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The Influence Factors of Online Self-Regulated Learning Among Students in Yulin Vocational and Technical College.

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Abstract

Over the past century, the Internet has changed the lives of many people. Information can be found through the network in a variety of forms. In China, college students use the internet the most frequently. Furthermore, Chinese colleges are also facing challenges pertaining to self-regulating online education. In this study explored that factors which are network, students' self-control and teachers' guidance influence self-regulated learning in Yulin Vocational and Technical College. Data are collected from students at Yulin Vocationaland Technical College, through a questionnaire. Based on stratified random sampling, a questionnaire survey is conducted. The purpose is to promote online self-regulated learning at Yulin Vocational and Technical College.

Keyword: Online Self-Regulated Learning, Network, Students' Self-Control, and Teachers' Guidance

1. Introduction

The Internet technology has evolved rapidly with society's progress.Zhang (2019) argues that Internet technology has become an indispensable tool for teaching and education. As a result, classroom teaching quality will be improved. A new type of learning has emerged because of the Internet's influence on teaching theories and practices: online self-regulated learning.In China, the Ministry of Education requires all colleges to use online learning resources. Online teaching has become a very important method for students to learn. Student-centered teaching must replace teacher-centered teaching in colleges. Due to the lack of time and space limitations, online self-regulated learning provides students with greater autonomy and flexibility in their learning process (Ma et al., 2021). This study based on theories and literature found that Chinese college currently face threeproblems on online self-regulated learning.

The research of technology adoption theory focuses on the user's adoption behavior of new technology. There ismuch research on technology adoption at the individual level with remarkable results. The basic theories are social psychology and organizational behavior. It discusses how individual beliefs and attitudes determine individual use intention and use behavior from the perspective of the recipient (Huang, 2015). Technology adoption theory mainly includes six theories and models, namely TRA (Theory of Reasoned Action), TPB (Theory of Planned Behavior), TAM (Technology Acceptance Model), DOI (Diffusion of Innovation), TOE (Technology Organization Environment) and UTAUT (Unified Theory of Acceptance and Use of Technology). Considering these theories, Wu & Song (2019) argue that university students' ability

to gain information is relatively weak, and that access to information is relatively limited. Student self-confidence and initiative will be lowered by collecting information for a long time. This problem can be solved very well by the establishment of an e-learning platform.According to Cai (2021), students actively acquire various learning resources through e-learning platforms during their education, which, in turn, may significantly enhance their learning ability. Developing a "virtual" learning platform, according to Chen (2018), provides learners with another real learning environment. In modern education, especially for universities, establishing an e-learning platform is becoming more and more advantageous. Although most universities have a wealth of learning resources for students to use, the utilization rate is relatively low. So, this study found tit was the first problem.

The constructivism theory emphasizes people's ability to comprehend the world through observation and scientific research (Bereiter, 1994). As Poonam (2017) points out, learners are active agents in the process of acquiring knowledge in the constructivist view. The constructivism theory is based on observation and scientific research, and Bereiter (1994) emphasizes that people learn about the world through experience. Based on constructivism, the learning environment includes four components: "situation" refers to the learner's learning environment, where learners construct the meaning of the learning content; "cooperation" refers to the whole process of the learner's learning; "conversation" refers to the interactive communication between learners, in which each learner participates. During the learning process, "meaning construction" is the goal of all learners, so that each learner has a comprehensive understanding of the subject matter. Knowledge is not imparted by teachers. A student-centered approach is essential. It is important for students to actively explore and discover knowledge. Guides and promoters of students' thinking are teachers. As Ren (2020) sees it, teachers only play an auxiliary and guiding role. Getting students to learn is all about letting them take the initiative. Practitioners and constructors of knowledge are primarily students. Knowledge construction is an important aspect of constructivism theory. Teacher mentorship should enhance students' ability to self-regulate learning. The use of online platforms to teach, however, has not been well received by some teachers. A network technology training background is lacking in them. Teachers are becoming less willing to use the Internet because of them. As a result, this study found that it was the second problem.

According to humanism, learning is student-centered and personalized, and educators facilitate learning. The goal is to develop self-actualized people in a cooperative, supportive environment (DeCarvalho, 1991). Students' self-regulated learning is explained by social cognition theory from the perspective of their behavior and their environment. Essentially, self-regulated learning occurs when students adjust and control their learning behavior based on expectations. In comparison and evaluation, the plan is compared with the reality of learning behavior. Social communication and social cognition play a key role in how students develop self-regulated learning in this theory (Bandura, 1988). Zimmerman (1989)classified the influence of

self-regulated learning into three categories: individual factors, environmental factors, and behavioral factors. Due to a lack of self-control, learning strategies, and learning objectives, many students do not enjoy online self-regulated learning. According to Ren (2020), a considerable number of college students lack corresponding learning strategies and learning objectives when self-regulating online learning, resulting in difficulties in learning and difficulty adapting to university learning. The third problem was identified in this study.

2. Methods

In this study, the quantitative research method is applied. The model framework was developed based on previous studies. Using the network, students' self-control, and teachers' guidance as independent variables, this study examines students' online self-regulation. Based on the model framework, a questionnaire is developed. After obtaining the data through the questionnaire survey, SPSS software is used for data analysis, and finally, a conclusion is drawn.

2.1 Samples

According to Sekaran and Bougie (2016), sample size refers to the number of units contained in a sample. It is a very critical concept in sampling inference. Inferential estimation accuracy is directly related to sample size. The number of students at Yulin Vocational and Technical College in 2022 is 10023. Therefore, Krejcie and Morgan suggest a sample size of 373 in 1970. A total of 373 students were selected from Yulin Vocational and Technical College. Based on the number of students, a sample will be selected. To avoid obstacles, extra sampling will be used instead.

2.2 Instrument

The questionnaire is the most used survey method. Data is collected by asking questions in writing. After preparing a table with survey items, distributing them, and asking respondents to fill out the responses, the investigators collect, sort, count, and analyze the data. Sekaran and Bougie (2016) emphasized when conducting interviews to determine whether interviewees understood the questions or used questionnaires in the survey. At Yulin Vocational and Technical College, a questionnaire survey will be conducted. The questionnaire for this study is divided into three sections. The first part consists of the student's personal information. The second part discusses how college students regulate their online learning. In the third part, students are asked about the e-learning platform, the factors that affect students, and the factors that affect teachers. Thirdly, respondents were asked to express their opinions using Likert's five-point scale (from strong disagreement to strong agreement).

2.3 Procedure

In this study, the following steps are followed: 1. Identify the research scope; 2. Summarize previous theories and relevant literature on research issues. 3. Determine variables and design a theoretical model framework. 4. Determine the sample. 5. Data collection. 6. Analysis of data, factor analysis, reliability, T-test, ANOVA, correlation, and regression analysis using SPSS. 7. According to the data analysis results, a conclusion is drawn.

3 RESULTS

Table 1 The Respondents by Gender

Gender	Frequency	Percent
Male	184	49%
Female	189	51%
Total	373	100

As shown in Table 1, this survey has 373 respondents, 184 of whom are male, accounting for 49 percent of the total number, and 189 females, accounting for 51 percent.

Table 2 The Value of KMO and Bartlett's Test of Questionnaire

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.931
Bartlett's Test of Sphericity	Approx. Chi-Square	5463.307
	df	153
	Sig.	0

As reported by Sekaran & Bougie (2016), KMOs > 0.9 are highly suitable for factor analysis, while KMOs 0.8 + KMO x 0.9 are suitable; KMOs above 0.7 are acceptable, 0.6 is inferior, and below 0.5 is not suitable. According to Table 2, the KMO value is 0.931, $p<0.05$, which is significant. Therefore, it is suitable for factor analysis.

Table 3 Reliability Statistics

Variable	Items	Cronbach's Alpha
B (online self-regulated learning)	6	0.958
N(network)	4	0.881
TG(Teachers' guidance)	4	0.888
SC (Students' self-control)	4	0.869
OVERALL	18	0.930

The reliability coefficient is calculated based on Cronbach's alpha coefficient, Sekaran& Bougie (2016). It is unacceptable to have less than 0.6, acceptable to have 0.7, and good to have 0.8. In Table 3, these variables are online self-regulated learning (B), network (N), teachers' guidance (TG), and students' self-control (SC). Accordingly, each

variable has a reliability above 0.7. Overall, the questionnaire is highly reliable at 0.930.

Table 4 Correlations

Correlations					
		B	N	TG	SC
B	Pearson Correlation	1	.495**	.600**	.385**
N	Pearson Correlation	.495**	1	.428**	.263**
TG	Pearson Correlation	.600**	.428**	1	.365**
SC	Pearson Correlation	.385**	.263**	.365**	1
** Correlation is significant at the 0.01 level (2-tailed).					

Table 4 shows that the Pearson correlation coefficient between B and N is 0.465, greater than 0.3, and P 0.05, indicating that B and N are positively associated. Therefore, it affects the development of self-regulated online learning among university students. The Pearson correlation coefficient between B and TG is 0.6, which is more than 0.3, P = 0.05, indicating a positive relationship between B and TG. Based on the Pearson correlation coefficient of B and SC of 0.385, which is also greater than 0.3, there is a positive association between B and SC.

Table 5 Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671a	0.451	0.447	0.913
a Predictors: (Constant), SC, N, TG				
b Dependent Variable: B				

Table 6 Coefficients

Coefficientsa							
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	VIF
		B	Std. Error	Beta	t		
1	(Constant)	-0.147	0.227		-0.651	0.515	
	N	0.343	0.053	0.271	6.515	0.000	1.224
	TG	0.511	0.052	0.426	9.904	0.000	1.335
	SC	0.195	0.05	0.159	3.936	0.000	1.173
a Dependent Variable: B							

In Table 5, the R square is 0.451, which means that three independent variables can explain 45.1% of the variation in online self-regulated learning. A significant factor affecting online self-regulated learning is network(N), teachers' guidance (TG), and students' self-control (SC), as shown in Table 6. The Variance Inflation Factor (VIF) values in Table 6 are less than 5; thus, multicollinearity is not necessary. Based on the following equation, B =-0.147+0.343(N)+0.511(TG)+0.195(SC).

4 Discussions

The first finding of this study is that the network does affect the development of online self-regulated learning among college students. The results of the data analysis confirm this. With the strengthening of new media technology and other Internet infrastructures, the learning mode has gradually developed from the traditional offline long-term classroom to the online short-term classroom, resulting in a change in the study life of college students because of these changes (Zhang & Lin, 2022). Among college students, the network has gradually become the main method of self-regulated learning online, enabling them to gain sustainable self-regulation skills. Online learning provides a natural "soil" for university students, ensuring that time and environment are not factors affecting self-regulated learning.

The second finding of this study is that teachers' guidance affects online self-regulated learning among college students. This conclusion can be confirmed by analyzing the data. Chen (2020) suggests that teachers should be good guides for students. It is impossible to separate online self-regulated learning activities from effective teaching activities. In the process of online self-regulated learning, teachers should follow the principle of guiding the course learning, helping students evaluate the usefulness of the learning content, and strengthening the supervision and management of students. A teacher's role in this process is auxiliary. By guiding, encouraging, and assisting students in their learning, they assist students in finding solutions to problems. Additionally, classroom instruction emphasizes developing students' self-study skills, communication abilities, and problem-solving skills (Ma et al., 2021).

The third finding of this study is that students' self-control affects online self-regulated learning among college students. As evidenced by the data analysis results. During college, students learn self-control is the ability to manage their own behavior and restrain it. Due to society's rapid development, college students are susceptible to external temptations and attractions, resulting in more time spent learning. Students who engage in online self-regulated learning lack self-control, and they are vulnerable to environmental factors such as games, mobile applications, and interruptions from family members. There are some students with poor self-control who are addicted to online games.

5 Conclusions

The purpose of this study is to investigate the factors that affect online self-regulated learning at Yulin Vocational and Technical College. This study found that teachers' guidance (TG) and students' self-control (SC) are significant factors in online self-regulated learning (B). This study believes that

only by thoroughly understanding the ideological characteristics, behavioral characteristics, learning style, lifestyle, and personality characteristics of students can higher institutions put forward the correct guiding countermeasures of educational management. As a result, the city needs to fully understand how the Internet is impacting the management of student education. By doing so, the city can provide researchers and managers in the field of student education management with the best reference materials, improve student education management effectiveness, and promote the online self-regulation of learning of Chinese students at universities.

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