



# Research on Acceptance Psychology of Online Learning by College Students During the COVID-19 Pandemic

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**Abstract.** The worldwide COVID-19 pandemic has changed our learning style. Most countries, including China, have adopted online teaching to cope with the impact of COVID-19 pandemic on teaching. Although China's COVID-19 pandemic is under effective control, COVID-19 pandemic will have a profound impact on education in the world. Based on the survey and analysis of the online learning situation of COVID-19's pandemic, this study finds out the problems and causes of students' online learning, and makes effective analysis of students' learning interest and acceptance psychology under the influence of COVID-19 pandemic, and puts forward corresponding strategies to further enhance students' satisfaction and recognition of online learning. This can also provide an important reference for the implementation of mixed teaching in colleges and universities under the background of normalized epidemic prevention and control.

**Keywords:** COVID-19 pandemic · Online learning · Acceptance psychology · Coping strategy

## 1 Introduction

A sudden spread of COVID-19 Pandemic around the world has not only disrupted the pace of production and life, but also seriously affected the normal education and teaching order in colleges and universities. Facing the severe situation of major epidemic prevention and control, in order to minimize the impact of the epidemic on teaching work in colleges and universities, countries around the world have introduced corresponding "classes suspended but learning continues" mode to alleviate the impact of the epidemic on education and teaching. The university has made full use of the network platform and online education resources to carry out the largest online teaching practice in the history of education [1]. At present, China has entered the stage of normalized epidemic prevention and control, and the education and teaching work in colleges and universities has fully returned to offline teaching. Under this background, we will investigate and

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analyze the online learning situation, examine the implementation characteristics and existing problems of online teaching in colleges and universities during the major epidemic, especially the evaluation of students' interest in online learning and acceptance effect. It not only helps to transform "wartime measures" into "peacetime mechanism", but also provides an important reference for the implementation of mixed teaching in colleges and universities under the background of normalized epidemic prevention and control.

## **2 Investigation and Analysis of Online Learning in Covid-19 Pandemic**

### **2.1 Purpose and Method of Investigation**

In order to understand the online learning situation of college students in COVID-19 Pandemic, and explore the participants' feelings and problems in the online and offline learning process, the research group designed the questionnaire form, taking two groups of students and teachers as the research objects, and collected the information of the online learning situation of university students during the epidemic period and analyzed them.

### **2.2 Questionnaire Design and Sample**

The questionnaire is mainly aimed at students and teachers. The universities surveyed include Yantai Nanshan University, University of Perpetual Help System DALTA, Shandong Architecture University and Shandong Industrial Vocational College. The student questionnaire mainly includes students' specific ways of online learning, specific feelings and difficulties of online learning, evaluation of teachers, students' interest in learning, students' acceptance effect, etc. The teacher questionnaire mainly includes teachers' online teaching methods, specific feelings about online teaching and comparative feelings about online and offline teaching. 1800 and 200 questionnaires were distributed to students and teachers respectively, and 1602 and 167 valid questionnaires were recovered respectively.

## **3 Analysis of Survey Results**

### **3.1 Investigation and Analysis of Teachers**

The survey results show that for the traditional teaching mode and online teaching mode, if there is a choice, 10.12% of teachers prefer online teaching, and 89.88% of teachers like the traditional teaching mode, indicating that the traditional offline teaching mode can be loved by teachers, but a small number of teachers still prefer diversified online teaching modes. Under the background of COVID-19 Pandemic, teachers had to choose online teaching [2]. The survey results showed that 56.2% of the teachers could fully master the online teaching method, 39.14% of them could basically master the online teaching method, and 4.66% of the teachers were totally unable to master the online

teaching method, which showed that even most teachers preferred traditional teaching. However, they are basically able to master online teaching methods, and teachers hope that online teaching can also ensure teaching quality.

On the whole, during online teaching, although college teachers cannot teach in the way they are familiar with, they are willing to make their own efforts and do not want students to affect the learning effect because of online learning. Moreover, the teaching advantages of online teaching can also be combined with the traditional offline teaching mode to improve the teaching efficiency while optimizing the teaching methods [3].

### 3.2 Investigation and Analysis of Students

The survey shows that 59.61% of students believe that the unstable network signal affects the effect of online learning; 51.23% of the students believed that their poor self-discipline caused their poor concentration and affected the effect of online learning due to equipment; 36.3% of the students thought that the teaching platform was congested; 25.29% of the students think that online teaching lacks teacher-student interaction or the interaction effect is not very good; 15.81% of the students thought that the learning environment around them was noisy; 19.74% of the students thought that online teaching lacked practical guidance or experiment; Another 8.35% of the students thought there were other reasons.

The survey results show that it is inevitable for students to have hardware facilities affecting their learning in the process of online learning. They think that their self-consciousness is poor and will be disturbed by external things. At the same time, it also shows that students are interested in online learning. They think that online learning has some defects, such as less practical guidance and lack of experiments, the interaction with teachers is not good enough.

Students can also personally experience the advantages of online learning. 78.64% of students believe that online learning is mainly about watching knowledge playback, and playing back teaching videos through the network platform, which is convenient for quickly mastering knowledge points and reviewing and reviewing; 71.22% of the students think that online teaching is rich in learning resources. In addition to listening to the teachers of the school, they can also learn courses of interest to other schools through the online teaching platform; 69.43% of the students believed that online teaching methods were diversified and could not be limited by time and place of teaching; 44.86% of the students believe that both teachers and students can freely arrange their learning time, which can avoid the conflict of time and save time to a certain extent, and can better improve the learning efficiency.

Through the analysis of the advantages and disadvantages of online learning during the epidemic, it shows that students need to strengthen their self-consciousness [4]. Teachers should strengthen the interaction with students in the teaching process, fully understand students' learning interest and acceptance psychology, and improve the quality of online teaching.

## 4 Problems and Causes of Online Learning in Covid-19 Pandemic

During the COVID-19 Pandemic, online education has obvious advantages. First, it can reduce the cost of education. Teachers and students can carry out teaching activities through the Internet at home, so as to effectively avoid personnel gathering and reduce the risk of virus transmission; Second, the learning forms are diversified, teachers and students can communicate and interact online in an all-round way, and difficult problems can be consulted and solved anytime and anywhere; Third, the teaching form is personalized. Teachers can implement different teaching strategies for different students and carry out classified and group teaching by tracking students' learning records; Fourth, the teaching management is accurate [5]. The school can timely control the teaching dynamics and accurately implement the monitoring and management of the teaching process according to the real-time data analysis of the online platform. It can not be ignored that online teaching in COVID-19 Pandemic also has many shortcomings.

### 4.1 Problems in Online Teaching Platform

Previously, although online teaching has been applied on some occasions, it is the first time that such a large-scale application has been carried out in various schools across the country at the same time [2]. Therefore, in the early stage of the full spread of online teaching, due to a large number of users online at the same time, many platforms once faced the situation of jamming or even collapse, and the effect of online teaching was not ideal. In particular, online teaching in colleges and universities faces a wider range of courses, more diversified forms and students' autonomous learning management. The teaching effect needs to be investigated. Under the background of major epidemics, we encourage the majority of educators to make full use of modern network technology, carry out online teaching in an all-round way, quickly adjust the teaching form in a short time, effectively achieve the integration of teaching and learning, reduce the drawbacks of space-time separation of teachers and students in online teaching, and minimize the impact of COVID-19 Pandemic on teaching results. It is one of the important tasks that educators need to solve urgently.

### 4.2 Problems in Teachers' Teaching

Due to the limitation of learning environment and learning environment, different students show different self-learning ability and self-management ability during COVID-19 Pandemic online learning, which reflects different learning conditions and different learning effects. Among the diversified online teaching modes, the biggest challenge for teachers is the management of students and classroom. Secondly, teachers do not adapt to this emerging teaching mode and need time to adjust themselves. Although the subjects of learning and teaching have not changed, the change of teaching methods is a great challenge for teachers. It can be seen from the survey results that teachers hope to adopt traditional offline teaching as much as possible. To a certain extent, online teaching is only an emergency teaching method, which can only be used as an auxiliary teaching method and can not become a mainstream. In the process of teaching, teachers should try to guide students from simple to in-depth, optimize teaching methods, find ways to

let students actively integrate into the classroom, and let students actively participate in interaction.

### **4.3 Problems in Students' Learning**

In online education, students are the object of education and the subject of learning. The actual effect of teaching activities and the development of students' quality all depend on students' self-construction and self-improvement. Having a high degree of self-discipline and good knowledge digestion ability has become one of the core factors for students to obtain good learning results. Online education needs students' active learning more. While online teaching of COVID-19 Pandemic is not active, students' participation in online learning is not very active, and their sense of participation is not strong, and their subjective consciousness is weak. They can't prepare for class well, even fail to enter classroom on time. In the long run, students are used to free and loose learning state, and their self-management ability is weakened [6].

### **4.4 Connection Between Online Learning and Offline Learning**

Online learning resources are uneven. Some platforms not only have standardized teaching content, but also rich auxiliary learning materials, but also some platforms lack teaching resources and rigid content [7]. This leads to the poor connection between online and offline learning. Online teaching is mainly based on platform resources and offline teaching is mainly based on teaching materials. It is prone to problems such as the mismatch between online resources and teaching materials and the inconsistency of online and offline teaching progress.

## **5 Students Accept Psychological Analysis Under the Background of Epidemic Situation**

### **5.1 Analysis of Students' Psychological State in Online Learning**

Under the normalization of epidemic prevention and control, some courses are taught from offline to online, and students generally experience four different stages of psychological state: excitement, low tide, anxiety and stability. When the course is taught online, students are generally excited. Around the fourth week of online teaching, students' excitement gradually turned to a low tide. When online teaching reaches the middle of the semester, students will have a short period of anxiety, generally lasting for 2 to 3 weeks, and then gradually turn into a stable learning attitude, and then slowly adapt to online course teaching. Students' psychological state of online learning directly affects their interest and effect of online learning.

### **5.2 Analysis of Students' Online Learning Habits**

Students can be divided into conscious type and passive type according to their online learning habits. Conscious online learners generally show positive teaching interaction, high-quality completion of online homework, and have certain good learning preferences. Passive online learners have the opposite behavior habits. Students' online learning behavior is the wind vane that determines the effect of learning and acceptance.

### **5.3 Analysis of Students' Online Learning Effect**

According to the effect of online learning, students can be divided into effective type and coping type. Most effective online learners have the characteristics of strong self-learning ability, strong acceptance ability and good consciousness, which can give full play to the advantages of online learning. Coping online learners tend to expand the disadvantages of online learning [8]. The effect of students' online learning is directly related to their learning comprehension and consciousness.

### **5.4 Teachers' Attention to Students' Psychological State Needs to be Improved**

Some teachers only complete their own teaching tasks. Due to the long-term home study, the reduction of social networking and the limitation of the scope of activities in a relatively narrow space, there is no place to release pressure, and their emotions are easy to be troubled, resulting in increased anxiety, reduced cognitive ability, psychological depression and other problems. Online learning without supervision for a long time reduces students' learning enthusiasm and even makes students feel tired of learning. In the face of this negative slack, only some teachers pay attention to the students' psychological problems, pay attention to the students' physical and mental health, and give some guidance. In addition, when students study online, they need to stare at the electronic screen for a long time, which is prone to visual fatigue and cervical discomfort, resulting in psychological slack and inattention, and the learning efficiency will be greatly reduced. If teachers do not pay attention to such problems, the teaching effect will be affected to a certain extent.

## **6 Conclusion**

### **6.1 Taking Multiple Measures to Improve Students' Satisfaction with Online Courses**

The survey results show that nearly half of the students have never been exposed to online courses before. For these students, whether they can adapt to this new form and achieve the due learning effect is particularly important. In addition, the survey results also reflect that most students believe that online courses do not fully achieve the expected results, and nearly half of students prefer to choose the combination of online and offline teaching or offline teaching. Therefore, in the next step of teaching, teachers should be more fully prepared when preparing lessons. On the one hand, they should consider the possible impact of objective factors such as network, equipment and learning platform on students' better adaptation to online courses. On the other hand, they should consider students' acceptance and understanding of knowledge, and improve the links of course organization in combination with various platforms and forms of online courses, Deepen students' understanding of knowledge in simple terms.

## **6.2 Combining Teaching with Fun to Cultivate Students' Interest in Online Learning**

The survey shows that more than half of the students are generally interested in online courses, and the proportion of students with strong interest is still low. The great educator bloom once said, "the greatest driving force of learning is the cultivation of interest in learning." Only when students have a strong interest in online courses can they improve their learning enthusiasm and initiative. Therefore, on the one hand, teachers should strengthen ideological education on the importance of online learning for students during COVID-19 Pandemic, so that students can consciously train and exercise online learning ability. On the other hand, teachers should use more classroom forms that students like to teach online Live video is conducive to better interaction and Q & A between students and teachers, and create a good classroom atmosphere; The video recording and broadcasting can enable students to watch it again and again after class to increase the consolidation and understanding of knowledge.

## **6.3 Using Scientific Teaching Methods to Cultivate Students' Good Learning Habits**

During the online teaching of COVID-19 Pandemic, more than half of the students can insist on reviewing after class and hand in their homework on time, and carry out their own learning plan well, but at the same time, nearly half of the students can not insist on it. Therefore, in the next teaching process, teachers should use scientific teaching methods to improve the efficiency of online courses First of all, we should consciously guide students to prepare for class While previewing the main points, consult relevant reference materials to cultivate the ability of autonomous learning Secondly, supervise and urge students to carry out targeted after-school review in the form of homework. To achieve the pertinence of after-school review, the amount of after-school homework assigned by teachers should be moderate, difficult to combine, highlight the key points and be operable Only when students develop good study habits and arrange time in a planned way can they achieve mastery of online courses [9].

## **6.4 Conducting Psychological Counseling to Cultivate Students' Strong Willpower**

The survey shows that in the process of online learning, more than half of the students can maintain a relaxed and happy mood, but one third of the students have great pressure, and even 15.7% of the students have a learning weariness or indifferent learning attitude Therefore, teachers should carry out corresponding psychological counseling and mental health education for students, so that students can release pressure, relieve emotions, calm their mentality, and invest in online learning with a better mental outlook On the one hand, teachers should reduce the transmission of negative information related to the epidemic, popularize mental health knowledge, guide college students to carry out correct mental health assessment and master psychological adjustment skills; On the other hand, we can carry out anti-setback education for students to establish a correct view of setback A typical case education method was adopted to excavate the typical

deeds of alumni and students in the COVID-19 Pandemic who were fighting for the front line. They played an exemplary effect and cultivated their strong willpower from the side.

To sum up, through the investigation and analysis of the psychological conditions of college students in online learning in COVID-19 Pandemic, the corresponding countermeasures are put forward. In the online teaching of post epidemic era, teachers can cultivate students' interest in learning online courses, guide students to form good learning habits while studying at home, and at the same time, have targeted psychological counseling for students. Take multiple measures to further improve students' satisfaction and recognition of online courses and better realize the teaching effect of online courses. This can also provide an important reference for the implementation of mixed teaching in colleges and universities under the background of normalized epidemic prevention and control.

**Authors' Contributions.** Yang Wang was responsible for experimental design and wrote the manuscript, Pingqing Zhang analysed data and contributed to revising and editing.

## References

1. Zhang, Dongmei. 2021. Research on the evaluation of online learning effect in local universities. *Frontiers in Educational Research* A04: 351–357.
2. Chiu, Thomas K.F., Tzung-Jin Lin, and Kirsti Lonka. 2021. Motivating online learning: The challenges of COVID-19 and beyond. *Asia Pacific Education Research* 30 (3): 187–190. <https://doi.org/10.1007/s40299-021-00566-w>.
3. Saetang, Saranya. 2020. User-centered design for an online learning. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 10: 204–209.
4. Zhao, Shiruo. 2020. Building online learning community between teachers and students through online courses. *International Journal of Education and Economics* 03: 98–103.
5. Ramani, Pramila. 2021. Challenges faced by students due to online learning during this COVID-19 pandemic situation. *International Journal of Management and Humanities (IJMH)* 09: 234–238.
6. Zuo, Mingzhang. 2021. K-12 students' online learning experiences during COVID-19: Lessons from China. *Frontiers of Education in China* 16: 155–160.
7. Jane, Chiodini. 2020. Online learning in the time of COVID-19. *Travel Medicine and Infectious Disease*, 34: 282–287.
8. Wu, D.G. 2021. Retrospect and reflection on the evolution of educational technology—Based on the perspective of online teaching in the context of COVID-19. *China Higher Education Research* 04: 1–6.
9. Yu, Y.J. 2021. High quality online teaching in response to the examination of epidemic prevention and control in colleges and universities. *People's Tribune* 10: 108–109.



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