

Exploring Junior High School Students' Online Self-Regulation During the Covid-19 Pandemic in China

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Abstract: This mixed-methods study explored junior high school students' online self-regulation during the covid-19 pandemic in China. Total of 229 students in a junior high school were invited. Data were collected from Online Self-regulated English Learning questionnaire and eight open-ended questions. Firstly, the exploratory factor analysis was conducted to study the factorial structures of learners' online self-regulation. The quantitative results shown that learners' online self-regulation involved five factors: goal setting, environment structuring, task strategies and time management, help seeking and self-evaluation. Secondly, the content analysis of eight open-ended questions was conducted to explore learners' expectations for ideal online English language learning. The qualitative results indicated these five factors of online self-regulation played a critical role in learners' ideal online English language learning. This study provided several implications for language teaching instructors on effective use of technologies. It also offered suggestions for designing more effective online English language courses for supporting learners' online self-regulatory learning.

Keywords: online self-regulation, junior high school students, the Covid-19 Pandemic, mixed-method study

1. Introduction

The global spread of Covid-19 in 2020 has caused suspension of regular teaching of schools around the world. It has caused the situation of "separation of teachers and students", "separation of teachers and schools", "separation of students and schools", and "separation of students and students" in education (Li & Zhang, 2020). In China, Ministry of Education proposed online education to cope with the extreme situations caused by the epidemic. It spawned the rapid popularization of online education in the form of live or on demand (Yu & Wang, 2020). During the covid-19 pandemic, better organized online courses were required for English language instructors and English language learners were put a high demand on self-regulated learning ability. For junior high school students, since their cognitive and metacognitive competences have not been fully developed like adults. Effective self-regulated learning skills were more critical for their online English language learning in such a special period. Thus, it was very urgent and necessary to explore junior high school students' online self-regulation. This study aimed to explore the factorial structures of junior high school students' online self-regulation during the covid-19 pandemic and further explored their expectations for ideal online English language learning, hoping to help teachers and students better deal with the learning dilemma under extreme situations, and provide some implications for English language instructors to design well-developed courses and have a deeper understanding of junior high school students' online self-regulation in special periods such as epidemic prevention and control. This study was guided by the following two research questions:

1. What are the factorial structures of junior high school students' online self-regulation of their English language learning during the covid-19 pandemic?
2. What are students' expectations for their ideal online English language learning?

2. Literature Review

2.1 *Self-regulation*

Self-regulation is a crucial research construct in the educational psychology and second language acquisition (SLA) area (e.g., Rose & Harbon, 2013; Tseng, Chang, & Cheng, 2015; Tseng, Dörnyei, & Schmitt, 2006). It is regarded as a multidimensional and process-oriented research construct (Bown & White, 2010; Dörnyei, 2005; Dörnyei & Ryan, 2015). According to Zimmerman and Kitsantas, self-regulation refers to “processes that learners use to activate and maintain cognitions, emotions, and behaviors to attain personal goals” (Zimmerman & Kitsantas, 2014, p. 145). Previous studies have identified its influences on learners’ learning engagement, learning achievements and their lifelong learning skills (Bai, 2018; Dignath, Büttner, & Langfeldt, 2008; Hromalik & Koszalka, 2018).

2.2 *Online Self-regulation*

The development and application of technologies in education settings drives the transformation of learners’ learning environments (e.g., Chen Hsieh, Huang, & Wu, 2017; Liaw, 2015). It also provided further opportunities for learners to conduct self-regulated learning in online or blended learning environments (Barnard, Lan, To, Paton, & Lai, 2009; Zheng, Liang, Yang, & Tsai, 2016). Barnard et al. designed the Online Self-regulated Learning Questionnaire (OSLQ) to explore learners’ online self-regulation from six dimensions, namely, goal setting, time management, environment structuring, help seeking, task strategies, and self-evaluation (Barnard et al., 2009). Several subsequent studies have explored learners’ self-regulation in online or blended learning environments (e.g., Zheng et al., 2016; Su, Zheng, Liang, & Tsai, 2018). During the covid-19 pandemic, English language learners demanded higher self-regulated learning skills. This study aimed to explore the factorial structures of junior high school students’ online self-regulation during the covid-19 pandemic and further explored their expectations for ideal online English language learning.

3. Research Methods

3.1 *Research Context and Participants*

The study was conducted in an online English class at a junior high school in Hangzhou city of Zhejiang province in China. During the covid-19 pandemic, this school followed the advocacy of Ministry of Education to conduct online education. Total of 229 junior high school students were invited to participate in the study. There were 135 students from third year of junior high school and 35 from second year (124 males, 105 females). They aged from 14 to 15 years old. The majority of them were the children of migrant workers from three relatively underdeveloped provinces, Jiangxi, Anhui and Henan, while just few of them were local registered. They were left-behind children who lived with their grandparents in the early years of primary school or were even entrusted to their relatives or parents’ friends. Therefore, their English language proficiency is at the beginning level. However, schools in Hangzhou city all use the *Go for IT* textbook which requires students to have four-year English language learning experience at least. As a result, it is relatively difficult for those beginning-level students who almost had no English language learning experience in their hometown.

3.2 *Data Collection*

This study employed Online Self-regulated English Learning (OSEL) and eight open-ended questions to explore junior high school students’ online self-regulation during the covid-19 pandemic and probe their ideal online English language learning. The questionnaire was adapted from Online Self-regulated Learning

Questionnaire (OSLQ) developed by Barnard et al. (2009) by changing the statements to more specifically target online English language learners. It was a five-point Likert scale questionnaire and were measured from 1 “do not agree at all” to 5 “strongly agree”. Eight open-ended questions were employed to probe learners’ ideal online English language learning like “During the covid-19 pandemic, when you learned English online, what are your most satisfied learning experiences?” and “What is your ideal online English course?”. Since English is a foreign language for the participants, all the questionnaires items and open-ended questions were translated into Chinese.

3.3 Data Analysis

First of all, exploratory factor analysis was used to test the construct validity of the OSEL questionnaire and explore the factorial structures of junior high school students’ online self-regulation. And then content analysis was used to analyze the open-ended questions and probe these learners’ ideal online English language learning. SPSS 24.0 and NVivo 11.0 were used in data analysis process.

4. Results and Discussion

4.1 Exploratory Factor Analysis of the OSEL Questionnaire

Table 1 showed the exploratory factor analysis results for the OSEL questionnaire. The principal component analysis was utilized as the extraction method, with the rotation method of varimax with Kaiser normalization (Kaiser, 1958). The factor loading of items should preferably larger than 0.4 in the relevant scale and smaller than 0.4 in the non-relevant scale (Stevens, 1996). As a result, 15 items were retained and further grouped into five factors in the final version of the OSEL, with a total of 82.19% of variation explained. First, four factors were maintained in the final OSEL, namely “Goal setting (GS)” ($\alpha = 0.90$, Mean = 3.57, S.D. = 0.80), “Environment structuring (ES)” ($\alpha = 0.90$, Mean = 3.93, S.D. = 0.70), “Help seeking (HS)” ($\alpha = 0.90$, Mean = 3.77, S.D. = 0.79) and “Self-evaluation (SE)” ($\alpha = 0.90$, Mean = 3.60, S.D. = 0.85). Then, the two factors “Task strategies” and “Time management” were combined into one factor as “Task strategies and time management (TSTM)” ($\alpha = 0.84$, Mean = 3.88, S.D. = 0.69). The alpha coefficient of this study was around 0.84-0.90 for each factor (overall alpha = 0.94), indicating satisfactory internal consistency of assessing students’ online self-regulated English learning. The results were consistent with previous studies on learners’ online self-regulation (e.g., Barnard et al., 2009; Zheng et al., 2016).

Table 1. Rotated Factor Loadings and Cronbach’s Alpha Values for The Five Factors of the OSEL

		Factor 3: TSTM	
Factor 1: Goal setting (GS), $\alpha = 0.90$, Mean = 3.57, S.D. = 0.80			
	0.81		
	0.76		
	0.73		
Factor 2: Environment structuring (ES), $\alpha = 0.90$, Mean = 3.93, S.D. = 0.70			
	0.84		
	0.80		
	0.77		
Factor 3: Task strategies and time management (TSTM), $\alpha = 0.84$, Mean = 3.88, S.D. = 0.69		0.78	
		0.78	
		0.73	
		0.59	
Factor 4: Help seeking (HS), $\alpha = 0.90$, Mean = 3.77, S.D. = 0.79			0.82
			0.77
			0.75
Factor 5: Self-evaluation (SE), $\alpha = 0.90$, Mean = 3.60, S.D. = 0.85			0.83
			0.77

4.2 Junior High School Students' Ideal Online English Language Learning

Through content analysis of the open-ended questions, learners' ideal online English language learning were identified. The results shown that five factors of online self-regulation played a critical role in junior high school students' ideal online English language learning during the covid-19 pandemic.

As shown in Table 2, first of all, students emphasized the importance of goal setting in the online English language learning process. They hoped to set performance, homework and learning standards when they learn English online. As Zheng and her colleague's findings (2012), learning goals are the main source of learners' learning motivation. During the covid-19 pandemic, online self-regulated learning would provide learners with more learning requirements and opportunities. As a result, teachers should pay attention to train learners to set long-term language learning goals, and to assist them to set more reasonable learning requirements and homework standards, especially for junior high school students.

Secondly, learning environments structuring had a direct impact on learner' online English language learning. Students hoped that they can learn English in a relatively quiet environment, not been disturbed by the surrounding environments. What's more, during the covid-19 pandemic, online learning was implemented by schools around the country. Learners asserted fast and stable internet connection can be provided, so they could concentrate on studying and improved learning efficiency. When they are learning online, learners also hope they can speak freely on the platform and they can communicate with the teacher and classmates more conveniently. Anderson et al. revealed that learning environment is crucial components of learning system (2017). During the special time, more well-structured learning environments played a more critical role on learners' effective online English language learning.

Thirdly, in the process of online language learning, learners proposed that task strategies and time management were important factors affecting their learning. During online English language learning process, replaying of class recordings provided learners an agency for effective language learning. What's more, since the students all learned English language online at home, their time management ability on and beyond class and self-control ability should be enhanced. Teacher supervision should also be strengthened because junior high school students were less of self-control ability in a certain degree than university students or adults. Learners' effective use of task strategies and time management are critical factors of their language learning (Qiu, Liu, & Xiao, 2008). During the covid-19 pandemic, learners' learning strategies and effective use of time are of great importance to their English language learning.

Fourth, learners proposed that help seeking was one of the critical factors in their ideal online English language learning. During the covid-19 pandemic, when learners had problems, they tended to solve it through watching teaching recordings or searching on the internet. It was consistent with the Vincent et al.' findings (Vincent, Elmar, Silke, Frank, & Raven, 2003). As a result, teachers should provide learners with more useful and well-developed learning materials to enhance learners' effective online English language learning.

Lastly, self-evaluation was of great importance to learners' ideal online English language learning. Learners' role of evaluation and assessment should be fully developed in the new curriculum reform (Sun, 2016). Self-evaluation could help learners identify the gap between themselves and their classmates and understand their own shortcomings, and then help them become independent lifelong learners (Hung, 2019).

As the results of qualitative findings, five factors of online self-regulation played a critical role in junior high school students' expectations for ideal online English language learning. During the covid-19 pandemic, effective online self-regulation might promote learners' language learning achievements. In particular, compared with traditional learning in schools, learners emphasized the importance of quiet environments and fast Internet connection for their language learning. Replaying teaching recordings was also one of the beneficial strategies for them. During the special periods, learners' online self-regulation is a challenge but also an opportunity for language learners. For English language instructors, in-depth understanding of learners' online self-regulation mechanism is an opportunity to further design well-

developed English language courses and provide ideal online English language learning environments for language learners.

Table 2. *Learners' Expectations for Ideal Online English Language Learning*

Categories	Sub-categories	Frequency	Sample statements
Goal setting	Setting performance standards	125	"I could motivate myself to learn and be aware of the gap between my classmates and me."
	Having learning requirements	40	"I learned to make learning plans."
	Setting homework standards	35	"I could consciously complete the homework."
Environment structuring	Fast internet connection	162	"I am always stuck on the internet."
	Quiet environment	110	"I like learning at home, because I could not be disturbed."
	Effective communication	49	"Sometimes the class was silent and not active as previous class in school."
Task strategies and Time management	Replaying class recordings	125	"The class recordings could be replayed. I could take screenshots and take notes after class."
	Managing time	81	"Less time on the way to go to school and more time to study."
	Being good at self-control	78	"Poor self-control led to poor learning achievements."
	Teacher supervision	31	"It was not very effective without a teacher's supervision."
	Using the time after class	26	"If I did not understand or miss something, I could look back again and again."
Help seeking	Watching teaching recordings	74	"When I did not understand something, I repeatedly watched the teaching recordings."
	Searching on the Internet	37	"I learned to surfing the Internet for information."
	Asking teachers and classmates for help	29	"If I did not understand something, I could ask classmates for help."
Self-evaluation	Summarizing learning outcomes	56	"Studying online allowed me to broaden my horizons and improve my grades."
	Identifying shortcomings	27	"I could know my shortcomings according to the notes that my teacher wrote on my homework."

5. Conclusion

This study explored junior high school students' online self-regulation during the covid-19 pandemic in China. The quantitative results shown that learners' online self-regulation involves five factors: goal setting, environment structuring, task strategies and time management, help seeking and self-evaluation. The

qualitative results indicated these five factors played a critical role in learners' ideal online English language learning. This study might provide some implications for language teaching instructors. Firstly, during the special time of covid-19 pandemic, English language teachers should fully consider how to make use of technologies to design effective online English language courses. Secondly, considered the great importance of factors of online self-regulation on learners' online language learning, teachers are advised to better understand students' online self-regulatory mechanisms and provide more timely and appropriate guidance to help them have ideal online English language learning (Kuo, Walker, Schroder, & Belland, 2014).

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