THE ADOPTION OF ONLINE SELF-REGULATED LEARNING IN EDUCATION MANAGEMENT IN YULIN, CHINA

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Abstract

The rapid development of the Internet has changed people's lifestyles.People's lives are increasingly dependent on the Internet, especially affecting the reform of education. With the development of information technology in China and the development of 5G technology, online education has more opportunities. Lightweight, fragmented, and structured knowledge is more suitable for mobile learning. The traditional classroom teaching is full of loopholes, reflected in the teachers' backward teaching methods as well as students' passive learning motivation.So, the new way of online self-regulatedlearning is gradually recognized and promoted by higher institutions.Online self-regulated learning has become one of the mainstream learning methods. This study explores the factors that affecting the adoption of online self-regulated learning among higher learning institutions.The purpose is to enhance the online learning enthusiasm of university students and to promote the adoption of online self-regulated learning among higher learning institutions in China.

Keyword: Adoption of Self-Regulated Learning, E-LearningPlatform, Teachers' Factors, Students' Factors

1. Introduction

With the development of information technology in China and the development of 5G technology, online education has more opportunities. Lightweight, fragmented, and structured knowledge is more suitable for mobile learning. With the progress of speech recognition, cloud storage, big data, and other technologies, which have been able to create good teaching scenarios to improve the quality of students' learning to the greatest extent possible to let teachers and students break through the time and space to constraints to achieve real-time interaction, which can expand the scope of teaching coverage. Teaching effect have been recognized by the market, favored by major educational platforms and users. The combination of open online courses and social networking sites greatly enlarges the scope of online courses, maximizes the use of educational resources, and disseminates excellent educational resources to areas where basic education is scarce. The development of

modern education increasingly emphasizes online self-regulated learning. Zhang (2021) pointed out that under the network environment, the amount of information is growing exponentially, and traditional Chinese classroom education cannot achieve comprehensive knowledge education, which requires universitystudents to adopt the online self-regulated learning. University students adopt the online self-regulated learning, not only getting rid of the shackles of the traditional education mode, but also creating a new learning path with the current social trend and the needs of the times.

1.1 Internet Penetration in China

On February 2021, the China Internet Information Center released *the 47th China Internet Development Statistics Report (China Internet Information Center (CNNIC)*. According to the report, with the advancement of the digitization process and the development of digital economy, the application scenario of internet is expanding. According to the figure 1.1, by December 2020, the number of Internet users in China had reached 986 million. Compared with March 2020, which is improve a lot. And the scale of mobile internet users has reached 99.7%.
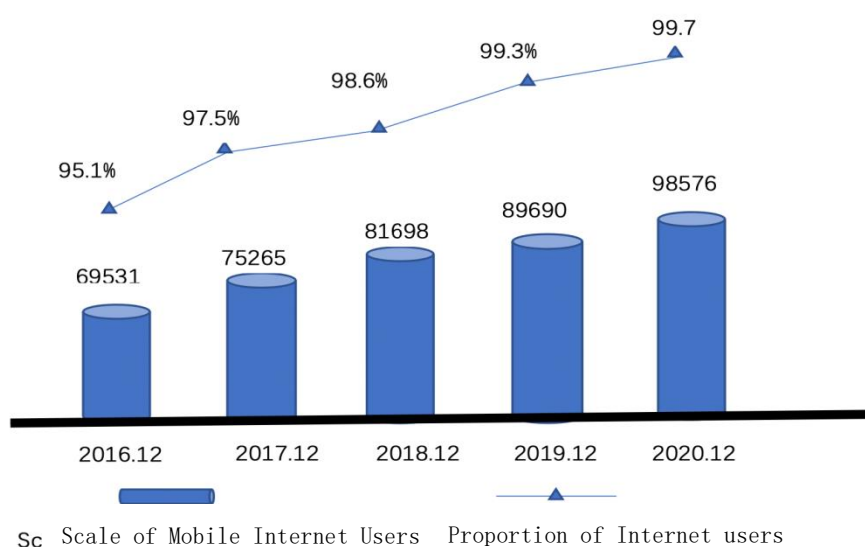

Figure 1 Scale of Mobile Internet Users and Proportion of Internet users
Source: China Internet Information Center (CNNIC) 2021.2

To better support educational modernization and advance educational equity, educational informatization has advanced to the stage of integration and innovation.According to Yang (2019), online instruction allows for greater freedom in how students use their time than traditional classroom instruction, allowing students to take an active role in their own learning and develop their own initiative.   With students as the center of attention and enhancing teaching effectiveness as the end objective, teaching reform has been a recurring issue in education in recent years. Numerous opportunities for teaching reform in China are presented by the growth of network technology in the new era. Zhang (2021) focused on encouraging universities to develop educational information technology systems and on promoting the co-creation and sharing of high-quality educational

resources. Zhang also stressed the promotion of the deep integration of information technology and higher education.

1.2 The Investigation of the Current Usage of LMS in China.

The new social trend in this Internet era is dominated by the network as a symbol of education informatization and education. Additionally, the LMS has grown to be a significant asset in the reform of Chinese universities (Yan, 2018). LMS took a while to gain traction and develop in Chinese universities at first (Chen et al., 2019). Under these conditions, universities have increased their investments in information construction and actively pushed for the adoption of learning management systems, which offer more convenient services for teaching and learning, as the state vigorously encourages the construction of information support platforms for open universities (Yan, 2018). As a result, LMS usage is growing in Chinese universities.

More than 60% of universities currently use LMS to assist lecturers with their teaching (Hao et al., 2017). For instance, Tsinghua Education Online, Sky Classroom Online Classroom, and Excellence Course Center are examples of online teaching platforms available in China. Universities are promoting the use of LMS more and more (Xu & Lu, 2018). Many universities are dedicated to independently developing and enhancing LMS considering the ongoing development of information technology, to continuously reform and enhance university course materials and practices and considering the experience of the entire university user base. For instance, the Engineering Center of Huazhong Normal University developed Huashi Yun Classroom, a learning management system platform that can be used equally by all users of the university (Wang, 2019). In addition, Guangxi University for Nationalities' LMS, dubbed Blue Dove, has improved university teaching (Yu, 2019).

1.3 Problem of Statement

Chinese education still needs to deal with this reality of course: a vast population but insufficient talent pool, particularly a shortage of creative talent, with the traditional teaching model of basic education serving as one of the primary causes. For students' self-regulated learning, the e-learning platform offers a variety of learning platforms. Courses for students' self-regulated learning now include a wider range of topics and have more categories to choose from. Because of the network, students can better manage their time during self-regulated learning and use their fragmented learning time (Chen, 2018). Online learning subverts the conventional teaching approach, encouraging students' enthusiasm in learning and maximizing the educational impact. Students can learn independently and collaboratively in a classroom setting.

The first issue is with higher education institutions' e-learning platforms. Many universities offer very comprehensive learning tools for students to use, although this is rarely done.

The second issue relates to issues that affect academics. Some lecturers are not ready or prepared for the transition to teaching students online. They lack a background in network technology education. resulting in the negative attitude lecturers have against accessing the Internet.

The third issue relates to student-related concerns. Due to a lack of self-control, learning objectives, and learning methodologies, many students find it difficult to learn online in a self-regulated manner.

2   Purpose

This study's overarching goal is to investigate the variables influencing the acceptance of online self-regulated learning, which can support its long-term growth in China. The following are the precise goals:

to investigate how e-learning platforms directly affect the uptake of self-regulated learning online.

to investigate how teachers' variables directly affect the adoption of online self-regulated learning.

to investigate the effects of student characteristics on the uptake of self-regulated learning online.

3   Literature Review
3.1 Theoretical Foundation

This theoretical review investigates the elements that influence the growth of online self-regulated learning among university students from a variety of theoretical viewpoints. The theories listed below provide a strong theoretical framework for this paper's study.

(a) Technology Adoption Theory

The study of the technology adoption hypothesis is primarily concerned with how users accept new technologies. Numerous studies on technology adoption at the individual level have produced impressive findings. Social psychology and organizationalbehaviors are the fundamental theories. From the standpoint of the recipient, it explores how individual ideas and attitudes influence each person's use intention and use behaviors (Wang et al., 2010; Huang, 2015). American academics Fishbein and Ajzen together proposed the Theory of Reasoned Action (TRA). The individual behavioral intention is measured via TRA. It is made up of two basic components: subjective norm and behavioral attitude. The most crucial aspect in determining conduct is behavior intention, which is determined by subjective norm and behavior attitude together.Ajzen (1985) It is emphasized that the term "willpower control" describes the extent to which a particular conduct is carried out under the influence of personal willpower. While certain behaviors can only be partially controlled by willpower, others are additionally influenced by other factors in addition to willpower.

To improve the model and enlarge the research area, Fishbein and Ajzen (1980, 1985) presented Theory of Planned Behavior (TPB) based on TRA. TPB is a development of TRA. According to the theory, behavioral intention is influenced by the management of observed conduct in addition to being dictated by subjective standards and attitudes. One of the aspects that affects behavior intention is the control of perceived behaviors. Although TRA and TPB models have had some success in predicting both intention and behavior, they also have significant drawbacks: the idea of belief components in principle is nebulous; technology adoption research requires that it be defined beforehand; and the implementation is laborious (Huang, 2015).

Due to the limitations of TRA and TPB, Davis established the Technology Acceptance Model (TAM) in 1989 to examine the factors and the relationships between them and to explain users' behaviors in information technology or information systems. Users' use of this paradigm is constrained in some ways throughout its practical deployment. The contrast between perceived utility and perceived ease of use is not very clear in the technology adoption model (TAM) (Zhang, 2016). Then TAM2 and TAM3 models were proposed by Venkatesh & Davis (2000, 2018). These two models have in-depth investigation of the distinctive distinctions of research factors when compared to the TAM model.

Additionally, Everett M. Rogers examined numerous elements that affected innovation dissemination in 1962 and recommended DOI (Diffusion of Innovation). According to Rogers, acceptance is positively impacted by comparative advantage, compatibility, testability, and observability while negatively impacted by complexity in general (Huang, 2015). Despite its clear benefits, it is believed that DOI still suffers from this theory's drawbacks and is not sufficiently comprehensive (Tomatzky & Fleischer, 1990).

The Unified Theory of Adoption and Use of Technology (UTAUT) was presented by Venkatesh et al. (2003) for the study of users' acceptance of information technology. UTAUT is a behavior model that explains how people or organizations behave when they use it. TRA, TAM, CTAM-TPB (Combined TAM and TPB), DOI, and SCT are all combined under UTAUT (Social Cognitive Theory). According to Venkatesh and Davis, the UTAUT model's goal is to give managers a full complement of evaluation tools. Su (2014) thinks that managers can utilize UTAUT to forecast and analyze consumer acceptance of new products as well as measure the introduction of new products. The empirical findings demonstrate that UTAUT has an explanatory power of up to 70% for use behavior, which is superior to any theoretical model.

(b) Social Cognition Theory

According to social cognition theory, individual, behavioral, and contextual interactions influence how pupils learn on their own. The theory holds that self-regulated learning is basically a process where pupils modify and regulate their learning based on the expected learning behaviors. The plan and the reality of learning behaviors are compared and evaluated. This theory places a high value on how students' social cognition and communication skills contribute to the development of self-regulated learning (Bandura, 1988). According to the social cognition hypothesis, students acquire information by using the required learning resources and the assistance of others (such as teachers and learning partners) in a particular situation. That is background culture. Zimmerman (1989) divided the components affecting self-regulated learning into three categories: personal, environmental, and behavioral. Self-efficacy, declarativeness, metacognitive planning, monitoring, and goal setting are examples of personal factors. Material environment and social environment are examples of environmental variables. Self-observation, self-judgment, and self-response are examples of behavioral elements.

(c) Constructivism Learning

According to Poonam (2017), the constructivist theory of learning views the learner as an active participant in the process of acquiring knowledge. The historical foundations of constructivism in learning can be found in the works of Dewey (1929), Bruner (1961), Vygotsky (1962), and Piaget (1980). Constructivist theory has several implications for instructional designers, with Bednar, Cunningham, Duffy, and Perry (1992) and von Glasersfeld (1995) highlighting the importance of emphasizing the knowledge construction process in learning outcomes and the need for learning goals to be derived from real-world tasks with clear objectives. According to Bereiter (1994), constructivism stresses how humans learn about the world via experience, and the theory instructs students to base their learning on observation and empirical inquiry. The four components listed below make up the learning environment, according to constructivism learning theory: "Situation" refers to the learning environment of the learner, which aids in the construction of the meaning of the learning content; "cooperation" occurs throughout the entire learning process; and "conversation" refers to the interactive dialogue in which each learner participates. The outcomes of thinking are shared by all learners, and "meaning construction" is the culmination of the entire learning process, aiming to provide learners a comprehensive understanding of the world around them.

Teachers do not convey knowledge. The focus should be on the students. Students should actively investigate and learn new things. Teachers act as students' thinking-shaping guides and advocates. According to Ren (2020), instructors merely serve as mentors and support personnel. Allowing pupils to take the initiative to learn is crucial. Most knowledge creators and practitioners are students. The philosophy of constructivism emphasizes the significance of knowledge creation. Teachers should help students become more capable of managing their own learning as mentors.

3.2 Factors Affecting Online Self-Regulated Learning

3.2.1   E-learning Platform

University students' access to information is limited, and their capacity to get it is rather weak, claim Wu & Song (2019). Students' trust and initiative will decline if information is gathered over an extended period. The development of an e-learning platform can effectively address this issue. According to Chen (2018), the creation of a "virtual" learning platform gives students access to a new physical learning environment. The benefit of creating an e-learning platform is becoming more and more obvious in contemporary education, particularly for universities. According to Cai (2021), university students actively seek out different learning resources with the use of an e-learning platform while they are really learning, which can greatly improve their ability to learn and increase the effectiveness of resource acquisition. Universities can enhance the effectiveness of university students' online self-regulated learning and build some targeted new resources according to learners' needs. Universities can also add some network links to enable students to learn useful resources like nationally excellent courses on the university's e-learning platform (Zhang et al., 2020). According to Wang & Wen (2020), the university should actively promote the opening and sharing of top-notch curriculum resources while enhancing the effectiveness of the e-learning platform. According to this survey, having rich online learning resources is the most crucial component in creating an E-learning

platform. Second, universities need to focus on enhancing network infrastructure and keeping an eye on the network platform.

3.2.2   Teachers' factors

According to Chen (2018), the traditional passive teaching style in Chinese universities results in a widespread lack of innovation potential among students. Students' learning autonomy is reduced by traditional teaching methods. The pupils' capacity for self-regulated learning has lately emerged as a crucial internal element of academic achievement. It's important to pay attention to how students' capacity for self-regulated learning is developing. Wu (2020) asserts that teachers should make clear their duties and obligations and grant students more freedom in the classroom to serve as a model for students' lives. Teachers should also act as good mentors for their students. Effective teaching activities and self-regulated learning activities go hand in hand. Teachers should adhere to the "first organizer" approach while instructing, guide course learning, assist learners in determining the value of learning materials, and improve supervision and management of learners during the process of online self-regulated learning (Chen ,2020). In this process, teachers play a supporting role. They serve as advisors, motivators, and aids to students' learning, encouraging, or nagging them to identify issues. Additionally, classroom instruction places more emphasis on developing students' capacity for independent study, communication, and problem-solving (Ma et al., 2021).

Higher standards are set for teachers when it comes to online learning. Political and ideological academics need to maintain with the times, actively widen their knowledge bases, change their knowledge structures, improve their teaching process, and actively engage in social reform activities through their teaching philosophies and professional competence. the ongoing development of political virtue and moral instruction to address the significant changes in the external environment. According to Wu (2020), in the context of "Internet +," teachers must be adept at utilizing the Internet and other front-end technology to reform teaching, drive the advancement of education and teaching with high technology, develop new ideas and methods in reform activities, improve teaching models, and be skilled at utilizing a variety of cyber sources to enrich teaching materials and ensure teaching quality. According to Cheng (2020), some teachers struggle with using the Internet, which prevents many excellent network resources from being fully utilized in the classroom. This has an impact on how students think and use network resources, which is detrimental to the development of their all-around skills. Considering that network resources to some extent ensure and provide significant support for the interaction between students and English teachers. Therefore, it is impossible to overlook the influence of teacher factors on online self-regulated learning. Students' interest for online self-regulated learning will be influenced by teachers' direction, teaching competence, and network application ability.

3.2.3   Students' factors

Many university students struggle with self-regulated learning because they lack the necessary learning strategies, their education is not focused, and some may have no idea what learning

strategies are or how to use them. Many pupils do not consistently apply their strategies. Ren (2020) thinks that while the new Internet technology gives university students a platform to fully express their enthusiasm, initiative, and creativity in online self-regulated learning, it also presents new challenges for them to increase their awareness of and proficiency in self-regulated learning. University students' passion for studying will be reduced, and the impact of online self-regulated learning will be significantly diminished, if they don't have the necessary online self-regulated learning skills.

College students are susceptible to the temptation and allure of external goods because of the quick social growth; as a result, they spend more time and have less time for learning. According to Ding (2018), networks are a double-edged sword that simultaneously offers individuals excellent convenience and complex material. While some content is constructive and forward-thinking, which is good for learning, there are also some negative websites that abuse the network to spread false information. According to Wang et al. (2020), many students struggle with self-control when engaging in self-regulated learning online and are susceptible to outside influences such games, mobile apps, and interruptions from family members. Online game addiction is unavoidable for certain pupils who have trouble controlling themselves. According to Niu (2021), online learning puts certain demands on a student's capacity for self-management and independent learning. Additionally, a lack of discipline will lessen the benefits of online learning. Students must increase their own motivation for online learning and develop their capacity for autonomous learning to engage in online self-regulated learning. Establish learning objectives, create effective learning tactics, and exercise strong self-control to avoid being distracted from the learning process. This will produce twice the outcome with only half the work.

4   Methods

The quantitative research method and the qualitative research method are the two basic types of research methodology. This paper incorporates a quantitative research methodology. The ability to make statistical predictions is a benefit of quantitative research. Researchers can develop descriptive quantities and predictions using statistical tests on data (Quantitative research, n.d.). In this study, a model framework is created by reading a lot of literature using quantitative research techniques.

On websites like Google, Baidu Encyclopedia, China National Knowledge Internet (CNKI), China Academic Journals Network Publishing Database, Wan Fang Database, and Wikipedia, relevant material on the growth of online self-regulated learning is searched for using keywords. This study develops its own point of view through extensive reading of the literature and using the findings of other studies as a foundation.

4.1 conceptual framework

From a survey of the literature, theoretical justification, and empirical justification, this research has produced one conceptual framework. A dependent variable, a few independent variables, and one mediating variable are present. Following is the conceptual framework:
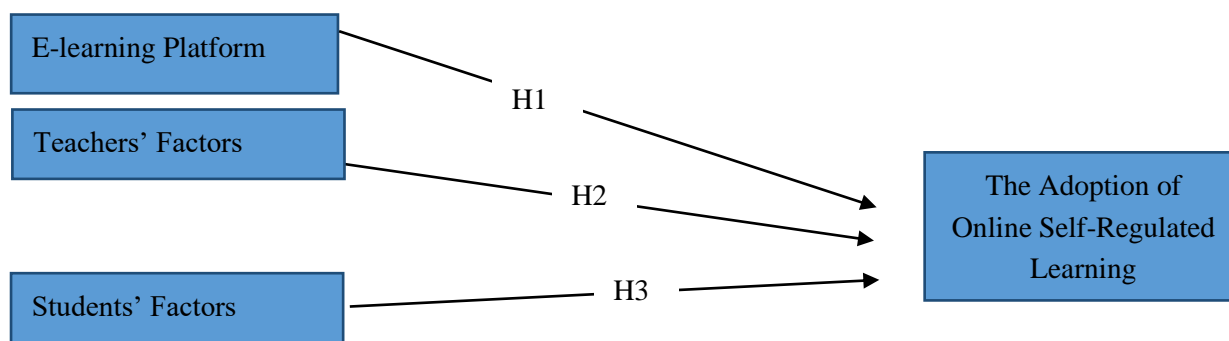
| E-learning Platform |
| Teachers' Factors |
| Students' Factors |

H1

H2

H3

The Adoption of Online Self-Regulated Learning

Figure 2 Conceptual Framework

4.2 Hypothesis

H1: There is an association between e-learning platform and the adoption of online self-regulated learning.

H2: There is an association between teachers' factors and the adoption of online self-regulated learning.

H3: There is an association between students' factors and the adoption of online self-regulated learning.

5   Discussion

5.1 Demographic Information of the Pilot Study

In these 50 samples, as shown in the table1, about gender including male 26, female 24. About education level including degree 25 and diploma 25.

Table 1 Gender& Education Level

Gender	Frequency	Percent
Male	24	48%
Female	26	52%
Education Level		
Degree	25	50%
diploma	25	50%

5.2 Reliability Statistics

As shown in Table 2, these four variables are B (the Adoption of online self-regulated learning), E (E-learning Platform), T (Teachers' factors) and S (Students' factors).According to Sekaran & Bougie (2016), the reliability of questionnaire is above 0.7, that means the reliability of questionnaire is accepted, the questionnaire is reliable.

Table 2   Reliability

Variable	Items	Cronbach's Alpha
B (the Adoption of online self-regulated learning)	6	0.854
E (E-learning Platform)	13	0.783
T (Teachers' factors)	12	0.724
S (Students' factors)	12	0.703
OVERALL	43	0.73

5.3 Correlations

As can be seen in Table 3, B and S have a positive correlation with a Pearson correlation coefficient of 0.349, which is greater than 0.3 and a P value of 0.05. However, neither the Pearson correlation coefficient of B and T nor the Pearson correlation coefficient of B and E is greater than 0.3, P>0.05, indicating that there is only a weak correlation between B and T and B and E and that the E-learning platform and the factors affecting the teachers have little impact on the adoption of online self-regulated learning. Therefore, E and T were not included in the subsequent study.

Table 3 Correlations

		B	E	T	S
B	Pearson Correlation	1	-0.092	0.154	.349*
	Sig. (2-tailed)		0.523	0.287	0.013
E	Pearson Correlation	-0.092	1	-0.199	-.361**
	Sig. (2-tailed)	0.523		0.166	0.010
T	Pearson Correlation	0.154	-0.199	1	.577**
	Sig. (2-tailed)	0.287	0.166		0.000
S	Pearson Correlation	.349*	-.361**	.577**	1
	Sig. (2-tailed)	0.013	0.010	0.000	

*. Correlation is significant at the 0.05 level (2-tailed).

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

5.4 Regression Analysis

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.349ᵃ	0.122	0.103	0.837

a. Predictors: (Constant), S

Table 5 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF

	B	Std. Error	Beta				
1 (Constant)	1.314	0.717			1.833	0.000	
S	0.553	0.214	0.349		2.578	0.013	1.000

a. Dependent Variable: B

According to Table 4, the value of R square is 0.349, which means 34.9% of the variation in the adoption of online self-regulated learning can be explained by the remaining independent variable(S). As shown in Table 5, the p value for the implementation of Students'factors(S) is less than 0.05(p<0.05), which is a significant factor that are affecting the adoption of online self-regulated learning. The values of the Variance Inflation Factor (VIF) values are less than 5; thus, there isno necessary to think about multicollinearity. It can be said the equation: B =1.314+0.553(S).

5.5 Hypothesis Testing

Table 6 The results of Hypothesis Testing

Hypothesis	conclusion
H1: There is an association between e-learning platform and the adoption of online self-regulated learning.	rejected
H2: There is an association between teachers' factors and the adoption of online self-regulated learning.	rejected
H3: There is an association between students' factors and the adoption of online self-regulated learning.	accepted

Table 6 shows that the third hypothesis (H3) is accepted while the first and second hypotheses (H1, H2) are rejected. Although earlier studies have demonstrated the impact of teachers' variables on online self-regulated learning, the empirical research shows that teachers' factors are not determining factors at Yulin University. There are some issues at Yulin University, including the absence of an e-learning platform monitoring system, certain lecturers who are not adept network users, and a poor network use rate. According to Xu (2016), Ye (2018), and Wang, He (2018), lecturers' network application skills are lacking. Some educators continue to believe that the traditional classroom teaching method can effectively motivate and direct students toward learning and that it can only be used to ensure the quality and efficiency of instruction. These educators also claim that teachers pay little attention to the subject matter and improperly supervise their charges. According to Wang & Zhang (2019), many teachers nowadays, particularly those who are not adept at using new educational technology, are unable to adopt a constructive outlook toward learning how to handle the issues that arise in network teaching. According to the study, students and lecturers neglect the significance of teacher variables and the e-learning platform in the process of online self-regulated

learning because lecturers' network application capability is low, and the monitoring of the e-learning platform is not in place.

6   Conclusion

This study concludes that a few factors, including e-learning platforms, teacher factors, and student factors, limit university students' ability to learn independently online.The data analysis demonstrates that parameters related to students and the adoption of online self-regulated learning are related. These are the areas where Yulin University needs to change to encourage the use of online self-regulated learning. Online self-regulated learning reflects modern technological advancements. The most pressing type of educational reform in China now is the focus of this study. Exploring the characteristics that affect online self-regulated learning in conjunction with empirical research might offer some recommendations for the administration of various universities as they take education reform into consideration.

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