, and to “reflect the evidence better” (Neuman, 2014, p. 519).

As shown in Table 7, at the open coding stage, the raw data from the transcribed records and files were categorised based on the three phases of SRL for each task. Then, the roughly coded clusters from the initial stage were further analysed into specific SRL strategies in each phase

during the axial coding stage. At the selective coding stage, the data coded from the previous stage were found to be closely related to all three research questions. This enabled the retention of key data that could support the research questions. These key data were further calculated and expressed as percentages, and the frequency and links between coded data were illustrated in tables and figures.

Table 7

Coding Process of Data Collected from Discussion Records and Files in the WeChat Group

Open coding [↙]	Axial coding [↙]	Selective coding [↙]	Example [↙]
↙ ↙ The forethought phase [↙]	• Goal setting [↙]	○ referred back to research questions, and kept the key codes from the previous stage [↙] ○ data were mainly calculated by addition and percentage [↙] ○ using tables and figures to show the overall trend and frequency [↙]	e.g., “ <i>My learning goal is to improve my writing level in this writing.</i> ” [↙]
	• Strategic planning [↙]		e.g., “ <i>(I) write down an outline, look up words, read over the draft, listen to the standard pronunciation, practise many times, and finally record it.</i> ” [↙]
	• Self-efficacy [↙]		e.g., “ <i>Not really. I think I may need to look up for words and edit and check my writing as well, which are also time-consuming.</i> ” [↙]
↙ ↙ The performance phase [↙]	• Planning [↙]		e.g., “ <i>I hope to include two aspects...</i> ” [↙]
	• Self-recording [↙]		(students’ speaking recordings or writing texts uploaded to the group) [↙]
	• Task strategies [↙]		e.g., “ <i>(I) find a quiet place to avoid distractions.</i> ” [↙]
	• Attention focusing [↙]		e.g., “ <i>No. My best friend sent messages to chat with me.</i> ” [↙]
↙ ↙ The self-reflection phase [↙]	• Self-evaluation [↙]		e.g., “ <i>I took a longer time than expected to finish my writing.</i> ” [↙]
	• Peer feedback [↙]		e.g., “ <i>I think what Fiona wrote about online learning was really nice!</i> ” [↙]
	• Self-satisfaction [↙]		e.g., “ <i>I think what Fiona wrote about online learning was really nice!</i> ” [↙]
	• Adaptive interference [↙]		e.g., “ <i>Next time, I think I can roughly write down a draft on the paper, and then check some words to avoid mistakes.</i> ” [↙]

It should be noted that dialogue analysis was also included in the coding scheme when analysing students' interaction purposes and patterns, as shown in Table 8. Dialogue analysis followed Hennessy et al.'s (2016) coding scheme for several reasons: 1) it focused on the analysis of dialogue in the educational context, especially in higher education and learning with technology; 2) this coding scheme is based on sociocultural theory and emphasises the importance of peer interaction as well as teacher-student interaction (as does the current study); and 3) it reinforces the dynamic role of interaction in terms of the dialogue between peers and also between students and teacher (the researcher in this study).

Table 8

Dialogue Analysis of Interaction Purposes

Open coding ^o	Axial coding ^o	Dialogue analysis of interaction purposes ^o	Example ^o
<ul style="list-style-type: none"> - During the forethought phase^o - During the performance phase^o - During the self-reflection phase^o 	<p>Interaction patterns:^o</p> <ul style="list-style-type: none"> ➤ interaction between peers^o ➤ interaction between the researcher and students^o 	➤ Expressing ideas ^o	e.g., <i>"I think words and grammar might be the challenges."</i> ^o
		➤ Agreeing/confirming ^o	e.g., <i>"I agree". / "Good points."</i> ^o
		➤ Asking and answering questions ^o	e.g., <i>"What do you plan to do next time?"</i> ^o e.g., <i>"Practise more and listen to English more often."</i> ^o
		➤ Building on ideas ^o	e.g., A student added her point of view, <i>"Money is not everything; but it is absolutely impossible without it"</i> ^o
		➤ Phatic communication ^o	e.g., <i>"Your English is so nice!"</i> ^o
		➤ Positioning ^o	e.g., <i>"I think learning online is better. The reasons are as follows..."</i> ^o
		➤ Making reasoning explicit ^o	e.g., <i>"In my opinion, we're more focused when we're learning in the classroom. Besides, the teachers know students better and are more likely to give efficient feedback."</i> ^o
		➤ Reflecting on the learning process ^o	e.g., <i>"I am satisfied because I think my writing expresses my thoughts clearly."</i> ^o
		➤ Providing feedback ^o	e.g., <i>"I think Fiona's writing is very good! Especially the part of 'online learning'; both the advantages and disadvantages of learning online were very clear."</i> ^o
		➤ Guiding dialogue ^o	e.g., <i>"Anyone else?"</i> ^o
➤ Inviting elaboration ^o	e.g., <i>"What kind of distractions?"</i> ^o		

Note: The expression “interaction purposes” follows the cluster name in Hennessy et al.’s (2016) Scheme for Educational Dialogue Analysis (SEDA).

With the help of the dialogue analysis coding scheme proposed by Hennessy et al. (2016), the interactions were first roughly categorised based on the three SRL phases in the open coding stage. Then, two main interaction patterns were coded during the axial coding stage: the interaction between peers and the interaction between the researcher and students. Moving on to the more detailed dialogue analysis, various interaction purposes were identified in the final stage as listed in Table 8. These selected data were calculated by percentage and illustrated by tables.

4.4.3 Coding process in relation to focus group interviews

Similarly, as the data collected from the semi-structured focus group interviews were also qualitative data, these data were coded and analysed following the same procedure, with the aid of qualitative content analysis.

Table 9

The Coding Process of Data Collected from the Focus Group Interviews

Open coding ^o	Axial coding ^o	Dialogue analysis of interaction purposes ^o	Example ^o
<ul style="list-style-type: none"> - During the forethought phase^o - During the performance phase^o - During the self-reflection phase^o 	<ul style="list-style-type: none"> Interaction patterns:^o ➤ interaction between peers^o ➤ interaction between the researcher and students^o 	➤ Expressing ideas ^o	e.g., <i>"I think words and grammar might be the challenges."</i> ^o
		➤ Agreeing/confirming ^o	e.g., <i>"I agree"</i> . / <i>"Good points."</i> ^o
		➤ Asking and answering questions ^o	e.g., <i>"What do you plan to do next time?"</i> ^o
		➤ Building on ideas ^o	e.g., A student added her point of view, <i>"Money is not everything; but it is absolutely impossible without it"</i> . ^o
		➤ Phatic communication ^o	e.g., <i>"Your English is so nice!"</i> ^o
		➤ Positioning ^o	e.g., <i>"I think learning online is better. The reasons are as follows..."</i> ^o
		➤ Making reasoning explicit ^o	e.g., <i>"In my opinion, we're more focused when we're learning in the classroom. Besides, the teachers know students better and are more likely to give efficient feedback."</i> ^o
		➤ Reflecting on the learning process ^o	e.g., <i>"I am satisfied because I think my writing expresses my thoughts clearly."</i> ^o
		➤ Providing feedback ^o	e.g., <i>"I think Fiona's writing is very good! Especially the part of 'online learning'; both the advantages and disadvantages of learning online were very clear."</i> ^o
		➤ Guiding dialogue ^o	e.g., <i>"Anyone else?"</i> ^o
➤ Inviting elaboration ^o	e.g., <i>"What kind of distractions?"</i> ^o		

As shown in Table 9, in the open coding stage the transcribed data gathered from students' responses in the focus group interviews were first categorised in terms of their perceptions of regulating English study before and after joining the WeChat group and also capturing their thoughts about future learning based on this experience. Then, the data were further categorised based on the keywords in the interview questions during the axial coding stage, as shown in the table above. In the final selective stage, the data coded from the previous stage were reviewed and categories were adjusted based on the key information gathered from students' responses.

Compared to data from open coding, at the selective coding stage, themes were adjusted thus: 1) students' perceptions of regulating their English learning via WeChat (mainly from questions 1, 2, 5, 6, and 8 to 12); and 2) the impacting factors that influenced students' SRL experience with the support of WeChat (mainly from questions 3, 4, and 7). Similar to the coding from the WeChat group, the data analysed from the focus group interviews were also closely related to all three research questions. This meant the data could provide additional information regarding the impacting factors and further understanding of students' SRL process in the context of WeChat.

4.5 Trustworthiness of the Current Study

According to Guba (1981), there are four criteria of trustworthiness for qualitative studies: 1) credibility, which was defined as “the reality of situation” (p. 84), implying that researchers needed to present a real picture of the study; 2) transferability, which means that with enough contextual information people would be able to apply the findings to a similar environment; 3) dependability, which means that a research study could be repeated; 4) confirmability, which referred to the objectivity of the results and absence of researcher bias. In order to ensure the trustworthiness of the current study, the research design and methodology were based on Guba's (1981) four criteria and Shenton's (2004) strategies (see Table 10):

Table 10*Trustworthiness of the Current Study*

Guba's criteria (1981)	Shenton's strategies (2004)	The current study
Credibility	a) Adoption of research methods	Questionnaires and interview questions in the current study were adapted from previous studies.
	b) Triangulation	The current study involved questionnaires, semi-structured focus group interviews, discussion records and files recorded on WeChat.
	c) Honesty of participants' responses	All participants were selected on a voluntary basis, and they could choose to withdraw at any stage. There was no unequal power relationship between the researcher and the participants and only students and the researcher were allowed to join the WeChat group in order to avoid any coercion.
	d) Peer scrutiny	A pilot study of all the questions was implemented four times and then refined based on peer feedback.
	e) Member checks	The transcripts of the interviews were sent to the participants to check credibility (see Appendix B).
Transferability	Providing contextual information.	It is hard for a qualitative case study to be generalised to other contexts, but the research design and methods could be transferred to other contexts. Based on the contextual information of the research design provided above, the actual process of implementation and data

Dependability	The process of the study should be in detail.	collection as well as data analysis were recorded step by step.
Confirmability	Triangulation	<ol style="list-style-type: none"> 1) Critical self-reflection was applied to reduce research bias. 2) The research data and findings were presented to a wider audience through conference presentation or publication to ensure confirmability.

4.6 Ethical Considerations

Since Chinese undergraduate students were involved in this research study, ethical issues were strictly grounded by the rules and got the approval of the Human Research Ethics Committee of the University of Sydney. All data were kept confidential. All participants in the current study were informed about each procedure in detail. This study was conducted after participants were fully briefed on their roles and the study rules and signed consent forms. All participants joined this study voluntarily and were informed that they could withdraw from the project at any stage. The ethics approval was attached as Appendix E.

4.7 Chapter Summary

This chapter presented the methodology of the current study in terms of overall research design, research participants and context, specific methods of data collection, the process of data analysis, trustworthiness as well as ethical considerations. In detail, why the participants and university were chosen, how the three instruments were forwarded to students, and how each method related to the research questions were listed. In addition, with the support of literature

references, the process of data analysis with associated coding was also outlined in this chapter. Following the coding of data collected from questionnaires, the WeChat study group, and focus group interviews, the final findings will be presented in the next chapter.

Chapter 5: Data Reporting

In order to answer the three research questions regarding students' perceptions of SRL, their engagement with SRL strategies via WeChat, as well as the factors which influenced their SRL process, this chapter collates and displays the data analysis results: they include responses gathered from the questionnaires, discussions recorded in the WeChat group and semi-structured focus group interviews. The questionnaire mainly collected numerical data, whereas the qualitative data was extracted from the discussion records from the WeChat group and semi-structured focus group interviews.

5.1 Questionnaire

The questionnaire mainly focused on three aspects: 1) students' demographic information and their general view of using WeChat to learn English; 2) students' learning motivation and prior use of SRL strategies when studying English; and 3) students' perceptions of learning English through WeChat.

5.1.1 Students' demographic information and general view of using WeChat to learn English

As shown in Table 11, a total of 85 responses were received from the questionnaire, of which seven were repeated and were therefore excluded from this study. Of the remaining 78 valid

questionnaires, all the participants were from the Faculty of Foreign Languages, two of them (2.6%) preferred not to mention their major and degree. A total of 56 students (71.8%) majored in English, 16 students (20.5%) majored in English and Japanese, and four students (5.1%) majored in English translation. A total of 43 students (55.1%) were first-year students, 29 students (37.2%) were third-year students, and four students (5.1%) were first-year postgraduate students.

Table 11
Students' Demographic Information

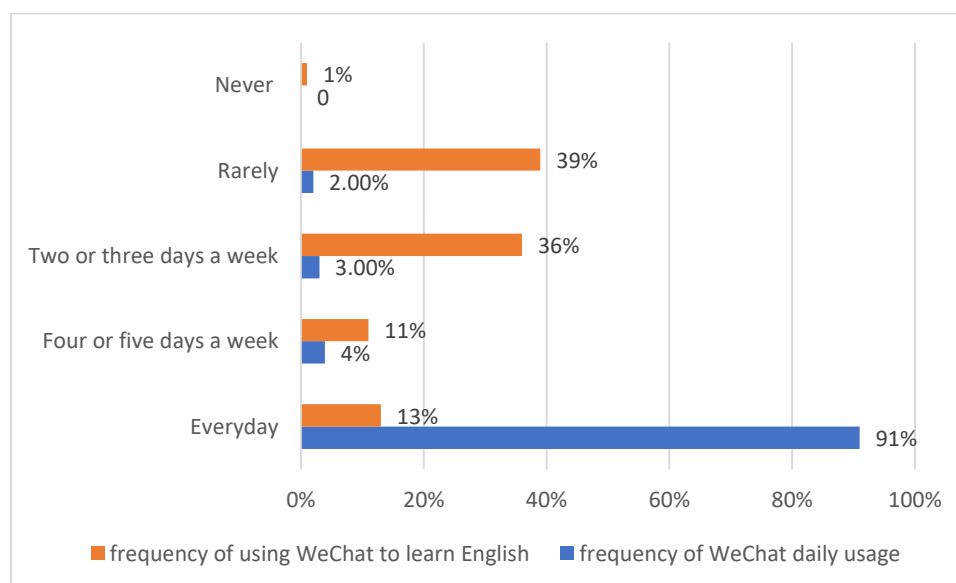
		Number	Percentage
Major	English	56	71.8%
	English and Japanese	16	20.5%
	English translation	4	5.1%
Degree	Freshmen	43	55.1%
	Junior	29	37.2%
	Postgraduate	4	5.1%
Prefer not to answer		2	2.6%
Total		78	

In terms of students' general impression of using WeChat, as shown in Figure 7, all the students (n=78) used WeChat and almost all of them (91%) stated that they used WeChat every day.

However, in terms of using WeChat to learn English, the results were varied: 39% of students said that they rarely learned English via WeChat; 36% of them stated that they used WeChat for English study two or three days a week; only 13% of the students used WeChat to learn English every day and 11% claimed to do so four or five days per week; finally 1% of them said they never learned English via WeChat.

Figure 7

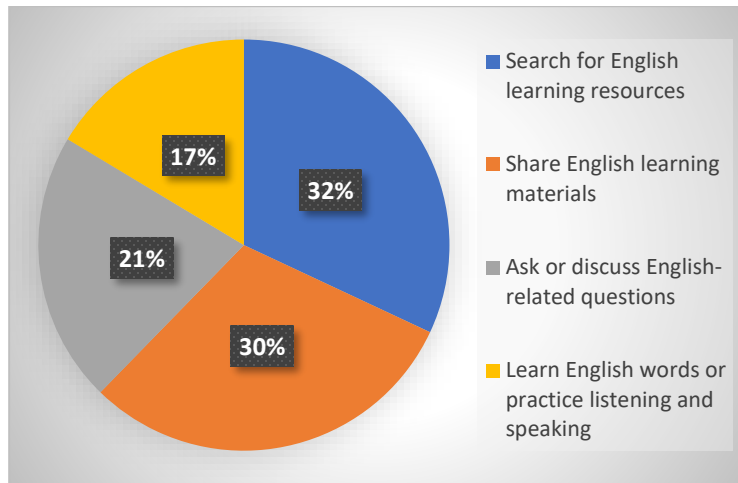
Frequency of WeChat Daily Usage and Use of WeChat to Learn English



As shown in Figure 8, the English learning activities that students did via WeChat could be categorised into four types: 1) searching for English learning resources (32%); 2) sharing English learning materials (30%); 3) asking or discussing English-related questions (21%); and 4) learning English vocabulary or practising listening and speaking (17%).

Figure 8

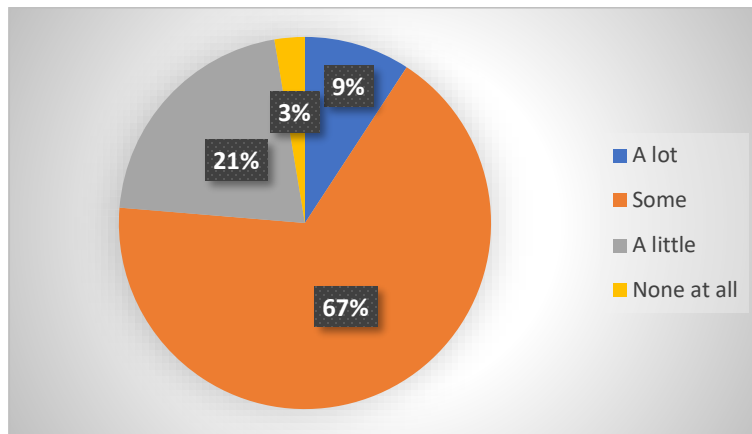
English Learning Activities via WeChat



In terms of whether social media like WeChat were helpful for English study or not, most of the students (67%) believed that they were helpful to some extent, whereas a few of them (21%) said that it was a little bit useful. Only 9% of the students believed that WeChat helped a lot in English study, whereas 3% of the participants thought that it was not helpful at all, as shown in Figure 9 below.

Figure 9

Students' Views on Usefulness of Social Media for Learning English



In addition, a total of 45 students added their thoughts on using WeChat to learn English in the text box for responding to the open-ended question in the questionnaire. Students' comments could be categorised as the advantages and disadvantages of learning English through WeChat. There were five main advantages (n=33) mentioned: 1) it was easy to access and share learning materials via WeChat; 2) various video channels and official accounts on WeChat offered a large number of learning resources; 3) WeChat allowed them to ask questions and discuss with their peers and teachers; 4) WeChat study group was supportive for English study; and 5) it was convenient to learn English via WeChat without any limitation of time and space. As for the disadvantages of learning English via WeChat (n=12), three main reasons were pointed out: 1) other apps were more specifically designed for English study; 2) lack of English native speaker friends to practise English with on WeChat; and 3) because they used WeChat more for entertainment and socialisation, it was easy to be distracted from their English practice.

In short, most of the students used WeChat every day for a range of purposes, but their frequency of using WeChat to learn English varied. There were four main kinds of learning activities that students did via WeChat, and most of them agreed that WeChat was helpful for their English study. Many students added their views on why they liked or disliked using WeChat to learn English and these were categorised as the advantages and disadvantages of learning English via WeChat.

5.1.2 Students' motivation and usage of SRL strategies in English learning

This section of the questionnaire focused on students' usage of SRL strategies and their motivation for English language learning. The focus of each question and the weightings of students' different ideas are shown as percentages in Table 12:

Table 12

Students' Views on Use of SRL Strategies and Learning Motivation

Question	Focus	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
2.1 When I learn English, I make connections between new knowledge and what I have learned.	Elaboration	1%	0%	22%	65%	12%
2.2 I make a study plan before I start to learn English.	Planning of study	1%	3%	29%	60%	7%
2.3 I set goals when I learn English.	Goal setting	1%	2%	25%	63%	9%
2.4 I make a time plan before I start to learn English.	Planning of time	2%	3%	28%	59%	8%
2.5 I change learning strategies or plans when necessary.	Task strategies	1%	0%	7%	75%	17%

2.6 I check and evaluate my learning process when I learn English.	Self-evaluation	4%	3%	21%	63%	9%
2.7 I try my best to figure out difficult knowledge points in English.	Effort making	2%	1%	21%	63%	13%
2.8 I learn from mistakes when I do not perform well in English tests.	Adaptive interference	3%	1%	5%	69%	22%
2.9 I do more tasks to learn English even if the teacher does not ask me to do so.	Effort making	1%	9%	32%	47%	11%
2.10 I learn English out of class autonomously.	Motivation	1%	3%	29%	55%	12%
2.11 I seek assistance when I have problems in English.	Help-seeking	1%	3%	9%	67%	20%
2.12 I keep learning even if the materials are not interesting.	Motivation	3%	8%	34%	43%	12%

As shown in Table 12, the questions investigated several SRL strategies, such as elaboration, planning (study plan and time plan), goal setting, self-evaluation, effort making, help-seeking and so on. The results showed that most of the students (Agree: 55%; Strongly agree: 12%) believed they were able to learn English autonomously out of class (Q2.10). Most of the students (Agree: 43%; Strongly agree: 12%) also agreed they felt motivated in the learning process (Q2.12). In particular, almost all the students (Agree: 75%; Strongly agree: 17%) agreed that they were able to adjust the task strategies during their learning process (Q2.5), which showed that students were able to use different strategies flexibly. Moreover, almost all the students (Agree: 69%; Strongly agree: 22%) believed that they could learn from the mistakes they made when learning English (Q2.8), which was an indicator of adaptive interference: that is, they did not ignore or avoid their mistakes but rather tried to learn from them (also a feature of self-reflection).

In addition, looking at the data from *Disagree* and *Strongly disagree*, only a few students (Disagree: 8%; Strongly disagree: 3%) believed they had insufficient motivation in their English study (Q2.12). For example, 10% of the students stated that they would not do other tasks to learn English if the teacher did not ask them to do so (Q2.9) and 11% of them said that they would not keep learning if the learning resources were not interesting (Q2.12). This might indicate that those students were not highly motivated in English learning and they might not be as proactive as other students since they would be more dependent on their teachers' instructions. What's more, there were also quite a few students (32% in Q2.9; 34% in Q2.12) who chose *Not sure* as a response to those questions, which suggested uncertainty or lack of awareness of their daily learning activities.

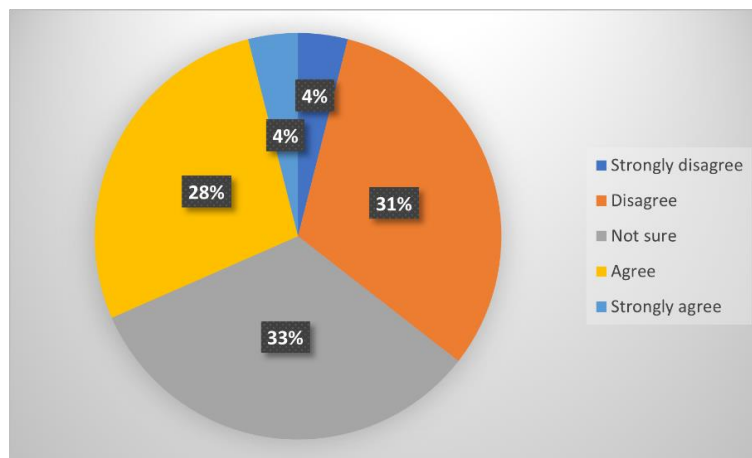
In short, the data from this section confirmed that most of the students were able to apply and adjust different SRL strategies, and they were also motivated to learn English. Most of the students also showed adaptive interference towards dealing with any mistakes they made, which could be regarded as a positive sign of self-reflection. On the other hand, a few students were less motivated in learning English judging by their comments that they were less likely to learn English if it was not compulsory or if the learning materials were not engaging.

5.1.3 Students' perceptions of learning English through WeChat

This section of the questionnaire focused on students' perceptions of using WeChat to learn English, considering frequency of use, preferences, advantages, and disadvantages. As shown in Figure 10, the percentages of students who were not sure, disagreed or agreed with the frequency of using WeChat to learn English were similar. One-third of the students were not sure about how much time they spent learning English via WeChat; more students (Disagree: 31%; Strongly disagree: 4%) claimed that they did not use WeChat for English study often, whereas slightly fewer students (Agree: 28%; Strongly agree: 4%) claimed that they used WeChat to learn English frequently.

Figure 10

Frequency of Use of WeChat to Learn English



In terms of whether students expressed a preference to learn English via WeChat, Figure 11 shows that almost half of the students (Disagree: 37%; Strongly disagree: 10%) stated that they

did not like using WeChat for English study; 30% of the students were not sure about it; and only a few of them (Agree: 20%; Strongly agree: 3%) said that they preferred learning English through WeChat.

Figure 11

Students' Opinions on Usefulness of WeChat to Learn English

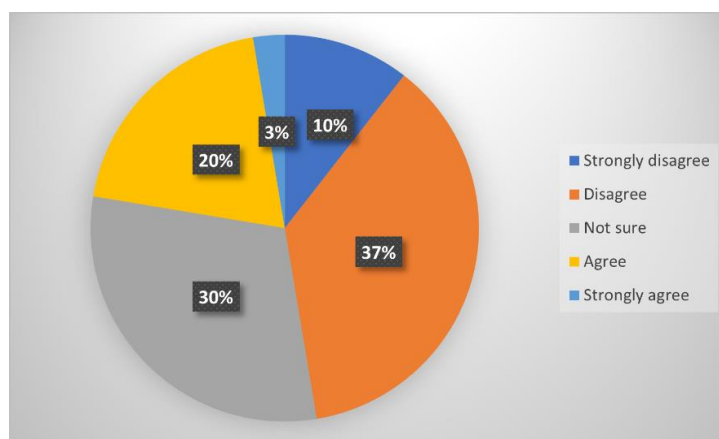


Table 13 shows student opinions of the advantages of using WeChat to learn English. Questions 3.3 to 3.4, 3.6 to 3.9 and question 3.16 suggested some potential advantages of learning English via WeChat (e.g., trendy, convenient, interesting, etc.); questions 3.5, 3.10 and 3.11 asked students to compare learning through WeChat and learning in traditional face-to-face learning settings; and questions 3.12 to 3.15 invited their opinions on whether WeChat would be beneficial for improving English language abilities (e.g., listening, speaking, reading and writing).

Table 13*Students' Perceptions of the Advantages of Learning English through WeChat*

Question	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
3.3 Learning English via WeChat is trendy.	8%	34%	34%	24%	0%
3.4 I am more motivated and interested in learning English via WeChat.	4%	30%	35%	28%	3%
3.5 Learning English via WeChat is more suitable for me than learning in traditional settings.	12%	50%	26%	9%	3%
3.6 WeChat can help me maintain interests and enjoy learning English more.	4%	25%	34%	36%	1%
3.7 I can regulate my English learning via WeChat effectively.	3%	34%	34%	28%	1%
3.8 It is convenient to communicate with peers when learning English via WeChat.	3%	10%	14%	62%	11%
3.9 It is convenient to share and get English learning information and materials via WeChat.	1%	7%	10%	66%	16%
3.10 I prefer to communicate with teachers via WeChat compared to face-to-face.	8%	22%	24%	38%	8%
3.11 Learning through WeChat is more relaxing than learning in the classroom.	3%	29%	30%	29%	9%
3.12 WeChat can help me improve my English listening ability.	2%	12%	37%	41%	8%
3.13 WeChat can help me improve my English-speaking ability.	4%	20%	39%	32%	5%

3.14 WeChat can help me improve my English reading ability.	1%	13%	36%	39%	11%
3.15 WeChat can help me improve my English writing ability.	2%	17%	42%	34%	5%
3.16 I use WeChat to make connections with native English speakers and English learners around the world.	3%	38%	34%	22%	3%

Except for the students who voted for *Not sure*, students' perceptions regarding different aspects of advantages of using WeChat to learn English (Q3.3 & 3.4; Q3.6 – 3.9 & 3.16) varied. For example, most of the students (Agree: 62%; Strongly agree: 11%) agreed that it was convenient to use WeChat to communicate with their peers when learning English (Q3.8), and a majority of students (Agree: 66%; Strongly agree: 16%) also believed that it was easy to share and receive more information and learning materials through WeChat (Q3.9). Therefore, convenience seemed to be one of the advantages of learning English via WeChat as agreed by most of the students. Moreover, some students (Agree: 36%; Strongly agree: 1%) stated that WeChat was helpful for them to maintain their learning interest in English study, whereas there were also a few of them (Disagree: 25%; Strongly disagree: 4%) who disagreed with this point of view (Q3.6).

Except for convenience and the enjoyment of English learning, other potential advantages of using WeChat to learn English were not supported. For instance, compared with the percentages of *Agree* and *Strongly agree*, slightly more students disagreed or strongly disagreed with the

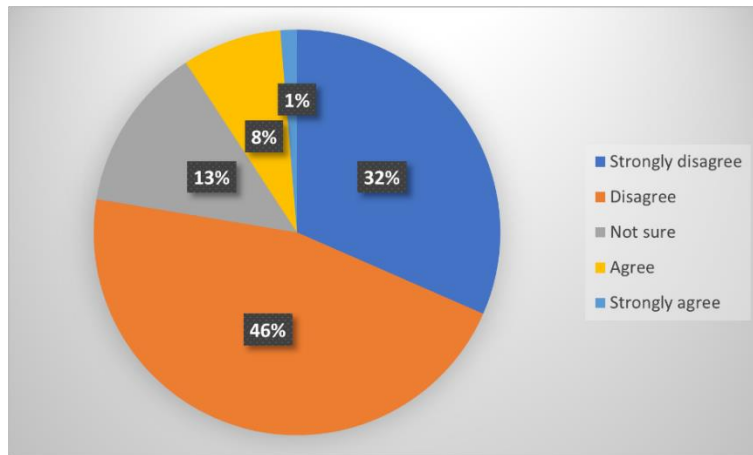
statements that learning English via WeChat was trendier (Q3.3) and more motivating (Q3.4). Similarly, more students believed that they could not regulate their English study effectively on WeChat, and they did not think they could use WeChat to make connections with native English speakers.

Regarding the question of learning English via WeChat or learning in traditional face-to-face learning settings, student preferences were similarly varied. For example, most students (Disagree: 50%; Strongly disagree: 12%) did not think that WeChat would be more suitable for them to learn English compared with the traditional settings (Q3.5). However, except for students who indicated *Not sure*, more students (Agree: 38%; Strongly agree: 8%; Disagree: 22%; Strongly disagree: 8%) stated that they preferred to contact their teachers via WeChat (Q3.10). In addition, slightly more students (Agree: 29%; Strongly agree: 9%; Disagree: 29%; Strongly disagree: 3%) agreed that learning through WeChat was more relaxing compared to learning in the classroom (Q3.11).

In terms of students' perceptions of using WeChat to improve their English language abilities, the results showed some similarities as more students agreed or strongly agreed that WeChat was helpful for the development of their English listening (Agree: 41%; Strongly agree: 8%), speaking (Agree: 32%; Strongly agree: 5%), reading (Agree: 39%; Strongly agree: 11%), and writing (Agree: 34%; Strongly agree: 5) (Q3.12 – 3.15).

Figure 12

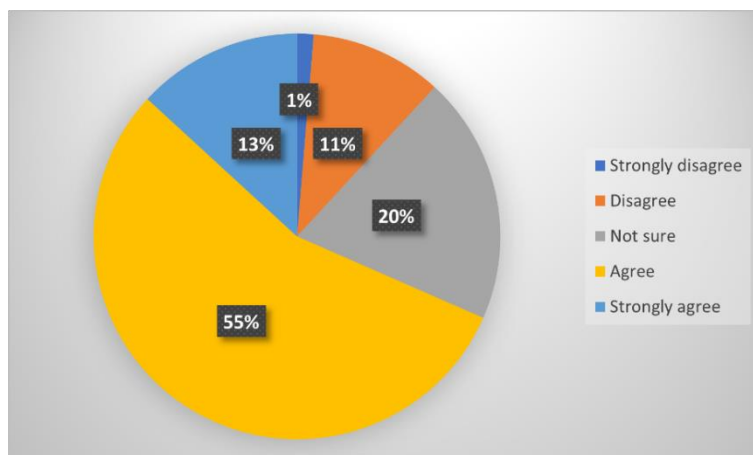
Views on whether WeChat Could Replace the English Language Teacher



Students were asked whether they agreed that WeChat could replace the teacher in English language learning and Figure 12 shows that the majority disagreed with the idea (Disagree: 46%; Strongly disagree: 32%). Except for 13% of the students who chose *Not sure*, only a few students agreed with this point of view (Agree: 8%; Strongly agree: 1%).

Figure 13

Whether WeChat Would Distract Students from English Learning



To illustrate one potential disadvantage of using social media like WeChat for learning purposes, students were asked whether they thought WeChat would distract them from English learning. Results (shown in in Figure 13) show that most students (Agree: 55%; Strongly agree: 13%) believed that they would be distracted when learning English via WeChat; however, a few students (Disagree: 11%; Strongly disagree: 1%) believed they would not be distracted by the use of WeChat.

In short, there were fewer students who preferred using WeChat to learn English and used it frequently than students who did not. In addition, students' perceptions of using WeChat to learn English were quite varied. The convenience of communication and sharing materials as well as the enjoyment of learning were two advantages that most students agreed on, whereas some other characteristics (such as being trendy) were largely opposed. Most of the students still preferred to study in traditional face-to-face learning settings rather than via WeChat, but many students also confirmed that WeChat provided a relaxed learning environment that was helpful for communicating with their teachers and for improving their English language abilities.

5.2 SRL Tasks in the WeChat Group

As explained in the previous chapter, four tasks were set for study in the WeChat group (see Table 5). A total of 10 students who majored in English and Japanese voluntarily joined the

WeChat group. Most of the group members participated in all the tasks unless they were not available when a certain task was conducted.

5.2.1 The forethought phase

During the forethought phase, students shared their ideas about their preparations before doing these tasks in the WeChat group, which mainly included goal setting, strategic planning, and self-efficacy. The detailed data for these three SRL strategies during the forethought phase are reported in the following sections.

5.2.1.1 Goal setting

Table 14 summarises the focuses of students' goal setting for the four tasks. After the requirements of Task One were outlined in the WeChat group, the researcher asked the students what their learning goal for this task would be. Since it was the first time these students had done SRL-related learning tasks, some examples of learning goals were provided by the researcher:

Researcher: For example, my learning goal is to finish writing 180 words within 25 minutes. Or my learning goal is to improve my writing efficiency and so on. You can set your own learning goal based on your experience.

Table 14*Goal Setting in the Four Tasks*

Focuses of learning goals	Task One (writing)	Task Two (speaking)	Task Three (writing)	Task Four (speaking)
	Number of students			
Writing efficiency	2		3	
Writing ability and skills	2		1	
Writing style	2			
Improve writing by comparing with others	1			
Structure, content, and accuracy	2			2
Language expression		4	3	1
Vocabulary and sentence patterns		1	4	
Critical thinking			3	
Time management		2		2
Speaking style		1		
Fluency and pronunciation		1		3

Note: Students' learning goals might cover more than one aspect.

With the help of the researcher's scaffolding, the students shared their learning goals of Task One in the WeChat group, which could be categorised into five types as shown in Table 14.

These goals focused on 1) writing ability (e.g., Ann: “*My learning goal is to improve my writing level in this writing.*”); 2) writing structure, content, and accuracy (e.g., Fiona: “*Finish a well-structured text with complete content with no grammatical mistakes.*”); 3) writing style, since Daisy and Ivy shared a learning goal to write in native-like English; 4) writing efficiency, as Ella and Gina both aimed to complete the narrative writing task in the given amount of time; and 5) improving their writing by comparing their writing with others, which was mentioned by Helen. In this case, students who focused on writing efficiency set short-term learning goals, which were more specific and directly related to this task. Other learning goals such as writing ability and writing styles were more general.

In Task Two, as this was the second time they were asked to carry out an SRL-related English learning task, students posted their learning goals to the group autonomously, without further scaffolding. The themes that emerged in terms of goal setting mainly covered five areas: 1) expression (Betty, Carol, Ella, and Fiona all said that they wished to express their ideas more clearly in English in this task; 2) time management: for example, Gina wanted to finish this task on time without procrastination (“*First, I want to finish it on time. Don't postpone.*”); 3) improving fluency and pronunciation, as Helen expressed: (“*I want to correct some pronunciation problems and improve my pronunciation as well as fluency through this task.*”); 4) vocabulary acquisition, as Ann aimed to learn more new words through this task; and 5) speaking style, as Carol added that she hoped to use some idiomatic expressions in her oral presentation (“*My goal is to try to speak more idiomatic English.*”). It appeared that the learning goals set up for Task Two were quite general.

In Task Three, students' learning goals mainly displayed five focuses: 1) writing skills (e.g., Janice: *"I want to improve my writing skills."*); 2) English expression (e.g., Betty: *"express my ideas clearly."*); 3) vocabulary and sentence patterns (e.g., Carol: *"Use more advanced vocabulary and [varied] sentence patterns"*); 4) writing efficiency (e.g., Ivy: *"Use less time to finish the writing and finish it effectively."*); and 5) critical thinking ability (e.g., Gina: *"Learn to think critically"*).

In Task Four, students' learning goals had four focuses: 1) time management (e.g., Gina: *"Finishing this task in time"*); 2) fluency (e.g., Betty: *"Speaking fluently and controlling the time"*); 3) content and accuracy, as Helen wished the content of her presentation could be *"richer and deeper"*, and Ann wanted to speak more fluently with fewer mistakes; and 4) expression, as Ivy aimed to express her ideas concisely and clearly. An interesting response from Gina was observed during this stage. After the researcher introduced Task Four, Gina immediately responded with *"Our learning goal?"*, which suggested that she was already familiar with a critical element in the SRL process.

5.2.1.2 Strategic planning

Preparation before the actual learning performance is important during the forethought phase. It should be noted that strategic planning was not observed in Task One, as students were not

familiar with it at that time. However, strategic planning was assessed in Task Two, Task Three and Task Four, after students set up their learning goals, by querying students' expected length of time to be spent on each task and their planning for the learning process.

Table 15

Students' Strategic Planning for Task Two, Task Three and Task Four

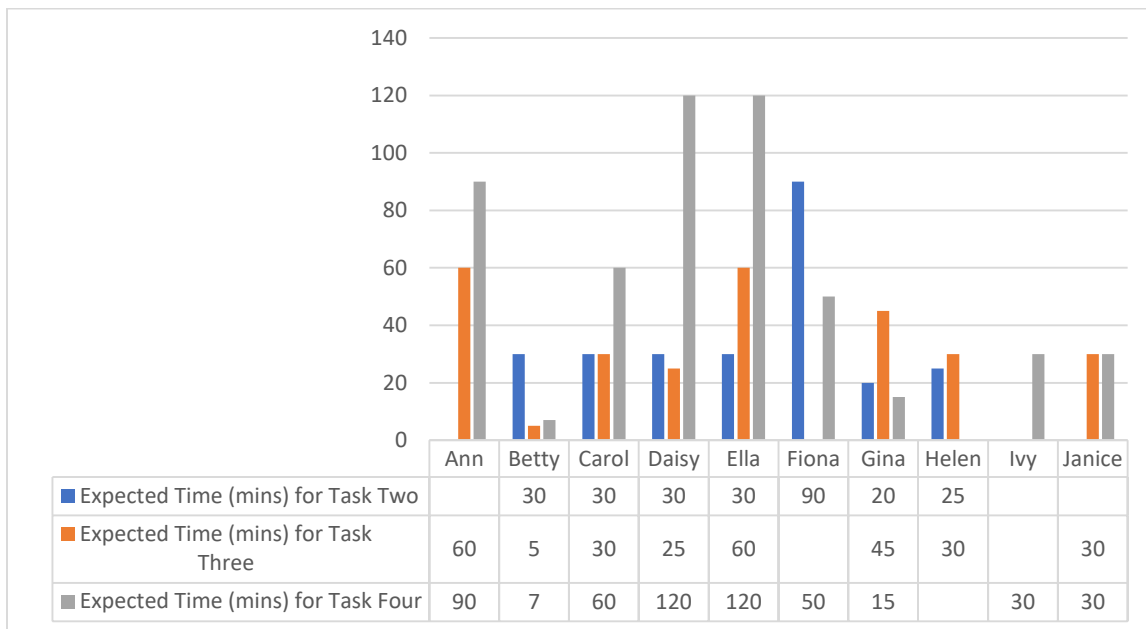
Task Two	Task Three	Task Four
Planning of learning process	Planning of learning process	Planning of learning process
Drafting & Outlining	Brainstorming	Brainstorming
Searching for information online	Drafting & outlining	Drafting & outlining
Looking up vocabulary	Searching for information online	Searching for information online
Rehearsing	Translation	Looking up vocabulary
		Rehearsing & recording

As shown in Table 15, students' planning of the learning process was slightly different in each task whereas two strategies were commonly found in all three tasks: drafting and outlining, and searching for information online. In addition, brainstorming (in Tasks Three and Four), looking up vocabulary (in Tasks Two and Four) as well as rehearsing (in Tasks Two and Four) were also strategies frequently observed. Translation was the least used strategy mentioned. It should be noted that students' planning of the learning process normally involved more than one strategy.

Taking Ann’s strategic planning in Task Four as an example: she expected to brainstorm and write down the content of this topic (drafting and outlining) for 30 minutes, and then translate her writing from Chinese to English for a further 30 minutes.

Figure 14

Expected Length of Time to be Spent on Tasks Two, Three and Four



As shown in Figure 14, students’ expected length of time spent on each task varied from 5 minutes (Betty in Task Three) to 120 minutes (Daisy and Ella in Task Four), which was closely related to students’ planning of the learning process. Taking students’ expected length of time for Task Four as an example: Betty decided to finish her presentation without writing a draft for this task, so she planned to brainstorm and record straight away, and then make modifications if needed. In this case, she expected to complete this task in seven minutes. However, Daisy, who expected to spend around two hours on this task planned to “*write down an outline, look up*

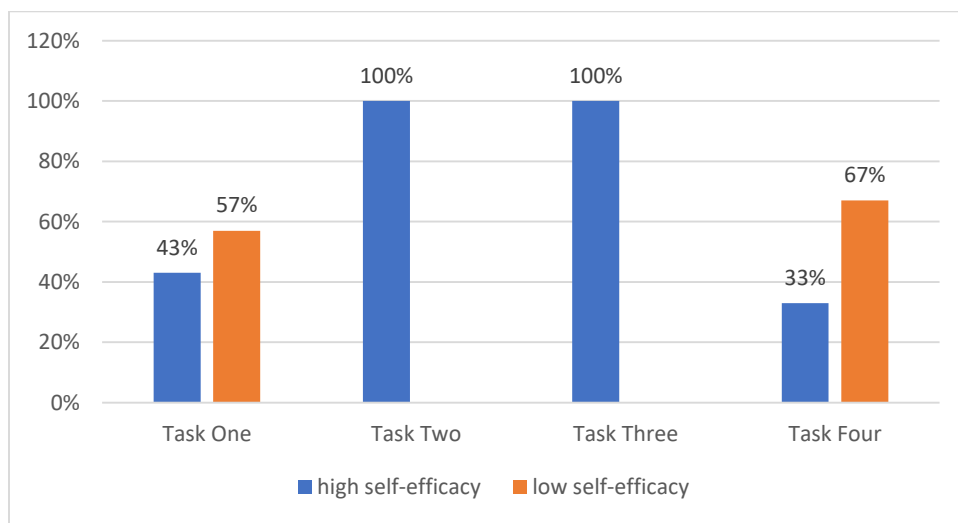
words, read over the draft, listen to the standard pronunciation, practise many times, and finally record it". It was worth noting that most students planned to spend around 30 minutes on each task. Taking Task Two as an example: Carol, Helen, and Janice planned to spend about 30 minutes on this writing task. Janice expected to spend 10 minutes brainstorming and making an outline and then to spend 20 minutes writing the text.

5.2.1.3 Self-efficacy

Data on students' self-efficacy was also collected. The researcher asked the students if they were confident about finishing the tasks, and students' responses varied task by task. As shown in Figure 15, students' self-efficacy was high in both Task Two and Task Three but varied in Task One and Task Four for different reasons.

Figure 15

Students' Self-Efficacy for All the Tasks



Gina, Helen, and Janice were confident about completing Task One, which showed a high level of self-efficacy. However, more than half of the students showed low self-efficacy for this task as they stated that they did not feel confident about completing it. To explain her low self-efficacy, Fiona explained that she “...*did not have the experience of writing 160 to 200 words within half an hour*”, so she did not know if she could meet the requirements or not. Betty felt the same but added that she would try her best to write this text. Ella gave a more detailed reason, saying that, in her opinion, activities like brainstorming the topic, writing down the text, looking up words, and editing her writing were hard to finish in 30 minutes and that was why she did not think she could do it (“*I think I may need to look up for words and edit and check my writing as well, which are also time-consuming.*”). Daisy explained that although she had experience in time management previously, the requirements of this task were new to her, and so that was why she was not sure if she could do it or not: “*Actually I have tried to count down when I learn other stuff or do my homework, but the task requirements are still new to me, so I don't know if I can meet the requirements or not.*” In the follow-up interview, those students who expressed a lack of confidence also mentioned that it was their first time doing this kind of task, so they were a little bit nervous and not sure if they could perform well or not.

As for students' self-efficacy for Task Two, a total of six students responded to this question and all of them said “*Yes*” which showed that their self-efficacy was high. Compared to Task One, in which only one student's self-efficacy was high, students' reported self-efficacy was higher for the second task. In the follow-up interview, students explained that their self-efficacy improved due to the experience of completing the first task. After finishing the first task, they realised that

they were able to manage SRL-related tasks, so they were much more confident, and so all of them reported high self-efficacy in the second task. Similarly, in Task Three, among students who responded to this question, all five students (Ann, Betty, Ella, Helen, and Ivy) said “*Yes*” to the question asking them if they were confident to finish this task, which showed a high level of self-efficacy. These students believed that they were capable enough to complete this writing task.

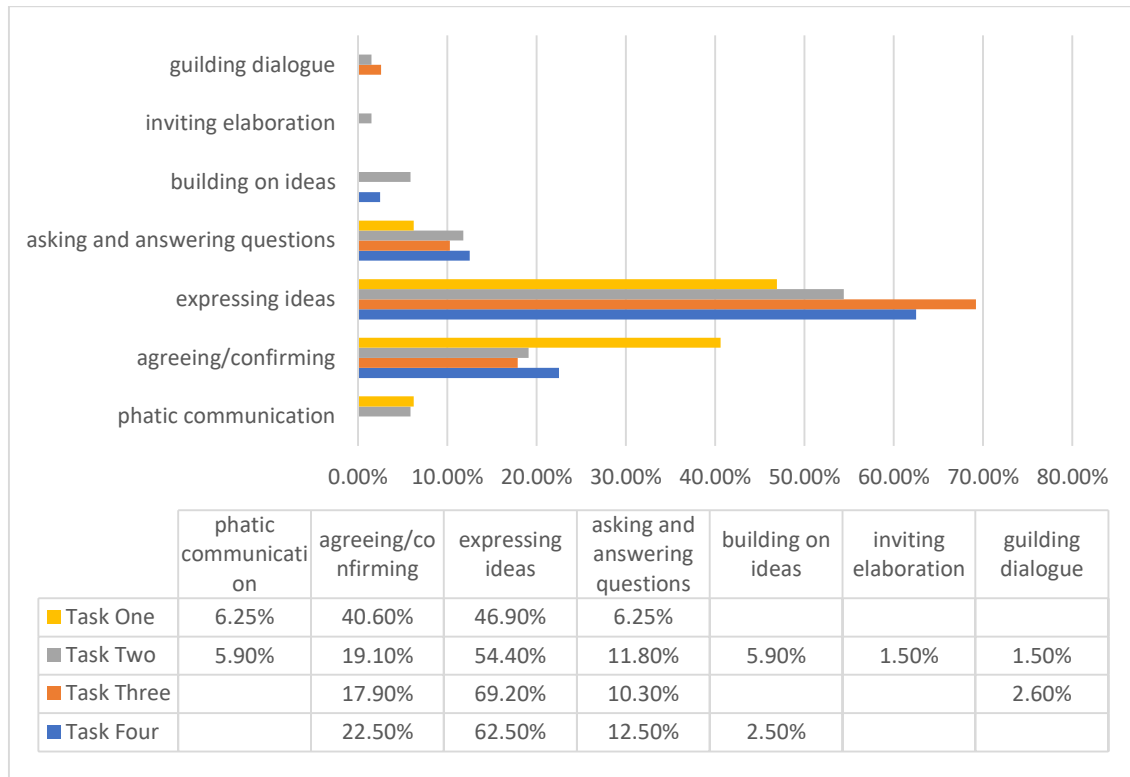
Nevertheless, as shown in Figure 15, more than half of the students demonstrated a low level of self-efficacy for Task Four. A total of six students replied to this question, in which only two of them (Gina and Helen) said “*Yes*” to the question of whether they were confident in this task, whereas the other four students (Betty, Carol, Ella, and Ivy) said they were not confident enough. Betty explained that she planned to finish this speaking task without writing down a transcript, but she felt nervous and not sure if she could do it well or not. Carol also added that, although she was not confident enough, she would try her best to complete this task.

5.2.1.4 Interaction during the forethought phase

Following Wriggleworth’s (2020) analysis of meaningful units of interaction and Hennessy et al.’s (2016) dialogic analysis coding scheme, the percentages of students’ interaction purposes during the forethought phase from Task One to Task Four are shown in Figure 16.

Figure 16

Interaction Purposes during the Forethought Phase of All the Tasks



As shown in Figure 16, interaction purposes varied task by task, but there are some similarities among them. Specifically, expressing ideas was always the most frequently observed interaction purpose, followed by agreeing or confirming, and then by asking and answering questions. All three interaction purposes were identified in all four tasks.

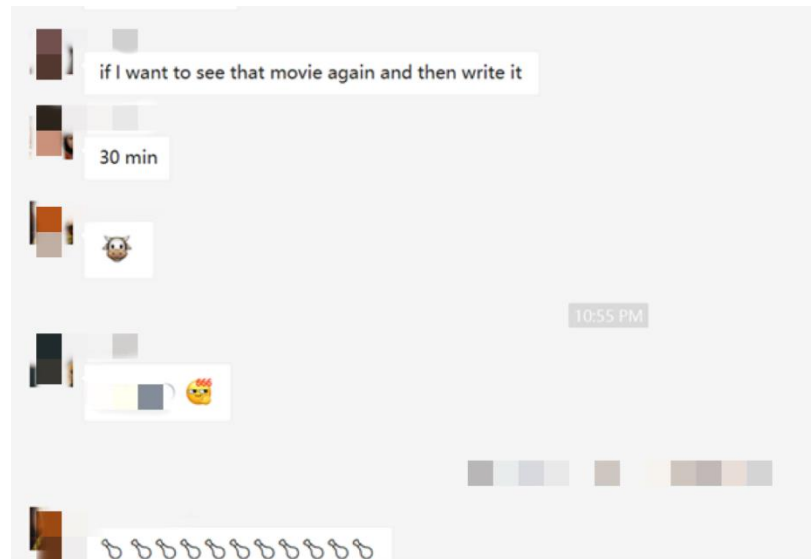
Expressing ideas referred to students posting their opinions related to their SRL process in the WeChat group. For example, Ann shared her ideas of the possible challenges for her in completing Task Two when she stated: *“I think words and grammar might be the challenges.*

I'm afraid I'm not able to express the meaning correctly". As for the interaction of agreeing or confirming, there were mainly two examples: 1) the researcher confirmed students' ideas by saying some positive words such as "*good points*" and "*awesome*"; 2) the students agreed with what the researcher said by saying "*OK*", or they agreed with their peers' statements by saying "*I agree*". The exchanges of asking and answering questions could be initiated by both students and the researcher. Taking Task Three as an example: when the researcher introduced the task, Gina asked, "*Are we going to upload a voice message this time?*" and then "*How long will it take to prepare?*" The researcher answered both questions in turn. In addition, the researcher also asked some prompting questions to help students engage with the SRL process (for example, the researcher asked: "*What do you expect to achieve from this task?*" Ann replied: "*I expect to learn more words and improve my spoken English.*")

In addition to these three frequently observed interaction purposes, interaction purposes of building on ideas (in Tasks Two and Four) and phatic communication (in Tasks One and Two) were also observed during the forethought phase. Taking Task Two as an example: when Fiona shared her ideas about the planning of content, she forgot how to express the idea of *convincing* in English. Gina helped her by posting the word *persuasive*. Fiona herself recalled the word later and also added *convincing*. As for phatic communication, when students were talking about the time they needed to complete this task, Fiona said that she might need to watch the movie again to complete the task; then both Daisy and Gina posted some emojis to indicate *awesome* in response to Fiona's statement, as shown in the screenshot below.

Figure 17

Screenshots of Students' Phatic Communication during the Forethought Phase of Task Two



Moreover, strategies of guiding dialogue (in Tasks Two and Three) and inviting elaboration (in Task Two) were the ones least used during this phase; both were initiated by the researcher to provide students with thinking time and encourage them to share ideas by posting questions such as, “*Anyone else?*”.

5.2.2 The performance phase

During the performance phase, students’ planning of the content and structure for each task, attention focusing, self-recording of the learning process as well as task strategies were observed in the WeChat group. In addition, students’ interactions during this phase were recorded.

5.2.2.1 Planning, self-recording and task strategies

Students' planning included thinking about the content and structure they expected to write or present for each task. Before beginning the task, the researcher asked a few prompting questions to help students to plan for their writing or speaking, such as: *What do you want to cover in your writing/speaking? How many paragraphs will you write? What will you present for each part?* Students posted their responses to each question in the WeChat group. A debate activity was also designed for Tasks Three and Four to facilitate brainstorming. It should be noted that students' final products might differ from their planning for different reasons, such as changing their minds or coming up with a better idea while working on the task. This seemed to confirm that students' SRL process was self-initiated and process oriented.

According to the learning notes of students' self-recordings of the learning process, shared with the WeChat group, a range of task strategies that students applied for each task were identified: these are summarised in the table below:

Table 16*Task Strategies that Students Used in All Tasks*

	Task One (writing)	Task Two (speaking)	Task Three (writing)	Task Four (speaking)
	Number of students			
Writing down a transcript		10		6
Rehearsing		10		6
Searching for resources	1	4	2	1
Editing & revising	2	4	2	
Planning	4		1	
Looking up vocabulary	5	4	1	
Translation	1	2		
Attention focusing	1		2	
Help-seeking	1			
Brainstorming				1

Note: Students' strategic planning might cover more than one aspect.

As shown in Table 16, searching for resources happened in all the tasks, followed by editing and revising, and looking up vocabulary. All three strategies, along with planning and attention

focusing, were used in the writing tasks (Task One and Task Three), whereas writing down a transcript and rehearsing were frequently used in the speaking tasks (Task Two and Task Four).

In Task One, a writing task, the strategies students used fell into seven main types: 1) Looking up vocabulary: Betty, Carol, Daisy, Helen, and Ivy would look up words when they did not know how to express their ideas in English or wanted to make their writing look ‘fancy’; 2) planning: Ann, Betty, Ella and Gina mentioned that the planning of structure and content, as shared in the WeChat group at the beginning of the performance phase, were helpful for their writing and also reduced the time needed to complete this task; 3) editing: Ella and Gina said that they usually reread and edit their text product after they finish it to refine their writing and avoid mistakes such as typos; 4) help-seeking: Ella was confused about the term vacation vs. vocation so she asked this question in the WeChat group and Ann explained the meaning in Chinese to her; 5) translation: Janice mentioned that she “*often translate(s) the text from Chinese to English with a translator*” when she is not sure how to write it in English; 6) attention focusing: Fiona pointed out that she turned off her phone or put it away to help her concentrate while writing; 7) resource searching: Ann noted that she would “*search online to see some sample texts*” for inspiration.

In Task Two, a speaking task, the strategies that students used in this speaking task could be categorised into six types: 1) writing up a transcript: all the students mentioned that they wrote a transcript for the oral presentation; 2) editing and revising: four students (Ann, Betty, Ella, and Fiona) mentioned that they revised their transcripts before recording; 3) looking up vocabulary:

four students (Ann, Betty, Daisy, and Helen) noted that they looked up words when they did not know how to express their ideas in English or they were not sure if their pronunciation was accurate or not; 4) searching for resources: four students (Ann, Carol, Ella, and Fiona) mentioned that they searched for materials related to their topics. For example, Carol said that when she wanted to recommend a song to the group, she searched for more information on the internet about the song and the singer in order to make her presentation more comprehensive; 5) translation: Janice said that she wrote down a draft in Chinese first, and then she translated it from Chinese to English; 6) repeated rehearsal: all the students agreed that they spent more time on practising their English speaking for this task. All of them practised multiple times to improve their spoken accuracy and fluency.

In Task Three, a writing task, the strategies that students used could be categorised into five types: 1) attention focusing: Ann said that in order to be highly focused, she tried to “*find a quiet place to avoid distractions*”; 2) editing and revising: Betty stated that she outlined and edited her ideas with bullet points before writing, which guided her to write more complete content with clear structure; 3) searching for information online: Fiona pointed out that she searched for more information online about the topic and checked and revised her text after writing to avoid typos and grammatical problems; 4) planning: Ella mentioned that the planning of content, as shared in the WeChat group, was very helpful for her writing; and 5) looking up vocabulary: Ann searched for English words while working on this task.

In Task Four, a speaking task, the strategies that students used fell into four types: 1) writing a transcript: Fiona said that she used “*ten minutes to write a draft*”; 2) rehearsing: all the students who shared their learning notes of self-recording showed that they rehearsed when they worked on this task: for example, Ivy mentioned that she used “*10 minutes to practice and record it many times*”; 3) brainstorming: Gina shared that she “*brainstormed what points I want to state and outlined my opinions*”; and 4) searching for resources: Carol said, “*I watch English speakers' videos to learn some speaking skills*”.

5.2.2.2 Attention focusing

Relating to the important factor of self-control in the performance phase, attention focusing was another strategy added by the researcher. As shown in Table 17, students’ responses to whether they had been distracted by anything varied task by task.

Table 17

Students’ Attention Focusing during All the Tasks

	Highly focused	Distracted	Types of distractions			
			Interruptions from family/people around them	Online games	Phone calls/messages	Other
Number of students						
Task One		10	7	3		3

Task Two	7	3	1	2
Task Three	3	2	1	1
Task Four	4	2	1	1

Note: The distractions that students mentioned might cover more than one aspect.

As shown in the table above, compared to Task One, in which all students were distracted during their learning process, their attention focusing was improving in general during the following tasks. There were four main kinds of distractions mentioned: interruptions from their family or people around them, online games, phone calls or messages, and other specific things. Although the types of distractions mentioned varied task by task, interruptions from students' family members were mentioned frequently.

During the quarantine period due to COVID-19, all the group members were studying from home. In Task One, all the students admitted to being distracted during their writing process. The constraining factors included: 1) interruptions from their family or people around them; 2) online games; 3) other daily activities or fluctuating learning motivation, such as being lazy (e.g., Fiona) or mislaid stationery (e.g., Ella). Most of the students were interrupted by people around them. For example, Betty said that her “*sister was on a phone call*” and Ann said that “*children were playing*” around her. Notably, although Gina reported that she was distracted by her brother asking her about his homework, she did refuse to help him while she was writing. This action

showed that, compared to other students, Gina's attention focusing level might be higher, since she actively tried to minimise distractions while engaged with her study.

In Task Two, seven students said that they were not distracted by anything when working on this task, whereas the other three students said that they were not highly focused due to various reasons. For instance, Betty explained that she was distracted because someone went to her home to fix the heater. Compared to Task One, in which all students reported a level of distraction, most of the students were highly focused while completing the second task, which showed that their attention focusing had improved.

In Task Three, among the five students who responded to this question, three of them (Ann, Betty, and Helen) claimed that they were not distracted by anything, whereas the other two students (Ella and Fiona) admitted that they were not highly focused. Ella said that she had been distracted by several phone calls while working on this task. Fiona stated that she was interrupted by family members because she was working on this task at home.

In Task Four, a total of six students posted their answers in the WeChat group. More than half of them said "No" which indicated a high level of attention during this phase. However, Ann and Betty reported that they had been distracted and not highly focused when they were working on this speaking task. Ann was interrupted by phone messages (*"My best friend sent messages to*

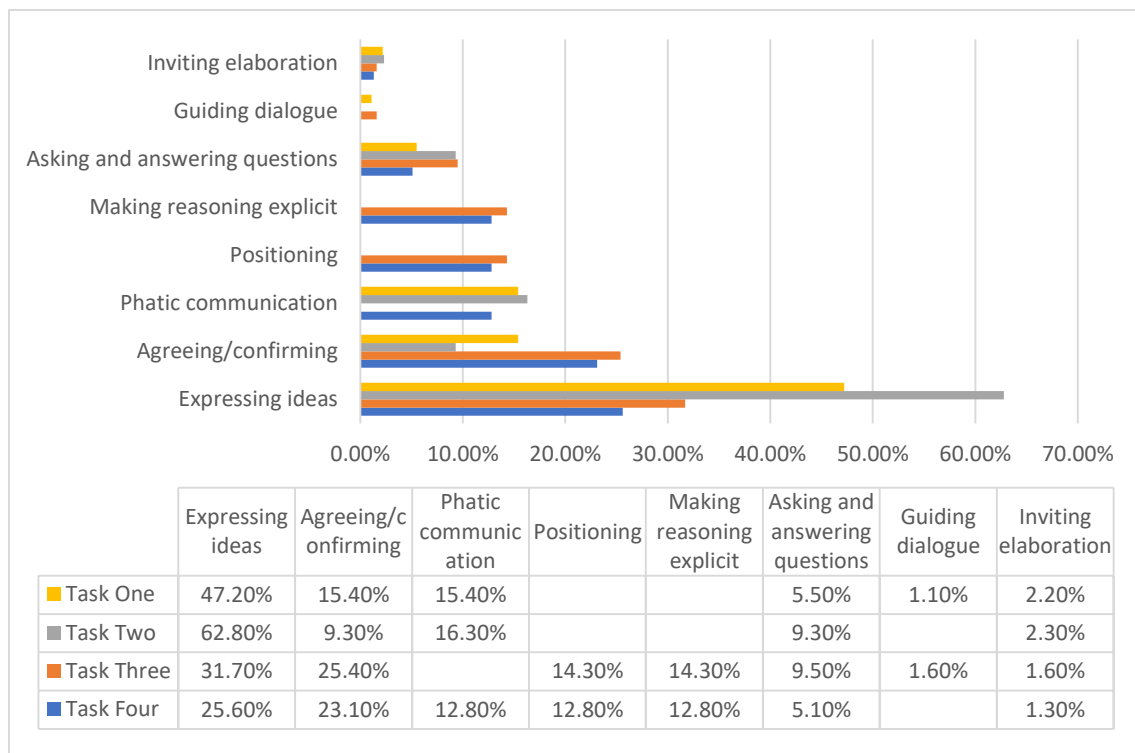
chat with me”). Betty’s situation was a bit special, as she explained that because it was her first time having to present in English without first writing a transcript, she felt very nervous (“*It’s more about an emotional thing. I’m nervous all the time*”).

5.2.2.3 Interaction during the performance phase

During the performance phase, a total of nine interaction purposes were identified, as shown in Figure 18. Compared to the forethought phase, two new interaction purposes (positioning and making reasoning explicit) were observed during this stage.

Figure 18

Interaction Purposes during the Performance Phase of All the Tasks



As shown in Figure 18, the percentages of interaction purposes varied task by task; expressing ideas was still the most frequently identified purpose, followed by agreeing or confirming, and phatic communication.

Students who shared their opinions about their process of SRL were identified as expressing ideas and this was recorded in all four tasks. For instance, when students talked about their planning for the writing of Task Three, Daisy posted that *“I plan to spend 5 minutes to make an outline. Then begin to write and finish it in 20 minutes. At the end I will proofread it”*.

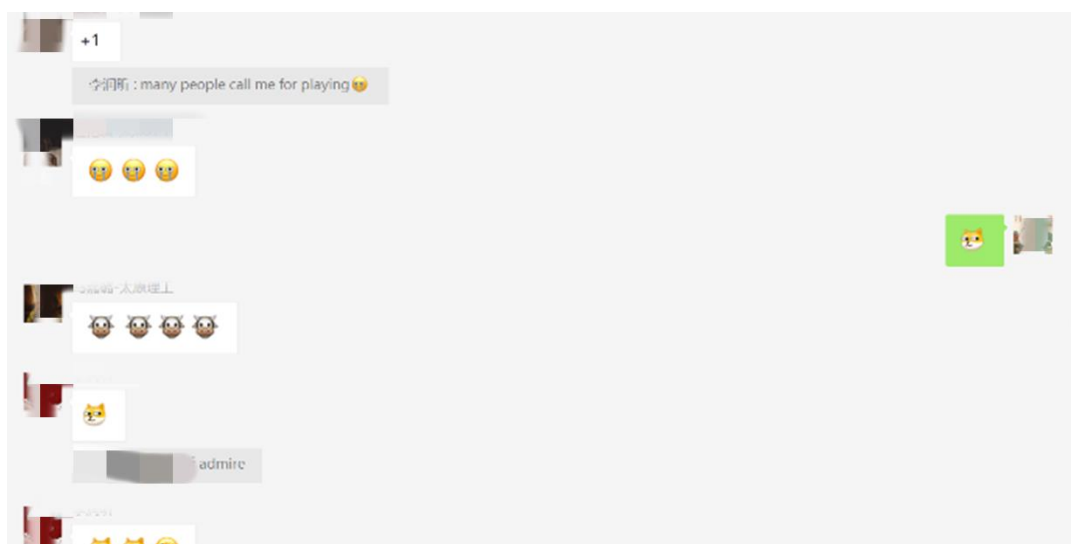
Sometimes, students’ expression of ideas was pretty short, such as *“No”* when replying to whether they were distracted when working on this task, or *“40 minutes”* when answering the question of how long they took to finish this task.

The interaction of agreeing or confirming during the performance phase was also observed in all the tasks. It included positive comments from the researcher such as *“Well done!”*, and also students’ agreement with their peers’ points of view, which was similar to that seen in the forethought phase. For example, when Fiona admitted that a game was one of her distractions during Task One, Helen agreed with her by saying *“Game! So true!”*. Carol said many people called her to hang out and Ivy replied *“+1”* to show her agreement.

Some phatic communications among these students were also observed in Tasks One, Two, and Four during this phase. For instance, when Helen posted her ideas about the planning of Task One, Fiona said, “*Your English is so nice!*” and Helen followed up with a laughing emoji. When students shared different kinds of distractions they encountered, Helen said, “*It’s so funny*” and Ivy added “*So fantastic hhh*”. Emojis were frequently shared, as shown in the screenshot below:

Figure 19

Screenshots of Students’ Phatic Communication with Emojis in Task One



In addition, both positioning and making reasoning explicit were identified in Tasks Two and Four, with the same percentages, especially when students were debating. Tasking Task Three as an example, Daisy agreed that learning online was better when she stated: “*I think learning online is better. The reasons are as follows: First, learning online is more flexible, such as text messaging, pictures, and video, but in the classroom, we always learn from books*”. However, Carol believed that learning in the classroom was better, saying: “*I think learning in the*

classroom is better. In my opinion, we're more focused when we're learning in the classroom. Besides, the teachers know students better and are more likely to give efficient feedback”.

Exchanges of asking and answering questions were noted in all the tasks with relatively infrequently, which included some questions asked by both students and the researcher. For instance, in Task Three, Ella asked: *“I have a question. Do we have to keep the same statement and topic of the debate?”*, then the researcher answered her question. The researcher also asked some prompting questions to guide students through the SRL process, such as: *“Have you been distracted by anything?”*. As for building on ideas (in Tasks One, Two, and Four), this was usually initiated by students. Taking Task Four as an example. Betty shared her self-recording and task completion strategies of outlining and rehearsing. Later she added that she did not spend much time on this task because *“I want to know how my presentation would be without a draft”*. Moreover, when students were debating, Ann posted her point of view, and later she added that *“Money is not everything; but it is absolutely impossible without it”*.

During the performance phase, inviting elaborations and guiding dialogue were the least used prompts, usually initiated by the researcher to ask for more details (e.g., *“What kind of distractions?”*) or to elicit more ideas (e.g., *“Anyone else?”*).

5.2.3 The self-reflection phase

During the self-reflection phase, students shared 1) their self-evaluation of whether they had reached their learning goals and what they might have learned from this task; 2) feedback to their peers; 3) whether they were satisfied with their performance; and 4) their awareness of being adaptive or defensive. Detailed data on student interactions during this phase were also gathered.

5.2.3.1 Self-evaluation

As an essential aspect of the self-reflection phase, the researcher guided students to evaluate their performance on their own. As shown in Table 18, students' self-evaluation mainly covered two parts: whether they reached or failed to achieve their learning goals and what they thought they had learned from the tasks.

Table 18

Student's Self-Evaluation of All the Tasks

Self-evaluation of learning goals			Other aspects of students' self-evaluation
Reached	Did not reach		
Number of students			
Task One	2	6	
Task Two	7		○ Related to language skills (i.e., speaking ability, vocabulary)

			<ul style="list-style-type: none"> ○ Related to strategies (i.e., time management, rehearsal, attention focusing) ○ Challenges they met
Task Three	4		<ul style="list-style-type: none"> ○ Related to language skills (i.e., quotation, vocabulary, structure) ○ Critical thinking ○ Challenges they met
Task Four	3	1	<ul style="list-style-type: none"> ○ Related to language skills (i.e., speaking ability, vocabulary, structure) ○ Critical thinking ○ Related to strategies (i.e., self-efficacy) ○ Challenges they met

Note: The number of participants in each task was different.

As shown in the table above, students' self-evaluation of whether they reached their learning goals varied task by task. However, compared to Task One, in which most of them believed that they failed to achieve their learning goals, those who participated in the following tasks showed a more positive evaluation of their performance. In terms of the things that they gained from each task, except Task One (not self-evaluated due to a lack of familiarity with the SRL process), students' self-evaluation in the other tasks mainly covered aspects of language skills, strategies, critical thinking, and challenges faced while working on the tasks.

As shown in Table 18, in Task One, six students responded that they did not reach their learning goals or achieved some of their learning goals for different reasons: they forgot to record the learning process, they used a longer time than expected to finish this task, or they made some grammatical mistakes in their writing (e.g., Helen: "*I took a longer time than expected to finish*

my writing.”). Betty and Fiona, on the other hand, stated that their learning goal was successfully achieved, as they believed that their goals were ‘small’ and ‘simple’, which indicated that their goal setting was more manageable and realistic (Betty: “*I finished it because my goal was very simple which was to check myself through my practice.*”; or Fiona: “*I feel that I achieved it because my goal is relatively small.*”).

Compared to Task One, in which most students stated that they did not achieve their learning goals, all seven students who participated in Task Two believed that they reached their goals. Students explained that the repeated rehearsal in terms of practising English pronunciation helped them improve their speaking fluency and accuracy, which was the main focus of their goal setting. Students were also encouraged to think of what they might have gained from this task. As shown in Table 18, things that students learned from this task could be categorised into two areas: 1) things that related to English language skills, such as English vocabulary, listening, and speaking ability: for example, Ann stated that she had learned many new words from this task, and her English-speaking ability was also improved; and 2) things related to learning strategies, such as time management, attention focusing, rehearsing, and translation: (for example, Carol said, “*Rehearsal many times made my presentation sound better.*”). In addition, a total of six students also stated that they faced some challenges while working on this task regarding English language use. For instance, Betty, Fiona, and Ivy all mentioned that they were not sure whether their vocabulary choices were authentic or not.

Similar to Task Two, all four students who participated in Task Three believed that they had achieved their learning outcomes. Students also shared the things they had learned from this task, which were mainly related to language skills; for example, quotation, clear structure, vocabulary, and English expression. Ann reported that she quoted a famous saying, tried to make the structure clear and logical, and also learned some new words. Ella also mentioned that her critical thinking ability might have improved since she compared the advantages and disadvantages of learning online and learning in the classroom in order to make her writing content more comprehensive. Students also mentioned some challenges that they encountered when working on this task, which were also related to language skills. Both Ella and Helen said that it was difficult for them to express their ideas clearly. They explained that sometimes they knew how to write them in Chinese but were not sure how to express them in English.

In Task Four, three students believed that they had successfully reached their learning goals, whereas Betty stated that she did not achieve her goal, which was to “*speak more fluently*”. Betty also declared that she “*will reach the learning goal next time*”, which showed a positive attitude to her future study. As for other aspects of students’ self-evaluation, their responses involved both language skills and strategies such as structure and self-efficacy. For example, Betty said that she felt “*more confident when finishing this task. I also learned to make my presentation clear and well-organised*”.

5.2.3.2 Peer feedback

After self-evaluation, the researcher divided students into groups of two or three and asked them to provide feedback on their peer's writing or speaking. As shown in Table 19, students' peer feedback was in the form of a recap with different focuses and some general comments which were mainly positive (e.g., Helen: "*I think what Fiona wrote about online learning was really nice!*").

Table 19

Different Focuses of Peer Feedback

	Task One	Task Two	Task Three	Task Four
	Number of students			
Content	10	8	4	7
Structure	5	3	2	3
Sentence	1		1	
Vocabulary	1			
Grammatical problems or typos	2			
Pronunciation and expression		6		
Quotation			1	
Fluency				4
Persuasion				2

Note: Most students' peer feedback covered more than one aspect.

As shown in the table above, peer feedback covered multiple focuses; however, recap of content and feedback on the structure were pointed out by students in all the tasks. In Task One, in addition to recap of the content, student peer feedback mainly focused on: 1) structure (e.g., Fiona: *"The structure is complete."*); 2) grammatical problems or typos, where Helen pointed out some mistakes to her peer such as use of singular and plural forms; 3) vocabulary (e.g., Ann: *"Betty's vocabulary is also very abundant. I think Betty can write many words in half an hour, which means that her vocabulary is very good."*); and 4) sentence structure (e.g., Gina: *"Daisy used many advanced phrases and sentence patterns, which I think is what I am deficient in."*).

In Task Two, student peer feedback had three main focuses: content, pronunciation and expression, and structure. Fiona and Ivy covered all three aspects in their feedback. For instance, Fiona briefly recapped the content first, and then she commented that *"The structure of Ella's oral presentation was clear and complete, and she also expressed her ideas clearly"*.

Similarly, peer feedback in Task Three mainly included four aspects: sentence, quotation, content, and structure. All four students recapped the content of their peer's writing, whereas the other three aspects were treated variously in students' feedback. For example, Ann gave positive comments on Ella's usage of sentence patterns and quotation of famous sayings after a giving a

recap of the content: *“The sentence patterns she used were more advanced, and she also quoted some famous sayings and phrases. I think she has a very good knowledge of English. I should learn from her.”*

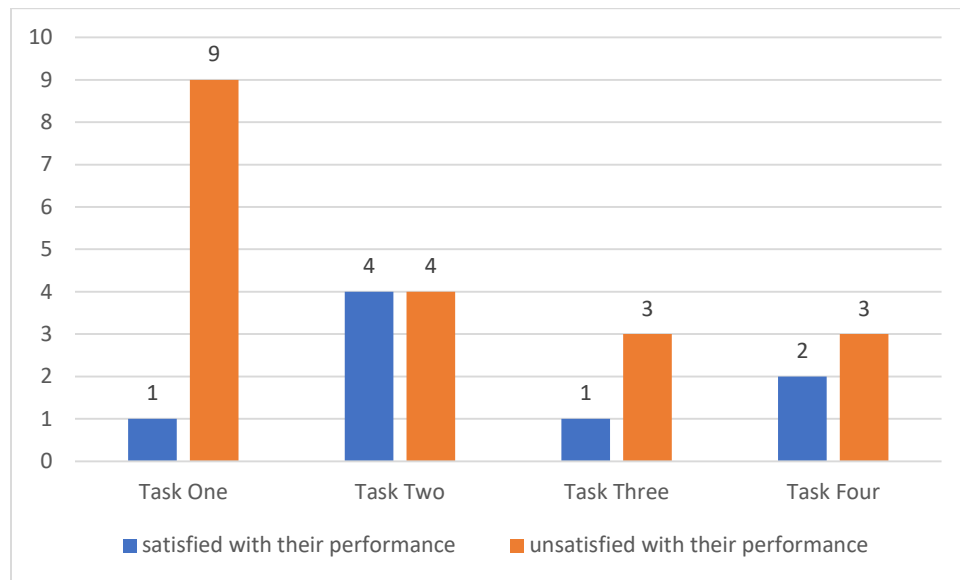
As for peer feedback in Task Four, students mainly focused on: 1) content, in which all the students briefly recapped the content of their peers’ presentations; 2) fluency (e.g., Ann: *“Betty speaks fluently”*); 3) structure (e.g., Betty: *“The structure of Ann’s presentation is clear”*); 4) persuasion (e.g., Carol: *“Ivy’s presentation is convincing”*); and 5) length of time, when Ella pointed out that *“Fiona’s spoken English is good and her recording lasted more than 60 seconds”*).

5.2.3.3 Self-satisfaction

As a form of self-evaluation, self-satisfaction was also noted in the group tasks. Judging satisfaction with their own performance, the number of students who were satisfied or unsatisfied with their performance is shown in Figure 20:

Figure 20

Students' Responses of Self-Satisfaction



As shown in the figure above, students' dissatisfaction with their own performance was decreasing in general, whereas their positive satisfaction rating fluctuated task by task. The variation in students' self-satisfaction was due to various reasons.

In Task One, although Ivy did not achieve all her learning goals, she was satisfied because “*I think my writing expresses my thoughts clearly.*”. On the other hand, Betty and Fiona reached their learning goals, but they were still not satisfied because they felt that their language use was too simple, and they should use more sophisticated words or sentence patterns (e.g., Betty: “*I am dissatisfied because I failed to use advanced words and sentences*”). In addition to the lack of ‘advanced’ words, there were other reasons that led to low self-satisfaction. For instance, Helen was not satisfied with her performance because she felt she was easily distracted while doing this

task. Daisy was dissatisfied after comparing her writing to Gina's writing. She focused on a relational aspect of writing by making a comparison between her own and her peer's work. Ella was not satisfied because she felt that her English was not good enough to write down everything she planned to.

In Task Two, a total of four students (Betty, Gina, Helen, and Ivy) were satisfied and the other four students (Ann, Carol, Fiona, and Janice) were dissatisfied with their performance.

According to students' responses, they were satisfied with their performance if they were not distracted while working on this task and finished it on time (e.g., Gina: "*I'm satisfied because I concentrated all the time and also practised my spoken English.*"). Students who were dissatisfied with their performance gave several reasons. For example, Ann and Carol said that their pronunciation was not good enough. Fiona said that the process of organising her talk was not very smooth. Janice was dissatisfied because she believed that she should use more advanced words.

In Task Three, only Helen stated that she was satisfied, whereas the other three students (Ann, Ella, and Fiona) said "*just so so*" which showed a low level of self-satisfaction. The reason why they were not satisfied was mainly because of limited vocabulary. Both Ann and Ella explained that they often needed to look up words as they did not know how to express their ideas in English.

In Task Four, only Fiona and Gina were satisfied with their performance, for similar reasons (Fiona: “*I’m focused, and I finished it very quickly*”; Gina: “*Because I finished it on time, and I was concentrating.*”). However, Carol, Betty, and Ivy showed a low level of self-satisfaction as Betty explained that she felt her English speaking was not good enough, but she also showed a positive reaction as she added that she intended to “*perform better next time*”. Similarly, Carol stated that her pronunciation was not clear, which was the reason why she was not satisfied. Ivy was not satisfied for two reasons: 1) her “*presentation was a little short*”, and 2) she believed that she should come up with more ideas.

5.2.3.4 Adaptive/defensive

The reaction of being adaptive or defensive was also observed when the researcher asked students what they planned to do if they had a similar task next time. As shown in Table 20, all the students showed adaptive reactions and planned to perform better in their future study.

Table 20
Students’ Future Study Intentions

	Task One	Task Two	Task Three	Task Four
	Number of students			
Specific plans for future study	4	2	3	1

Effort making	2	5	4
Attention focusing	2		
Time management	2		

As shown in Table 20, all the students who participated in the tasks showed adaptive interference with different focuses, in which specific plans for future study were the most frequently mentioned, followed by effort-making statements (in Tasks One, Two, and Four), attention focusing and time management (Task One). In Task One, students' future plans of study covered all four aspects. A total of four students (Ann, Betty, Daisy, and Ella) proposed some specific plans for future writing tasks, such as drafting an outline before writing, proofreading to avoid mistakes, using more sentence patterns, and trying to write down more words (e.g., Ann: "*Next time, I think I can roughly write down a draft on the paper, and then check some words to avoid mistakes.*"). Effort making was presented by Carol and Janice who wished to study harder and complete the learning outcomes of the following task. Time management was mentioned by Fiona and Janice, who planned to finish tasks on time next time and do better in time management. Attention focusing was pointed out by Gina and Helen, who aimed to be more concentrated on their study (e.g., Gina: "*I will concentrate harder and do my work more efficiently.*").

In Task Two, students' future plans of study mainly covered two aspects: 1) effort making, which emphasised the importance of practising more English speaking (e.g., Carol: "*Practise*

more and listen to English more often.”); and 2) some specific plans of future English speaking (e.g., Betty: “Listen to English recordings to learn the authentic pronunciation, tones, and speaking skills to prepare for future speaking tasks.”).

In Task Three, all the students who shared their opinions in the group set up specific learning plans that focused on structure of writing (e.g., Ann: “*Organise the ideas clearly and make the structure clearly in the future*”), written expression (e.g., Ella: “*I hope I can express my ideas more smoothly next time*”), and writing efficiency (e.g., Helen: “*Form a framework quickly and express it fluently if we have a similar writing task in the future*”).

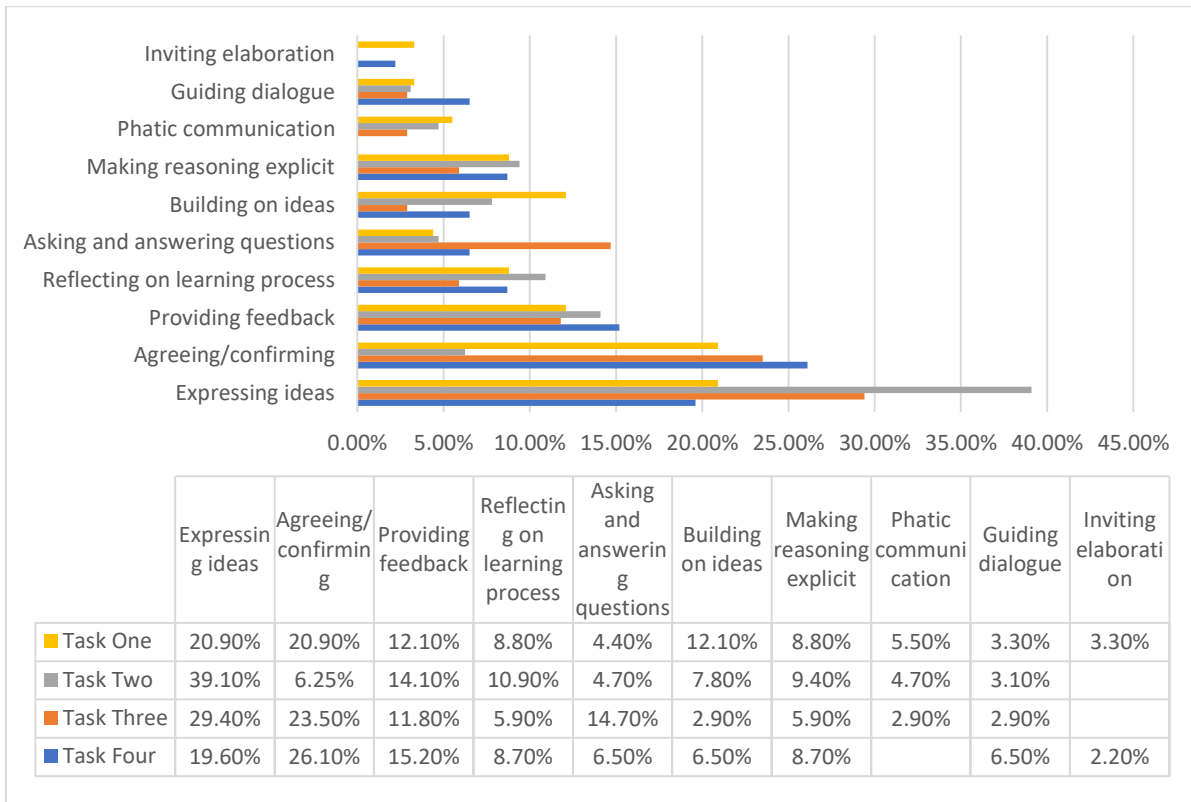
Similar to Task Two, students’ future plans of study in Task Four covered two aspects: 1) effort making (e.g., Carol: “*It is important to practise again and again.*”); and 2) specific plans of future English speaking (e.g., Ivy: “*Search for more information online, which might be helpful to generate more ideas*”).

5.2.3.5 Interaction during the self-reflection phase

As shown in Figure 21, more interaction purposes were identified during the self-reflection phase compared to the forethought and performance phases, such as providing feedback and reflecting on the learning process.

Figure 21

Interaction Purposes during the Self-Reflection Phase of All the Tasks



During the self-reflection phase, expressing ideas, agreeing or confirming, as well as providing feedback were the most frequently identified interaction purposes. In terms of expressing ideas, for example, when students talked about their future study plans in Task Three, Ella said, *“I hope I can express my ideas more smoothly next time.”* Similar to the recorded interactions in previous phases, sometimes students’ expressions were as short as *“Yes”*, such as when replying to the question about whether they had achieved their learning goals. As for agreeing or confirming, this included positive comments from the researcher, such as *“Excellent!”*, and also concurrence from other students. For example, when talking about self-satisfaction, Betty said, *“Similar to*

Fiona, I am dissatisfied because I failed to use advanced words and sentences". During the peer feedback stage, positive feedback was frequently observed. For instance, Helen provided feedback on Fiona's writing output with positive comments, saying *"I think Fiona's writing is very good! Especially the part of 'online learning'; both the advantages and disadvantages of learning online were very clear."*

Followed by these frequently observed interaction purposes, reflecting on the learning process, asking and answering questions, building on ideas, and making reasoning explicit were also shown in all four tasks. During this phase, especially when students evaluated their performance, reflecting on the learning process and making reasoning explicit were often observed together: (e.g., Ivy: *"I am satisfied because I think my writing expresses my thoughts clearly."*). Moreover, asking and answering questions in this stage was mainly between students and the researcher (e.g., the researcher: *"What do you plan to do next time?"* Carol: *"Practise more and listen to English more often."*). The interaction purpose of building on ideas frequently appeared during the peer feedback stage. Many students automatically translated some keywords or explained the context to help their peers better understand what they wrote or spoke, as shown in the screenshot below:

Figure 22

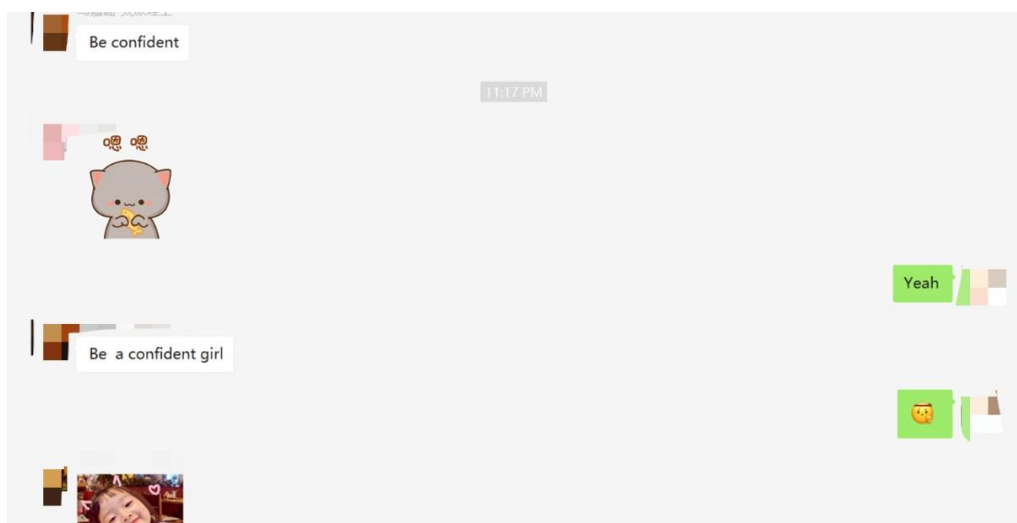
Building on Ideas during the Self-Reflection phase of Task Two



Phatic communication was also identified in this stage (in Tasks One, Two, and Three). The usage of emojis and animations was observed frequently in students' phatic communication. Taking Task One as an example, students tended to motivate each other by indicating 'be confident', as shown in the screenshots below:

Figure 23

Screenshots Showing Phatic Communication



Similar to previous stages, both guiding dialogue and inviting elaboration were the least used strategies, which were usually initiated by the researcher by asking prompting questions to facilitate students to go through the SRL process (e.g., the researcher: “*Have you been distracted by anything when working on this task?*”, Ivy: “*Nope.*”), in the hope of encouraging students to share more details. For example, when Gina said she learned a new word from Task Four, the researcher asked her “*Which word did you learn?*” and Gina shared that she learned the word “*Panacea*”.

5.3 Focus Group Interviews

The focus group interviews were conducted after the WeChat group learning tasks and focused on students’ reflections and add-on ideas following their experiences of SRL in the social media environment. Data collected for this section covered two main aspects: 1) students’ perceptions of SRL after participating in the WeChat study group; and 2) the factors that contributed to or constrained students’ SRL experience in the context of WeChat.

5.3.1 Students’ perceptions of using WeChat to regulate EFL learning

The participants changed their perceptions of SRL after joining the WeChat group and completing English learning tasks in the new learning environment. Many of them mentioned that they had never thought of using WeChat to learn English before, or knew that WeChat could support SRL (e.g., Betty: “*Actually before this program, I didn’t think WeChat could be used as*

a learning platform.”). However, after the learning exercise, students’ ideas changed: Ivy said “Now I agree that WeChat can be used as a learning tool for us. I think the outcome is pretty good after I participated in this”. In addition, other advantages of using WeChat for English study were also pointed out, such as convenience (e.g., Gina: “It’s easy to take notes and convenient to save and review all the records on WeChat.”), flexibility (e.g., Carol: “I appreciate the flexible timing when learning English through WeChat. We can learn with no limitations of time and place.”), and relaxing (e.g., Ella: “Sometimes I’m too shy to speak English face to face, but I feel OK to speak English in the WeChat group.”; Daisy: “Sometimes I’m nervous when studying in class and afraid of answering questions in front of everyone, so I feel more relaxed to learn via WeChat and then I’m more productive.”).

Importantly, students’ awareness of SRL also improved after experiencing the WeChat study group. A few students (Ann, Betty, and Helen) stated that they might be distracted when using WeChat; however, students affirmed that their SRL was improved through this experience. For instance, Ann said *“I’ll find a room for study to avoid distractions, then I’ll focus on my study and won’t think about using my phone for entertainment. After I finish everything, I’ll feel relaxed and proud of myself”*. Similarly, Gina also said that her learning efficiency improved after she became more focused, and she added that *“I’ve become familiar with the self-regulated learning process. I’m more focused when learning English now”*.

In terms of communicating through WeChat or face to face, most of the students confirmed their preference for communicating via WeChat, and their reasons could be categorised into three aspects: 1) the usage of emoticons (e.g., Ivy: *“I prefer using WeChat to communicate. Emojis are the best!”*; Gina: *“WeChat provides lots of emojis and posting them is great to break the awkward silence.”*); 2) different ways to communicate through WeChat (e.g., Carol: *“We can send either a text message or voice message on WeChat.”*); and 3) the relaxing atmosphere (e.g., Ella: *“We can spend time thinking before posting in English on WeChat. When we communicate face to face, I might feel anxious.”*). However, Daisy agreed with Ella that *“It’s true that I might feel relaxed and speak more naturally when communicating online”*, but she still preferred to communicate face to face, because she believed that this was a necessary skill for a future career, such as a job interview.

In terms of learning English via WeChat or in class, surprisingly, only one student preferred learning through WeChat, whereas others liked to study in traditional learning settings under teachers’ supervision; but they also pointed out some advantages of learning through WeChat than in the classroom. For example, Betty and Gina said that they still liked to study in class because they were used to that learning mode. Janice preferred learning in the classroom because she could *“keep focused under teacher’s supervision”* and Ann liked to study in the library because *“the learning atmosphere can also inspire me to study somehow because everyone is studying, so it would be weird if I don’t”*.

However, Helen stated that she preferred to study via WeChat because *“It’s (learning via WeChat) new to me and I’m interested in it, so my learning motivation is higher than learning in class”*. In addition to liking its novelty, students also pointed out some other advantages of learning through WeChat, such as immediacy (e.g., Fiona: *“When you share something on the WeChat group, we can comment on that immediately.”*), connections with peers (e.g., Betty: *“We have more interactions, our relationship is closer, and the learning atmosphere is better.”*), and more opportunities to share their opinions (e.g., Ivy: *“When we learn in class, the teacher may ask only a few classmates to answer the question, but in the WeChat group, all of us can reply to that question together. I think that’s interesting.”*).

As for whether students were willing to keep learning English on WeChat in the future, all the students said *“Yes”*, which showed a positive attitude towards using WeChat in English study. For instance, Carol and Ivy expressed similar ideas that WeChat provided a new platform for them to learn English: Carol stated that *“It means we have more ways and choices to learn English. We don’t need to be restricted in learning English in class”* and Ivy also agreed that *“It would be more enjoyable with a variety of learning modes”*. Moreover, as WeChat was widely used in people’s everyday life, students believed that it would be suitable to also use WeChat for academic purposes. Fiona claimed: *“I use my phone mostly for entertainment, so it is good to use it for academic purposes. I can exchange ideas with my peers and learn more rather than wasting too much time on entertainment”*. Ann and Gina also stressed that learning English via WeChat would be highly recommended as long as there was an instructor to supervise or guide

them, adding “*But if there is no one to supervise us, it might be challenging for the students who are less self-regulated*”.

In short, students underwent a change in perceptions to agree that WeChat as a social media tool could also be used as a learning platform. They also tended to avoid distractions while learning through WeChat, which demonstrated stronger SRL capability. However, although most of the students liked to communicate via WeChat, some still liked to learn English in traditional learning settings, because they were used to the teacher-centred learning mode and felt it helped them to stay focused. However, students expressed willingness to learn English through WeChat in the future, which broadened their available learning platforms and study modes for learning English.

5.3.2 Factors that impacted students’ SRL in the context of WeChat

According to students’ responses, WeChat itself as a learning platform had both contributing and constraining factors in terms of their SRL. Students mentioned several advantages and disadvantages of using WeChat to learn English. The advantages could be categorised into four aspects: 1) diverse ways of learning English on WeChat (e.g., Helen: “*We can text, post audio recordings or use the voice message, and upload learning materials all by WeChat.*”); 2) WeChat provided a relaxing atmosphere for students to share and discuss in a group (e.g., Daisy: “*I feel it’s less stressful to express my opinions on WeChat, and I can also learn from others*’

ideas.”); 3) students could learn English anywhere anytime via WeChat (e.g., Gina: “ When we discuss or brainstorm together, all the records will be saved on WeChat, including our writing samples. So I can look back to these records whenever I want to, which would be difficult to achieve with classroom study.”); 4) students could get instant feedback from their teachers through WeChat (e.g., Carol: “It’s efficient to ask the teachers questions on WeChat since the teacher can help me solve my problem immediately.”).

The disadvantages that students mentioned in the interview fell into two types: 1) students might be easily distracted when using WeChat to learn English such as with constant chat messages (e.g., Betty: “*When someone else sends me messages, it will distract me from study because I have to reply to their messages.*”); and 2) the WeChat function of auto-correction was mentioned as another potential constraining factor, especially for vocabulary memorisation, as pointed out by Janice.

The scaffolding for using SRL strategies as they performed these tasks was perceived as a positive factor in using WeChat for English learning. During the interview, students pointed out some SRL strategies they learned from participating in the WeChat study group and would like to use again in future study. For instance, reflection and goal setting were the most frequent strategies mentioned by the students (e.g., Fiona: “*Some strategies, like reflection, can help me assess whether my English has improved or not, which is also helpful for me to perform better next time.*”; Gina: “*Goal setting, time management and learning from previous mistakes in order*

to perform better next time.”). Betty and Carol also said that peer feedback was important to them because “when I read my peers’ texts, I realised that there were so many new ideas which I didn’t come up with, so I learned a lot from them” and “I could compare my work with other peers’, so I was able to know what I was really good at and where I needed to put more effort in”. Moreover, Ann also claimed that after finishing the four SRL English tasks with her peers in the WeChat group, now she could automatically incorporate the SRL process into her daily study, such as thinking about questions like “What is my learning goal?”, “how long do I have to finish this task?” and “How can I plan to finish it?”, etc.

Interaction with peers was also mentioned frequently during the interviews, and seemed to be an important factor impacting students’ SRL. Most students agreed that they could learn from their peers in the WeChat group. For example, Betty said that when her peers posted English in the group, especially when there were unfamiliar words, she felt that she could memorise those words better. Ivy also said: “When we brainstormed together, everyone would post their answers. At that point, I could combine my ideas with other peers’ opinions, so I would have a more comprehensive point of view”. Moreover, students claimed that WeChat offered a less stressful environment for them to share their opinions with their peers more freely. For example, Carol said: “I think it’s relaxing when we discuss and communicate together in the WeChat group... I’m too shy to speak and afraid of making mistakes in front of people. However, I feel much more comfortable sharing all my opinions freely in the WeChat group”.

In short, the focus group interview results suggested that WeChat, the usage of SRL strategies, and the interaction with peers were the main factors that impacted students' SRL process in the context of the WeChat study group. A few disadvantages of using WeChat to learn English were mentioned, such as the possibility of distraction, but many other factors had a positive influence on students' SRL.

5.4 Chapter Summary

This chapter has presented the data gathered from the questionnaires, WeChat group learning tasks, and focus group interviews. According to the questionnaires, students had some ability to use and adjust certain SRL strategies. Students' perceptions of using WeChat to learn English varied. Almost all the students believed that WeChat could be a useful tool in English study even though most of them still preferred the traditional face-to-face learning mode. The advantages and disadvantages mentioned by these students were also reported in this chapter. According to the WeChat group learning tasks, students' SRL process in terms of recognition and use of SRL strategies, especially students' interactions during the cyclical phases were evident from the data reported here. The focus group interviews provided extra information regarding students' perceptions and experiences of self-regulating their English study via the WeChat group.

Chapter 6: Discussion

This chapter summarises the findings regarding the three research questions: EFL students' perceptions of SRL in the context of a WeChat study group, their engagement in SRL processes, and factors that impacted their SRL in the new learning environment of WeChat, as presented in Chapter 5. Underpinned by the theoretical concepts of SRL, interaction, scaffolding, and the zone of proximal learning, the major findings are discussed and positioned in relation to related research on SRL and the use of social media (i.e., WeChat) in language learning.

6.1 Q1: What Are Students' Perceptions of SRL via WeChat?

This research question was addressed by data obtained from the questionnaires and focus group interviews regarding students' views of learning English via WeChat and their ideas of SRL with the help of WeChat. The questionnaire data provided a big picture of 78 participants' perceptions of English learning and SRL through WeChat. In addition, the focus group interview data showed more detailed and in-depth information about the changes in students' perceptions of using WeChat as a learning tool.

6.1.1 Students' perceptions of learning English via WeChat

WeChat was already widely used among the participants of this study as a medium for social connection and entertainment; however, perceptions of using WeChat as an English learning tool varied among the participants. For example, almost all the students (n=78) who filled out the

questionnaires stated that they used WeChat on a daily basis, but only around 60% of them reported that they learned English via WeChat. The rest of them rarely or never used WeChat for English study. As also noted in Yot-Domínguez and Marcelo's (2017) research study, there were quite a few students who were less likely to cope with their study through digital technologies, which calls for more guidance to boost students' awareness of the effectiveness of using technology (such as WeChat) for academic purposes.

Students who participated in the WeChat study group also exhibited a shift in perceptions, from using WeChat for entertainment to using it as a learning platform. For instance, students stated in the focus group interviews that they never thought WeChat could be used as a learning platform before carrying out the learning tasks. By the end of the study, they believed that WeChat could be used as a learning tool and could provide good learning outcomes (e.g., Ivy). This shift of perception implied that the usefulness of WeChat for English learning was affirmed by the students, which aligns with findings of previous research studies that, with appropriate instructions and training, students' academic achievement and their SRL ability could both be improved (Al-Bahrani et al., 2015; Bai et al., 2021; Suhandoko & Hsu, 2020; Teng & Zhang, 2020). In recent years, student learning has been disrupted by the outbreak of COVID-19 where the learning mode had to change from face-to-face to remote (UNESCO, 2020). In that context students' agreement on the usefulness of WeChat as a learning platform would seem to be very important and apposite.

Convenience of use was the major reason given by students who were positive about learning English via WeChat; this covered three aspects: 1) over 80% of students agreed that it was a convenient way to access and share multiple learning resources (e.g., Gina: “*It’s easy to take notes and convenient to save and review all the records on WeChat.*”); 2) students who added their ideas to the text box on questionnaires and students who participated the focus group interviews also frequently mentioned that there were no constraints of time or place when learning English through WeChat; 3) different ways to engage in English learning via WeChat offered choices for students who had different preferences (e.g., Carol: “*We can send text messages or voice messages on WeChat.*”). Such favourable perceptions of easy accessibility and convenience were in line with previous studies findings that WeChat, as a supplemental learning tool, facilitated students to learn at their own pace with eclectic learning materials (Aleksandrova & Parusheva, 2019; Guo & Wang, 2018; Wang & Chen, 2020). In this case, WeChat played an important role in shifting the learning mode from traditional teacher-centred to more student-centred (Zhu, 2018).

Nevertheless, the participant students also felt there was a reason why WeChat was not an ideal tool for English study. The key reason was that WeChat was not designed for English learning. It was understandable that these students preferred to use other apps that might seem to be more ‘professional’ than WeChat and designed specifically for certain English language abilities (listening, speaking, reading, and writing). Gao’s (2020) study reported similar findings that Chinese university students “who considered WeChat not useful in English learning also reported their preferences for alternative mobile learning apps” (p. 123).

6.1.2 Students' perceptions of SRL via WeChat

Responses gathered from the questionnaires showed that students were able to apply and adjust SRL strategies during their English learning process. For example, in the second section of the questionnaire, various SRL strategies were highlighted. As shown in section 5.1.2, most students stated that they set learning goals, made and changed plans or strategies when necessary, asked for assistance, and evaluated their learning process in English study. According to Kizilec et al. (2017), SRL strategies such as goal setting and strategic planning were strong indicators of academic success. Hence, the students who agreed that they could use SRL strategies in their own study tended to be more self-regulated in their learning and be more likely to achieve the outcomes.

However, an important point should be noted. Based on students' performance over all four of the group tasks, the participants barely knew what SRL strategies were about at the very beginning, even if they were using some strategies unconsciously. Thus, there was a lack of knowledge of what self-regulated learning meant. This 'deficit in knowledge' was also revealed in Dörrenbächer and Perels's (2016) study (p. 229). As the online environment expects students to be more self-regulated in managing their study (Lim et al., 2020), it is critical to provide guidance for Chinese university students to raise their awareness of SRL skills, and studies have shown such guidance to be helpful (Dörrenbächer & Perels, 2016).

In addition to their developing use of SRL strategies, almost all students showed positive attitudes towards facing challenges in their study (see section 5.1.3). They showed they were adaptive and could learn from their mistakes instead of avoiding them (see Table 12). Being adaptive during the learning process has been proved to be a strong indicator of SRL development (Cho et al., 2020). Being adaptive also relates to a common belief that learning should include acceptance of failure or mistakes, which is an old saying in China. Since SRL is ‘socially and culturally bounded’ (Wang & Lu, 2016), sociocultural factors will inevitably influence students’ perceptions of such adaptive interference. Cultural beliefs about learning and improving from mistakes might be a possible reason why students showed adaptive qualities (that are closely related to SRL) in their learning process (Zimmerman, 2002).

Students also showed a positive attitude towards SRL via WeChat because they recognised the beneficial affordance of interaction. According to the data from questionnaires (see section 5.1.1) and focus group interviews (see section 5.3.1), students frequently mentioned that WeChat provided a platform for them to discuss questions with their peers and teachers and receive timely feedback. Thus, they could learn from their peers and they had more opportunities to share their own opinions in the group than they would have had in class. These findings were in line with previous studies reporting that students were satisfied with their experience of learning via social media like WeChat because of instant communication and frequent interactions with peers and teachers (Bushaala et al., 2020; Ekahitanond, 2018; Malik & Haidar, 2021; Rohr et al., 2022), which not only enhanced English proficiency (Lee, 2022) but also facilitated students’ SRL development (Akhiar et al., 2017; Giannikas, 2020; Guo & Wang, 2018; Jia & Hew, 2019).

Similarly, Yen et al. (2019) also found that students in higher education tended to be more collaborative in discussion when learning remotely, which was a sign of SRL improvement. Moreover, it was surely beneficial to free students from being passive knowledge receivers in the traditional teacher-centred learning environment to become more active in producing and exchanging their ideas in the context of WeChat.

Enjoying a relaxing and less stressful atmosphere was another reason why students preferred to learn via WeChat. Based on the focus group interviews, many students pointed out that they were shy and nervous when speaking English in front of people and they were afraid of making mistakes. However, they felt more comfortable and relaxed sharing ideas or asking questions in the WeChat group (e.g., Daisy). Being anxious and afraid of making mistakes and 'losing face' is not rare in Chinese culture, especially when using a foreign language (Chen, 2018). However, as Ella commented in the interview, learning via WeChat allowed her to be fully prepared before posting opinions in the group, which largely reduced her stress level. In this case, students were more likely to express their ideas and generated more interactions with the help of WeChat, which helped to develop SRL in a kind of virtuous cycle.

According to the data collected from the participants in the WeChat group and focus group interviews, an interesting finding was that almost all the students (n=10) believed that WeChat was helpful for their English learning but only a few expressed a preference to learn English in that way. Similarly, as noted in previous paragraphs, although students showed a positive attitude

towards communicating with their teachers on WeChat, due to timely feedback and a relaxing environment, most of them still said they preferred the traditional teacher-centred learning mode. Looking back to the focus group interview data, the reason behind these discrepancies is because students were more familiar with the teacher-centred learning style. They thought they needed someone to ‘push’ them into study and that they concentrated better under the teacher’s supervision. “Learners are expected to be autonomous” to make their own decisions when learning in such a flexible environment (Tschofen & Mackness, 2012, p. 126). It was understandable that students lacked confidence in autonomous learning, especially when they were long-used to a teacher-centred environment. The educational system in China does not allow students much space to “make choices on what to learn in class and on the content of homework” (Wang & Lu, 2016, p. 15); thus, students were used to following what their teachers asked them to do. Even though students showed a noticeable change in perceptions and a positive sign of SRL improvement after participating in the four WeChat group tasks, they still needed instruction and supervision from more experienced ones (Chen, 2018).

6.2 Q2: How Do EFL Students Engage in Self-Regulated Learning in the New Learning Environment?

To answer this research question, data were obtained from the four SRL tasks for discussion and analysis. As reported in the previous chapter, all four tasks were guided by Zimmerman’s (2002) three phases of SRL: the forethought phase, the performance phase, and the self-reflection phase.

Students' engagement with SRL in the new learning environment will be discussed based on the strategies they applied in each phase.

6.2.1 The forethought phase

During the forethought phase, a total of three SRL strategies were observed during the forethought phase of the four English learning tasks: goal setting, self-efficacy, and strategic planning. The strategies of goal setting (e.g., focusing on expression, time management, etc.) and self-efficacy (e.g., confidence in completing the tasks) were consistently identified during the four tasks; however, strategic planning (i.e., expected time and learning process to finish the tasks) and outcome expectations (i.e., learning more words, improving expression, etc.) were observed more in the last three tasks than in the first one. In Task One, students only used two strategies, goal setting, and self-efficacy, as at that stage, students were still unfamiliar with the SRL process and SRL strategies. Familiarity has been suggested as a strong contributing factor to learners' engagement and interaction (Qiu & Luo, 2017). With the help of scaffolding from the researcher, more SRL strategies were applied in the following tasks as students became more familiar with the procedures and strategies of SRL.

- ***Goal setting***

As shown in Table 21, the participants formed and modified their learning goals from task to task based on different task themes and requirements. In China, students are more purpose-

oriented, and this is often due to external expectations, such as from their family or society (Lee & Bong, 2016; Wang et al., 2019; Wang & Lu, 2016). Under such cultural influences, students who were able to set up and adjust their own learning goals were also the ones who could be more self-regulated in their learning (Littlewood, 1999).

Table 21

Different Focuses of Goal Setting from Task One to Task Four

Goal Setting			
Task One (writing)	Task Two (speaking)	Task Three (writing)	Task Four(speaking)
writing ability	time management	writing skills	time management
Expression	expression	expression	expression
writing structure, content and accuracy	vocabulary	vocabulary and sentence patterns	content
writing efficiency	fluency	writing efficiency	fluency
writing style	pronunciation	critical thinking	accuracy
the relational aspect of writing			

Examining the goals that students set from Task One to Task Four, the learning goals range from general to more specific. Take Ann’s goal setting as an example: In Task One, Ann said that her learning goal was to improve her writing ability, which was quite broad and general. From

Tasks Two to Four, Ann's stated learning goals focused on fluency, expanding vocabulary, and improving accuracy — goals that were more specifically related to aspects of English language learning. Students like Ann, whose expressed learning goals changed from being broad and general to being more specific, were showing signs of self-managing ability and having a clearer perception of what they wanted to achieve from the task. This is in line with Robison and colleagues' (2021) findings that setting up a specific goal had a positive effect on students' attention focusing in a sustainable way.

In addition, as students gradually became familiarised with the SRL process, they started to show spontaneous awareness of goal setting. For instance, at the beginning of Task Four, Gina automatically asked '[What's] our goal?' after the researcher introduced this task. Then these students set up their learning goals and shared them in the WeChat group without further prompting from the researcher. It was a sign of students' developing SRL ability that they could set and adjust their learning goals to suit different tasks (Güngör, 2021). Previous studies have pointed out that goal setting is a driving force of SRL (Kormos & Csizer, 2014; Papamitsiou & Economides, 2019). In this case, setting up goals autonomously indicated students' "self-determined learner effort" (Carter Jr et al., 2020, p. 322), related to an improving level of SRL ability.

- *Strategic planning*

Similar to goal setting, students' strategic planning was also becoming more and more specific. At the beginning of Task One, the participants indicated that they made learning plans when they self-studied, but they did not realise that this was also a part of SRL. Their understanding of SRL was based on previous subjective ideas. The students seemed to have some awareness of SRL but lacked systematic knowledge of the SRL process. One reason for this might be that Chinese students have been used to a teacher-centred learning mode (Huang, 2022; Loh & Teo, 2017; Wu, 2021), which did not provide enough space for their SRL improvement. It could be inferred that university students' SRL ability might be limited for that reason (Littlewood, 2009), and that external guidance on SRL strategies would be beneficial (Tomak & Seferoglu, 2021).

Another evidence of detailed task planning could be seen in effort making (e.g., "*I practise a lot*"), which was the most frequently mentioned (but quite broad) strategic planning required in Task Two. More detailed study plans that went step by step, with a specific amount of time for each step, were generated for Tasks Three and Four (see section 5.2.1.2). Evidence of effort making reflected students' keenness to be self-regulated in learning, which is also a predictor of autonomous learning, as pointed out in Papamitsiou and Economides's (2019) study.

Students' strategic planning for the tasks was closely related to their goal setting. Take Ella's strategic planning in Task Three as an example: Ella's learning goals were about clear expression

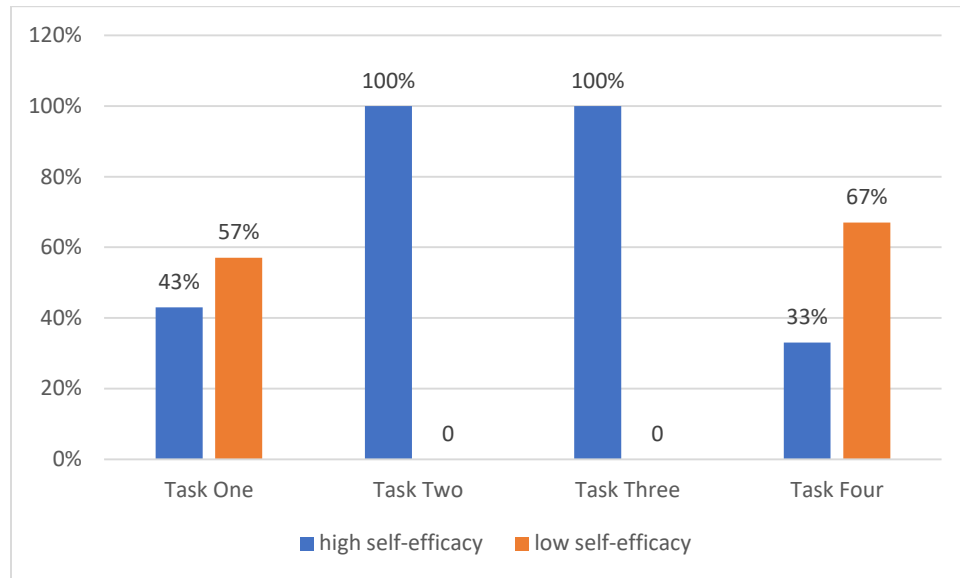
and efficiency in completing her writing task; accordingly, she planned to find a quiet place to concentrate and organise the structure of her writing clearly and coherently. In line with the findings of Kizilec and colleagues (2017), evidence of strategic planning (a key component of SRL), was a strong predictor of goal attainment in students' learning process as students who are viewed as self-regulated learners are usually good at managing learning strategies (Tran & Duong, 2018).

- *Self-efficacy*

Self-efficacy was another important strategy seen in the forethought phase and it varied task by task, as shown in Figure 24. At the beginning of Task One, more than half of the participants said they lacked confidence, which showed a low level of self-efficacy, mentioning that it was their first experience of the SRL process. Being unfamiliar with the SRL process, they were not sure if they could do it. This expression of insecurity was understandable coming from students raised in the context of Confucius-heritage culture. They had been educated to be modest and humble and reluctant to display any kind of “showing off” (Zhong, 2013).

Figure 24

Students' Self-Efficacy Levels from Task One to Task Four



Task difficulty influenced the level of students' self-efficacy. As shown in Figure 24, students' self-efficacy in Task Two and Task Three was high (100% reporting high self-efficacy) whereas in Task Four it was lower (33% reporting high self-efficacy). Although students did not directly claim that the Task Four oral exercise (i.e., Choose a major for a good job vs. for interest) was difficult, many of them expected to spend a much longer time (perhaps one or two hours) to complete that task, as mentioned in their strategic planning (see section 5.2.1.2). This was consistent with a previous study that found task difficulty was negatively correlated to self-efficacy (Lee & List, 2021). However, it was not surprising that students might feel less confident when faced with a challenging oral task (Wang & List, 2019).

However, it was interesting to note that low self-efficacy did not necessarily hinder students' SRL improvement in the current study. Prior studies have pointed out that self-efficacy, as a motivational belief, is positively related to students' SRL ability (Honicke & Broadbent, 2016; Kim et al., 2015; Lee et al., 2021; Ömer & Akçayoğlu, 2021; Sarıçoban & Behjoo, 2016) and that it is positively linked to learners' language learning and academic performance (Ayllón et al., 2019; Ozer & Ispinar Akçayoğlu, 2021). However, the participants in this study were inclined to put more effort into or spend more time on the task when they lacked confidence (see section 5.2.1.2), and this contributed to their progress in SRL. This contradicted a previous study, which found students with low self-efficacy would be disadvantaged in the learning process (Chen, 2018). In this case, students might be influenced by a cultural belief that "Effort can compensate for inadequacy". Influenced by Confucianism, Chinese students believe that inadequacy in study, such as lack of confidence, could be compensated for by working harder (Fwu et al., 2018). Therefore, it could be inferred that, in this study, students' developing SRL was not significantly impeded by a lower level of self-efficacy.

6.2.2 The performance phase

During the performance phase, a total of four SRL strategies were observed consistently during all four tasks: 1) planning (i.e., the content and structure that students planned to write or speak for each task); 2) self-recording (i.e., students' own notes on their learning process); 3) task strategies (i.e., looking up vocabulary, searching for resources online, etc.); and 4) attention

focusing (i.e., degree of concentration). This section will discuss how students regulated their study during the performance phase in terms of the four key SRL strategies.

- ***Planning***

Planning was consistently used by students during the performance phase of all four tasks; however, it differed from the *strategic planning* that occurred during the forethought phase. The *strategic planning* during the forethought phase mainly covered the strategies and efforts that students expected to apply in order to achieve their learning goals, whereas students' *planning* during the performance phase referred to the detailed structure and content they planned to write or speak for each task, which was more content-specific (Seidel et al., 2021). Take Ann's planning for Task Two as an example: Ann posted that she would select a movie for her oral presentation and she outlined her planned structure and content with three bullet points. "1. *Introduce the movie I want to recommend*; 2. *Why I recommend it*; 3. *What did I learn from this movie*". As a metacognitive skill, planning is beneficial to guide students to proactively form and regulate their task strategies in order to achieve their learning goals (Vrieling et al., 2018).

The data showed that some activities, such as debate, facilitated students' planning of writing or speaking during this phase. For instance, in Task Three (learning online vs. learning in the classroom) and Task Four (choosing a major for a good job vs. for personal interest), students held a debate based on the topic in each task. With support from the researcher to organise the debate, many students expressed their ideas both in the debate and in their individual writing.

They also confirmed in the focus group interviews that this activity offered opportunities for them to interact and engage with their peers, which motivated them to come up with new ideas and build on ideas based on their peers' statements. For example, in Task Three Ella agreed with the statement *Learning online is better* during the debate. However, in her final written text, Ella was able to incorporate ideas shared by her peers and compared the advantages and disadvantages of these two learning modes, which made her written text more informative. These findings were in line with findings of other research that planning could help students to think and manage their own study proactively and have a clearer idea of how they would perform the task to reach their learning goals (Schippers et al., 2015; Yeomans & Reich, 2017).

- ***Self-recording***

Participants self-recorded their learning processes for each task, including the time they spent on the task, how many words they wrote (for writing tasks), and the strategies they used while working on the task.

As they progressed through the four tasks, students' self-recordings showed a shift from focusing on mechanical information (time and word count) to more strategy-related process. In Task One, which was a writing task, students only recorded the time they spent on the task and how many words they wrote. However, in the following tasks, students also paid attention to the strategies they used to complete the task. The self-recordings showed that some students' final writing or

speaking products were different from their original plan (see section 5.2.2.1). The way that students monitored and adjusted their English learning in the process of working on the tasks implied that they were taking more responsibility to manage their own study, which showed their improving level of SRL (Littlewood, 1999).

- ***Task strategies***

The task strategies that students applied were different from task to task, as shown in Table 22 below. This showed that these students were capable of adjusting learning strategies based on the requirement of different tasks.

Table 22

Task Strategies Identified from Task One to Task Four

	Task One	Task Two	Task Three	Task Four
	Planning	Writing down a transcript	Planning	Planning
	Searching for information online	Searching for information online	Searching for information online	Outlining & drafting
Task strategies	Editing & revising	Editing & revising	Editing & revising	Rehearsing
	Translation	Translation	Looking up vocabulary	Listening to English speaking

Attention focusing	Looking up vocabulary	Attention focusing
Help-seeking	Rehearsing	

As shown in Table 22, except for planning, which has been discussed earlier in this chapter, other types of task strategies were applied during the performance phase, such as searching for information online, rehearsing, and help-seeking. Searching for information was frequently used in almost every task. Students autonomously looked for extra resources, confirming the information richness of the new learning environment (Namaziandost et al., 2021; Noviana & Ardi, 2020; Wang et al., 2021; Wang & Jiang, 2021; Zhang & Wang, 2019). It was also a strong indicator of students' SRL (Aleksandrova & Parusheva, 2019) as their autonomous information-seeking was driven by the motivation to achieve their learning goals and complete the task. Previous research has confirmed that the application of strategies is positively correlated with students' SRL (Jossverger et al., 2019) and other attributes such as "lower test anxiety, lower neuroticism, and higher values in extraversion, conscientiousness, agreeableness, and openness to experiences" (Kim et al., 2018, p. 229). Studies have found that, compared to traditional learning settings, students in the online environment were able to be more autonomous in learning with the help of appropriate use of strategies (Broadbent, 2017; Kizilec et al., 2017).

However, help-seeking was not as frequently observed as expected during the performance phase. In fact, it was only observed in Task One during this phase. One student asked about a

word definition in the WeChat group exchanges, and other group members explained it in Chinese to help her distinguish the correct meaning. In accordance with Fukuda's (2019) view, the students in that study tended to deal with the problems they met on their own, which suggested that help-seeking was not students' first choice of strategy when they met problems. As noted in prior studies, some students tend to avoid help-seeking in order to keep being self-regulated in learning (Kizilcec et al., 2017; Papamitsiou & Economides, 2019), or alternatively, they might feel embarrassed about asking for assistance (Kulusakli, 2020).

It is also worth noting that the students' awareness of task strategies in SRL was weak at the very beginning. They did not realise that their learning process actually incorporated various task strategies which were beneficial for their SRL. Impacted by the traditional teacher-centred learning mode in China, many students did not have explicit awareness of SRL strategies. They were more likely to be passive learners, following only what the teacher taught (Fukuda, 2019). It may imply that more guidance in task strategy would be especially beneficial for Chinese university students.

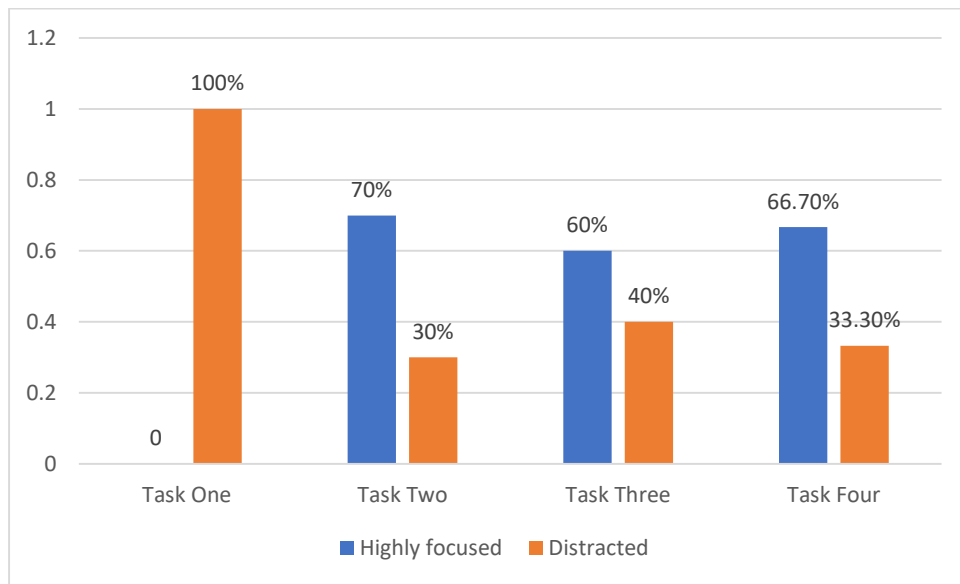
- *Attention focusing*

Except for Task One in which all the participants stated that they were distracted while working on the task, their attention focusing scored at a rather high level in the other three tasks, as shown in the figure below. It can be inferred that students gradually formed the intention to concentrate more and they started to make efforts to avoid distractions. Betty, for instance, mentioned that

she looked for a quiet place to study. Developing SRL requires students to manage their study proactively; therefore, increasing levels of concentration will be associated with a higher level of SRL (Littlewood, 1999).

Figure 25

Attention Levels of Students from Task One to Task Four



Interruptions experienced frequently came mainly from people around them and digital technology (online games and the use of mobile phones in this study), as shown in Table 23, Looking at the types of interruptions these students mentioned, many of them, such as phone messages or online games, could be proactively avoided while working on the tasks. It was understandable that the external environment might easily impact students' attention focusing, especially when studying from home due to COVID-19. Online learning provided students with a more flexible environment but also required more self-control, which corroborated findings

from Yot-Domínguez and Marcelo’s (2017) study. This calls for teachers to remind students studying in the online environment to be aware of the importance of attention focusing for academic success (Seker & Karagül, 2022).

Table 23

Types of Interruptions that Influenced Students’ Attention Focusing

	Task One	Task Two	Task Three	Task Four
	Family/people around them	Family/people around them	Family/people around them	Phone messages
Interruptions	Online games		Phone calls	Others (e.g., anxiety)
	Others (e.g., could not find stationery)			

Anxiety about using English was another potential factor influencing students’ SRL. Betty noted that she was not focused enough due to her high anxiety in Task Four. She aimed to improve her English speaking and complete the task without writing down a transcript, but she also felt nervous that she might not perform well without a transcript. It was common for learners to feel anxious when using a foreign language (Ömer & Akçayoğlu, 2021; Zheng & Cheng, 2018), particularly students coming from an eastern Asia context like China (Chen, 2018). Students are likely to feel embarrassed and stressed when making mistakes and they might regard anxiety as a kind of interruption to learning, which would further impede their engagement in SRL (Chen, 2018; Ömer & Akçayoğlu, 2021; Zheng & Cheng, 2018).

6.2.3 The self-reflection phase

During the self-reflection phase, four SRL strategies were identified frequently during all four tasks: 1) self-evaluation (i.e., evaluation of students' own performance in terms of whether they reached their learning goals); 2) peer feedback (i.e., providing feedback to their peers on issues such as content and structure); 3) self-satisfaction (i.e., the degree to which students were satisfied with their performance); and 4) adaptive or defensive reactions. Data relating to these four strategies are discussed in detail in the following paragraphs.

- *Self-evaluation*

Students' skills in self-evaluation increased from Task One to Task Four. As reported in the previous chapter, in Task One, students evaluated whether they reached their learning goals, whereas in Tasks Two, Three and Four, they also evaluated their performance in terms of the things they learned from the task as well as the challenges they encountered. Furthermore, students mentioned things they learned from the tasks, which were mainly related to English language skills (e.g., speaking ability, listening ability, vocabulary, etc.) and learning strategies (e.g., rehearsal, time management, attention focusing). They also recalled some difficulties they encountered, such as unfamiliar words or English expressions. Thus, these students were able to reflect on their own learning process in terms of the task outcomes and gain a clearer understanding of their English language deficiencies. Students who had a more comprehensive view of their strengths and weaknesses tended to be more willing to apply various SRL strategies to improve their performance (Baird et al., 2017; Cho et al., 2020). Therefore, from Task One to

Task Four, the ability to evaluate more aspects of their performance was a clear sign of SRL development (Urban & Urban, 2019).

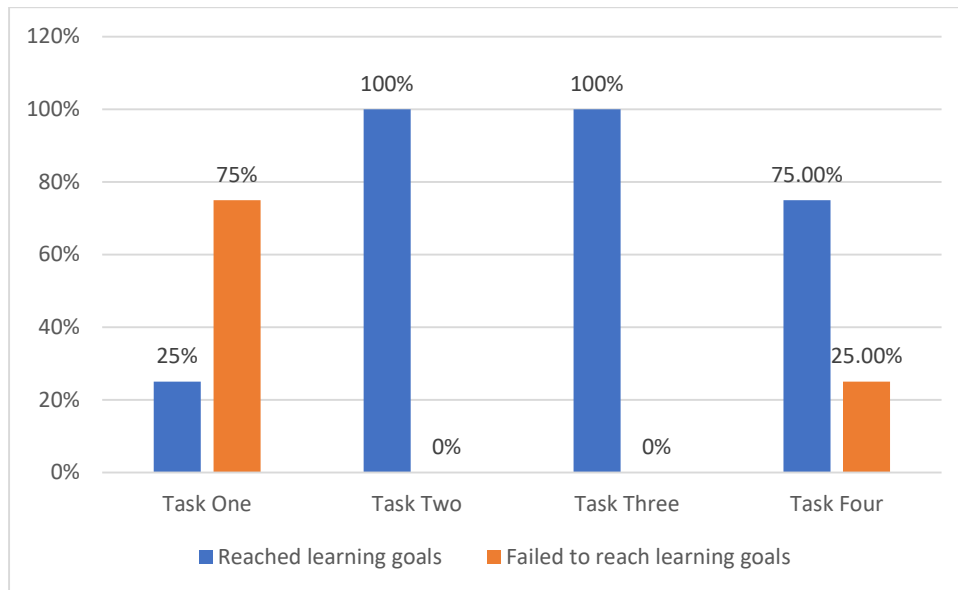
However, students' evaluation mainly focused on the English language skills, such as vocabulary, sentence patterns, and accuracy of grammar. This was in line with Chen's (2018) finding that Chinese university students focused more on accuracy at a lexical level when judging their own academic performance. This might also be influenced by the test-oriented learning mode in China (Wang & Guan, 2020). There, evaluation is seen as the teachers' task, with students passively accepting whatever mark their teacher assigns and this inevitably leads to a lack of experience in self-evaluation of their performance (Buendía, 2015).

As shown in the figure below, students' self-evaluations demonstrated that the probability of successfully reaching their learning goals improved in general with each task. The reasons varied when students evaluated themselves as failing to achieve their learning goals. For example, in Task One, most of the students believed that they did not achieve their goals due to poor time management, with some noting that they reached their goals partly, if their goal setting covered more than one expectation. By Task Four, only one student thought she had failed to reach her learning goal, because she had not spoken English as fluently as she hoped. However, she also added that she would perform better next time, which showed a positive attitude towards her future performance. Considering the influence of students' beliefs and expectations, it is

understandable that students might “underestimate their performance because they overestimate how well others do” (Urban & Urban, 2019, p. 9002).

Figure 26

Self-Evaluations of Students Regarding Their Learning Goals for All the Tasks



- ***Peer feedback***

Peer feedback was not considered in Zimmerman’s model of cyclical phases, but it was incorporated into the current study with the researcher’s guidance, as peer interaction and peer feedback have been shown to play an important role in students’ learning processes (Sch ünemann et al., 2017; Shen et al., 2020). According to the data reported in the previous chapter, students' peer feedback did not simply recap the content of what their peers produced but also covered focuses such as structure, expression, and even the use of quotations. Giving and receiving feedback is a process that can stimulate learners to think and to understand their

academic performance from a different perspective, especially where co-regulation or other-regulation is involved. It also enables students to develop a sense of responsibility in the process of evaluating and sharing opinions, as well as having the opportunity to learn from their peers (Schünemann et al., 2017; Shen et al., 2020). Co-regulation or other-regulation is the pathway to being self-regulated in learning. It would be unrealistic to expect students to be fully self-regulated at the very beginning. Therefore, the exercise of peer interaction and feedback provides an opportunity for students to co-regulate with each other. It has been found to be beneficial for students to “internalise regulatory processes and become more self-regulated themselves” (Schünemann et al., 2017, p. 397).

Most of the time, these students provided positive comments when giving peer feedback (e.g., Ann: “*Betty’s pronunciation is very clear, and I think her oral presentation is also very good*”; Helen: “*I think what Fiona wrote about online learning was really nice!*”); however, only a few of them pointed out their peers' errors or offered suggestions. For example, in Task One, which asked students to write a text about their holiday plans, Gina suggested in her feedback: “*I think it would be better for her to list detailed plans*”. Some students also pointed out some grammatical errors of their peers, such as use of singular and plural verb forms. Students who received the feedback all accepted positively what their peers had suggested. However, it would be a step further if students could have negotiated feedback with their peers instead of accepting comments without further discussion. Prior research studies (Er et al., 2021; Winstone et al., 2017) stressed that being proactive when receiving feedback from peers was the key to making the learning process dialogic and active (e.g., discussing and analysing peer feedback for

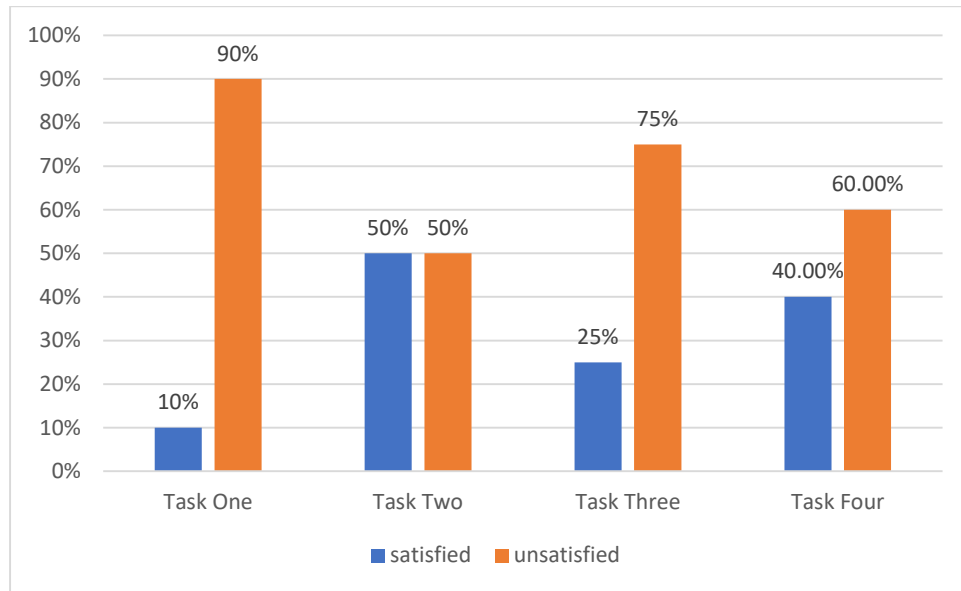
continuous improvement), which would also be helpful for “the development of self-regulated learning” (Zhu & To, 2021, p. 1). Learning became more self-regulated when students who received peer feedback started to reflect on it and act on it to improve their performance for subsequent learning tasks (Zhu & To, 2021). However, influenced by Confucianism, it is common in the Chinese context that students tend to be modest and might be reluctant to point out others’ mistakes directly if that could seem like showing off (Chen, 2018). It might be the reason why only a few of the participants in this study gave suggestions to their peers, even though all of them were open to accepting their peers’ comments.

- *Self-satisfaction*

Students’ self-satisfaction varied from task to task as shown in Figure 27. The variance might be due to students’ familiarity with the SRL process and their own expectations of their performance. For instance, when completing Task One, which asked students to write a text about their holiday plans, the task itself was not difficult. However, students were not yet familiar with SRL’s cyclical phases during the first task, which led to a low level of self-satisfaction. As familiarity with strategies developed in later tasks, reported self-satisfaction levels increased (Qiu & Lo, 2017).

Figure 27

Self-Satisfaction Levels of Students from Task One to Task Four



In addition, students' personality differences and their own different expectations should also be taken into consideration. For example, when reflecting on their performance of Task Four, which was an English-speaking task, Betty explained that she was not satisfied, as her English speaking was not as fluent as she expected. However, Betty increased the difficulty of this task when she made it her goal to present in English without a transcript, whereas other students presented with a transcript, or at least notes. In this case, even though Betty's self-satisfaction was relatively lower than others, this did not necessarily mean that her SRL level was low. In this case, students like Betty might "intentionally underestimated their EFL learning" (Chen, 2018, p. 369) or "overestimate how well others do" (Urban & Urban, 2019, p. 9002), which is a typical reaction among Chinese students.

- *Adaptive interference*

All the students in this study showed adaptive interference in their approach to the four SRL tasks, which was a contributing factor to their developing SRL. Many research studies have revealed that having a positive attitude (motivation) is the driving force of SRL (Dörrenbächer & Perels, 2016; Kim et al., 2018). Especially in the Chinese context, students are more purpose-oriented. With the aim of performing better next time, adaptive interference guided students to alter and regulate their follow-up actions and efforts (Zimmerman, 2000). More importantly, being adaptive also had a reciprocal effect on students' developing SRL, evident in strategies such as applying more appropriate goal setting or strategic planning (Zimmerman, 2000).

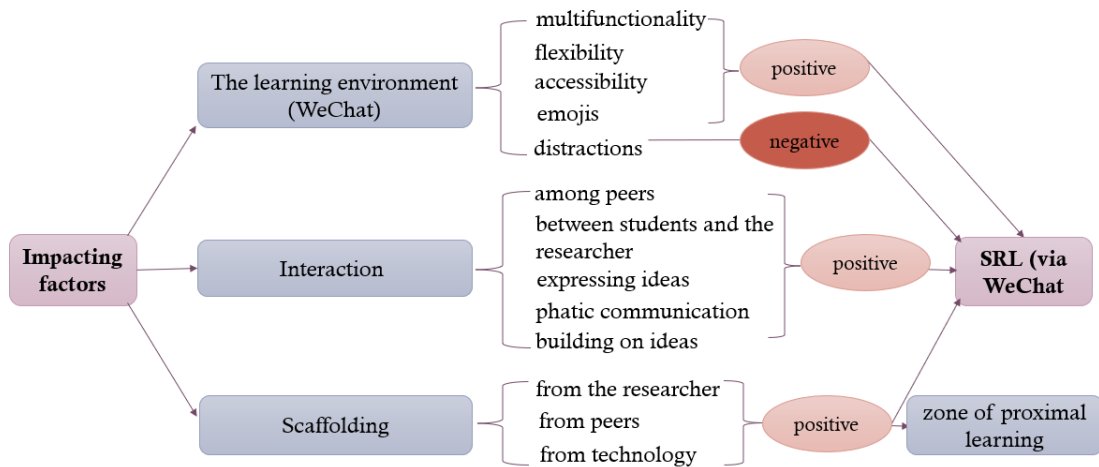
Instead of being defensive, students in this study were adaptive in accepting peers' feedback, as well as being able to form specific plans for their future English learning, such as expressing themselves more clearly, performing better in time management or improving attention focusing. Being able to plan for future learning showed students' motivation to improve their academic performance, which was positively related to SRL (Papamitsiou & Economides, 2019). In this case, these students did not just reflect on their learning process but also proactively prepared for an improvement in their future academic performance.

6.3 Q3: What Are the Factors Impacting EFL Students' Self-Regulated Learning in the New Learning Environment?

The key focus in answering this research question was to investigate the factors contributing to or constraining students' developing SRL in the context of the WeChat study group. As shown in Figure 28, the data gathered from the WeChat group tasks and participants' responses from the focus group interviews were analysed from these aspects: the learning environment (WeChat), students' interactions, and the uses and benefits of scaffolding. The zone of proximal learning as the evidence of improvement will be discussed along with the application of scaffolding.

Figure 28

Impacting Factors for Students' SRL in the Context of WeChat



6.3.1 Influence of WeChat Use on EFL students' SRL

WeChat was used as a language learning tool in this study; its use not only illustrated its powerful function as a medium for social connection but also its ability to promote students'

SRL in different ways. The diverse affordances of WeChat allowed students to regulate their study in their preferred way. Students (e.g., Helen) reported in the focus group interviews that during the group learning tasks they could use many different functions of WeChat — texting, posting audio recordings, using voice messages, uploading files and so on. The learning tasks were designed to allow students freedom to choose how they would like to engage and interact in the WeChat group, which would create possibilities to make their SRL more self-driven and more personalised (Hu, 2019; Zhu, 2018). This confirmed that the multifunctionality of WeChat did foster motivation in students' language learning experience (Shi et al., 2017). As motivation is a key element in the SRL process, students who enjoyed the learning process were more likely to better manage and regulate their own study going forward (Bai & Wang, 2020; Noels et al., 2019). In addition, increased SRL ability further bolstered their academic performance (Anthonysamy et al., 2020; El-Adl & Alkharusi, 2020; Yabukoshi, 2018; Yan, 2020).

WeChat also provided students with added flexibility when learning English on their own. They could study without limitations of time and space, a factor that was frequently pointed out as 'convenient' in the questionnaires and focus group interviews (e.g., Carol). Flexibility has also been pointed out in prior research studies as a strong advantage when using social media to promote students' English proficiency (Duong & Pham, 2022; Ismail et al., 2019; Leung et al., 2022; Wongsa & Son, 2022). In this study, it also ensured that students were the ones who made decisions about when to learn and what to learn. In other words, students were taking charge of their own study. This kind of "self-paced and individualised" learning process was a sign of continuous SRL improvement (Shi et al., 2017, p. 25).

As a supplemental learning platform, WeChat offered a large number of learning resources for students to access in their fragmented study time. Many students added comments in the questionnaire text box that they used WeChat for English study because such a variety of information could be found through video channels and public accounts for English language learning on WeChat, and these were easy to access and mostly free of charge. This was in line with Noviana and Ardi's (2020) finding that technology nowadays is helpful for students to explore copious learning resources out of class, which compensates for their limited time in the classroom.

In addition, the easy access and affordability offered by WeChat presented opportunities for students to learn how to self-regulate their study outside the classroom. This echoed the finding in Chen's (2018) study that EFL students in higher education were able to autonomously expand their study from in-class to after-class by exploring resources online. This is a sign of SRL when students further their study on their own rather than under syllabus requirements or teacher instructions. Although these students might not realise that they are exercising SRL when reaching out to learning resources autonomously (as discussed in section 6.1.1), with appropriate guidance, students become aware that their SRL could be improved with the use of WeChat for learning purposes (Al-Bahrani et al., 2015; Dörrenbächer & Perels, 2016). In addition, WeChat created an open learning environment, which was a less stressful way for students to share ideas

and interact with their peers. The details of how students interacted in the new learning environment will be discussed in the following section.

The usage of emojis in the WeChat group tasks was frequently observed (see screenshots in section 5.2). Students were strongly in favour of the use of emojis in the context of WeChat. For example, when students talked about their learning experiences in the WeChat study groups during the focus group interviews, many of them agreed on their enthusiasm for using emojis, especially comparing their WeChat experience to traditional studying in the classroom (e.g., Ivy: *“Emojis are the best!”*; Gina: *“We have a large amount of emojis to post on WeChat, which is great to break an awkward silence.”*). The use of emojis helped to motivate students’ engagement in the learning tasks as a kind of “informal communication” that created an engaging atmosphere (Yang et al., 2014, p. 269). Other authors also commented on the use of emojis to motivate their students’ English learning, seeing it as “more flexible, more interesting, and more interactive than formal learning in the classroom” (Wang & Chen, 2020, p. 1).

As reported in the previous chapter, students posted emojis in the WeChat group to express their ideas or comments in what is a kind of phatic communication. Influenced by sociocultural theory, the usage of emojis in this study not only contributed to an “information richness” but also to “create closer interpersonal social relationships” (Hsieh & Tseng, 2017, p. 405). This was illustrated when Ella mentioned in the interview that *“I know more about my peers from their emojis”*. Moreover, as a part of interaction purposes, such communication was normally initiated

by students themselves (Aleksandrova & Parusheva, 2019), which not only showed they interacted actively in the learning process but also demonstrated an autonomous engagement in the SRL process.

However, the distractions in the context of WeChat should not be overlooked. Many students pointed out that distractions, such as using other apps for fun while studying in the online environment, were a major obstacle in their SRL process (e.g., Ann). Being easily distracted by other activities while self-learning in the online environment was also identified in Kulusakli's (2020) study. Students in this study showed agreement on the advantages of using WeChat to regulate English learning; however, most of them said they still preferred to study in traditional learning settings (e.g., classroom or library). They maintained they couldn't concentrate sufficiently when studying online, whereas the traditional learning environment could 'push' them to study. Others said they had been used to the traditional learning mode for years (e.g., Ann, Betty and Fiona). When they had long been influenced by the teacher-centred mode, it was understandable that it was very new for students to regulate their study via WeChat. The need for external pressure or supervision from their teachers or from the learning environment is also commonly expressed among Chinese students, which echoes the findings from Chen's (2018) study that EFL university students "would not participate in learning activities if no assistance from teachers were provided" (p. 401), which called for more trainings and instructions of SRL, especially in the context of WeChat among university students in China.

6.3.2 The role of interaction in developing SRL

Looking back to the data of interaction for the four learning tasks, two kinds can be identified: peer interaction, and the interaction between students and the researcher. Many purposes of peer interactions occurred during students' engagement with the learning tasks, in which expressing ideas was observed the most frequently. As mentioned in 6.3.1, WeChat created a less stressful atmosphere for students to speak out and exchange opinions with their peers. Therefore, the level of interaction was inevitably influenced by the multifunctionality of WeChat. For example, students viewed their interactions in the group as 'relaxing' (e.g., Daisy), especially when those experiences were compared to that in a classroom setting (e.g., Ann). Learning online usually required students to be more self-regulated in their learning compared with in traditional learning settings (Chou & Zou, 2020; Dörrenbächer & Perels, 2016; Kizilec et al., 2017; Lim et al., 2020; Seker & Karagül, 2022; Seidel et al., 2021), so being more interactive and collaborative in the study group was a positive indicator of students' engagement and efforts in the SRL process (Giannikas, 2020; Guo & Wang, 2018; Jia & Hew, 2019; Yen et al., 2019).

Generally speaking, the amount of peer interaction increased in the relaxed learning environment. For example, the interaction patterns in Task One were mainly between students and the researcher, such as asking and answering questions. However, in the following tasks, interaction among students, such as building on ideas and phatic communication also occurred frequently. Compared to traditional learning settings, where interactive learning opportunities are limited (Li & Peng, 2016; McKay, 2016), the open learning environment offered by WeChat was

a way for students to be less stressed about engaging in the learning process (Luo & Cheng, 2020; Wang et al., 2016; Wu & Ding, 2017).

Several students stated that they were too shy to speak English and afraid of making mistakes in front of people, but they felt more comfortable to share ideas in English in the WeChat group (e.g., Carol). This kind of anxiety, especially when using a foreign language, is common among students especially in Asian societies (Chen, 2018). A previous study demonstrated that language learners were likely to interact more naturally with the help of an encouraging atmosphere built by social media (Lin et al., 2016). Being more comfortable exchanging opinions and interacting with each other in the group would lead to an improvement in engagement in the SRL process, and would allow students to “expand learning beyond the classroom” (Shi et al., 2017, p. 18).

Learning in the WeChat group enabled students to have more freedom to share in interactive learning. As Betty stressed in the focus group interview: *“When we learn in class, the teacher may ask only a few classmates to answer the question, but in the WeChat group, all of us can reply to that question together”*. It has been emphasised that “a cooperative, collaborative and sharing atmosphere” created by social media can positively impact learners’ SRL (Erarslan, 2019, p. 66). With the help of a free and equal community created on WeChat, the output and engagement were normally produced by students themselves without external pressures (e.g., requirements from teachers, exams, or assignments), which indicated growing autonomous and interactive learning among these students. This was in line with the findings from previous

studies that students' language ability improved when having frequent interactions, especially in a self-led learning mode (Gonulal, 2019; Namaziandost & Nasri, 2019; Solmaz, 2017).

In addition, students frequently stated that interaction with their peers was interesting and motivating. For instance, Ella mentioned that she was not motivated to study alone during the pandemic but learning via WeChat was interesting and she enjoyed discussing with her peers in the group. During the pandemic, when students studied at home, being self-regulated in learning became essential (Lee et al., 2021). Motivation to learn, with interest raised in the context of social media, has been found to positively impact students' SRL and their ultimate successful performance (Kitchakarn, 2016). Other studies found that students with stronger learning interests were more likely to be self-regulated in learning (Yu & Martin, 2014; Zhu & Mok, 2018). In this study, students agreed to use English in completing their tasks and when interacting with their peers in the group, which showed their willingness to assume responsibility for their own English learning in the new environment (Chen, 2018). In this case, the WeChat group became an interactive and supportive English learning community that promoted an engaging SRL experience (Akbari et al., 2016; Al Arif, 2019; Ilyas & Putri, 2020).

In this study, students often displayed a focus on accuracy when engaged in the learning tasks. They also focused on their language use. Taking Task One as an example, some students were dissatisfied with their performance due to their lack of sophisticated English expressions (e.g., Betty: *"I failed to use advanced words and sentences."*; Fiona: *"The words I used were very*

simple.”). Such emphasis on showing their language proficiency was in line with Chen’s (2018) findings that Chinese university students tended to strive for “grammatical and lexical correctness” (p. 368) in the interactive learning process, probably influenced by the traditional test-oriented learning context in China. An interesting finding was that a few students interacted actively due to feeling “a sense of satisfaction” (e.g., Ella). Carol also said “*Nobody will care how I learn and what I learn if I study at home alone*”, so she felt “*much prouder*” when she shared opinions with the whole group. Therefore, showing their efforts and being noticed by peers was another factor that led to active engagement in interactive learning in this study.

6.3.3 Scaffolding and zone of proximal learning

Scaffolding is an essential element to support learners to raise their ZPD (De Guerrero & Villamil, 2000). As mentioned in the chapter on the theoretical framework, since this study was not a longitudinal study, its data may not show development, but could still reveal evidence of learning. Therefore, the term could be modified in this case to “zone of proximal learning”. In this study, scaffolding was applied in three ways: 1) scaffolding from the researcher; 2) scaffolding from peers; and 3) scaffolding from technology. These three types of scaffolding and how they contributed to students’ zone of proximal learning will be discussed in the following paragraphs.

6.3.3.1 Scaffolding from the researcher and students' zone of proximal learning

Looking at the data collected during the four learning tasks, the frequency of scaffolding from the researcher was descending, whereas students' engagement of SRL was ascending. For example, in Task One, the researcher applied several scaffolding techniques such as modelling (i.e., providing examples of goal setting) to guide students to complete the learning task. However, in the following tasks, students were asked to complete them without further explanation. Scaffolding has been proved to be positively related to students' SRL in the online learning environment (Sahin et al., 2016; Zarei & Abdi, 2016). In another case, scaffolding from the researcher seemed to support students to manage their study from other-regulation to self-regulation (Wertsch, 1979). This was also in accordance with Chen's (2018) finding that use of scaffolding helped EFL students to learn how to study independently. The action of transferring responsibility for learning from the researcher to the students was also a sign of co-construction of SRL to achieve their zone of proximal learning. The scaffolding from the researcher, in this case, formed a bridge linking what students "have already completed" (Infante & Poehner, 2019, p. 67) to what they could achieve potentially (Poehner & van Compernelle, 2011).

The researcher acted as a facilitator by asking some prompting questions to guide students instead of telling or asking them what they needed to do. Prompting questions such as "*What do you want to cover in your writing?*" or "*Have you reached your learning goal?*" gave students space to think and react on their own. Such intervention, as a kind of scaffolding, has been found to be an effective way to promote students' SRL in previous studies (Bai et al., 2021; Gu & Lee,

2019; Suhandoko & Hsu, 2020; Teng & Zhang, 2020). With appropriate scaffolding, students in this study could assume charge of their own learning, and enter a different, student-centred learning mode (Sawyer, 2005). As mentioned in previous paragraphs, students stressed that they would keep using WeChat as long as they had a supportive instructor, as they had experienced in this study. Therefore, initial scaffolding early on from an experienced tutor (the researcher) was essential to develop SRL for these students, which also reflects findings from previous studies (McLoughlin et al, 1999, p. 1; Van de Pol et al., 2010).

Prompting questions were later used by students unconsciously as they started to apply SRL strategies. For instance, Betty mentioned that after participating in the learning tasks, questions like “*What might be my learning goal?*”, “*How long do I need to plan to finish this task?*” or “*What do I need to do to finish it?*” would “*automatically jump into my mind*” when working on the learning tasks. These questions acted like stepping stones for students in negotiating SRL and assessing the difficulty of the task within their ZPD (Infante & Poehner, 2019). Thus, scaffolding mediated and bridged students’ actual competence/knowledge with their ZPD (Kong-in, 2020, p. 28). This was a sign that some students were gradually forming awareness of SRL during this study.

Task design was another form of scaffolding initiated by the researcher in this study. Students showed a preference for certain learning tasks which they knew facilitated their English learning. For instance, Daisy stated in the focus group interview that she enjoyed the task that involved

oral presentation through voice messaging on WeChat because it helped her become “*braver to speak in English and listen to my English-speaking*”. Such evident improvement of self-confidence in using English would improve her language ability and also her SRL. Although different students had different preferences, designing tasks taking students’ needs and interests into consideration is an excellent way to increase students’ engagement in learning. The task design in this study set a challenging goal for students above their actual level, which would foster their problem-solving ability (Gillies & Boyle, 2005, p. 243).

In this study, students showed a positive attitude towards tasks which were slightly beyond their actual ability level in terms of task complexity but within their zone of proximal learning. For example, Fiona said that when she worked on the task, in which she would like to include some information about ancient China, she realised that the topic was difficult but, she added that “*It’s good to learn something new*”. In this case, a task like this one slightly exceeded the students’ English proficiency but still fell within their potential ability, which meant that students were able to complete it with some external assistance (Baker et al., 2020).

6.3.3.2 Scaffolding from peers and students’ zone of proximal learning

In addition to scaffolding from the researcher, peer scaffolding was another factor related to students’ SRL. Asking and answering questions, peer learning, peer pressure, and peer feedback were forms of peer scaffolding identified in this study.

As reported in the previous chapter, asking and answering questions was a major type of purposeful interaction among these students and provided obvious evidence of peer scaffolding. Although scaffolding has usually been defined as assistance provided by more experienced or more capable people, such as teachers (McLoughlin et al., 1999), language learners themselves are also capable of offering scaffolded support to their peers (Donato, 1994), which was confirmed in this study.

Learning from others through comparison was one type of peer scaffolding mentioned frequently in the focus group interviews. For example, Ivy said that she was able to better balance her strengths and weaknesses by comparing her work with her peers. This kind of peer learning also involved the use of SRL strategies, which had a positive effect on students' SRL experience and satisfaction (Lim et al., 2020). Moreover, many students stated that compared to studying in class, they had more interactions and communications when studying in the WeChat group, which helped them to “*have more new ideas*”, “*see the differences between theirs and mine*”, and “*learn from each other*” (e.g., Betty, Daisy, Helen). Previous studies have emphasised that students tend to be more willing to engage in discussions when they study together with their peers (Vikneswaran & Krish, 2016). Such interaction was found to positively impact academic performance and self-led study in the informal learning environment (Gonulal, 2019). As a dialectical and cooperative activity, the zone of proximal learning was triggered when students interacted with peers (Infante & Poehner, 2019). In a kind of circular process, being a self-

regulated learner is also a driving force of scaffolding within the zone of proximal learning (Infante & Poehner, 2019).

In addition to learning from each other, peer pressure is also a kind of learning motivation to encourage students' engagement in the SRL process. For instance, Ivy pointed out that when her peers posted some words or phrases she did not know, she would become aware of a knowledge gap between her peers and herself and then "*remember these new words better after that*".

Students like Ivy, who could reflect on their performance and try to perform better, displayed autonomy in managing their study, which was positively influenced by appreciating how their peers studied well. Peer pressure like this acted as a kind of learning motivation which was invisible but controllable and which was also a positive predictor of SRL (Lee et al., 2021).

Peer feedback is another form of peer-related scaffolding that was a key part of the performance phase when students worked on the four learning tasks. Helen felt that the feedback she received from her peers in the form of suggestions was useful for her improving SRL as her peers' comments gave her a different perspective to learn from. Feedback as a kind of mediator within students' zone of proximal learning (Infante & Poehner, 2019) (as discussed in section 6.2.2), involved a process of moving from other-regulation to self-regulation. During this process, both the provider and the receiver of feedback took responsibility for their own study. A previous study also confirmed the effectiveness of peer feedback in students' SRL (Shen et al., 2020). This kind of scaffolding was a win-win that benefits both students who provided it and those

who received the feedback (Azir, 2019; Er et al., 2021; Lim et al., 2020; Ohta, 1995; Robison et al., 2021).

Moreover, the feedback that students provided to their peers was mostly positive. Comments like “*very good*” and “*really nice*” frequently occurred, which added to their peers’ self-confidence. Anxiety is normal among language learners and has a negative effect on some students’ academic performance (Ömer & Akçayoğlu, 2021). However, a previous study (Shen et al., 2020) noted that students’ self-efficacy could be improved with the help of peer feedback. As an essential motivational belief, students who were more confident were more likely to be proactive in regulating their study with the use of different SRL strategies (Teng & Zhang, 2020). It was also confirmed in an existing study that a relaxing learning atmosphere created in the context of the zone of proximal learning was helpful for improving students’ confidence and ultimately their performance in English learning (Abdullah & Yamat, 2022).

6.3.3.3 Scaffolding from technology

Scaffolding provided through the technology of We Chat also had an impact on students’ SRL process. Gina mentioned that it was a good experience for her to use WeChat for English learning rather than wasting too much time on entertainment. A previous study noted that technological scaffolding encouraged students to use SRL strategies such as strategic planning (Pérez-Sanagustín et al., 2021). Since the online learning environment was new to these students,

it was necessary to incorporate scaffolding provided by teachers (the researcher in this study) in the context of WeChat. It was also suggested in previous studies that, within the zone of proximal learning, students were more likely to achieve competence with appropriate scaffolding (Kong-in, 2020; Sahin et al., 2016).

Compared to studying in formal learning settings, WeChat offered the incentive of “getting real-time information” (e.g., Ann), receiving instant feedback (e.g., Daisy), and reviewing learning content anytime anywhere (e.g., Carol). Receiving instant assistance was one of the major scaffolding supports provided by WeChat, which enabled a supportive and engaging learning environment for SRL development. In this case, students were more likely to regulate their study autonomously as it was “more flexible, more interesting, and more interactive than formal learning in the classroom” (Wang & Chen, 2020, p. 1).

Moreover, the open learning environment on WeChat also provided students with enough freedom to take charge of their own study. Helen noted that WeChat created a space for them to share resources freely, whereas when they studied in the classroom, teachers were the ones in control of learning materials, and all they needed to do was follow the teacher’s instructions. In this case, the open access to resources via WeChat made students’ SRL more student-centred. Wargadinata et al. (2020) also found that students’ SRL benefited from the new learning environment because of the ready availability of resources.

6.3.4 Additional evidence of EFL students' developing SRL

In addition to previously discussed evidence regarding the zone of proximal learning, more evidence of developing SRL was found, such as students' changed attitudes, increased understanding and familiarity with SRL strategies, and being able to self-evaluate their own performance.

With the help of scaffolding, students' awareness of SRL improved during completion of the learning tasks in the WeChat group. Several students commented on changes to their understanding of and attitudes towards SRL before and after participating in this study. For example, Betty said that she never thought about identifying her learning goal when she learned English. She made study plans without thinking about what she would like to achieve. However, now she added that "*I understand what a self-regulated learning process is, and I decided to use SRL strategies in my future study*". As Farr stated, "If a concept or skill is something that a student could do with the help of a 'more knowledgeable other', then that concept or skill is something they could perform on their own after learning it with support" (2014). Taking the zone of proximal learning into consideration, such acceptance of SRL indicated the potential to integrate SRL strategies into daily study in the long term.

Students' increased understanding of and familiarity with SRL strategies was another sign of their zone of proximal learning and an outstanding outcome gained from the learning tasks.

Some students, such as Carol and Gina, focused on the whole learning process as they stated that they had become familiar with the SRL process, and they understood that being self-regulated in learning was a long-term process. Other students believed that their SRL ability had improved with the help of SRL strategies. Several SRL strategies were frequently mentioned by students in the focus group interview, such as goal setting and strategic planning. Gina even illustrated a new interpretation, stating that “*SRL strategies are not limited to certain forms*”, which indicated growth in her understanding within her zone of proximal learning. In this case, students went through a process from learning to adjusting SRL strategies, and further integrating the strategies into their daily study, which indicated progress from learning to adaptation within their zone of proximal learning. Such adaptation was established based on students’ own understanding (Chen, 2018). With the progressive withdrawal of scaffolding by the researcher, students experienced a process of learning how to use SRL strategies with decreasing guidance. In other words, with “just enough” support from the researcher (Walqui, 2006, p. 165), students needed to choose certain strategies, apply them properly, and make further plans for their future self-study on their own.

Furthermore, self-evaluation, as the final step in the SRL process, played an important role within students’ zone of proximal learning. Many students had notified their preference of self-evaluation for their task completion, as Ivy explained: “*It can help me assess whether my English was improved or not, which will also help me to perform better next time*”. Hence, self-evaluation enabled students to have a better understanding of their English level within their zone of proximal learning. Prior studies also found self-evaluation was a predictor of students’

academic success, along with their SRL improvement (Panadero et al., 2018; Yan, 2020). In traditional learning settings in China, teachers are normally the ones who evaluate and assess students' performance. However, in the WeChat study group, students were taking charge of that within their zone of proximal learning, similar to students in Chen's (2018) study.

Overall, students' SRL in this study was impacted by the learning environment (WeChat), interaction, scaffolding, and zone of proximal learning (see Figure 28). The only factor that constrained students' SRL was the distraction from their surroundings and other social media apps. Other than that, the interactions between peers, interactions between students and the researcher, scaffolding from the researcher, scaffolding from peers, and scaffolding from technology were all contributing factors that had a positive effect on students' SRL within their zone of proximal learning.

6.4 Chapter Summary

This chapter discussed the study's findings in relation to the three research questions regarding students' perceptions, engagement with SRL strategies, and impacting factors in the context of WeChat, with reference to previous literature. Students who joined the WeChat study group experienced a gradual change in their perceptions of using WeChat as an English learning tool. Ultimately, they showed positive attitudes towards SRL via WeChat due to its affordances of convenience and interaction, and a relaxing learning environment. In terms of how students engage in SRL via WeChat, their learning process was analysed based on the forethought phase, performance phase, and self-reflection phase, focusing on the various SRL strategies they employed. Students were found to be capable of using and adjusting SRL strategies. Over the

four tasks, strategies like goal setting and strategic planning became more and more specific. Some strategies, like self-efficacy and self-satisfaction, varied task by task. Some strategies such as planning and peer feedback were observed in the current study but were not covered in Zimmerman's (2002) cyclical phases. As for the factors influencing students' SRL in the new online learning environment, except for one constraining factor which was distraction, other factors (i.e., interaction and scaffolding) were all positive factors that promoted students' SRL improvement within their zone of proximal learning.

Chapter 7: Conclusion

Following the detailed discussion of the study data in the previous chapter, which presented the most salient empirical evidence, this chapter makes some key conclusions about Chinese university students' English as a foreign language (EFL) learning in a self-regulated mode via WeChat. The empirical evidence, supported by findings of other studies, was enriched by a robust conceptual framework. It provided new insights into the self-regulated learning (SRL) of EFL students in the online context of WeChat, and was able to address the research questions posed at the outset of the study. In the process of drawing conclusions from the findings, implications for pedagogical design in language education are ripe for consideration, as well as the use of social media in general to facilitate students' SRL, in particular in the Chinese EFL context. Limitations of this study are also identified as well as the need for further studies and directions for future research.

7.1 Major Conclusions

The current study set out to explore EFL university students' self-regulated learning via WeChat in a Chinese university setting. An intervention case study was conducted, and data were collected from the questionnaires, discussion records and files recorded in the WeChat group. Also, semi-structured focus group interviews were conducted to examine students' perceptions and engagement with SRL, especially via use of WeChat. Framed by Vygotsky's (1978) sociocultural theory, the key findings are summarised in the following paragraphs with the

guidance of several theoretical constructs: SRL, interaction, scaffolding, and zone of proximal learning.

7.1.1 Students' perceptions of SRL and EFL learning in the context of WeChat

Initially, many of the students' knowledge of SRL strategies was either unclear or limited.

According to students' responses to the questionnaires (see section 5.1.2), quite a few of them answered 'not sure' when responding to questions about the use of SRL strategies, demonstrating a relatively limited knowledge or awareness of SRL. Moreover, a small number of students who chose 'disagree' or 'strongly disagree' in terms of their usage of SRL strategies in their English study also admitted a lack of SRL skills. However, this study demonstrated that this situation could be improved, which led to the key findings highlighted in this chapter.

Students' perceptions of SRL changed as they acquired enhanced knowledge of SRL strategies.

As demonstrated in their responses in the focus group interviews, many participants stated that they learned many SRL strategies and processes after joining the WeChat group. As these students mentioned, they had rarely thought about their learning goals before but now they would automatically think about issues such as identifying their learning goals and forming study plans in order to achieve the goals. Moreover, these students also added that they were keen to use SRL strategies in their future self-directed study, which was a sign of improved awareness and knowledge of SRL.

Most of the students who filled out the questionnaires and these who joined the WeChat study group were positive about using WeChat to regulate their EFL learning, but there was some variation in their reactions. All of them used WeChat on a daily basis, whereas their use of WeChat to learn English was less frequent for various reasons. The advantages and disadvantages of English language learning through WeChat were pointed out by students. In terms of the advantages, students mentioned that 1) it was convenient to get and share learning materials via WeChat because there were various educational channels on WeChat; 2) they could ask and discuss questions with their peers and teachers easily; and 3) learning English through WeChat was not subject to limitations of time and space. As for the disadvantages, students mentioned that 1) they might prefer to use other apps that were specifically designed for English study; 2) they had no native English-speaking friends on WeChat to practise with; and 3) they habitually used WeChat for entertainment and socialisation, which could easily distract them from learning English on the platform.

The participants who joined the WeChat group did show a changed perception that WeChat was not just a social media app for entertainment and social connection but could actually be used as a supplementary English learning tool. As students stated in the focus group interviews, they mainly used WeChat for social connection purposes and rarely viewed it as an academic learning tool. However, after carrying out several learning tasks with their peers for a month in the WeChat group, their opinions were turned around and they reported that by the end of the study they were enjoying the supportive and relaxing learning environment provided by WeChat.

However, despite the participants now holding positive attitudes towards communicating in English via WeChat, most of them maintained they preferred to learn English in traditional learning settings (i.e., classrooms or libraries). The students agreed that they liked to communicate via WeChat because they felt less pressure when using English in the WeChat group, compared to face-to-face learning. They also enjoyed communicating with emojis. However, they still preferred to learn English in the classroom as the traditional teaching mode was what they were used to and they believed that they would concentrate better under the teacher's supervision. However, it should be noted that these students also added that they were willing to keep learning English via WeChat as long as there was an instructor like the researcher to support and guide them.

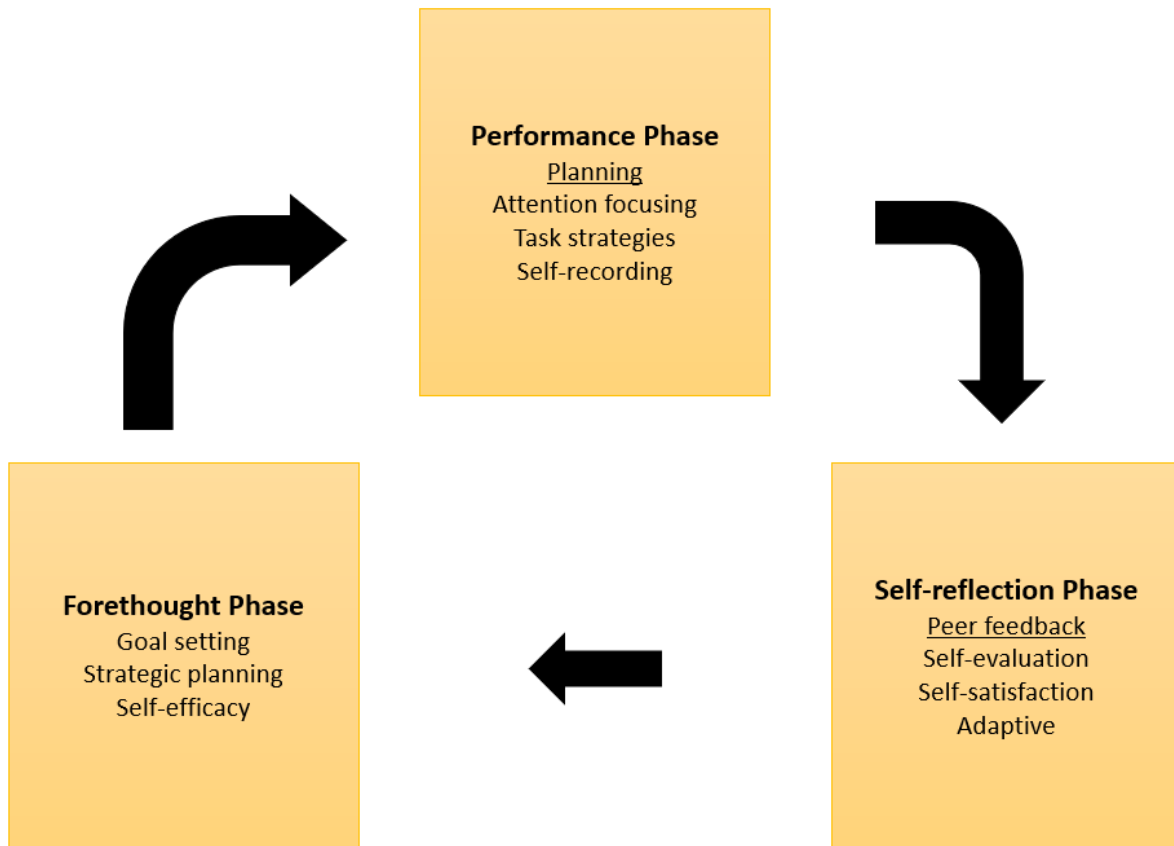
7.1.2 Students' engagement in SRL in the context of WeChat

Students' engagement in the SRL process was closely related to their adoption of SRL strategies. Based on Zimmerman's (2002) three cyclical phases of SRL, students' SRL process in this study was divided into three phases: the forethought phase, the performance phase, and the self-reflection phase, each of which entailed different SRL strategies. First, it became clear that students were able to use and adjust SRL strategies in the different phases as they completed different tasks. As shown in Figure 29, a total of 11 separate SRL strategies were noted during students' engagement with the tasks. From Task One to Task Four, and throughout the three phases, students showed they could use these strategies without further guidance. Moreover,

students claimed, in the focus group interviews, that they were confident they could use these SRL strategies flexibly in their future self-study.

Figure 29

SRL Strategies Used in the Three Phases of SRL



Note: The cyclical phases of SRL were adapted from Zimmerman (2002).

Students' SRL developed as they progressed from Task One to Task Four. There were four main indicators for this improvement: 1) strategies like goal setting, strategic planning, self-recording,

and self-evaluation became more and more specific, which indicated increased adeptness in using these strategies (Papamitsiou & Economides, 2019; Urban & Urban, 2019); 2) strategies like attention focusing, self-efficacy, and self-satisfaction were more evident; 3) although learning from home during the pandemic impacted these students' attention focusing, it should be noted that they showed awareness and made efforts to avoid distractions. Such efforts indicated students' motivation to self-regulate their study, which was, of course, more evidence of SRL improvement (Papamitsiou & Economides, 2019; Zimmerman, 2000); and 4) contrary to Chen's (2018) finding that low self-efficacy negatively impacted students' SRL, the current study found that a relatively low level of self-efficacy and self-satisfaction did not necessarily hinder students' SRL improvement, as these participants tended to work harder to compensate for their lack of confidence and to strive for better performance in their future study.

A new finding emerged from this study: although planning and peer feedback were not proposed in Zimmerman's three cyclical phases of SRL, these elements were observed during the performance and self-reflection phases in the current study (see the underlined strategies in Figure 29). As opposed to *strategic planning* in the forethought phase, which focused on general study strategies that students planned to use, *planning* during the performance phase focused on the detailed structure and content students intended to apply in order to complete the task. In addition, these students engaged in peer feedback in a variety of ways (e.g., focusing on expressions, pointing out grammatical issues) by exchanging mostly positive comments with each other. The employment of peer feedback was an example of the pathway from other-regulation to self-regulation for both the students who provided and those who received

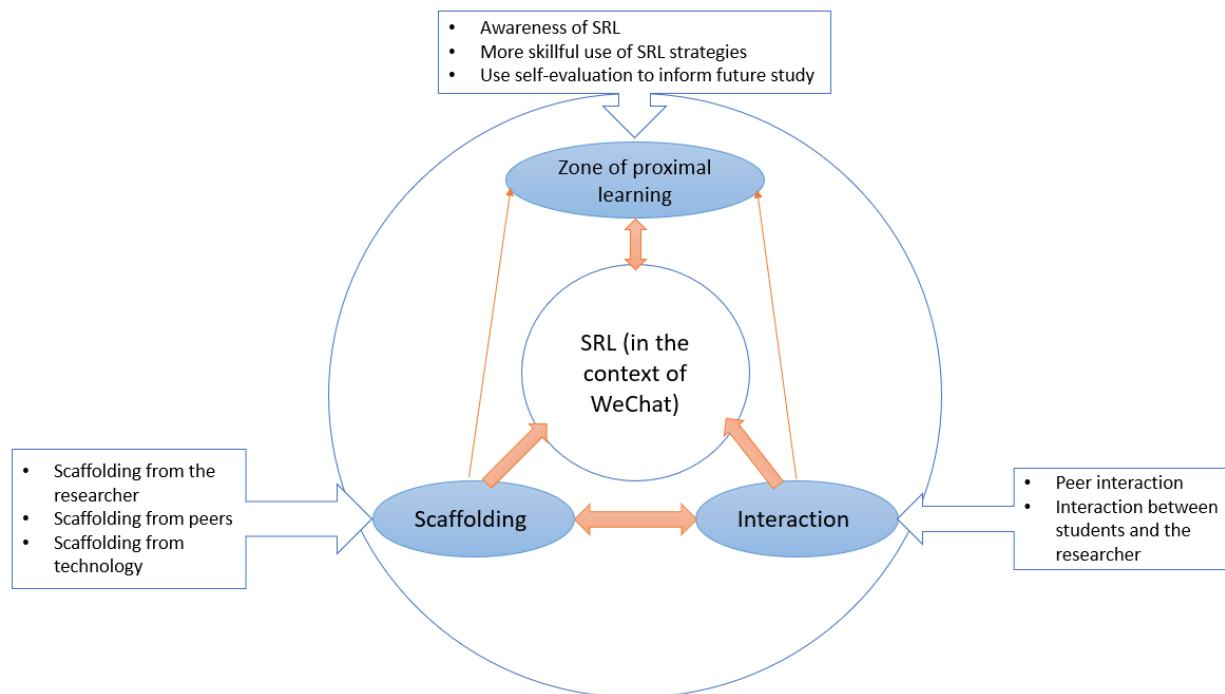
feedback, demonstrating a sense of responsibility in that students were willing and able to learn from each other (Schünemann et al., 2017). Interestingly, these students were more likely to give positive feedback to avoid any possibility of hurting their peers' feelings, a phenomenon previously found to be typical in Chinese culture (Chen, 2018).

7.1.3 Factors impacting SRL when learning in the context of WeChat

Several factors that either contributed to or constrained students' SRL process were identified in this study, relating to the new learning environment (WeChat), to the use of scaffolding, and to student interaction. Closely related to scaffolding and interaction, changes in students' zone of proximal learning as an outcome of the SRL process were also examined in the current study. A conceptual framework which displays the interrelationship among these related factors is shown in Figure 30.

Figure 30

Extended Conceptual Framework of SRL in the Context of WeChat



As presented in the figure above, students' SRL in the online learning environment (i.e., WeChat) was mediated by interaction, scaffolding, and zone of proximal learning. First, the new learning environment of WeChat was a factor that influenced students' developing SRL ability in this study. As presented in section 7.1.1, the students agreed their language anxiety was much lower when using English in the WeChat group compared to face to face. The flexibility of time and place when learning English was also pointed out by these students. Therefore, WeChat offered a comfortable and open learning space, which was a positive factor contributing to students' successful EFL learning in a self-regulated mode.

Second, it became clear that students' SRL ability could be developed with the help of scaffolding. As presented in section 7.1.2, students were capable of applying and even adjusting SRL strategies when regulating their English learning. However, it should be noted that these students' awareness of SRL was limited before commencing the learning tasks. From students' responses collected from the questionnaires, and before they began Task One in the WeChat group, students were already using some self-study strategies, even though they were not aware that what they were doing was a kind of SRL. The key factor contributing to students' emerging conscious use of SRL strategies was the use of scaffolding – this included scaffolding supplied by the researcher, by students themselves and by technology. The researcher acted as the experienced one and facilitated the students' learning process by asking prompting questions. However, students were still asked to make decisions and take charge of their own study. The researcher gradually withdrew this scaffolding from Task One to Task Four, as students' awareness of SRL became obvious. Scaffolding from peers was applied in the forms of asking and answering questions, peer learning, peer pressure, and peer feedback, which all played important roles in motivating students' engagement in the SRL process within their zone of proximal learning. WeChat supplied the technology scaffolding, ensuring efficient instant responsiveness to student queries, which created a supportive environment for students to interact and further strengthen their SRL ability.

Third, the interactions between peers and the interactions between students and the researcher all played an important role in students' SRL development; in which peer interactions were found to be the major part. Interaction patterns among peers increased in variety as they proceeded from

Task One to Task Four. Specifically, expressing ideas was always the most frequently observed interaction purpose in all three phases, and this involved multiple SRL strategies. Interaction patterns between students, such as building on ideas and phatic communication, were increasing whereas interactions initiated by the researcher became less frequent from Task One to Task Four, which was another sign of students' growing grasp of SRL engagement. These students viewed their interactions with their peers as engaging and motivating because they could learn from each other. The WeChat platform was a powerful aid in this interactive learning, providing a relaxing space for students to exchange ideas freely without the fear of making mistakes. One prominent factor in the peer interactions was that the accuracy of language use seemed to be a major concern among these students, which perhaps reflects the test-oriented learning environment in China (Chen, 2018).

As shown in Figure 30, facilitated by scaffolding and interaction, students' zone of proximal learning was raised through their growing awareness of SRL, their more skilful use of SRL strategies, and their use of self-evaluation to inform planning and future study, all of which could be viewed as key evidence of their SRL improvement.

7.2 New Insights and Contributions of this Study

7.2.1 Conceptual contributions

This study proposed a new conceptual framework to support Chinese university students' English language learning in a self-regulated mode using WeChat (see Figure 30). Guided by Vygotsky's (1979) sociocultural theory, this study illustrates how students' SRL and zone of proximal learning developed through interactive learning and scaffolding. Based on Zimmerman's (2002) three cyclical phases of SRL (the forethought phase, the performance phase, and the self-reflection phase), this study examined the application of SRL strategies at each phase and confirmed the effectiveness of involving these strategies as students completed four learning tasks.

In addition to its validation of the cyclical phases of SRL proposed by Zimmerman (2002), this study also extended this concept by exploring two new insights. First, the study highlighted the important pathway from other-regulation to self-regulation (Fang et al., 2021; Wertsch, 1979) by discussing the roles of interaction and scaffolding in improving students' SRL ability within their zone of proximal learning. Second, two new SRL strategies were observed in this study in addition to the strategies proposed by Zimmerman (2002): 1) planning of content and structure in the performance phase, and 2) peer feedback in the self-reflection phase. The effectiveness of these two strategies have been reported by some studies in relation to learner autonomy, and confirmed in this study in developing students' SRL (Robison et al., 2021; Shen et al., 2020; Zhu & Mok, 2018), which could be a useful reference for future research studies in this area.

7.2.2 Contributions to literature

The current study set out to investigate EFL students' SRL via WeChat in a Chinese context, and so contributes to the research literature on university students' learning with social media.

Previous studies mainly explored students' SRL in traditional learning settings (Kim et al., 2018; Jossverger et al., 2019; Wang et al., 2019; Zhu & Mok, 2018) or through online learning platforms such as MOOCs (Kizilec et al., 2017; Lee et al., 2020), or Facebook (Duong & Pham, 2022; Leung et al., 2022; Wongsa & Son, 2022) and were mainly set in English-speaking contexts. In the context of social media platforms such as WeChat, prior studies mainly focused on students' academic performance in terms of English language skills (listening, speaking, reading, and writing) rather than their SRL abilities (Hu, 2018; Lei, 2018; Liu, 2018; Jia & Hew, 2019; Jiang, 2016; Ju & Liu, 2019; Zhu, 2018). In contrast, this study has focused on SRL processes, with the researcher's intervention. Two new SRL strategies were identified (i.e., planning and peer feedback) and the study emphasised the influence of interaction and scaffolding as factors in students' SRL development. The findings of this study could inform future studies on the effective use of WeChat or similar social media in EFL teaching and learning.

In addition, in the context of the COVID-19 outbreak and enforced remote learning, this study adds to the literature on students' engagement in the SRL process out of class. Previous studies have also investigated students' self-regulation of study with the support of live-streaming technology (Lee et al., 2021), Twitter (Rohr et al., 2022), and WhatsApp (Wargadinata et al.,

2020) under remote learning conditions. Considering the popularity of WeChat in China and the extended period of home study there, there is a research gap in that there are few studies of students' SRL development with the use of WeChat. Therefore, this study has enriched the literature in this area. Moreover, it should be noted that findings of this study could have implications for the post-COVID-19 period, as discussed in the following section.

7.2.3 Methodological contributions

Previous research studies that focused on students' SRL or students' EFL learning were mostly exploratory or experimental studies. However, the current study is an intervention case study in which the researcher provided the necessary guidance (scaffolding) to support students to develop unfamiliar SRL strategies whereby they began to set up learning goals independently and use strategies flexibly in order to achieve those goals. Compared with traditional methods such as self-reporting, which mainly examines students' SRL ability through their own perceptions (Broadbend & Poon, 2015), an intervention was used here to stimulate students' SRL during their learning process (Araka et al., 2020). Other appropriate interventions, such as providing prompts and regular feedback, were also part of the process of taking learning from other-regulation to self-regulation. The success of this approach could instigate future intervention studies to explore SRL (Araka et al., 2020; Lodge et al., 2019).

7.3 Implications

This study has methodological implications for future intervention studies for researchers exploring students' self-regulated EFL learning processes or similar educational fields.

Intervention designed and initiated by the researcher for this study was a strong contributing element to students' SRL development. Scaffolding was supplied in the form of appropriate prompting questions, which were gradually withdrawn over the four learning tasks as students' SRL clearly developed. Scaffolding thus guided students as they developed stronger SRL along their pathway from other-regulation to self-regulation.

This study also provides pedagogical implications for EFL teaching and learning, in terms of incorporating use of social media, providing scaffolding, and explicit teaching of SRL strategies.

The current study has confirmed that the online learning environment can be beneficial for students who are too shy to speak in front of people or feel stressed when attempting to use a foreign language. Using social media like WeChat, EFL students can find study groups or create their own groups with their friends or classmates. In this environment students are suggested to share learning resources, discuss and exchange ideas, answer their peers' questions, and provide feedback to each other. Students can even create their own learning activities with their peers with the help of the multifunctionality of social media. The only proviso is that students need to balance out the time spent on learning and the time spent on entertainment when using social media to avoid undue distractions.

With the ongoing impact of COVID-19, many EFL students are still learning in the online environment, which requires students to be more self-regulated compared to learning under teachers' supervision in the classroom. It is therefore still necessary for EFL teachers to learn how to design and incorporate appropriate scaffolding to facilitate students' usage of SRL strategies with the support of social media like WeChat. EFL teachers could begin by using social media more often in their teaching practice, perhaps extending the interaction between students and teachers to out of class and leveraging the instant feedback functionality of the technology. Teachers could help to create online study groups as a way to facilitate interactive learning among students. This would enable students to interact more effectively and would help to lower their anxiety about speaking English.

This study has extended research into language education and SRL with its intervention case study of learning in an out-of-class online environment. Other EFL students who are learning in a similar environment might also benefit from using social media like WeChat as a supplemental learning platform. Many students today, who have experienced the teacher-centred learning mode for years, are now expected to be more active and engaged in the learning process rather than being passive knowledge receivers. EFL students themselves might like to employ Zimmerman's (2002) cyclical phases of SRL in their daily study in order to plan their learning goals, choose strategies to organise content, decide on time allocation and so on. As they become more self-regulated, students can record and monitor their learning process and adjust strategies when necessary. Students are also encouraged to reflect on and evaluate their performance and consider how they can address any weaknesses for their future studies. Interactive learning with

peers is also a vital experience for EFL students and is strongly related to SRL development. As SRL is an ongoing process, students are expected to do several experiments to use different SRL strategies and find the ones that suit them most.

7.4 Limitations and Future Study

The current study does have certain limitations which need to be noted. The choice of an intervention case study approach enabled an in-depth analysis of data but inevitably limited the possibility of generalising from small samples. With 78 valid responses from the questionnaire and 10 participants from the WeChat group and the focus group interviews, the number of participants might not be representative of a larger population. Moreover, this study only explored students' engagement in the SRL process with four tasks over a four-week period. This relatively short period would not provide enough data about the development of students' SRL over the longer term. Therefore, a possible future research endeavour would be to design a longitudinal study.

The participants in this study confirmed a preference for using WeChat to communicate in English. Their improved knowledge of SRL, more autonomous use of SRL strategies, and more frequent interactions between peers also proved the effectiveness of using WeChat to regulate EFL learning. The extended conceptual framework of SRL proposed in this study could be applied to a broader context. However, it should not be overlooked that the test-oriented

approach is still the norm for Chinese EFL students. In other words, by changing the context to a more emerging English learning environment, students' perceptions of SRL and its strategies might be different.

Learners today are expected to acquire SRL strategies, especially in the online learning environment. With the development of sophisticated information technology in China, mainstream social media apps like WeChat have extended their reach to the education area. Reflecting the Chinese government's aim to change from traditional teacher-centred learning to a more student-centred learning mode, WeChat is now being applied in EFL education in China's universities and the benefits of using WeChat to promote English language learning have been confirmed by previous studies.

With its focus on students' SRL ability in the context of WeChat, this study has provided insights regarding students' perceptions of SRL and their use of SRL strategies via WeChat, and has highlighted factors that contributed to or constrained their SRL development. The current study argued with the help of context-specific empirical evidence, that students' awareness and ability of SRL could be nurtured with well-designed pedagogical intervention.

The study exemplifies pedagogical innovation in terms of utilising social media in EFL, providing scaffolding, and helping EFL learners to develop SRL strategies. Nevertheless, given

deep-rooted Chinese educational philosophy, the traditional teacher-centred instruction will remain the dominant approach in Chinese universities. It is obviously not a matter of simply changing language policy, curricula, and pedagogical practices when integrating technologies into language teaching and learning. Rather, it is a complex issue that requires a change in how the nature and process of learning is understood. Such a change must involve a fresh examination of the role of the teacher and the learner, and their relationship in learning, particularly their interaction at the interface of a technology-rich environment. All these, undoubtedly beyond the scope of this thesis, are worthy issues to be examined in future studies with more complex research designs, involving larger samples and in varied contexts.

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Appendix A

Questionnaire

Part 1: Demographic Information

Instructions: Please complete questions 1.1-1.5 about your demographic information. Please tick (✓) the box and fill in the blank provided for this purpose.

1.1 Gender:

- Female;
- Male.

1.2 Age:

- Under 18;
- 19-20;
- 21-22;
- 23-24;
- Above 25.

1.3 Major: _____

1.4 Grade:

- Freshman
- Sophomore
- Junior
- Senior

1.5 How often do you use social media?

- Everyday

- Four or five days a week
- Two or three days a week
- Rarely
- Never

1.6 How often do you use social media to learn English?

- Everyday
- Four or five days a week
- Two or three days a week
- Rarely
- Never

1.7 Do you think social media is useful for learning English?

- Yes.
- No.

Your reasons: _____

Part 2: Students' self-regulated learning strategies when studying English

Instructions: This part is about your self-regulated learning strategies when studying English.

There are 20 questions in total. Please read each statement and circle (○) the relevant number which suits you the most.

Statement	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
2.1 When I learn English, I memorise words and other knowledge points by repeating them many times.	1	2	3	4	5
2.2 When I learn English, I organise what I need to learn.	1	2	3	4	5
2.3 When I learn English, I make connections between new knowledge and what I have learned.	1	2	3	4	5
2.4 When I learn English, I paraphrase the meaning in my own words.	1	2	3	4	5
2.5 I make a study plan before I start to learn English.	1	2	3	4	5
2.6 I make a time plan before I start to learn English.	1	2	3	4	5
2.7 I set goals when I learn English.	1	2	3	4	5

2.8 I change plans when necessary.	1	2	3	4	5
2.9 I check my learning process when I learn English.	1	2	3	4	5
2.10 I change learning strategies when necessary.	1	2	3	4	5
2.11 I try my best to figure out difficult knowledge points in English.	1	2	3	4	5
2.12 I learn from mistakes when I do not perform well in English tests.	1	2	3	4	5
2.13 I do more tasks and practice exercises to learn English even if the teacher does not ask me to do so.	1	2	3	4	5
2.14 I keep learning even if the materials are not interesting.	1	2	3	4	5
2.15 I learn English out of class autonomously.	1	2	3	4	5

2.16 I assess if I follow and finish my learning plan.	1	2	3	4	5
2.17 I seek assistance when I have problems in English.	1	2	3	4	5
2.18 I find a place with few distractions to learn English.	1	2	3	4	5

Part 3: Students' perceptions on learning English through WeChat

Instructions: this part is about your attitudes towards using WeChat to learn English. There are 20 questions in total. Please read each statement and circle (○) the relevant number which suits you the most.

Statement	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
3.1 WeChat can replace the teacher to help me learn English.	1	2	3	4	5

3.2 I can regulate my English learning via WeChat effectively.	1	2	3	4	5
3.3 I like to learn English via WeChat.	1	2	3	4	5
3.4 I am more motivated and interested in learning English via WeChat.	1	2	3	4	5
3.5 Learning English via WeChat is trendy.	1	2	3	4	5
3.6 Learning English via WeChat is more suitable for me than learning in traditional settings.	1	2	3	4	5
3.7 It is convenient to communicate with peers when learning English via WeChat.	1	2	3	4	5
3.8 WeChat is helpful for me to achieve my English learning objectives.	1	2	3	4	5

3.9 WeChat can help me maintain interests and enjoy learning English more.	1	2	3	4	5
3.10 WeChat can develop my English listening ability.	1	2	3	4	5
3.11 WeChat can develop my English speaking ability.	1	2	3	4	5
3.12 WeChat can develop my English reading ability.	1	2	3	4	5
3.13 WeChat can develop my English writing ability.	1	2	3	4	5
3.14 WeChat provides many valuable resources for English learning.	1	2	3	4	5
3.15 I use WeChat to learn English regularly.	1	2	3	4	5
3.16 I use WeChat to learn English frequently.	1	2	3	4	5

3.17 I use WeChat to make connections with native speakers and English learners around the world.	1	2	3	4	5
3.18 It is difficult to manage time when learning English via WeChat.	1	2	3	4	5
3.19 It is easy to be distracted when learning English via WeChat.	1	2	3	4	5

Appendix B

The pilot study version of the questionnaire

Round	Suggestions	Amendments
1	<ol style="list-style-type: none"> 1. Add something about how students feel about communicating with their teachers through WeChat. 2. Add a text box in case people want to add additional information 	<ol style="list-style-type: none"> 1.8 Add a question ‘I prefer to communicate with teachers via WeChat compared to face-to-face.’. 1.9 Add a text box of ‘Your reasons: _____’, after the question ‘Do you think WeChat is useful for learning English?’ 1.10 Add a text box of ‘Do you have any additional comments towards your answers?’ at the end of the questionnaire.
2	<ol style="list-style-type: none"> 1. It is better to change ‘WeChat can improve my (English ability)’ to ‘WeChat can help me improve my (English ability)’. 	<ol style="list-style-type: none"> 1. Change the question to ‘WeChat can help me improve my English ability (listening, speaking, reading, writing)’.
3	<ol style="list-style-type: none"> 1. Divide the question ‘How often do you use WeChat to learn English?’ into two questions: ‘How often do you use WeChat to learn English?’ and ‘What English learning activities do you do through WeChat?’ 	<ol style="list-style-type: none"> 1. How often do you use WeChat to learn English? <ul style="list-style-type: none"> <input type="checkbox"/> Everyday <input type="checkbox"/> Four or five days a week <input type="checkbox"/> Two or three days a week <input type="checkbox"/> Rarely <input type="checkbox"/> Never 2. What English learning activities do you do through WeChat? (multiple choices) <ul style="list-style-type: none"> <input type="checkbox"/> Search for English learning resources <input type="checkbox"/> Share English learning resources <input type="checkbox"/> Ask or discuss English-related questions <input type="checkbox"/> Learn vocabulary or practice listening and speaking <input type="checkbox"/> All
4	<ol style="list-style-type: none"> 1. It is better to delete the last choice: 	<ol style="list-style-type: none"> 1. What English learning activities do you do through WeChat? (multiple choices)

	<p>What English learning activities do you do through WeChat? (multiple choices)</p> <ul style="list-style-type: none"><input type="checkbox"/> Search for English learning resources<input type="checkbox"/> Share English learning resources<input type="checkbox"/> Ask or discuss English-related questions<input type="checkbox"/> Learn vocabulary or practice listening and speaking<input type="checkbox"/> All	<ul style="list-style-type: none"><input type="checkbox"/> Search for English learning resources<input type="checkbox"/> Share English learning resources<input type="checkbox"/> Ask or discuss English-related questions<input type="checkbox"/> Learn vocabulary or practice listening and speaking
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Appendix C

WeChat group tasks

Task One: My Vocation Plans (writing)

Task requirement:

- Students are asked to write a narrative text on the given topic: My Vocation Plans.
- Students should write 160-200 words within 30 minutes.
- The text should be well-structured with complete content, correct grammar, appropriate language, and clear expression of ideas.

The Forethought Phase

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- What would be your learning goal for this task?
- Are you confident in finishing this task?

The Performance Phase

Ask students to write down their own experience based on the topic: My Vocation Plans.

Students are asked to brainstorm together based on the following questions:

- What do you want to cover in your writing?
- How will you structure your writing? How many paragraphs will you write?
- What will you write for each paragraph?

Students discuss together and then start working on this task on their own. Students are encouraged to self-record their learning process and pay attention to whether they are distracted during their learning process and what the interruptions are.

Students share their writing texts in the WeChat group. Students read and share their ideas based on their peers' writing. They are free to ask questions at any stage.

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- Have you been distracted by anything during your writing process?
- What kind of distractions?
- Have you recorded your learning process?

The Self-reflection Phase

Ask students to reflect on their own learning process and share their opinions in the group based on the following questions:

- Revisit the goal you set at the beginning, have you reached your learning goal?
- If you didn't achieve your goal, why?

Students are then randomly assigned to one or two peers and give each other feedback based on their peers' work. All the participants are invited to share their comments. Students are free to ask questions and add comments at any stage.

Ask students the following questions to encourage them to look back to their learning process of the first task and share their ideas in the group:

- What do you think of your performance (are you satisfied/ unsatisfied), and why?
- What do you plan to do next time?

Task Two: Recommending your favourite book/music/movie, etc. (speaking)

Task requirement:

- Students are asked to record a short oral presentation on the given topic: Recommending your favourite book/music/movie, etc.
- Students should present at least three reasons for their recommendation.
- The presentation should be well-structured with complete content, correct grammar, appropriate language, and clear expression of ideas.

The Forethought Phase

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- What would be your learning goal for this task?
- How long do you plan to complete this task?
- What might be the challenges in completing this task?
- How do you expect to deal with these difficulties?
- Are you confident in finishing this task?

The Performance Phase

Students are asked to brainstorm together based on the following questions:

- What do you want to recommend?
- In your own opinion, what should be included when recommending something to others?

Students discuss together and then start working on this task on their own. Students are encouraged to self-record their learning process and pay attention to whether they are distracted during their learning process and what the interruptions are.

Students share their recordings in the WeChat group. Students listen to and share their ideas based on their peers' presentations. They are free to ask questions at any stage.

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- Have you been distracted by anything when working on this task?
- What kind of distractions?
- How is your learning process?

The Self-reflection Phase

Ask students to reflect on their own learning process and share their opinions in the group based on the following questions:

- Are there any things that you learned from this task?
- Were there any challenges?
- Revisit the goal you set at the beginning, have you reached your learning goal?
- If you didn't achieve your goal, why?

Students are then randomly assigned to one or two peers and give each other feedback based on their peers' work. All the participants are invited to share their comments. Students are free to ask questions and add comments at any stage.

Ask students the following questions to encourage them to look back to their learning process of the first task and share their ideas in the group:

- What do you think of your performance (are you satisfied/ unsatisfied), and why?
- What do you plan to do next time?

Task Three: Learning online & learning in class (writing)

Task requirement:

- Students are asked to write a persuasive text on the given topic: Learning online and learning in class.
- Students should write over 160 words.
- The text should be well-structured with complete content, correct grammar, appropriate language, and clear expression of ideas.

The Forethought Phase

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- What would be your learning goal for this task?
- How do you plan to finish this task?

- Are you confident in finishing this task?

The Performance Phase

Ask students to write down their own experience based on the topic: My Vocation Plans.

Students are asked to brainstorm together based on the following questions:

- How many paragraphs will you write?
- What will you write for each paragraph? Please share your main idea for each paragraph briefly.

Debate activity:

Students are randomly assigned to two groups: one group stands for 'learning online' and the other group stands for 'learning in class'. Students have five minutes to think of their ideas. All the students are encouraged to share their opinions after the five-minute preparation time.

After the debate, students start working on this task on their own. Students are encouraged to self-record their learning process and pay attention to whether they are distracted during their learning process and what the interruptions are.

Students share their writing texts in the WeChat group. Students read and share their ideas based on their peers' writing. They are free to ask questions at any stage.

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- Have you been distracted by anything during your writing process?
- What kind of distractions?

- How long did you finish this writing task?
- What strategies did you use when working on this task?

The Self-reflection Phase

Ask students to reflect on their own learning process and share their opinions in the group based on the following questions:

- Revisit the goal you set at the beginning, have you reached your learning goal?
- If you didn't achieve your goal, why?
- Have you learned anything from this task?
- Did you meet any challenges?

Students are then randomly assigned to one or two peers and give each other feedback based on their peers' work. All the participants are invited to share their comments. Students are free to ask questions and add comments at any stage.

Ask students the following questions to encourage them to look back to their learning process of the first task and share their ideas in the group:

- What do you think of your performance (are you satisfied/ unsatisfied), and why?
- What do you plan to do next time?

Task Four: Choose a major for a good job vs. for interest (speaking)

Task requirement:

- Students are asked to record a short oral presentation about whether they would choose a major which may guarantee a good job or for personal interests.
- The presentation should be well-structured with complete content, correct grammar, appropriate language, and clear expression of ideas.

The Forethought Phase

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- What would be your learning goal for this task?
- How long do you plan to complete this task?
- What do you plan to do in order to achieve your learning goal?
- Are you confident in finishing this task?

The Performance Phase

Debate activity:

Students are randomly assigned to two groups: one group stands for 'learning online' and the other group stands for 'learning in class'. Students have five minutes to think of their ideas. All the students are encouraged to share their opinions after the five-minute preparation time.

After the debate, students are asked to think of which opinion they stand for and share their ideas with the group:

- In your opinion, which statement do you think is a good idea?
- How do you plan to structure your presentation?

Students then start working on this task on their own. Students are encouraged to self-record their learning process and pay attention to whether they are distracted during their learning process and what the interruptions are.

Students share their recordings in the WeChat group. Students listen to and share their ideas based on their peers' presentations. They are free to ask questions at any stage.

Ask the WeChat group members the following questions and students need to post their responses to the WeChat group and share them with other peers:

- Have you been distracted by anything when working on this task?
- What kind of distractions?
- What strategies did you use to complete this task?

The Self-reflection Phase

Ask students to reflect on their own learning process and share their opinions in the group based on the following questions:

- Are there any things that you learned from this task or from your peers?
- Revisit the goal you set at the beginning, have you reached your learning goal?
- If you didn't achieve your goal, why?

Students are then randomly assigned to one or two peers and give each other feedback based on their peers' work. All the participants are invited to share their comments. Students are free to ask questions and add comments at any stage.

Ask students the following questions to encourage them to look back to their learning process of the first task and share their ideas in the group:

- What do you think of your performance (are you satisfied/ unsatisfied), and why?
- What do you plan to do next time?

Appendix D

Focus group interview questions:

1. What did you expect from learning English through WeChat before the program?
2. What do you think of learning English through WeChat now?
3. What are the advantages of using WeChat to learn English?
4. What are the challenges or problems for you when learning English through WeChat? Did you solve these problems? How?
5. What and how did you learn English during this program? Could you please give us some examples?
6. What and how did you improve your self-regulated learning ability when learning through WeChat?
7. What do you think of the interaction between your peers when learning English on WeChat?
8. What do you think of the differences between communicating on WeChat and face-to-face?
9. What do you think of the differences between learning English in class and on WeChat? Which one do you prefer? Why?
10. Which parts/ what factors of learning English through WeChat do you like the most? Why?
11. How do you assess your learning performance during this program?
12. Are you willing to keep learning English on social media like WeChat in the future? Why?

Appendix E

Ethics approval:



Research Integrity & Ethics Administration HUMAN RESEARCH ETHICS COMMITTEE

Wednesday, 27 January 2021

Dr Hongzhi (Veronica) Yang
School of Education and Social Work Research Operations; Faculty of Arts and Social Sciences
Email: hongzhi.yang@sydney.edu.au

Dear Hongzhi (Veronica),

The University of Sydney Human Research Ethics Committee (HREC) has considered your application.

I am pleased to inform you that after consideration of your response, your project has been approved.

Details of the approval are as follows:

Project No.: 2020/785
Project Title: Chinese EFL Students' Self-Regulated Learning Through WeChat – a case study in a university
Authorised Personnel: Yang Hongzhi (Veronica); Meng Xin; Shen Hui;
Approval Period: 27 January 2021 to 27 January 2025
First Annual Report Due: 27 January 2022

Documents Approved:

Date Uploaded	Version Number	Document Name
07/12/2020	Version 2	Clean Appendix C - Questionnaire Survey
07/12/2020	Version 2	Clean Appendix D - Focus group questions
07/12/2020	Version 2	Clean PCF - Focus group
07/12/2020	Version 2	Clean PCF - WeChat group
07/12/2020	Version 2	Clean PIS
11/10/2020	Version 1	Letter Requesting Permission
01/10/2020	Version 1	Safety Protocol
01/10/2020	Version 1	Letter of Approval for Research
01/10/2020	Version 1	Appendix A - WeChat group learning material
01/10/2020	Version 1	Appendix B - WeChat group task
01/10/2020	Version 1	WeChat Group Etiquette Rules

Condition/s of Approval

- Research must be conducted according to the approved proposal.
- An annual progress report must be submitted to the Ethics Office on or before the anniversary of approval and on completion of the project.
- You must report as soon as practicable anything that might warrant review of ethical approval of the project including:
 - Serious or unexpected adverse events (which should be reported within 72 hours).
 - Unforeseen events that might affect continued ethical acceptability of the project.
- Any changes to the proposal must be approved prior to their implementation (except where an amendment is undertaken to eliminate *immediate* risk to participants).

- Personnel working on this project must be sufficiently qualified by education, training and experience for their role, or adequately supervised. Changes to personnel must be reported and approved.
- Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, as relevant to this project.
- Data and primary materials must be retained and stored in accordance with the relevant legislation and University guidelines.
- Ethics approval is dependent upon ongoing compliance of the research with the *National Statement on Ethical Conduct in Human Research*, the *Australian Code for the Responsible Conduct of Research*, applicable legal requirements, and with University policies, procedures and governance requirements.
- The Ethics Office may conduct audits on approved projects.
- The Chief Investigator has ultimate responsibility for the conduct of the research and is responsible for ensuring all others involved will conduct the research in accordance with the above.

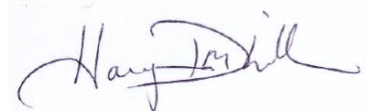
This letter constitutes ethical approval only.

Please contact the Ethics Office should you require further information or clarification.

Sincerely,



Sincerely,



Dr Haryana Dillon
Chair
Human Research Ethics Committee (HREC 3)

The University of Sydney of Sydney HRECs are constituted and operate in accordance with the National Health and Medical Research Council's (NHMRC) [National Statement on Ethical Conduct in Human Research \(2018\)](#) and the NHMRC's [Australian Code for the Responsible Conduct of Research \(2018\)](#)