Self-Regulated Learning and Blended Learning Experience among EFL learners in a Chinese Public University

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ABSTRACT

The last three years of the Covid-19 outbreak have brought about a new normal in teaching and learning in China universities. Blended Learning (BL) and online learning become ubiquitous. BL fulfills the condition set by the Ministry of Education China to reduce physical contact but at the same time adheres to the academic requirement of all courses, including that of College English which is compulsory for all undergraduates. Initiating computer-assisted language learning implies shortening students' time spent on campus, however, literature indicated that self-regulated learning (SRL) is a necessity for effective BL. This study was conducted in a public university in Hebei China among its EFL freshmen. It was designed to investigate EFL students' level of SRL ability and their Blended Learning Experience (BLE) in college English courses. It then ascertained the relationship between these two variables and confirmed whether SRL would affect BLE. A mixed method design was adopted involving the administration of a questionnaire measuring EFL learners' SRL and BLE, and focus group interviews exploring in-depth reasons and factors that influence their experience in BL. Quantitative results showed that EFL learners have high SRL levels and positive BLE. There is no significant difference identified in EFL learners' SRL between different genders and places of residence. SRL has a significant effect on BLE. Qualitative results indicated that there are differences in perceptions of BL among EFL Learners with different SRL levels. These findings are expected to assist EFL

teachers and higher educational institutions to improve their teaching of college English taking into consideration BLE and SRL.

Keywords— ***EFL learner, blended learning, self-regulated learning, blended learning experience, blended college English course***

1. Introduction

Blended learning (BL) refers to a learning model that combines face-to-face study with online study with the help of a learning management system. Garrison & Vaughan (2008) reiterated that BL effectively combines the benefits of face-to-face and online communication to form a unique learning experience. Thus, many higher education institutions (HEIs) adopt BL as an effective model to enhance learning opportunities, increase access to HEIs, and provide flexibility for learners (Lim & Graham, 2021). In this Covid-19 pandemic period where universities had regular classes interrupted by lockdowns, BL provided some level of educational equity (Lim et al., 2019). Zheng (2018) pointed out that about 70 percent of Chinese university teachers were conducting blended instruction. This trend has increased even more dramatically in the last two years since onsite learning faced suspension at any time due to the outbreak of the COVID-19 pandemic. The development of educational infrastructure and resources in Chinese universities could not keep up with the rapid increase in university enrollment in recent years. However, rapid innovation in ICT in China created many innovative ideas related to online learning. According to Zheng (2018), it has caused BL to become a popular learning mode in Chinese universities.

Chinese college students were found to be satisfied with the learning experience in the BL environment in the universities of Chongqing Municipality, Shaanxi Province, Gansu Province, and Inner Mongolia Province (Ma & Zhang, 2011; Liu & Zhang, 2020; Yi & Hua, 2021), but it still needs further investigation for other areas of China. As Freeman and his colleagues stated, the lack of satisfaction with BL will hinder the better implementation of BL (Freeman et al., 2019). Therefore, it is necessary to explore how to improve students' satisfaction and engagement in the BL environment. In this study, blended learning experience (BLE) measured

learners' satisfaction and perception of interacting with other learners, instructors, learning content, and technology in a blended learning environment.

Researchers in the past have examined the influential factors on students' satisfaction and engagement in the BL environment from various aspects. One of these factors is self-regulated learning (SRL) which is considered a vital determinant of achieving satisfactory learning outcomes in blended courses (Tian & Xi, 2020; Liu & Zhang, 2020; Ning & Downing, 2012). SRL instruments often measure the extent to which learners can independently choose to participate in learning activities and regulate their learning process effectively.

The study reported in this paper intends to examine EFL learners' level of SRL ability and their learning experience in a BL environment and verifies whether SRL is the influencing factor of BLE and in what aspects. It is hypothesized that EFL learners' SRL skills can have a positive effect on their satisfaction with the BL, that is, a higher SRL level brings about more satisfying BLE among the students. The research questions of the study are listed below:

RQ 1. What is the level of EFL learners' SRL and BLE in a Chinese public university?

RQ 2. Is there any difference in EFL learners' SRL among EFL students of different demographics?

RQ 3. Is there a positive relationship between BLE and SRL among EFL learners?

RQ 4. What are the experiences of EFL learners when studying in the BL environment?

2. Literature Review

This section covers the discussion of the independent variable SRL and dependent variable BLE in this study. It also includes theories and conceptual frameworks supporting this study.

2.1 Blended Learning

It was found that university students considered BL as an effective constructivist learning

delivery method (López-Pérez et al., 2011). Many scholars in China have conducted in-depth research on the technology of BL, such as support service in BL (Zhao et al., 2017), BL based on Moodle platform (Cui, 2021), and the application of Iflytek AI Class in the reform of teaching mode (Gong & Xiang, 2022). In the EFL field, there are many empirical studies on BL, for instance, Zhang (2013) found from an experimental study that blended English learning with the support of the Internet, autonomous learning platform, and QQ communication software not only helps to improve students' autonomous learning in college English courses but also help to strengthen their listening and speaking skills. Lv (2021) proposed a blended learning mode integrating traditional face-to-face instruction and MOOC (Massive Open Online Course). She has found that the MOOC-based blended learning mode could realize the complementary advantages of online learning and traditional classroom instruction and has advantages in improving teaching effectiveness and cultivating students' autonomous learning abilities. As a popular blended learning mode, college English flipped classroom has also been studied by Chinese scholars. For example, Jiang and Hu (2018) studied the implementation of college English flipped classrooms based on SPOC (Small Private Online Course). They conducted a questionnaire survey on students' learning behavior before and during class, as well as teachers' perceptions of the instruction of flipped classrooms. They summarized the teaching operation and guarantee conditions of college English flipped classrooms and pointed out that students' learning engagement and learning depth have changed significantly compared with traditional learning mode. This study put forward new ideas and directions for college English learning in China's blended learning mode.

2.2 Blended Learning Experience (BLE)

BLE refers to the quality of learning resulting from learning experiences in both face-to-face (F2F) and online environments during BL (Ginns & Ellis, 2007). Freeman and his fellows concluded that students' overall experience is critical to carry out and support BL courses in Higher Education (Freeman et al., 2019). The findings of their research indicate that online learning activities scaffolded traditional F2F teaching and learning, as well as enhanced the retention and performance of learners. Also, Poon (2012) found that BL greatly increased the

flexibility of students' learning, while their learning experience level was uplifted, and their academic achievement was enhanced. Besides, Bleffert-Schmidt (2011) examined how BL changed the community college learning experience from the perspective of student satisfaction.

2.3 Self-regulated Learning (SRL)

Zumbrunn et al. (2011) described SRL as a process that helps students manage their thoughts, behaviors, and emotions to successfully guide their learning experiences. Self-regulated learners can adapt their learning strategies and manipulate their learning contexts to suit their needs (Kolovelonis et al., 2011). SRL, thus, is considered critical for online learning (Broadbent & Poon, 2015). In the research to identify skills that can predict English for Second Language (ESL) learning success, Al Fadda (2019) found that students' self-efficacy significantly contributed to predicting variance in students' performance in online education. Ting and Chao (2013) found that college English as Foreign Language (EFL) students have good SRL strategies in BL. Lim and his colleagues (2020) asserted that the implementation of BL required learners to have self-motivation and self-discipline. Therefore, it is important to understand the effects of SRL on student satisfaction and perception in the BL context. Based on the review of the related literature, it may be hypothesized that EFL learners' SRL would be associated with their perceptions and satisfaction in a BL environment.

2.4 Relevant Theories

Graham's Blended Learning Model and Zimmerman's Cyclical Model of SRL are models/theories to support this study. The following sections provide some insights into these theories.

2.4.1 Graham's Blended Learning Model

Graham's Blended Learning Model has been used widely as a guide to probe BLE. Graham's model for BL delineated four dimensions of interaction in BL models: time, space, fidelity, and humanness (Graham, 2006). These four dimensions of interaction in online and offline learning environments are depicted in Figure 1.

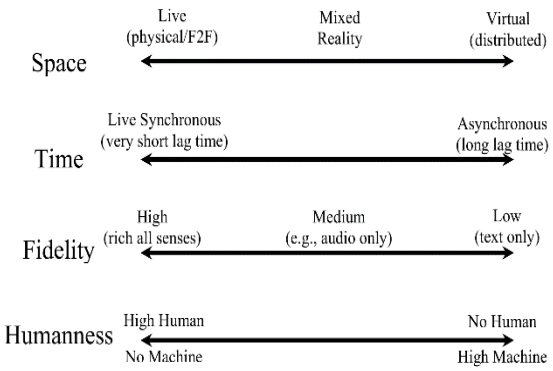

Figure 1 Four Dimensions of Interaction in F2F and Distributed Learning Environments by Graham (2006, p. 30)

Traditionally, the online learning environment operates at the right end of these dimensions and emphasizes the interaction between learner and material with text-based distance education programs. On the contrary, the F2F learning environment runs at the left of these dimensions and is primarily based on teacher-learner interactions and learner-learner interactions (see Figure 1). The BL environment integrated with digital technology optimizes the strength of offline and online learning.

2.4.2 Zimmerman's Cyclical Model of Self-regulated Learning

Zimmerman's Cyclical Model of SRL is considered a guide to investigate SRL. Zimmerman (2000) presented a cyclical model of SRL based on Social Cognitive Theory. From the perspective of Social Cognitive Theory, the learning process of learners and their corresponding self-awareness, motivation, and beliefs falls into three phases: forethought, performance, and self-reflection (see Figure 2). The SRL process is considered to be cyclical because the feedback from prior performance is used to adapt to the present work (Zimmerman, 2000), while the influence of the self-reflection process on learners' beliefs and behavior is used for future learning (Cleary et al., 2012). An online learning context has less instructor supervision with more highlight on students' SRL. Therefore, students' SRL is held to be vital in facilitating academic success in the online learning context (Winters et al., 2008).

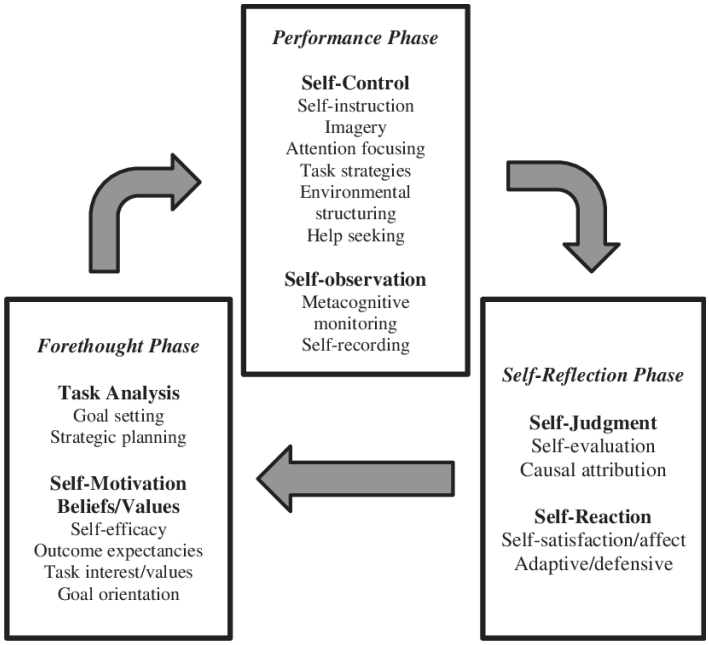

Figure 2 Phases and Processes of Self-regulated Learning (Zimmerman & Campillo, 2003)

2.5 Conceptual Framework

Graham's Blended Learning Model and Zimmerman's Cyclical Model of Self-regulation are utilized to support and build the foundation for the design of this study. Graham's Blended Learning Model provides an overall framework for researchers to consider what they should focus on to support the coherence and relevance of the research design. Self-regulated learning theory provides the theoretical basis for how SRL is performed in this study. The SRL strategies from six aspects of goal setting, environment structuring, task strategies, time management, help-seeking, and self-evaluation, were selected to assess the level of students' self-regulatory ability, which formed the independent variable of the study. Students' BLE, which is the dependent variable of this study, basically assessed students' satisfaction in interacting with their peers, teacher, learning content, and technology use of LMS in the BL environment. Based on this conceptual framework, it is hypothesized that when EFL learners have a higher level of SRL, they will obtain more positive learning experiences during the blended EFL learning process.

3. Methodology

3.1 Research Design

A blended learning approach was performed in the college English course during the spring semester, spanning from September 2019 to July 2020 (two semesters), in a public university HST, which is located in Hebei Province, China. Both face-to-face lectures and online learning sessions using the DingTalk learning management system (LMS) were incorporated into the design of the blended college English course. A total of 3458 full-time non-English major EFL learners enrolled in this course in university HST.

This study adopted a mixed method research methodology to collect and analyze quantitative and qualitative data obtained. For the quantitative study, 530 students from different faculties of HST were selected through proportional stratified sampling, based on the academic discipline students enrolled in. For the qualitative study, 12 EFL learners (i.e., FG1-FG12) who took part in the focus group interviews (FGIs) were selected through the use of purposive sampling, based on gender, academic discipline, and place of residence.

3.2 Instrumentation

The questionnaire in this study aimed to assess the level of EFL learners' SRL ability and BLE in the college English course. It consists of four sections, and each section measures a specific variable. Section A, which has 6 items, is to collect the demographics of respondents. Section B (i.e., SRL scale) was adapted from Online Self-regulated Learning Questionnaire (OSLQ) (Barnard et al., 2009) to collect the data of SRL of EFL learners. It has six subscales with 24 items, including environment structuring, goal setting, time management, help-seeking, task strategies, and self-evaluation. Section C (i.e., BLE scale) is a unidimensional scale with 18 items, which was adapted from End-of-semester Questionnaires (EoS) (Bleffert-Schmidt, 2011) to collect the data of BLE among EFL learners. Scales in section B and C is in a 5-point Likert response format, with 1 as strongly disagree and 5 as strongly agree. Interview questions in the interview protocol were developed based on instruments provided by Al-Busaidi (2012), Chen

(2017), and Saltan (2017). Interview questions were formulated to ask about the EFL learners' experience and perception toward BL.

3.3 Samples

The samples of this study consist of 254 (47.9%) male students and 276 (52.1%) female students. In terms of place of residence, only 35 (6.6%) students came from the big city, while 154 (29.1%) students came from town, but the majority were from the countryside (64.3 %, n=341). In terms of academic discipline, there were 337 (63.6%) students who majored in engineering, 160 (30.2%) students who majored in liberal arts, and 33 (6.2%) students who majored in science. These proportions were based on the proportional stratified sampling of the actual population in the university. In the qualitative part, 12 EFL learners were divided into two groups of six, each group consisting of three female learners and three male learners. The Focus Group Interview (FGI) was conducted.

3.4 Data Analysis

Statistical Product and Service Solutions 22 (SPSS Version 22) was used to analyze the quantitative data. The NVivo software (12 plus version) was used to assist the qualitative data analysis and data management. Descriptive statistics were used to probe the level of SRL and BLE. T-test and ANOVA were used to investigate demographic factors due to these two variables. Linear regression analysis was used to probe the relationship between SRL and BLE and identify the most impactful factors. In the analysis of qualitative data, coding and thematic analysis were performed.

3.5 Validity and Reliability

To ensure content validity, three experts from the fields of education, EFL, and bilingual translation were engaged to comment and make suggestions to improve the instruments based on the characteristics of participants and research settings in this study. At the same time, six EFL learners also were invited to look at each item in the instrument and gave their feedback

on the suitability of the language and context of the items. After modification, the new version of the questionnaire was then pilot-tested with 120 EFL learners.

Calculation of Cronbach's alpha is a common tool used to test reliability and a value of more than .7 indicates good reliability (Straub et al., 2004). In this study, Cronbach's alpha value of the SRL scale is .93 and that of the BLE scale is .887, indicating that all the scales showed high reliability. Exploratory factor analysis (EFA) was administered to preliminarily determine the underlying structure of a scale (Brown, 2015). Via the EFA phase, four items in the SRL scale and four items in the BLE scale were suggested to be eliminated as they did not contribute to a simple factor structure and failed to meet the minimum criteria of having a primary factor loading of .4 or above, and no cross-loading of .3 or above. The results from EFA were examined theoretically, finally, there are 20 items with 6 subscales left in the SRL scale and 14 items left in the unidimensional BLE scale.

3.6 Ethical Approval

Official approval was received from the original instrument (scale) designers and the university concerned. Consent was obtained from the respondents engaged in the quantitative and qualitative collection process. The whole study was conducted adhering to the ethical principles of conducting research, specifically, the anonymity of respondents is achieved by anonymous coding of all the respondents, and confidentiality of research data is accomplished by saving all the data in the researcher's laptop and encrypted.

4. Findings and Discussion

This study was designed to probe the level of first-year non-English major EFL learners' SRL and BLE when they participated in blended EFL activities in a Chinese public university. The relationship between these variables was explored. This section presents the findings of both quantitative and qualitative data analysis as well as discussions of these findings.

4.1 Levels of BLE and SRL among EFL Learners

The overall mean of EFL learners' BLE is 3.65 (*SD* = .62), since the BLE scale is a 5-Likert scale, implying that generally, learners had a positive perception of blended college English courses (Table 1). This finding concurs with that of other researchers where college EFL students from diverse countries appreciated BL activities in general (Alaidarous & Madini, 2016; Liu, 2019; Rianto, 2020; Wang et al., 2019). All these studies showed that college EFL learners generally have a satisfied BLE, and BL helps EFL learners to learn English more effectively.

Table 1 Descriptive Statistics for Blended Learning Experience Level of EFL Students (n=530)

Variable	***M***	***SD***	**Note**
BLE	3.65	.62	positive perception

As shown in Table 2, EFL learners have a high level of SRL skill in the blended EFL learning process (*M* = 3.79, *SD* = .52). This result is consistent with the research done in the BL environment such as that of Ting & Chao (2013) and Al Fadda (2019). These researchers affirmed that college students' SRL strategies in the BL context were desirable in general. This is consistent with Zimmerman's (2000) three-phase Cyclical Model of SRL.

Table 2 Summary of Descriptive Statistics & Levels of SRL Owned by EFL Learners (N = 530)

SRL Type	***M***	***SD***	**SRL Level**
SRL (Overall)	3.79	.52	High
GS	4.06	.66	High
TS	4.03	.64	High
TM	3.98	.63	High
SE	3.74	.71	High
ES	3.59	.66	Moderate
HS	3.49	.69	Moderate

Note. GS, TS, TM, SE, ES, and HS are subscales of the SRL construct. Low: 1.00-2.33; Moderate: 2.34-3.67; High: 3.68-5.00

Digesting further the results of SRL sub-scales, specifically, these students have high levels of goal setting (*M* = 4.06, *SD* = .66), task strategies (*M* = 4.03, *SD* = .64), time management (*M* = 3.98, *SD* = .63) and self-evaluation skill (*M* = 3.74, *SD* = .71), moderate levels of environment structuring (*M* = 3.59, *SD* = .66) and help-seeking (*M* = 3.49, *SD* = .69). Referring to

Zimmerman's (2000) SRL models, EFL learners' SRL strategies in college English generally involve three phases: forethought, performance, self-reflection. The results of these sub-scales can be used to describe the possible SRL strategies usage among EFL learners. It can be deduced that the EFL learners were seen to possess a high ability to set learning goals independently in the forethought phase, able to monitor the realization of their goals, and can effectively be engaged in a blended EFL learning process in the performance phase. Furthermore, these learners probably can independently reflect on their methods and revise them for the next blended EFL activity in the self-reflection phase. However, their abilities in environment structuring and help-seeking remained at a moderate level. If we want to improve these learners' SRL in the BL environment, Zimmerman's cyclical phase model of SRL can provide us with a theoretical framework to guide us in enhancing strategies involved in those processes, as it covers most of the key processes (such as task analysis and self-motivation beliefs in forethought phase, self-control, self-observation in performance phase and self-judgment and self-reaction in self-reflection phase) in which learners play a role in learning in great detail (Panadero & Alonso Tapia, 2014).

4.2 Differences in EFL Learners' SRL based on Different Demographic

Table 3 shows that there is no statistically significant difference in EFL learners' SRL between male and female students (t = -1.30, p = .19; Table 3). This finding is in line with some previous research which reported that there was no significant difference found between university female and male students in light of their SRL abilities (Martinez-Lopez et al., 2017; Stanikzai, 2019). In addition, there is also no statistically significant difference in EFL learners' SRL ability among these three places of residence (city, town, and countryside) when they participated in blended EFL activities (F = 1.47, p = .23).

Table 3 Difference in EFL Students' SRL Based on Gender and Residence (N=530)

Factor		***M***	***SD***	**t / F**	**Sig.**
Gender	Male	3.76	.53	-1.30	.19
	Female	3.82	.5		
Residence	Big City	3.92	.50	1.47	.23

Factor		*M*	*SD*	t / F	Sig.
	Town	3.80	.55		
	Countryside	3.77	.50		

* $p < .05$

4.3 Relationship between SRL and BLE among EFL learners

From the statistics shown in Table 4, there is a significant positive association between the two variables of BLE and SRL, $r = .61$, $p < .01$ at an alpha level of .01. This finding revealed that students who have a higher level of SRL abilities tended to possess more satisfying BLE. The positive relationship between SRL and learning satisfaction has been confirmed by many scholars in the field of online learning (Artino, 2007; Cho et al., 2017; Wang et al., 2013) and blended learning (Seo et al., 2015; Tian & Xi, 2020). The finding of a positive correlation between SRL and satisfaction supported Zimmerman's assertion in the cyclical phase model of SRL, which stated that self-satisfaction reactions would be more highlighted when students with higher SRL ability pursue courses, compared with reactive students who attribute errors to causes beyond their control leading them to feel dissatisfied (Zimmerman, 2013).

Table 4 Correlations between SRL and BLE (n = 530)

Construct		BLE	SRL
BLE	Pearson Correlation	1	.61**
	Sig. (2-tailed)		.00

** $p < .01$, two-tailed.

As depicted in Table 5, SRL can significantly predict BLE ($F(1,528) = 307.45$, $p = .000$). R^2 manifested that this model can explain 37% variance of BLE, $p < .001$. This result concurs with some studies regarding the positive effect of SRL on satisfaction with the learning experience in the online or blended learning environment (Ejubović & Puška, 2019; Peterson, 2011; Seo et al., 2015; Tian & Xi, 2020). According to Zimmerman's Cyclical Model of SRL, self-regulated learners monitor their behavior according to their goals and self-reflect on their continuously improving effectiveness, and then their perceptions of satisfaction would have been enhanced in this process (Zimmerman, 2002). Therefore, the positive effect of SRL on BLE was supported by the theory and the findings of prior studies. The significant effect of

SRL on BLE indicated that as EFL learners monitor their behavior in light of their goals in the BL process and self-reflect on their performance efforts, these learners will have satisfaction with BLE.

Table 5 Summary of Linear Regression Analysis Predicting BLE

Variable	BLE				
	β	Std. Error	Beta	t	VIF
Constant	.88***	.16		5.50	
SRL	.73***	.04	.61	17.53	1.00
R^2	.37				
F	307.45***				

***$p < .001$

4.4 Experience of EFL Learners in Blended Learning

The findings from quantitative analysis uncovered that EFL learners have a positive learning experience in the blended college English course. Semi-structured focus group interviews (FGIs) were subsequently carried out with learners in this study to further probe more in-depth reasons and factors that can influence their experience in BL. Since the quantitative data showed that SRL impacted BLE, more than 57% of EFL learners have a high level of SRL, and SRL significantly predicts BLE, five of the participants with moderate and low SRL were selected for FGI and seven of the participants with high SRL were selected for FGI. Coding was conducted with the interview transcripts and very clear positive and negative experiences could be noticed as shown in Table 6.

Table 6 Number of Codes from Experience of BL of Participants with Different SRL Levels (n = 12)

Category	Frequency of Codes	
	SRL Level	
	M&L	H
Positive Experience (in Total)	9	21
Improve Learning Efficiency	4	14
Promote Learning Autonomy	4	1
Reduce Communication Anxiety & Increase Interaction Opportunities	0	5
Make the Course More Interesting	1	1
Negative Experience (in Total)	15	18
Easy to Cheat in Online Activities	0	10
Lack of Human Touch in Online Learning	7	0

Category	Frequency of Codes	
	SRL Level	
	M&L	H
Unreasonable Arrangement of Learning Tasks	4	2
Poor Internet Quality	0	4
Lack of Instructor Guidance	2	2
Difficulty in Understanding Instructor's Language	2	0

Note. M&L stands for "Moderate and Low SRL Level"; H stands for "High SRL Level".

Table 6 shows that participants with different SRL levels expressed different positive or negative experiences of BL. As depicted in this table, learners with high SRL (High group) tend to be more capable of capturing the benefits of BL and making use of it than those with moderate and low SRL (M&L group). For example, when talking about answering questions in online study, one student in the High group could identify it as less stressful than face-to-face. He said:

> *Online learning can be less stressful than face-to-face learning. For example, if you answer questions online, you can send a text or voice message as a reply. You will not have to stand up and answer questions in front of everyone like offline, in which way you would be more nervous. (FGP10)*

In addition, when it comes to the experience of changing from passive acceptance to active learning in a BL environment, another student in the High group clearly stated that it is helpful for her to have the opportunity to watch the video playback. She said:

> *If you do offline learning like before, you might just listen to the teacher, ... after class, if you want to learn, you have no other way to review the content except to take notes ... However, we can complete the online learning by ourselves [now]. I can watch online video playback and learn online materials after class if I don't understand what the teacher says in class. In this way, there are more ways to learn after class and I am willing to learn by myself after class. (FGP9)*

This finding is triangulated with the quantitative finding of RQ3, that is, with the increase of students' SRL level, their BLE will be enhanced. However, there are also similarities between

these two groups (High group vs. M&L group). Regarding BL's advantages, learners in both groups commented that BL not only promoted learning autonomy but also made the course more interesting. This result was in agreement with the findings of Snodin (2013) and Bukhari & Mahmoud Basaffar (2019). Snodin (2013) reported that supportive environments can motivate students to become more autonomous through pedagogies such as collaborative learning which is a common feature in BL. Bukhari & Mahmoud Basaffar (2019) asserted that students regard BL as an interesting, interactive, and independent English learning environment regardless of their English level or computer literacy.

About the problems they faced in BL, both these two groups of students stated that they were confused with the unreasonable arrangement of learning tasks, and lack of instructor guidance when they were engaged in BL activities. These findings echoed the previous research by Marino (2000) who contended that some learners have difficulty adapting to the structure of online courses and managing their time in such an environment. Hanisch et al. (2011) asserted that some of the issues such as lack of guidance by teachers were problems faced by respondents in their online learning.

In contrast, this study also found that the two groups differed in some aspects of their BLE, including (1) high SRL learners putting more emphasis on learning efficiency improvement; (2) high SRL learners putting more emphasis on interactions improvement; (3) high SRL learners were more worried about cheating in online activities; (4) moderate and low SRL learners were more likely to feel lack of human touch in online learning. It seems that not all learners would benefit equally from the learning environment and that their needs varied according to their characteristics (Keskin, 2019). Student characteristics, such as SRL skills, motivation, and readiness are critical to online learning utilization and satisfaction levels (Wang et al., 2013).

5. Conclusion and Implications

In general, it was found that EFL learners have positive BLE in the blended college English course in this public university HST. The study also found that the overall level of SRL skills of these learners was relatively high, and there is no significant difference between males and

females, whether they came from a big city, town, or countryside. This study added to evidence in the literature on BL that SRL has a significant effect on learners' learning experience in the blended EFL context. The study found that students from higher (High group in this study) and lower (M&L group in this study) levels of SRL have differences in the perceptions of BL, and they have different concerns about problems affecting learning. Two theories, namely Zimmerman's cyclic model of SRL and Graham's BL model aptly provided theoretical support for the study and provided a useful framework to be delved into more deeply to suggest useful tips to further improve BL in EFL. Specifically, teachers are recommended to improve EFL learners' SRL ability by adopting strategies in the self-regulatory process proposed by Zimmerman's three-phase Cyclical Model of SRL (i.e., forethought, performance, and reflection phases). To meet the requirements of online learning, EFL learners need to continue to retain a high level of SRL competence through teachers' guidance and self-reinforcement (Kolovelonis et al., 2011). At the same time, to improve BLE, teachers can formulate their teaching design and create a learning environment according to the level of SRL of EFL learners, group them according to their different SRL levels and adopt differential teaching, so that every EFL learner can get a better learning experience.

References

Al Fadda, H. (2019). The Relationship between Self-Regulations and Online Learning in an ESL Blended Learning Context. *English Language Teaching*, *12*(6), 87-93. https://doi.org/10.5539/elt.v12n6p87

Alaidarous, K., & Madini, A. A. (2016). Exploring EFL students' perception in blended learning environment in Saudi technical education context. *International Journal of Educational Investigations*, *3*(6), 69-81.

Al-Busaidi, K. A. (2012). Learners' perspective on critical factors to LMS success in blended learning: An empirical investigation. *Communications of the Association for Information Systems*, *30*(1), 2.

Artino Jr, A. R. (2007). Online military training: Using a social cognitive view of motivation and self-regulation to understand students' satisfaction, perceived learning, and choice. *Quarterly Review of Distance Education*, *8*(3), 191.

Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S. L. (2009). Measuring self-regulation in

online and blended learning environments. *The internet and higher education*, 12(1), 1-6.

Bleffert-Schmidt, A. (2011). *The blended learning experience of community college students.* [Doctoral dissertation, Nova Southeastern University]. NSUWorks, Graduate School of Computer and Information Sciences. (94) http://nsuworks.nova.edu/gscis_etd/94.

Broadbent, J. and Poon, W.L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *Internet and Higher Education*, 27, 1-13.

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford publications.

Bukhari, S. S. F., & Mahmoud Basaffar, F. (2019). EFL learners' perception about integrating blended learning in ELT. *Arab World English Journal (AWEJ) Special Issue on CALL*, (5).

Cho, M., Kim, Y., & Choi, D. (2017). The effect of self-regulated learning on college students' perceptions of community of inquiry and affective outcomes in online learning. *Internet High. Educ., 34*, 10-17. https://doi.org/10.1016/J.IHEDUC.2017.04.001

Cleary, T. J., Callan, G. L., & Zimmerman, B. J. (2012). Assessing self-regulation as a cyclical, context-specific phenomenon: Overview and analysis of SRL microanalytic protocols. Education Research International, 2012.

Ejubović, A., & Puška, A. (2019). Impact of self-regulated learning on academic performance and satisfaction of students in the online environment. *Knowledge Management & E-Learning: An International Journal*, *11*(3), 345-363.

Freeman, E., Antwi-Boampong, A., & Agyemang, O. B. K. (2019, November). Students' Learning Experience Within a Blended Learning Environment in a Higher Education Institution in Ghana. In *Ecel19-Proceedings of the 18th European Conference on E-learning* (pp. 160-168). Academic Conferences and Publishing International.

Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines.* San Francisco, CA: Jossey-Bass.

Ginns, P., & Ellis, R. A. (2007). Quality in blended learning: Exploring the relationships between on-line and face-to-face teaching and learning. *Internet and Higher Education*, 10(1), 53-64.

Graham, C. R. (2006). Blended learning systems: Definitions, current trends and future directions. In C. J. Bonk, & C. R. Graham (Eds.), *The Handbook of blended learning: Global perspectives, local designs* (pp. 3-21). Pfeiffer Publishing.

Hanisch, J. H., Caroll, M., Combes, B., & Millington, A. (2011). Online LIS education: Towards the right balance of flexibility and engagement. In *RAILS7 Seminar (Research Applications in*

Library and Information Studies). Brisbane, Australia: Queensland University of Technology.

Huang, R., & Zhou, Y. (2006). Designing blended learning focused on knowledge category and learning activities. *The handbook of blended learning: global perspectives, Local Designs*, 296-310.

Keskin, S. (2019). Factors affecting students' preferences for online and blended learning: Motivational vs. cognitive. *European Journal of Open, Distance and E-Learning (EURODL)*, *22*(2), 72-86.

Kolovelonis, A., Goudas, M., & Dermitzaki, I. (2011). The effect of different goals and self-recording on self-regulation of learning a motor skill in a physical education setting. *Learning and Instruction*, *21*(3), 355-364.

Lim, C. L., Ab Jalil, H., Ma'rof, A. M., & Saad, W. Z. (2020). Differences in Self-Regulated Learning (SRL) and Online Learning Satisfaction Across Academic Disciplines: A Study of a Private University in Malaysia. *Int. J of Learning and Teaching*, 6(2), 62-67.

Lim, C. P., & Graham, C. R. (2021). *Blended learning for inclusive and quality higher education in Asia*. Springer Singapore. https://doi.org/10.1007/978-981-33-4106-7

Lim, C. P., Wang, T., & Graham, C. (2019). Driving, sustaining and scaling up blended learning practices in higher education institutions: A proposed framework. *Innovation and Education*, *1*(1), 1-12.

López-Pérez, M.V., Pérez-López, M.C., & Ariza, L.R. (2011). Blended learning in higher education: Students' perceptions and their relation to outcomes. *Comput. Educ., 56*, 818-826. https://doi.org/10.1016/j.compedu.2010.10.023

Marino, T.A., (2000). Learning online: a view from both sides. *The National Teaching & Learning Forum*, 9 (4), 4-6.

Martinez-Lopez, R., Yot, C., Tuovila, I., and Perera-RodrÃ-guez, V. H. (2017). Online self-regulated learning questionnaire in a Russian MOOC. *Comput. Hum. Behav.* 75, 966-974. https://doi.org/10.1016/j.chb.2017.06.015

Ning, H. K., & Downing, K. (2012). Influence of student learning experience on academic performance: The mediator and moderator effects of self-regulation and motivation. *British Educational Research Journal*, *38*(2), 219-237.

Panadero, E., & Alonso Tapia, J. (2014). How do students self-regulate?: review of Zimmerman‟ s cyclical model of self-regulated learning. *Anales de psicologia*, 30(2), 450-462. http://dx.doi.org/10.6018/analesps.30.2.167221

Peterson, S. (2011). Self-regulation and online course satisfaction in high school. *Dissertation Abstracts International*, 71(10A) (UMI No. 3466080).

Poon, J. (2012). Use of blended learning to enhance the student learning experience and engagement in property education. *Property Management*, 30(2), 129-156.

Rianto, A. (2020). Blended Learning Application in Higher Education: EFL Learners' Perceptions, Problems, and Suggestions. *Indonesian Journal of English Language Teaching and Applied Linguistics*, *5*(1), 55-68.

Saltan, F. (2017). Blended learning experience of students participating pedagogical formation program: Advantages and limitation of blended education. *International Journal of Higher Education*, *6*(1), 63-73.

Sanchez, C. A., & Khan, S. (2016). Instructor accents in online education and their effect on learning and attitudes. *Journal of Computer Assisted Learning*, *32*(5), 494-502. https://doi.org/10.1111/jcal.12149

Seo, N.S., Woo, S., & Ha, Y.J. (2015). The Effects of Self-directed Learning Ability and Motivation on Learning Satisfaction of Nursing Students in Convergence Blended Learning Environment. *Journal of Digital Convergence, 13*, 11-19. https://doi.org/10.14400/JDC.2015.13.9.11

Snodin, N. S. (2013). The effects of blended learning with a CMS on the development of autonomous learning: A case study of different degrees of autonomy achieved by individual learners. *Computers & Education*, *61*, 209-216.

Stanikzai, M. (2019). Self-regulated learning: an exploratory study (Level and gender difference). *J. Multidiscip.* 4, 76-81. https://doi.org/10.5281/zenodo.259 5252

Straub, D., Boudreau, M. C., & Gefen, D. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information systems*, 13(1), 24.

Ting, K. Y., & Chao, M. S. (2013). The application of self-regulated strategies to blended learning. *English Language Teaching*, *6*(7), 26-32.

Wang, C., Shannon, D.M., & Ross, M. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education, 34*, 302 - 323. https://doi.org/10.1080/01587919.2013.835779

Wang, N., Chen, J., Tai, M., & Zhang, J. (2019). Blended learning for Chinese university EFL learners: learning environment and learner perceptions. *Computer Assisted Language Learning*, 1–27. https://doi.org/10.1080/09588221.2019.1607881

Winters, F. I., Greene, J. A., & Costich, C. M. (2008). Self-regulation of learning within computer-based learning environments: A critical analysis. *Educational Psychology Review*, *20*(4), 429-444.

Zimmerman, B. J. (2000). *Attaining Self-Regulation. Handbook of Self-Regulation, 13–39.* https://doi.org/10.1016/b978-012109890-2/50031-7

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into practice*, *41*(2), 64-70.

Zimmerman, B. J. (2013). From cognitive modeling to self-regulation: A social cognitive career path. *Educational psychologist*, *48*(3), 135-147. Https://doi.org/ 1 0. 1 080/00461 520.2013.7 9467 6

Zumbrunn, S., Tadlock, J., & Roberts, E. D. (2011). Encourage Self-regulated Learning in the Classroom: A Review of the Literature. *Metropolitan Educational Research Consortium (MERC)*, Virginia Commonwealth University. https://doi.org/10.13140/RG.2.1.3358.6084

陈梅芬 [Chen, M.F.].(2017). *大规模在线课程用户体验与学习动机的关系研究 [Research on the relationship between user experience and learning motivation of large-scale online courses]* (博士学位论文，华中师范大学) [Doctoral dissertation, Central China Normal University]. Cnki.net. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CDFDLAST2019&filename=1017269257.nh.

崔秀兰 [Cui, X.L.] (2021). 基于 Moodle 平台的大学英语教学交互设计 [Research on the Online Teaching in Colleaes and Universities]. *数字技术与应用 [Digital Technology & Application]* (11), 208-210. https://doi.org/10.19695/j.cnki.cn12-1369.2021.11.66.

龚旬 & 向灿 [Gong, X., & Xiang, C.] (2022). “3+1”混合式教学改革背景下独立本科院校大学英语口语教学效果研究——基于 FiF 口语训练平台 [Research on the effect of college oral English teaching in independent undergraduate colleges under the background of “3+1” blended teaching reform -- based on FiF oral English training platform]. *海外英语 [Overseas English]* (12), 140-141+154.

蒋艳 & 胡加圣 [Jiang, Y., & Hu, J. S.] (2018).基于 SPOC 的大学英语翻转课堂大规模教学运行机制研究 [A Study on the Large-Scale Instruction Mechanism of SPOC-Based College English Flipped Classroom]. *外语电化教学 [Technology Enhanced Foreign Language Education]* (04), 9-15+29.

凌茜 & 马武林 [Ling, Q., & Ma, W. L.] (2009). 基于 Web2.0 平台的大学英语混合式学习探究 [Research on Blended College English Learning based on Web2.0 Platform]. *电化教育研究 [e-Education Research]*, (06), 107-108.

刘鹏 [Liu, P.] (2019). *大学英语混合学习学生满意度调查研究 [A survey of students' satisfaction with college English blended learning]*. (硕士学位论文，山东师范大学) [Master's thesis, Shandong Normal University]. Cnki.net. https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201902&filename=1019118717.

nh

刘燚 & 张辉蓉 [Liu, Y & Zhang, H. R.] (2020). 高校线上教学调查研究 [Research on the Online Teaching in Colleaes and Universities]. *重庆高教研究 [Chongqing Higher Education Research],* (05), 66-78. https://doi.org/10.15998/j.cnki.issn1673-8012.2020.05.006.

吕晓敏 [Lv, X. M.] (2021). 基于 MOOC 的混合式教学模式在大学英语教学中的实践探索 [Empirical Research on Blended Teaching Mode Based on the Integration of MOOC and Traditional Teaching Method in College English Classes]. *外语电化教学 [Technology Enhanced Foreign Language Education]*, (01), 61-65+10.

马武林 & 张晓鹏 [Ma, W. L., & Zhang, X. P.] (2011). 大学英语混合式学习模式研究与实践 [Research and practice of College English blended learning model]. *外语电化教学 [Technology Enhanced Foreign Language Education]*, 2011(3), 50-57

田媛 & 席玉婷. [Tian, Y., & Xi, Y. T.] (2020). 高校混合课堂教学模式的应用研究[Application Research of Blended Learning in Universities]. *中国大学教学[Chinese university teaching]*, (08),78-86+96.

田媛 & 席玉婷. [Tian, Y., & Xi, Y. T.] (2020). 高校混合课堂教学模式的应用研究[Application Research of Blended Learning in Universities]. *中国大学教学[Chinese university teaching]*, (08),78-86+96.

伊萌萌 & 花拉 [Yi, M. M., & Hua, L.] (2021). 大学英语课程混合式教学模式研究 [Research on the Blended Teaching Mode of College English Course]. *山西财经大学学报[Journal of Shanxi University of Finance and Economics],* (S2), 127-130.

章艳乐 [Zhang, Y. Y.] (2013). 基于 BL 和 CL 理论的大学英语一体化学习模式实验研究[An Experimental Study on an Integrative Learning Approach to College English Teaching Based on BL and CL Theories]. *外语电化教学 [Technology Enhanced Foreign Language Education]*, (05), 16-24.

章艳乐 [Zhang, Y. Y.] (2013). 基于 BL 和 CL 理论的大学英语一体化学习模式实验研究[An Experimental Study on an Integrative Learning Approach to College English Teaching Based on BL and CL Theories]. *外语电化教学 [Technology Enhanced Foreign Language Education]*, (05), 16-24.

赵怡婷, 王君, 谢树真 & 欧阳嘉曼 [Zhao, Y. T., Wang, J., Xie, S. Z., & Ouyang, J. M.] (2017). Sakai 网络教学平台在英语教学中的调查研究及其功能优化——基于 SWOT 分析 [Investigation and function optimization of Sakai network teaching platform in English Teaching -- Based on SWOT analysis]. *英语广场 [English Square],* (10), 99-101. https://doi.org/10.16723/j.cnki.yygc.2017.10.045.

郑静[Zheng, J.] (2018). 国内高校混合式教学现状调查与分析[On Status Quo of Blended Teaching and Learning in Domestic Higher Education]. *黑龙江高教研究[Heilongjiang Researches on Higher Education],* 12, 44-48.