



Research on the Satisfaction of Undergraduate Internet Teaching Students

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Abstract. Internet teaching is widely used in the study of colleges and universities as the focus of current college education. The survey and analysis of college students' satisfaction with Internet teaching is helpful to evaluate and monitor the quality of Internet teaching, and is of great significance for improving Internet education equipment, improving the level of college Internet education, and cultivating composite education talents. This paper constructs a model of college students' satisfaction with Internet teaching, and analyzes the impact of four antecedents: curriculum type, teaching resources, classroom interaction, and teaching effect on students' satisfaction.

Keywords: Internet teaching · Satisfaction survey · influence factor

1 Introduction

The information age has come, and the way of obtaining information has also changed. The tide of higher education informatization has also followed, and the teaching mode, teaching content and teaching form have been constantly innovated [1]. The cultivation of talents is the fundamental mission of universities and the core function of modern higher education [2]. In order to truly achieve the goal of talent training in colleges and universities, we must attach importance to the students' real feelings about school education and their satisfaction. In particular, Internet teaching is a new teaching method for today's colleges and universities in China, which must be practiced and tested many times. The survey of students' satisfaction can effectively improve the quality of Internet teaching in colleges and universities in China and constantly meet the requirements of college students for learning, thus improving students' learning level.

2 Survey of Research on Undergraduate Internet Teaching Student Satisfaction

2.1 Subjects

This paper takes Shenyang Jianzhu University as an example. In 28 majors, sampling survey method is adopted for freshmen to seniors, and 5 students are selected from each major for survey. 560 questionnaires were distributed, 468 of which were effective, with an effective rate of 83.5%.

2.2 Questionnaire

The questionnaire is a self-designed Questionnaire on Satisfaction of Undergraduate Students of Shenyang Jianzhu University with Network Teaching. The survey questions involve the satisfaction survey of teaching methods, teaching resources, classroom interaction, teaching effects, etc., a total of 34 questions. The Likert Level 5 scale was used for measurement, which was divided into five situations: very satisfied, relatively satisfied, uncertain, not very satisfied and very dissatisfied.

This time, retest reliability method is used to test the trust and reliability of variables. There are four factors that retain the eigenvalue greater than 1, which can be summarized as teaching methods, teaching resources, classroom interaction and teaching effects. The consistency coefficient (K value) of these four factors was measured to evaluate their reliability.

It can be seen that two of the four factors tested have k values greater than 0.8, which is almost identical, and two k values between 0.61–0.80, which is highly identical, which means high reliability, and can be investigated in a large range in the follow-up research process.

2.3 Data Sorting

SPSS23.0 statistical analysis software was used as a data analysis tool.

3 Detailed Data Analysis of College Undergraduate Internet Teaching Students' Satisfaction

3.1 Analysis of Teaching Method Dimension Data

This dimension mainly analyzes students' satisfaction with the teaching methods used by teachers in the course of teaching (Tables 1 and 2). In the satisfaction analysis of the seven Internet teaching methods, the satisfaction with live teaching is the highest, with an average of 34.36%, and the satisfaction with text teaching is the lowest, with an average of 22.97%, as shown in Table 3. It can be concluded that although college teachers have made some innovations in the use of Internet teaching equipment, such as live teaching, video recording and broadcasting, the equipment has not been fully utilized and has not been significantly improved.

3.2 Analysis of Dimension Data of Teaching Resources

This dimension mainly analyzes students' satisfaction with universities, teachers and learning resources provided by APP in online learning, as shown in Table 4.

In the survey of six kinds of teaching resources, students' satisfaction with teaching videos is the highest, with an average of 29.50%, while their satisfaction with online platform curriculum resources such as teaching notes and MOOC is low, with 23.92% and 23.03% respectively. It can be seen that the school's input of teaching activity resources on online teaching platforms such as MOOC is not comprehensive enough, and the use of teaching handouts does not highlight the significant advantages of the Internet, which is not different from traditional teaching forms, so it still needs to be improved.

Table 1. Basic Information of Subjects

	option	Quantity/person	Proportion/%
Gender	male	301	64.32
	female	167	35.68
Age	18–20	116	24.79
	21–23	342	73.08
	Above 24	10	2.14
subject	Engineering	283	60.47
	jurisprudence	85	18.16
	Management	76	16.24
	Art	24	5.13
Course nature	Compulsory	271	57.91
	Elective	197	42.09

Table 2. Reliability test of the scale

Measurement factor	Consistency coefficient/k value
Teaching methods	0.83
Teaching resources	0.88
Classroom interaction	0.76
teaching effectiveness	0.79

3.3 Classroom Interaction Dimension Data Analysis

This dimension mainly analyzes the students' satisfaction with the interactive way used by college teachers in the course of teaching. See Table 5 for the survey and analysis. In the survey of the four forms of classroom interaction, the students' satisfaction with peer mutual help is the highest (29.86%), while the satisfaction with classroom question answering and private chat teachers is low (20.98% and 20.78%, respectively). It can be seen that, on the one hand, compared with other interactive ways, students are more willing to communicate with their peers and learn, but more resistant to communication with teachers. On the other hand, from the overall situation, students are not very active in all the practical classroom interaction methods, so colleges and universities need to pay more attention to this aspect and actively rectify it (Table 6).

3.4 Data Analysis of Teaching Effect Dimensions

This dimension mainly analyzes the relevant factors that affect the teaching effect of the Internet. Through the statistics of eight phenomena that affect the teaching effect, it can

Table 3. Analysis of students' satisfaction with Internet teaching methods

	Extremely satisfied/%	Quite satisfied/%	Uncertain/%	Not very satisfied/%	Very dissatisfied/%	Average value/%
Live teaching	21.15	68.34	45.21	25.64	11.48	34.36
Video recording and broadcasting	17.36	47.25	31.76	31.43	16.14	28.78
Voice message teaching	5.18	6.71	51.63	43.62	21.54	25.73
Text teaching	16.24	41.61	21.56	23.11	12.36	22.97
Autonomous learning	2.54	21.52	35.64	47.33	32.51	27.9
Interactive Q&A	32.65	37.64	33.54	21.61	18.64	28.81
cooperative learning	28.36	46.32	35.65	34.25	15.32	31.98

Table 4. Analysis of students' satisfaction with Internet teaching resources

	Extremely satisfied/%	Quite satisfied/%	Uncertain/%	Not very satisfied/%	Very dissatisfied/%	Average value/%
E-book	11.43	28.75	24.91	36.83	34.06	27.19
Teacher PPT	16.36	22.49	37.62	35.64	32.86	28.99
Teacher handout	13.65	20.57	25.84	21.64	37.94	23.92
Teaching video	21.30	46.87	43.42	20.33	15.58	29.50
Baidu and other web resources	24.56	32.16	37.41	15.64	14.63	24.8
MOOC and other online platform course resources	16.85	31.37	21.36	28.09	17.52	23.03

Table 5. Analysis of students' satisfaction with classroom interaction

	Extremely satisfied/%	Quite satisfied/%	Uncertain/%	Not very satisfied/%	Very dissatisfied/%	Average value/%
Classroom Q&A	32.51	34.65	13.24	10.64	13.87	20.98
Private chat instructor	34.16	24.82	16.84	17.90	10.22	20.78
Peer help answering questions	24.84	43.57	23.64	32.56	24.73	29.86
Summary of questions, and unified answer of teachers after class	21.67	32.75	23.54	33.15	23.51	26.92

Table 6. Students' satisfaction with each indicator of teaching effect

	network environment	learning environment	Students' autonomous learning ability	Student learning attitude	Student learning habits	Teaching methods	Operation arrangement and completion	other
Mean value/%	54	64	48	32	35	56	25	14

be seen that the number of people who think that the learning environment affects the teaching effect is the largest, 64%, followed by the network environment and teacher teaching methods. Eliminate secondary and irrelevant factors, so as to reveal the essential relationship between teaching effect and student satisfaction.

We set student satisfaction as the dependent variable to Y, and set eight factors affecting teaching effect as independent variables to X1, X2, X3, X4, X5, X6, X7, X8, then the regression equation can be expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 \quad (1)$$

Table 7. Partial regression coefficient of each variable and its t-value test

model	Beta	T	P
(Constant)		1.960	.163
Network environment (X1)	.281	2.580	.000
Learning environment (X2)	.232	2.180	.000
Students' autonomous learning ability (X3)	.114	2.603	.000
Student learning attitude (X4)	.123	1.573	.000
Student Learning Habits (X5)	.070	1.356	.000
Teacher's teaching method (X6)	.462	3.338	.000
Operation arrangement and completion (X7)	.034	1.174	.000
Other (X8)	.138	1.713	.000

Table 8. ANOVA^a

model	Sum of squares	degree of freedom	mean square	F	P
regression	217.499	8	54.437	286.059	0.000
residual	108.501	21	.157		
total	326.000	29			

- a. Dependent variable: students' overall satisfaction with teaching effect
 b. Predictive variables: (constant), others, assignment and completion, students' learning habits, network environment, learning environment, students' autonomous learning ability, students' learning attitude, teachers' teaching methods

The stepwise analysis method is adopted. These eight independent variables can enter the regression equation. The results of variance analysis of the regression equation are shown in Table 8, According to the table, the P value of F significance test is less than 0.01, and the difference is very significant, indicating that this model is effective. The t-value test results of the partial regression coefficients of each variable are shown in Table 7. It can be seen that the coefficient of teachers' teaching methods is the largest, which indicates that teachers' teaching methods are the main factor influencing students' satisfaction evaluation of teaching effects.

4 Conclusion

According to the sample survey and analysis of undergraduate students in Shenyang Jianzhu University, the university has high requirements for Internet equipment due to its large number of men and engineering students. According to the above analysis, students are more satisfied with the live broadcast teaching method, as shown in Table 3. This teaching method is more in line with students' expectations and more conducive

to the improvement of learning efficiency. In terms of learning resources and classroom interaction, more attention is paid to the exertion of autonomy, as shown in Table 5. In terms of Internet teaching effects, the requirements for teachers' teaching methods are very high, as shown in Table 7. Teachers need to give full play to the advantages of the Internet to stimulate students' learning interest, so as to deepen their understanding of learning courses.

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