Big Data Analysis of Online Teaching of Finance Major in University Based on Questionnaire Star

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Abstract. In order to find out the problems existing in the online teaching, this paper has collected questionnaires in a university finance major to conduct a big data analysis, and used them to understand the satisfaction degree of the students to the online teaching, and continue to improve the quality of online teaching. The big data analysis was carried out from six aspects: overall satisfaction, satisfaction of teachers' online teaching level, satisfaction of specific categories of online teaching, selection of teaching platforms and comparison of online teaching and offline teaching effects. It made an in-depth analysis of online teaching in a university's financial profession.

Keywords: big data · online teaching · satisfaction

1 Introduction

During the COVID-19 epidemic, colleges and universities adhered to the policy of "no suspension of classes" and used online teaching methods for teaching [1]. How to study the effect of online teaching is a problem worthy of study. This paper takes this as the starting point, carries on the big data analysis through the questionnaire survey, in order to study the network teaching satisfaction.

2 Survey Design and Implementation

The data of online teaching satisfaction is the basis of this paper. The purpose of this big data survey is to understand students' satisfaction with online teaching, so as to find problems in online teaching and continuously improve the quality of online teaching [2]. The questionnaire was collected by "Questionnaire Star" for undergraduates majoring in finance in a university. The students have been doing the questionnaire and have been taking online classes for four weeks. The questionnaire consists of two parts. The first part is about gender, grade and other basic information. The second part is the main content, including 15 multiple choice questions. The questions were assigned with Likert scale (5 very satisfied, 4 satisfied, 3 average, 2 dissatisfied, 1 very dissatisfied).
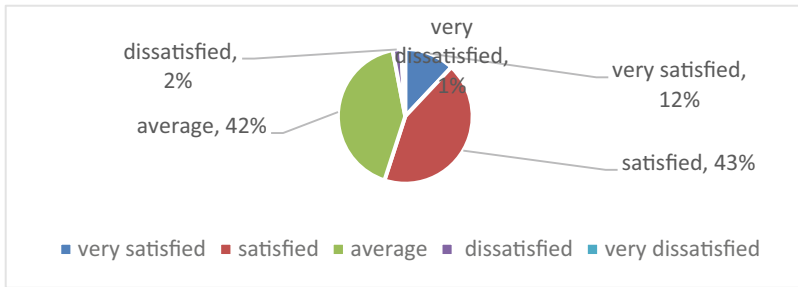
Fig. 1. Overall satisfaction of online teaching [author's drawing]

3   Findings

3.1   Overall Satisfaction of Online Teaching

The big data survey shows that students are generally satisfied with online teaching. Figure 1 shows that 12% of the people are very satisfied with online teaching, 43% are satisfied, 42% have average answers, and only 2% and 1% are dissatisfied or very dissatisfied. The results show that students are more adaptable to online teaching. Since 2020, online teaching has been carried out for many times under the epidemic situation, and both teachers and students have strong and moderate ability to online teaching.

3.2   Satisfaction of Teachers' Online Teaching Level

The big data survey shows that students are relatively satisfied with the overall online teaching level of teachers. Figure 2 shows that 23% of the people are very satisfied with the online teaching level of teachers, 41% are satisfied, 35% are average, and only 1% are dissatisfied. The results show that the online teaching level of teachers has been recognized by most students, and most teachers can adapt to the online teaching mode and have certain online teaching ability [3].
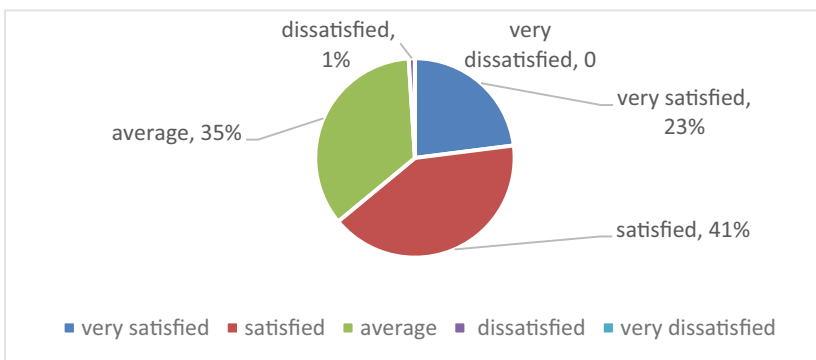

Fig. 2. Satisfaction of teachers' online teaching level [author's drawing]

Table 1. Satisfaction of specific categories of online teaching [author's drawing]

1	Playback at any time	4.35
2	Easy to share high-quality resources	4.26
3	The platform has many functions and is novel and interesting	4.18
4	Facilitate interactive communication	3.96
5	Good classroom atmosphere	3.84
6	Moderate amount of homework after class	3.68
7	Objective evaluation of learning effect	4.01
8	Helps to cultivate the ability of autonomous learning	4.05
9	High online teaching quality	3.47
10	Increased interest in learning	3.92
11	Improve learning efficiency	3.87

3.3 Satisfaction of Specific Categories of Online Teaching

This paper lists 11 specific categories of online teaching. Table 1 shows that the highest score of the 11 sub categories is the first item "can be played back at any time" (4.35 points), and the lowest is the ninth item "high quality online teaching " (3.47 points). The overall satisfaction of the classification items is high, which is consistent with the first survey result of "overall satisfaction of online teaching" [4]. This shows that online teaching basically meets the learning needs of students, teachers can complete teaching tasks, and students can keep up with the teaching progress of teachers [5].

3.4 Selection of Teaching Platform

As shown in Fig. 3, the top three teaching platforms for students to vote are Tencent Conference, Learning Through and Raining Class. Among them, Tencent Conference accounted for 62%, Learning Link accounted for 23%, Rain Classroom accounted for 11%, and other platforms accounted for a very low proportion. Students have experienced different platforms in the course of online classes, and understand the advantages and disadvantages of each platform, which can provide a reference for teachers to choose platforms [6]. The reason why Tencent Conference ranks the highest may be that the conference process is smooth and it is not easy to get stuck, and students can participate in the interaction at any time. Xuetongheyu class can sign in and share resources, and is also very popular with students. However, there are multiple platforms shared in online teaching, that is, different teachers may choose different platforms, and students need to download multiple platforms to use in different courses. The existence of this situation shows that the selection of teaching platforms in online teaching is not uniform, which brings inconvenience to students' classes and school supervision of teaching [7].
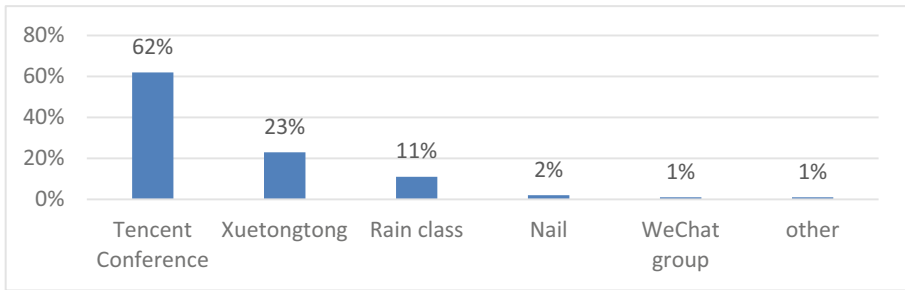
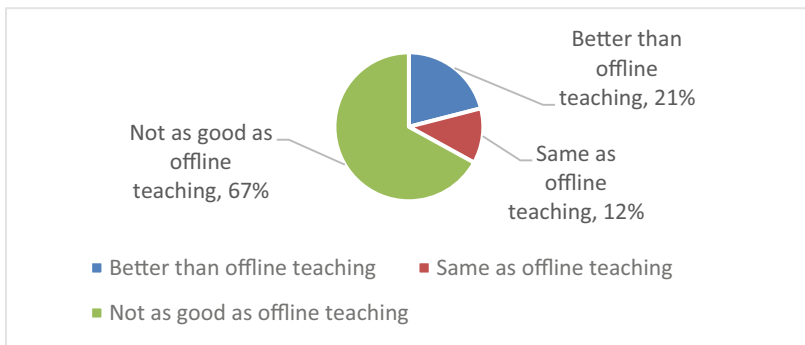**Fig. 3.** Selection of teaching platform [author's drawing]

Fig. 4. Comparison of online and offline teaching effects [author's drawing]

3.5 Comparison of Online and Offline Teaching Effects

The results of the comparison between online teaching and offline teaching are shown in Fig. 4. Only 21% of people think online teaching is better than offline teaching, 12% think online teaching is the same as offline teaching, and 67% think online teaching is not as good as offline teaching. Most students think offline teaching is better, and the possible reasons are as follows. Although online teaching has many advantages for students through the use of teaching platforms, such as sharing resources, signing in, and homework after class, it is relatively difficult to determine the students' true mastery of the course content due to the lack of communication between online teachers and students, and online teaching is less effective than offline teaching. In order to achieve the effect of offline classroom, online teaching still needs continuous exploration and improvement [8].

4 Conclusions

Although the satisfaction of the big data questionnaire survey is high, there are still many problems in online teaching [9]. Online teaching needs a smooth network, and students' collective online teaching is easy to form a network jam. In the classroom, it is easy to generate echo when connecting wheat in online class, which affects the interaction

effect between students and teachers. Online teaching has high requirements for students' learning initiative [10]. Students' self-discipline is worth testing when facing computers for a long time. To improve the effect of online teaching, teachers still need to innovate their teaching concepts in addition to the guarantee of hardware. Online teaching is a new form of teaching, which is different from offline classroom teaching. Therefore, teachers should learn, understand and master online teaching methods and skills with a positive attitude to meet the challenges of online teaching.

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