

# Influencing Factors of Online Learning Satisfaction of College Students during the COVID-19 Epidemic

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**Abstract:** This paper uses a questionnaire survey to study college students' satisfaction and its influencing factors. It finds that the formulation of online learning plans, teachers' teaching level, students' self-management, and learning environment and reference materials all affect students' online learning satisfaction.

## 1. Introduction

Since January 20th, 2020, the COVID-19 epidemic has ravaged China. In order to guarantee the safety and health of teachers and students, according to the guidance of China's Ministry of Education, colleges and universities have fully implemented online learning. Compared with traditional classroom teaching, the form of online learning is quite different, and the learning situation has changed greatly. The learning mode of college students has changed from the diversity of ecosystems and social activities that supported individual development in the past to a single "full-time home" mode. So how to promote the input and effect of students' online learning is central to educators. Therefore, how satisfied are college students with this online learning, and what are the influencing factors have to be studied urgently. Based on the theory of customer satisfaction, this paper studies the satisfaction of college students, and conducts research on the satisfaction and influencing factors of college students in a university in Nanjing in Jiangsu Province.

## 2. Literature Review

### 2.1. The Connotation of Online Learning Investment

Sun and Rueda (2012) proposed that online learning engagement is a theoretical construct based on the study of learning engagement and the characteristics of online learning<sup>[1]</sup>. It refers to the performance of students in online learning activities and academic tasks, including cognitive engagement, emotional engagement (emotional engagement such as enthusiasm and joy for online learning), and behavioral engagement (behavioral effort to support online learning rules and achieve learning goals). It is an important indicator to measure the online learning performance of college students.

### 2.2. Influencing Factors of Online Investment

#### 2.2.1. Autonomous Motivation

The self-determination theory of Ryan and Deci (2017) believes that human beings are active organisms with a tendency to pursue mental health and development<sup>[2]</sup>. It divides people's motivation into two types: autonomous motivation which refers to individuals who are motivated by their own will and free choices (such as interests, beliefs, etc.), and the motivation to engage in a behaviour. The theory emphasizes that autonomous motivation can significantly affect individual behavioral performance and psychological state. Compared with offline learning, online learning is less obligatory, and learners mostly focus on self-directed learning. In this process, whether to reject the

temptation of the Internet and the environment to focus on learning is the key to affecting online learning. Hagger and Chatzisarantis (2007) proposed that autonomous motivation can enhance the self-control behaviour<sup>[3]</sup>.

### 2.2.2. Teaching Interaction

Kang and Im (2013) proposed that teacher-student interaction can also enhance students' online learning satisfaction and promote the generation of autonomous motivation<sup>[4]</sup>. The interaction between students, teachers and course in online learning has produced social network interactions between students and platforms, between students and teachers, and between students and students (Moore, 1989)<sup>[5]</sup>. The more online interactions, the more positive learning experiences students have and the better their learning outcomes (Boling et al., 2012; Martin et al. 2018)<sup>[6-7]</sup>.

## 3. Questionnaire Design

Questionnaire is distributed on the Questionnaire Star platform in 2022. A total of 130 questionnaires were distributed and 124 were received. Delete invalid questionnaires, 118 valid samples are collected. The questionnaire was distributed in a university, in which students' majors cover accounting, economics, finance, business administration, and international economics and trade. Among them, there are 61 undergraduates, accounting for 51.69%, and 57 graduate students, accounting for 48.31%.

The questionnaire is mainly composed of the following three parts: firstly, the basic characteristics of the respondents, including gender, grade, average daily online learning time, and online learning platform, etc.; secondly, the respondents' questions on the implementation effect of online courses and options, including students' class status, degree of interaction with teachers, mastery of knowledge, satisfaction with their own classroom input, and overall evaluation of online learning; the third part is about the interference factors of classroom satisfaction, including internal factors and external factors.

## 4. Analysis of the Results of the Questionnaire Survey

### 4.1. Overall Student Self-evaluation

We let students rate their overall satisfaction with their online learning on a scale of 1-5, with 1 being very dissatisfied, 2 being dissatisfied, 3 being generally satisfied, 4 being satisfied and 5 being very satisfied. Generally speaking, the performance of most students in the classroom is "being generally satisfied", and a few students may not actively participate in the learning due to their own reasons, such as inattention. As is shown in Table 1, there are differences between undergraduates and postgraduates. Results of questionnaire show that postgraduates had better performance in their online learning. Possible reasons are as follows: Firstly, postgraduates may have experienced online learning during their undergraduate years, and they may be more adaptable; secondly, graduate students may have more self-control and pay more attention to the efficiency, so they will improve classroom efficiency through classroom engagement; finally, graduate students have stronger autonomous learning ability, which will directly affect the quality of online learning experience, and result in a gap between undergraduate students and graduate students.

Table 1 Online learning satisfaction for undergraduate and graduate students.

	Very Dissatisfied	Dissatisfied	Generally Satisfied	Satisfied	Very Satisfied
Undergraduates	5.26%	3.51%	36.84%	43.86%	10.53%
Postgraduates	3.28%	13.11%	70.49%	11.48%	1.64%

### 4.2. Influencing Factors of College Students' Online Learning Satisfaction

We explore the influencing factors of college students' online learning satisfaction during the epidemic of four aspects: curriculum planning, teaching level, self-management, and technical

support.

#### 4.2.1. Curriculum Planning

Online learning plans can help students develop good study habits, establish a correct learning attitude, and improve the online learning performance of college students, thereby improving students' satisfaction. It is found that 26.09% of the 23 students who "made a study plan and mastered the knowledge they learned" were very satisfied with online learning, and 60.87% were quite satisfied; 46.34% of the 41 students who "made a study plan and generally mastered the knowledge they learned", 41.46% were generally satisfied with online learning. 34.21% of the 38 students who "did not make a study plan and generally mastered it" were relatively satisfied, and 55.26% were generally satisfied. It is obvious that the formulation of online learning plans affects students' ability to digest and absorb the knowledge, thereby indirectly affecting students' satisfaction with online learning.

#### 4.2.2. Teaching Level of Teachers

Nowadays digitization and informatization have effectively promoted the diversity and availability of learning resources, but the source, level, structure, and content of learning resources need teachers to fully identify, select, absorb and configure, and organically integrate with their own class. Teachers' teaching level directly affects students' learning performance, and it constitutes a key factor affecting online learning satisfaction. By asking open-ended questions, students' thinking logic is exercised, and students are encouraged to fully express their opinions to enhance students' learning participation, thereby promoting students' online learning satisfaction. According to our survey results, 64.41% of the students want the teachers release the relevant information of the course on the network platform in advance, so as to help students establish a reasonable and effective learning framework. More than 30% students believe that teachers regularly follow up on students' learning assignments and developing incentives are necessary to promote student engagement in online learning.

#### 4.2.3. Student Self-management

Self-management ability refers to the ability of educated people to consciously and purposefully transform and control their own thoughts and behaviors according to social goals. However, in the process of online learning, students often fail to achieve good self-management. As is shown in Figure 1, 71.19% of the students believed that they were inattentive and easily distracted during the class; 65.25% of the students admitted that they lacked a certain degree of self-control and needed some form of supervision; 51.69% of the students believed that the goal of online learning was unclear and lack motivation; 11.86% of students are not adapted to online learning and prefer traditional offline teaching methods.

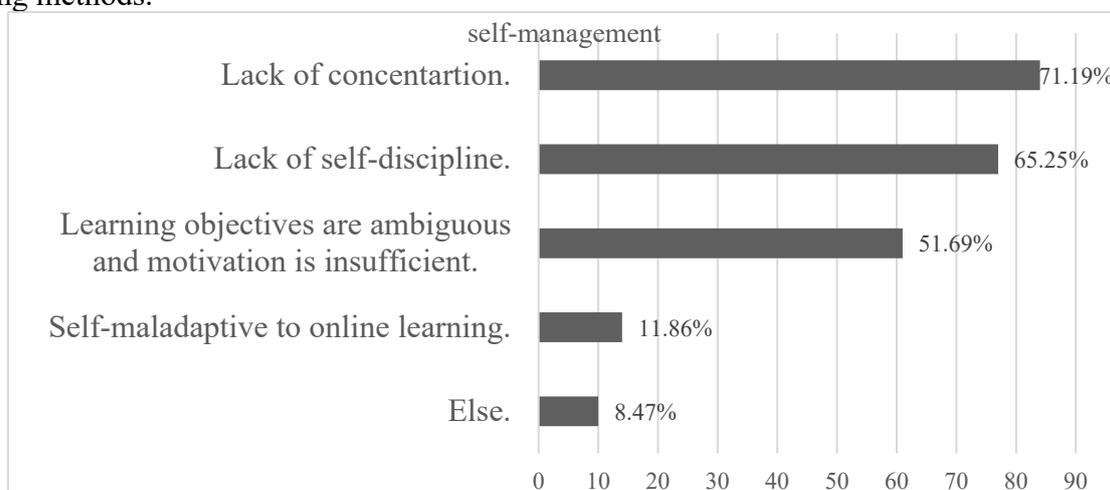


Figure 1 Results of student self-management.

#### 4.2.4. External and Platform Support

External and platform support is the foundation that affects students' satisfaction. Students pay

more attention to the stability of the online teaching platform and the practicality and convenience of functional modules during online learning. For instance, whether the learning environment is suitable, whether the learning resources are sufficient, and whether there is a recording and playback function, etc. These external factors may affect students' willingness to continue online learning. Results show that nearly 50% of the students believe that the online learning environment is not ideal and the learning environment is noisy; 38.98% of the students say that the network is unstable, the learning status is often disturbed; 38.98% of the students expressed that they lacked books and reference materials, hindering learning progress, which in turn negatively affected online learning satisfaction. Therefore, colleges should strengthen the maintenance of terminal operation to ensure the stability of the online teaching platform, and teachers should also supplement teaching resources in time so that students can better carry out learning tasks.

## 5. Conclusion

This paper finds that factors such as whether students make study plans before class, class interaction, students' self-management ability, and the support of external network platforms directly affect the efficiency of college students' online learning and course satisfaction. This study shows that teachers can improve students' class satisfaction by increasing classroom interaction, distributing classroom-related learning materials in advance, and actively answering questions after class.

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