

# *A Survey on the Current Situation of Self-regulated Learning in Online Environment—Taking a Course of Chinese Culture as an Example*

Haihong Li<sup>1,a</sup>, Jingju Deng<sup>1,b</sup>

<sup>1</sup>*School of Foreign Studies, Lingnan Normal University, Zhanjiang, 524048, China*

<sup>a</sup>*lhh\_1@163.com*, <sup>b</sup>*1399253796@qq.com*

**Keywords:** Online learning, self-regulated learning, online education

**Abstract:** In order to find out the current situation of college students' self-regulated learning ability in participating in compulsory online courses arranged by teachers in a certain class, taking a course of Chinese culture as an example, 34 students were surveyed by using the Online Self-Regulated Learning Questionnaire (OSLQ) in six dimensions (goal setting, environment construction, task strategy, time management, seeking help, self-evaluation). Through descriptive analysis of the data by SPSS, the research found that current college students are good at setting goals and environment structuring, but relatively weak in time management.

## 1. Introduction

Thanks to the rapid advancement of Internet technology and its extensive application in the field of education, online education has gradually emerged as an important means for individuals to acquire knowledge, skills, and broaden their horizons in the digital era. In the era of information explosion, online learning not only offers individuals abundant learning resources but also transcends geographical limitations, temporal constraints, and spatial boundaries, thereby facilitating more convenient dissemination of knowledge.

It is important to thoroughly investigate the current state of college students' self-regulated learning abilities in online environments, particularly within the college student population. By conducting an in-depth analysis of this issue, we can offer valuable learning advice to enhance their efficiency and provide a useful reference for educational institutions and authorities to better cultivate self-regulated learning abilities among college students, thereby enhancing the quality of online education.

## 2. The Definition of Self-regulated Learning

Self-regulated learning (SRL) is a model of learning that requires individuals to actively participate, self-monitor, and self-adjust in the learning process to achieve learning goals. Self-regulated learning is a complex cognitive and meta-cognitive process involving setting learning goals, developing learning plans, evaluating learning outcomes, and adjusting learning strategies.[1]

Self-regulated learning refers to the ability of learners to actively set goals, make plans, monitor

progress, evaluate results, and adjust learning strategies and methods according to the actual situation in the learning process. In this process, Zimmerman emphasizes that the individual choice and control of the learner is considered to be a decisive factor. If the learner can choose and adjust in the six dimensions of motivation, method, time, behavior, environment and society, then he is a high-level self-regulated learner.[2]

Based on previous studies, Lucy Barnard et al. (2009) conducted an in-depth study on the characteristics of self-regulated learning and its correlation with learning outcomes in network and blended learning environments. Through empirical research, they found that network self-regulated learning mainly includes six dimensions: environment construction, goal setting, time management, seeking help, task strategy and self-evaluation.[3] Based on these dimensions, they developed a tool called the Online Self-regulated Learning Questionnaire (OSLQ), which is designed to assess learners' self-regulated learning ability. Subsequently, Lucy Barnard et al. (2009) revised, validated and applied the scale in detail in the network and blended learning environment, and the results showed that the OSLQ was efficient and reliable, and could accurately measure learners' self-regulated learning ability.[3]

### 3. Research Methodology

#### 3.1. Participants

There are 34 students enrolled in a course of Chinese Culture. After outlier processing, 4 samples were eliminated, and the remaining 30 samples were taken as valid samples. The course comes from the Wisdom Tree, which is an online platform for teaching and learning. The participants were sophomores majoring in Business English.

#### 3.2. Instrument

This research used OSLQ to investigate learners' online self-regulated learning ability. OSLQ contains 24 items. It uses Likert Scale to measure learners' self-regulation in the online learning environment from six dimensions: goal setting, environment structuring, task strategies, time management, help seeking and self-evaluation. Measured by the 5-point Likert-type scoring, with scores ranging from strongly disagree (1) to "strongly agree "(5), we can find that the higher the score, the higher the level of students' online self-regulated learning.

#### 3.3. Data Collection and Processing

Table 1: Cronbach's  $\alpha$  of each dimension

Subscale	$\alpha$
Goal Setting	0.884
Environment Structuring	0.785
Task Strategies	0.787
Time Management	0.691
Help Seeking	0.845
Self Evaluation	0.883
Overall	0.945

Using SOJUMP to form a questionnaire, the survey time was from 23 to 30, October, 2023, and 30 valid samples were finally recovered. Using SPAAPRO for data analysis, Cronbach's  $\alpha$  coefficient was used to characterize the reliability of the scale (Table 1). The overall internal

consistency of scores with  $\alpha=0.945$ , it indicates high reliability. A score of 0.70 or more is generally considered acceptable. When examining the internal consistency of the scores of each subscale, the Cronbach's  $\alpha$  ranged from 0.691 to 0.884, indicating that the scores of each subscale had sufficient reliability. The construct validity of the questionnaire is suitable.

### 3.4. Results

Table 2: Self-regulated learning and its six dimensions of descriptive statistic

Dimension	M	SD	Max	Min	Level (f%)					
					Low		Medium		High	
Goal Setting(GS)	16.2	2.497	20	12	5	14.71	18	52.94	7	20.59
Environment Structuring(ES)	15.133	1.717	18	12	6	17.65	19	55.88	5	14.71
Task Strategies(TS)	12.167	2.245	16	9	5	14.71	19	55.99	6	17.65
Time Management(TM)	9.667	1.539	12	7	7	20.59	18	52.94	5	14.71
Help Seeking (HS)	13.233	2.063	17	8	5	14.71	20	58.82	5	14.71
Self-Evaluation (SE)	12.567	2.063	16	9	5	14.71	19	55.88	6	17.65
Overall	78.967	9.364	98	64	3	8.82	22	64.71	5	14.71

In order to gain an in-depth understanding of the current level of students' online self-regulated learning ability in various dimensions, this study has conducted a detailed descriptive analysis of the data (Table 2). The analysis mainly focuses on the total score and the maximum, minimum, average and standard deviation of each dimension. Furthermore, according to the average score and standard deviation of the total score and scores of each dimension, the data are divided into three groups, which represent three levels. At the same time, we also have a detailed analysis of the number of people in each group and their percentage of the total number of people. Through this grouping analysis, we can clearly see the distribution of students' online self-regulated learning ability in various dimensions, and the proportion of students with different ability levels.

In Table 1: In each dimension of self-regulated learning, students' scores show a significant distribution pattern of high middle and low two sides, reflecting that most students' abilities are mainly concentrated in the medium level. The experimental scale is composed of 24 questions, each question is full of 5 points, thus determining the maximum total score of 120 points. The highest score is 98, the lowest score is 64, and the average score is 78.967, indicating that the self-regulated ability of students as a whole is in the medium and high range.

Students have the highest average score in "goal setting", reaching 16.2 points, followed by environment structuring, which scored 15.133 points. The average score for "time management" was the lowest, at 9.667. The average scores of the remaining dimensions were: help seeking (13.233), self-evaluation (12.567), and task strategy (12.167).

Further, 20.59% of the students showed a high level of goal setting, while 52.94% of the students were at an intermediate level. In the dimension of environmental management, 14.71% of the students showed a high level, 55.88% of the students were in the middle level. Although the average score of these two dimensions is relatively high, the proportion of high-level students is not high, which suggests that we need to pay more attention to how to improve students' high-level performance in future teaching.

To sum up, the distribution of students' self-regulated learning ability revealed in Table 1 shows most students' ability is concentrated in the medium level, while there is still room for improvement in high level performance. Therefore, we need to develop effective teaching strategies according to the specific situation of students to help them improve their ability to self-regulate learning.

## 4. Discussion

### 4.1. Goal Setting and Environment Structuring

In the research, both goal setting and environment construction dimensions show a high level, which deeply reflects their positive attitude and clear goals towards online course learning. Goal setting refers to the clear and achievable learning objectives set by students for themselves; Environmental construction also involves an external environment constructed by students that is beneficial to their learning process. Goal setting is crucial for any form of learning. When conducting online learning, students need to clearly set their learning goals in order to carry out learning in a targeted manner.

The data shows that the majority of students are able to set clear goals for their online course learning. This not only helps them better grasp the knowledge points, but also improves learning efficiency, enabling them to achieve better learning outcomes within a limited time. In addition, students also have high expectations for the quality of online learning, and they expect to achieve learning outcomes comparable to or even better than traditional classrooms through online learning. This pursuit of high quality makes them pay more attention to the application of learning strategies and the improvement of self-management abilities. In terms of environmental construction, students have also demonstrated strong abilities. They understand how to create a suitable environment for themselves to engage in online learning. A high-quality learning environment helps students better concentrate and improve learning efficiency.

The high levels of goal setting and environmental construction in students' online self-regulated learning ability may be related to the following factors. Firstly, modern educational concepts emphasize the subjectivity and autonomy of students, encouraging them to independently set learning goals and build a learning environment. This concept has been fully reflected in online learning, enabling students to fully utilize their self-regulated learning abilities. Secondly, with the development of online learning platforms and technologies, students have gained more opportunities and tools for self-directed learning. These platforms and tools facilitate students to access learning resources, and help them set goals and build environments. Finally, students' self-awareness and self-management abilities are also constantly improved. They are more clear about their learning goals and understand how to create a conducive learning environment.

### 4.2. Analysis for Students' Poor Performance in Time Management

Compared with the traditional courses with fixed class time arrangements, online courses obviously have stronger flexibility in terms of time. For this reason, few students are more casual about the learning time of online courses. Few students who participate in the Chinese Culture arrange time for this course every day or every week. The course "Chinese Culture" is arranged in a unified way, and may not be chosen by the students themselves, so they are not enthusiastic about the time arrangement.

When discussing the performance of students in the dimension of time management, we have to face a common and serious problem: the challenge of self-discipline in online course learning. Compared with the courses with fixed class time arrangement under the traditional mode, online courses undoubtedly occupy an absolute advantage in the flexibility of time. This flexibility provides more time and space for students to study independently, but at the same time, it also increases the difficulty of time management for those who lack of self-discipline.

In the online learning environment, students often lack the fixed learning rhythm and group learning atmosphere of traditional classes. Students' difficulties in time management may not only come from the lack of self-discipline. In the fast-paced, high-stressed modern society, students face

multiple challenges such as heavy academic pressure, social needs and personal interests. Therefore, when they arrange their learning time, they are often easily affected by various external factors, which leads to unreasonable or random learning time arrangement. This situation is particularly evident in the students who enroll in the course of Chinese Culture.

Richard (2004) clearly pointed out in his research that those students who can manage their time well are more likely to achieve excellent grades in study and performance. The reason for this is not accidental, but has a deep logical basis. Time management not only helps students arrange their study time reasonably, but also shapes their self-discipline virtually. When students are able to deal with the various tasks in learning in an orderly manner, their learning plans and goals can naturally be better executed and achieved.

In this ever-changing and fast-paced era, time management is becoming more and more important. Whether it is in the classroom at school, in the workplace of the future, or even in the trivial matters of our daily lives, we all need to face a multitude of tasks and challenges. Without proper timing and firm self-discipline, it is difficult for us to maintain a clear head and steady pace in the face of these challenges. Therefore, for students, developing good time management skills is not only to improve learning efficiency, but also to better cope with various challenges and opportunities in the future life and work.

## 5. Suggestions

The above research results have important implications for the online education platform, college students' online learning and teachers' information-based teaching in the digital age. Improving students' self-regulated ability in online course learning is a systematic project, which requires the joint efforts of online education platform, course teachers and students in multiple dimensions.

### 5.1. Suggestions for Online Education Platform

With the rapid development of big data and artificial intelligence technology, students' learning data has become rich and diverse, providing sufficient "ingredients" for machine learning. By analyzing this data, the platform can gain insight into each student's learning status, interests, and needs to provide them with a more personalized learning experience.

In order to better meet the learning needs of students, the platform can take a series of measures. First, by collecting student learning data, such as the time spent watching videos, the number and quality of homework completed, and the frequency of interaction, the platform can form a comprehensive portrait of the student's learning status. This data can not only reveal students' study habits, but also predict the difficulties they may encounter. For example, if a student frequently pauses a video or rewatches a certain chapter, the platform can infer that he/she may have difficulty with the knowledge and provide targeted help. This early intervention helps prevent students from getting into learning difficulties, and also increases their motivation and self-confidence.

Second, the platform can use machine learning techniques to identify students' strengths and weaknesses, so that learning content and feedback can be tailored to them. For example, for students who excel in a certain field, the platform can recommend more relevant learning resources to help them further expand their knowledge and skills. For students who have difficulties in some aspects, the platform can provide targeted guidance and exercises to help them overcome difficulties. Support for marginalized students is also an aspect that online course platforms should pay attention to. Marginalized students usually refer to those who are relatively backward in their studies or socially isolated. They may have difficulty integrating into the mainstream learning environment for a variety of reasons and therefore need extra attention and support. The platform can help them better integrate into the learning environment and improve learning results by providing them with

customized learning paths, increasing interaction opportunities, and establishing mutual support groups. In addition, the platform can also help students arrange their study time and plan their next learning activities through machine learning technology. This intelligent time management and planning not only helps students use their time efficiently, but also allows them to take more active control of their learning progress and direction.

In the digital age, the transformation of the learning experience in higher education has become an inevitable trend. Through the use of machine learning technology, the platform can provide students with a more personalized, efficient and interesting learning experience, so that every student can enjoy their own wonderful journey in the online course. This will not only help to improve the learning effect and satisfaction of students, but also inject new vitality and impetus into the development of higher education.

## 5.2. Suggestions for Teachers

Under the more in-depth SRL teaching intervention environment, students showed obvious progress in time management, learning environment adjustment and self-efficacy from the initial assessment to the end of the assessment. In contrast, students in the control group showed no significant changes in these areas. Further analysis showed that the GPA of the students who received the intervention was significantly higher than that of the control group both in the first semester and throughout the first year. This finding provides strong evidence for the positive effects of SRL teaching interventions on students' academic achievement and self-regulation.

Teachers should make full use of the background data of the online course platform. The data includes information on how long students study, how much progress they make, how many interactions they have. Through the analysis of these data, teachers can find the problems that students may encounter in the learning process. Moreover, analyzing background data can provide educators with valuable insights into students' study patterns, including their preferred study times and the courses that resonate most with them.

Secondly, teachers should further understand students' learning by collecting questionnaires. The questionnaire can be designed to be more detailed, including students' understanding of the course content, satisfaction with the online learning environment, self-regulating learning strategies, etc. Through the feedback of the questionnaire, teachers can more directly understand the difficulties and challenges encountered by students in the learning process, as well as their attitudes and strategies towards self-regulated learning.

After identifying the problems faced by students, teachers need to make targeted interventions. For students with low motivation, teachers can try to stimulate their interest in learning by increasing interactive links and designing more attractive course content. For students with learning difficulties, teachers can provide one-on-one tutoring, or design some supportive learning resources to help them. At the same time, teachers can also help students improve the efficiency and quality of online learning by sharing self-regulated learning strategies and methods.

## 5.3. Suggestions for Students

In today's digital age, e-learning has become an integral part of many schools. Compulsory online courses arranged by schools for unified learning, although they may not be as attractive as courses in which an individual has a spontaneous interest in exploring learning, but they play a crucial role in building a student's GPA and measuring learning ability. Therefore, it becomes particularly important to explore the necessary learning styles to ensure the quality of learning.

In order to cope more effectively with these required online courses, students can adopt self-regulated learning strategies. Self-regulated learning includes six dimensions: goal setting,



environment structuring, task strategies, time management, help seeking and self evaluation. Below we will explore these six dimensions in detail and discuss how to apply them in an e-learning environment.

The first is goal setting. Before taking any course, it is crucial to set clear learning goals. These goals should be specific, measurable, attainable, relevant, and timely (SMART). For example, in preparing for an online history class, students may aim to grasp the major events and people of a certain period, or to understand the meaning and impact of a certain historical concept.

The second is environment structuring. Online learning needs a good learning environment, which includes physical environment and psychological environment. The physical environment should be quiet and clean to reduce distractions; The psychological environment should remain positive and focused, which can be achieved by making study plans and setting reward mechanisms.

Next is task strategies. Students need to develop effective learning strategies to complete the learning tasks of online courses. This may include pre-reading, taking notes, doing exercises, participating in online discussions, etc. For example, when listening to online lessons, students can adopt active learning strategies, such as asking questions and participating in discussions, in order to deepen their understanding of knowledge.

The fourth is time management. Online learning often requires students to arrange their own study time. Therefore, students need to learn to manage their time effectively to ensure that they can complete their study tasks on time. This can be done by setting a schedule, setting priorities, and avoiding procrastination.

The fifth is help seeking. In the process of learning, students may encounter difficulties and problems. At this point, they should learn to ask for help. This can include asking a teacher, a classmate, or finding resources to solve a problem. Finally, help seeking. Self-assessment in the learning process is very important. This helps students understand their own learning, identify problems in time and make improvements. Self-assessment can be achieved by doing self-reflection, self-testing, self-evaluation and other ways.

At the same time, we cannot ignore the importance of interest-driven learning, to complete the required courses at the same time, actively develop their own interests. Only in this way can we continue to move forward on the road of learning and become well-developed talents.

## Acknowledgement

This research is supported by Department of Education of Guangdong Province (Project No. Yue 2023GXJK367).

## References

- [1] Zimmerman B J. A social cognitive view of self-regulated academic learning [J]. *Journal of Educational Psychology*, 1989, 81(3): 329-339. DOI: 10.1037/0022-0663.81.3.329.
- [2] Zimmerman B J. Dimensions of Academic Self-regulation: a conceptual framework for education [J]. *Self-regulation of Learning and Performance Issues and Educational Applications*, 1994, 3-21. DOI: <http://dx.doi.org/>.
- [3] Barnard L, Lan W Y, To Y M, et al. Measuring self-regulation in online and blended learning environments [J]. *The internet and higher education*, 2009, 12(1): 1-6.