

# Survey Report of the Effectiveness of Online Teaching in the HEIs

***Project Title:***

Survey of the Effectiveness of Online Teaching in the HEIs during the COVID-19 Pandemic

***Leader:***

Jianxin Zhang

***Authors:***

Jianxin Zhang Panpan Huang Zhijie Xiang

***Consultants:***

Jianxin Zhang Galina Motova Jagannath Patil Deepthi Bandara I-Jung Grace Lu Farida Nurmanbetova Pingping Liu

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## Executive Summary

In 2020, the COVID-19 Pandemic swept the world mercilessly. Higher education institutions (HEIs), in strict accordance with the requirements and deployment of education authorities, actively build online teaching platform, and strive to minimize the impact of the pandemic on teaching. However, the “rush to start” of online teaching has led to worrying teaching effectiveness. Therefore, the Education Committee of China Democratic League (CDL) in Yunnan Province in China, supported by Asia-Pacific Quality Network (APQN), carried out a Survey of the effectiveness of online teaching in HEIs during the COVID-19 Pandemic. Based on the survey data of 4650 valid respondents from 23 provinces/regions, we analyze the effectiveness of online teaching during COVID-19 pandemic. The results show, there exists such effectiveness problems as “insufficient preparation before class, teaching accidents in class and lack of feedback after class”. Therefore, we put forward 5 suggestions to improve the effectiveness of online teaching: (1) students’ autonomous learning ability; (2) teachers’ information literacy; (3) new teaching idea between teachers and students; (4) blending teaching mode, and (5) teaching assessment methods, which aims to provide useful reference for improving online-teaching quality during public emergencies in the post-pandemic era.

**Key words:** online teaching; effectiveness; higher education institutions(HEIs); COVID-19 Pandemic

# Survey of the Effectiveness of Online Teaching in the HEIs during the COVID-19 Pandemic

## 1 Introduction

From the beginning of 2020, the COVID-19 Pandemic swept the world overnight, which has a great impact on world education. In order to maintain normal teaching-learning activities, online teaching has been carried out all over the world. In China, in response to the call of the Ministry of Education of “*stop face-to-face classes but never stop teaching, stop face-to-face classes but never stop learning*”, the HEIs have organized online teaching with the largest scale, the largest number of online courses and the largest number of students in history in a very short period of time.

Teaching is a teacher-led teaching and student-centered learning activity. It is a bilateral activity between teachers’ teaching and students’ learning, in which teachers and students (referring as “T&S”) are the two key elements of teaching success. The “hasty online teaching” is an emergency measure forced by the COVID-19 pandemic. We can say, it made the popularization of online teaching advance for decades. Its mode and system have been presented to the “emergency stage” before it is fully perfected. T&S are also “forced to accept” the transformation of teaching-learning form without adequate preparation. Naturally, the effectiveness of online teaching has been questioned in such pandemic context.

Therefore, the Education Committee of China Democratic League(CDL) in Yunnan Province in China, supported by Asia-Pacific Quality Network (APQN), carried out a Survey of the effectiveness of online teaching in HEIs during the COVID-19 Pandemic. This paper analyzes the effectiveness of online teaching from three dimensions: before class, during class and after class; later on it discusses how to ensure and improve the effectiveness of online teaching during public emergencies in the post-pandemic era.

## 2. Survey data from 23 provinces/regions in China

The research group used Delphi Method (also known as “expert survey method”) to design the survey. Through the steps of “sorting → inducting → summarizing → feedback → re-consulting → re-summarizing → re-feedback → consensus” , the

research group successively consulted the opinions of relevant experts for three times, and completed the survey. The survey consists of four parts in 28 questions (see Table 1).

Table 1 Dimensions of the Survey of effectiveness of online teaching during the COVID-19

| Primary dimension | Secondary dimension | Third dimensions   | Survey No. |
|-------------------|---------------------|--|------------|
| Basic information |                     | age, discipline/subject category, identity, professional title and HEIs' type  | 1-5        |
| Facts             | Before class        | problems in the use of Internet platform, HEIs' support services for T&S, communication between T&S  | 6-8        |
|                   | In class            | composition of online class, online teaching mode, learning engagement   | 9-11       |
|                   | After class         | students learning outcomes(SLOs), assessment of T&S, teaching reflection   | 12-16      |
| Attitude          | Assessment          | online curriculum design, teachers' teaching behaviors, students' learning behaviors, impact factors of online teaching, advantages of online teaching, disadvantages of online teaching, effectiveness of online teaching | 17-24      |
|                   | Suggestion          | online teaching in the post-pandemic era, teaching measures to guaranty effectiveness, suggestions to improve the effectiveness of online teaching, suggestions to teachers' online assessment                             | 25-28      |

From July 13 to 31, 2020, the research group carried out a "Survey of the Effectiveness of Online Teaching during the COVID-19 Pandemic" in the HEIs in China, and got 4650 valid respondents. The Survey has four features: (1) the number of the survey respondents is large and wide, with 4650 valid respondents from 23 provinces/regions (see Fig. 1); (2) most of the respondents are young people under 30 years old; (3) the highest proportion of the respondents is from economy; and (4) the proportion of students in higher vocational colleges is large.

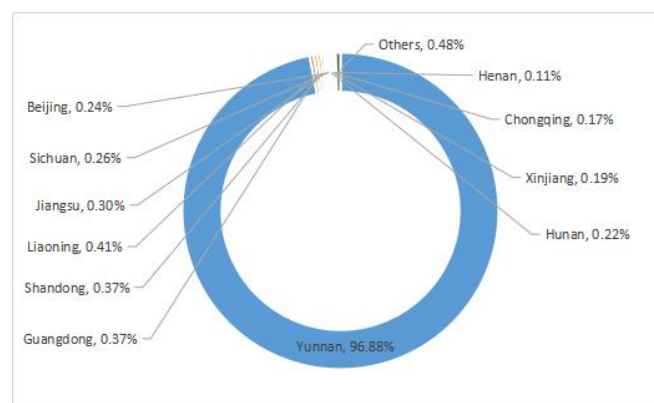


Fig. 1 Network IPs of 4650 valid respondents

On the whole, the survey covers a wide range and has a certain representativeness, which can truly reflect the effectiveness of online teaching

during the COVID-19 pandemic.

### 3. The effectiveness of online teaching is unsatisfied

Online teaching in China was launched in a hurry overnight, which is an emergency measure to deal with the COVID-19 pandemic, but it is also a great challenge for T&S. All students and teachers “touch the bottom line” and have experienced a real and thorough “Internet + teaching practice”. However, only by accepting simple IT training or without training, T&S immersed into online teaching<sup>1</sup> Due to the lack of preparations and experiences, online teaching has various problems before, during and after on-line class.

#### 3.1 Preparation is imperfect before class

Pre-class preparation is the basis to ensure the effectiveness of online teaching. In order to adapt to the new form of online teaching, some HEIs provide T&S with “Online Teaching Operation Guidance”, including electronic teaching resources, online teaching platform, online teaching skills training and other support services. However, the pre-class stage of online teaching still showed obvious problems of insufficient preparation.

**1. Communication before class is not enough.** The communication between T&S before online teaching mainly includes “teachers inform students of curriculum arrangement and curriculum requirements (81.25%)”, “establishing QQ group, Wechat group and other contact channels (79.12%)” (see Fig. 2), which alleviates the problem of communication between T&S to a certain extent. However, facing the new teaching forms, teachers should use more IT to communicate with students more frequently and deeply, not just limiting to informing the notices and materials.

<sup>1</sup> Wu Daguang, Li Wen(2020). Periodic characteristics of large-scale online teaching in Chinese universities: an empirical study based on the survey of students, teachers and academic administrators [J]. Journal of East China Normal University (Education Science), 2020 (07): 1-30.

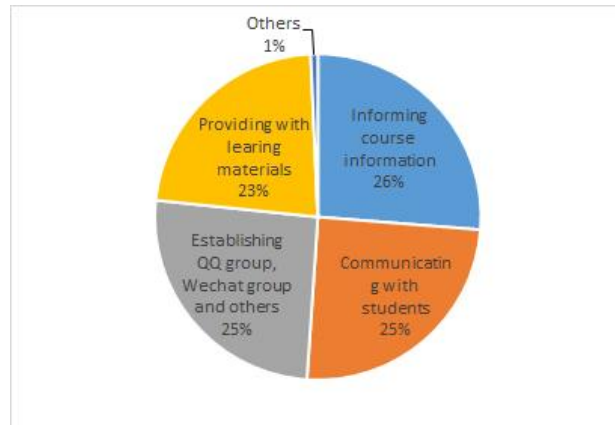


Fig. 2 Communication between T&S before online teaching

Facing the large-scale implementation of online teaching, how to skillfully use the online teaching platform and reasonably arrange online courses is a great challenge for both T&S. Teachers should actively respond to this problem, so that the success of online teaching class has a solid foundation.

**2. Teaching platforms and network problems occur frequently.** The survey results show that T&S consider, among the “problems encountered in the use of online teaching platform”, “network instability” ranked first, covering 85.81%; “high IT cost” ranked the second, covering 61.1%; and “using teaching platform too much” is at the third place, covering 52.22%. It can be seen that the use of online teaching platform has brought many problems to both T&S. However, these problems are under control. T&S should be prepared to deal with these problems before class, so as to lay a foundation for the smooth implementation of online teaching.

### 3.2 Many accidents occurred in class

Teaching is the most important part of online teaching, and it is also the most challenging element for T&S. The survey data analysis shows that many problems occurred in the implementation of online teaching, including five aspects: imperfect curriculum design, monotonous teaching method, lack of teaching innovation, low engagement of T&S in class, and blocked communication between T&S, which decreases the effectiveness of online teaching.

**1) Curriculum design still needs to be improved.** 62.49% T&S believe that the introduction of online teaching course can greatly arouse students’ learning interests, and consistent curriculum design can support students to achieve learning objectives. However, some curriculum designs are not different from those of offline teaching, which ignores the characteristics of online teaching. Therefore, all aspects of online teaching curriculum design still need to be further strengthened to help learners better participate in class.

**2) Teaching method is monotonous.** 77.85% T&S consider that the most frequent step of online teaching is still “class teaching”. It can be seen that online



teaching is the same as that of traditional face-to-face class teaching, and teachers' teaching is still the main part. However, teachers' unilateral web-teaching may make the effect of "back-to-back" online teaching unsatisfactory.

**3) Teaching mode needs to be innovated.** In the survey of teachers' online teaching mode, the top two are: "live + recorded teaching" (covering 72.19%) and "providing students with materials for self-study" (63.35%). This teaching mode based on live teaching, recorded teaching and students' self-study reduces the communication between T&S, which is a great challenge for the learners with poor autonomous learning ability.

**4) Engagement of T&S in class is reduced.** Compared with offline teaching, 43% T&S chose "reduced engagement" and 39% chose "almost the same" in the online teaching class. It is worth noting that, 55% teachers consider that their online teaching engagement is "improved" while 45% students consider that their engagement is "reduced". There is a significant difference between T&S. At the same time, T&S consider that the most influential factor of online teaching is "attitude and learning engagement to teaching" (covering 25.31%), followed by "students' active participation" (23.77%) (see Fig. 3). It can be seen that in the process of online teaching teachers, especially students' class involvement is reduced, which is exactly the key to the effectiveness of online teaching.

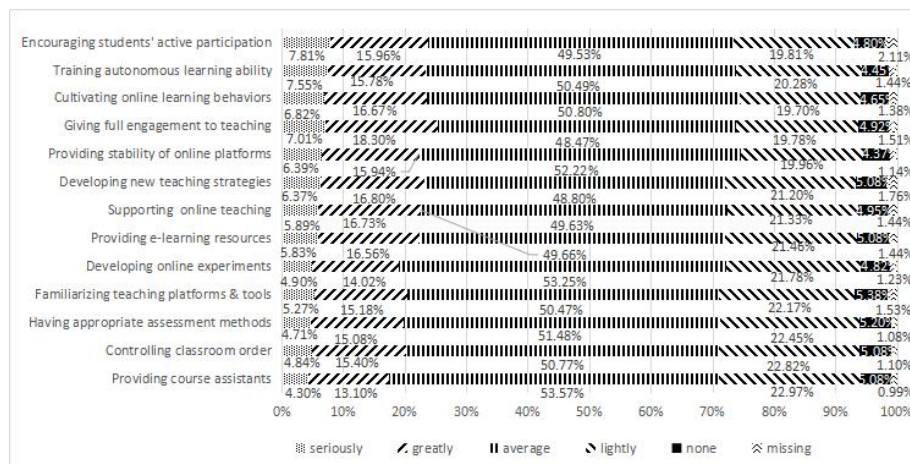


Fig. 3 Assessment on the influencing factors of the effectiveness of online teaching

**5) Communication and supervision are blocked in online class.** The survey found that T&S not only encountered problems in the whole process of online teaching, such as difficulty in focusing attention, difficult to change teaching ideas and habits, and blocked communication and interaction; but more difficulties, such as "lack of teachers' on-site guidance and supervision", "teachers unknowing students' learning state" and "teachers unknowing students' learning results" (see Fig. 4). This problem has also been confirmed in the assessment survey of students' learning behavior. Students can complete their basic tasks and requirements such as completing coursework and obeying discipline. But without the supervision and encouragement,

their attention and autonomous learning ability in the class is not satisfactory.

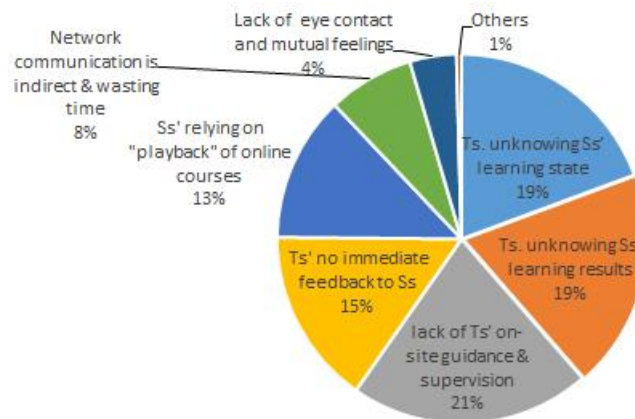


Fig. 4 difficulties encountered by T&S during online teaching

It can be seen that the difficulties in the process of online teaching cannot be underestimated. T&S have encountered a sense of “powerlessness” and “sense of control”, which are different from the offline class. Therefore, teachers should pay special attention to students’ continuous supervision and effective interaction when conducting online teaching, so as to better control the online class.

### 3.3 Feedback needs to be strengthened after class

Feedback and reflection after class is an important part of improving teaching effectiveness and ensuring teaching quality. Especially during online teaching, T&S should make joint efforts to improve and reflect on the problems existing in the process, including the presentation of students’ SLOs, the assessment of T&S and the teaching effect.

**1) The presentation of students’ learning outcomes (SLOs) is monotonous.** During online teaching, the SLOs are still presented in the form of extracurricular exercises (84.6%) and course papers (50.13%). The results of team cooperation and student reports are relatively low. It can be seen that during online teaching, the SLOs are presented in a monotonous way, which is a “one person’s task”, and reduces the cooperation and communication between T&S.

**2. The assessment methods of T&S still need to be improved.** During online teaching, new changes have taken place in teachers’ assessment methods. The top three assessment methods are “teaching workload and teaching time”, “assessors sitting in class” and “students’ assessing teachers”, while students’ assessment methods are coursework completion (79.89%), class attendance (78.82%) and class Q & A behaviors (72.52%). It can be seen that the new assessment methods pay more attention to the assessment of the teaching process. However, in the survey, some students considered that the proportion of assessment content was inappropriate,



and the final coursework score of the course still cover a high proportion, which affected the students' concentration and attention to the online teaching process.

**3. Overall effect of online teaching needs to be improved.** According to the survey results, 34.13% consider that the effect of online teaching is almost the same as that of offline teaching, and 33.55% consider that the effect of online teaching is poor. The differences between T&S are mainly reflected in the two dimensions of "very poor" and "almost the same". 58.48% teachers, 63.64% administrators and 30% students consider the effect is poor. It can be seen that to a certain extent the group differences in the assessment of online teaching effect between T&S reflects the lack of communication after class, and the lack of timely inquiry and reflection of teaching problems, so that the follow-up classes are "as usual", and affect the improvement of teaching effect.

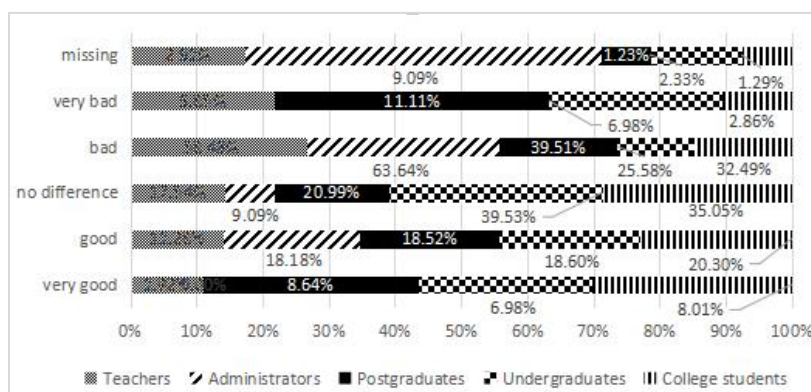


Fig. 5 Assessment of online teaching effect

On the whole, the efforts made by teachers, administrators and students to carry out online teaching are commendable. However, there are still some problems of online teaching before, in and after class, showing the effectiveness of online teaching is unsatisfied, and its effectiveness still needs to be further improved.

#### 4. Suggestions on improving the effectiveness of online teaching

Based on the summary of the problems occurred in large-scale online teaching during the COVID-19 Pandemic, the research group put forward suggestions to improve the effectiveness of online teaching from the following five aspects.

**1) Improving students' autonomous learning ability.** Teaching is an activity that both T&S contribute together, and students are the main important subject of teaching. Only when students improve their autonomous learning ability, develop good learning habits, play their subjective initiative, and actively participate in the class, can the effectiveness of online teaching be further improved.

**2. Developing teachers' information literacy.** Online teaching shows the advantages of information technology application in education and teaching, but it

also puts forward higher requirements for teachers' class control ability. Both HEIs and teachers themselves should take measures to improve teachers' information literacy, so as to better carry out online class. At the same time, the education system is producing a large number of data related to students' learning behavior and results, mining the potential value, improving teaching decision-making and practice also requires the improvement of teachers' information literacy.

**3. Constructing a new teaching idea between T&S.** Online teaching has changed from "face-to-face communication" to "screen-to-screen communication", which reflects not only the distance between T&S, but also reflects the lack of emotion and the reduction of human feelings and greatly hinders the communication between T&S in the teaching process. Teaching is a bilateral activity between T&S. During online teaching, curriculum design, teaching methods, interactive mode, assessment and feedback should all focus on students and build a new teaching idea between T&S.

**4. Exploring blending teaching mode.** In the post-pandemic era, the government and the HEIs should take measures to strengthen the informatization construction of the HEIs, carry out more comprehensive and systematic online teaching for T&S, make use of IT advantages of online and offline teaching, and strive to build a blending" teaching mode of online and offline, in-class and extracurricular convergence, traditional and innovational integration.

**5. Innovating teaching assessment methods.** Reasonable assessment standards and methods are the "touchstone" to reflect and guarantee the teaching effect. Compared with the traditional teaching, online teaching assessment method presents different characteristics and problems, and also needs some reforms and innovations. It adopts multiple assessment methods, such as student self-assessment, mutual assessment, teachers' assessment, and pays attention to the combination of formative and summative assessment.

## Conclusion

From being accustomed to face-to-face teaching to suddenly changing to online teaching, the efforts made by the HEIs, administrators, T&S are worthy of affirming and praise. According to the survey results of the research group, the effect of online teaching during the COVID-19 pandemic is not satisfactory. There are a lot of problems waiting to be solved before, during and after class respectively. However, we can't rush to make a conclusion about the effectiveness of online teaching. The alleviation of pandemic is not the end of online teaching. The improvement and guarantee of online teaching effect still need to be tested by practice and more research by more researchers.