

Comparison of Chinese and Foreign Teachers' Online Teaching in a Sino-Finnish Cooperation Program

Xirun Li, Yihan Gu, Shunxin Hu, Yizhou Xv, Qihao Cheng, Jing Jiang*

Undergraduates of School of International Education, Nanjing Institute of Technology

* Corresponding author. Email: jiangjing@njit.edu.cn

ABSTRACT

By investigating students' satisfaction of the *Software Engineering* Sino-Finnish Cooperation Program at the School of International Education, NJIT, this paper studies and analyzes the differences and existing problems between the online teaching by both Chinese and Finnish teachers. It finds that there are obvious differences between Chinese and Finnish teachers in online teaching. Chinese teachers' online teaching is teacher-centered, while Finnish teachers' online teaching is more student-oriented. Based on the questionnaire survey and references, the influence model of student satisfaction is built, and feasible suggestions are put forward, which can be a good reference for the other Sino-foreign Cooperation Programs in China.

Keywords: *Sino-Finnish Cooperation Program, Online Teaching, Student Satisfaction.*

1. DIFFERENCES IN ONLINE TEACHING BETWEEN CHINESE AND FINNISH TEACHERS

The Sino-Foreign Cooperation Programs mean that foreign organizations, individuals, and relevant international organizations, together with Chinese educational institutions and other social organizations with the status of a legal person, jointly establish educational institutions mainly for Chinese citizens and conduct educational and teaching activities within the territory of the People's Republic of China [1]. The Sino-Finnish Cooperation Programs greatly promote the internationalization of education in China. They not only bring different educational ideas and methods from the West, but also become a new way for higher education in China to cultivate talents. In October 1998, UNESCO held the World Conference on Higher Education in Paris. *The Declaration on Higher Education in the 21st Century: Outlook and World Declaration of Action* adopted by the Conference further pointed out that in today's world, higher education clearly needs a new perspective and new model with students as the center [2]. In 2020, to prevent the pandemic from entering the campus and ensure the safety of teachers and students, the Ministry of Education of China issued a notice requiring the postponement of the opening of the spring semester in 2020. Chinese higher educational institutions (HEIs) responded positively and continued to carry out

teaching activities by using online teaching. As the pandemic has been effectively controlled in China, HEIs have gradually resumed normal teaching order, and the frequency of online teaching has decreased significantly. The adoption of online teaching in large scale during this period has been a valuable experience and potential problems on online teaching arise. In Zhan Xinxiang's opinion, how to give full play to the advantages of online education and integrate it with offline courses organically and seamlessly, so as to maximize the learning effect of students, is the key problem to be solved for the sustainable and healthy development of online education in the post-epidemic period [3]. But at the same time, Richard Clack also points out that the media themselves do not have any effect on learning. Just like any vehicle used to transport vegetables, it cannot change the nutritional structure [4]. The graphic illustration shows that online teaching does not affect the quality of teaching. Wan Kun and others believe that Chinese online teaching has problems such as low online learning satisfaction and general online learning readiness [5]. Based on the Sino-Finnish Cooperation Program of NJIT, this paper compares and explores the differences in the teaching methods of Chinese and foreign teachers' online course teaching and proposes an impact model of student satisfaction with foreign online teaching, which provides reference for the online course teaching of Chinese and foreign teachers and the

development of the Sino-Finnish Cooperation Program of NJIT.

1.1. Differences in Teaching Methods

The online teaching of Finnish teachers is mainly student-centered, with the feelings and gains of students in the learning process as the primary goal of attention. Foreign higher education teaching methods can be generally divided into four categories: the language to convey information, such as teachers teaching method, students self-discussion method, etc.; Mainly by direct perception, such as students visiting method, teachers' demonstration method; Practical training, such as students' experimental method, practice method, etc. Mainly to guide exploration, such as discovery method [6]. In the stage of teaching preparation, foreign teachers' pay more attention to the design of teaching methods and teaching processes. In the course of class teaching, students will usually play their role in class through various methods, and part of the class time will be spent on students' further digestion of knowledge and discussion among each other. The teacher is the guide of the classroom, playing the role of guiding, answering, assisting and so on. Students are participants in the classroom. Through independent thinking and cooperation, they can learn knowledge and improve their professional quality and daily skills accordingly.

For Chinese teachers, although the teaching methods have been improved for many years, in general, Chinese teachers' online course teaching still focuses on teachers. Teachers pay more attention to whether the teaching methods are easy to understand and whether students understand teaching. The content, interaction and self-exploration of students will be reduced accordingly. In the stage of learning preparation, Chinese teachers adapt and modify the PPT they have been using according to the teaching content of the lesson. In the teaching process, the class will be taught according to the knowledge prepared in the previous teaching preparation stage. Less attention will be paid to the students' reaction and feedback in class, and the students' sense of participation in class is not high. At the same time, Chinese teachers maintain absolute control in online teaching, and often correct mistakes in class, which may make students resist thinking and rely on teachers.

1.2. Differences in Teaching Culture

On the surface, there are obvious differences in the methods of online teaching between Chinese and foreign teachers. In essence, the differences in the

cultural backgrounds of their own countries and nationalities are the important reasons. In the Western countries, the teacher-student relationship is relatively relaxed, and classroom seating is more casual. In Western culture, individualism is advocated, and students are encouraged to challenge authority and have the courage to put forward their different views and opinions. In teaching, teachers will give more class time for self-exploration, self-practice, self-practice, and self-summarization, to deepen their understanding of knowledge in exploration and practice. In China, teaching is often carried out in step classrooms. The emphasis is on learning the textbook materials issued by HEIs uniformly, and the teaching atmosphere is serious and conscientious. In traditional Chinese culture, the thought of respecting the teacher and respecting the moral has invisible constraints on the teacher-student relationship and teaching methods. In teaching, the teacher is the sender of knowledge, and the students respectfully receive the teacher's teachings and conduct self-learning after class. The lack of communication in learning, and the teaching behavior that pays attention to the way of presentation and the results of learning, has formed a unique online course teaching for Chinese teachers.

2. INVESTIGATION AND ANALYSIS OF STUDENT SATISFACTION IN ONLINE TEACHING

2.1 Students' Satisfaction

Marketing master Philip Kotler pointed out that "satisfaction refers to the state of pleasure or disappointment formed by an individual through the comparison of the perceptible effect of a product or service with his expectation." A high degree of customer degree is the goal of enterprise marketing [7]. If a HEI is compared to a business, students are just like the customers of the business. The HEI outputs educational and teaching services to students as commodities, and the students can also be considered as the customers. If the teaching management quality of the HEIs are compared to a commodity, students are their consumers. The quality of a product needs to measure the satisfaction of its customers, so it is necessary to measure the satisfaction of education management for students [8]. Narissra *et al.* believe that student satisfaction is the pride of the school they study in [9]. Yang Qingming *et al.* argue that students' satisfaction is an outpouring of their feelings towards the environment they live in [10]. Bryant *et al.* think that student satisfaction refers to the satisfaction attitude generated when universities meet or far exceed students' expectations [11]. Based

on the above relevant literature, this paper concludes that student satisfaction is a state generated in the heart after a deep and comprehensive perception of things and a comparison with the previously formed expectations.

2.2 Research method and Questionnaire Design

In the first stage of the study, the questionnaire is designed into three parts based on the existing research results and relevant questions and information collected from students in the previous stage. The first part is the explanatory part, which mainly explains the content, scope, significance and matters needing attention of the investigation. The second part is the information part. Questionnaires are designed to collect the personal information of respondents in order to explore the influence of personal factors on the teaching satisfaction of Chinese and foreign teachers in online courses. The third part is the investigation part, the main part of the questionnaire. This part consists of five first-level questions and fifteen second-level questions, including subjective and objective questions, all of them are students' perceptual description of the teaching and learning process of Chinese and foreign teachers' online courses, and the investigation of students' personal satisfaction. Students choose according to their own actual situation. The following three multiple choice questions are intended to show that the influencing factors of Chinese and foreign teachers' teaching satisfaction of online courses should also take the individual factors of students into account. Finally, an open question is designed, hoping that students can express the true feelings of Chinese and foreign online course teaching, and put forward their own views and suggestions on online teaching.

In the second stage of the study, the obtained survey data is used for research analysis, and invalid questionnaires are eliminated, and then reliability analysis and validity analysis are carried out respectively. The amos software is used for the data that meets the requirements to construct a structural equation model of student satisfaction and use the obtained fitting index to verify the accuracy of the model. Based on the influencing factors model of student satisfaction obtained in this research, combined with the previous research of relevant scholars, which provides reference for the online course teaching of Chinese and foreign teachers and the development of the Sino-Finnish Cooperation Program of NJIT.

A total of 103 questionnaires were distributed this time, of which 97 were valid questionnaires. The important parts of the document will be introduced next.

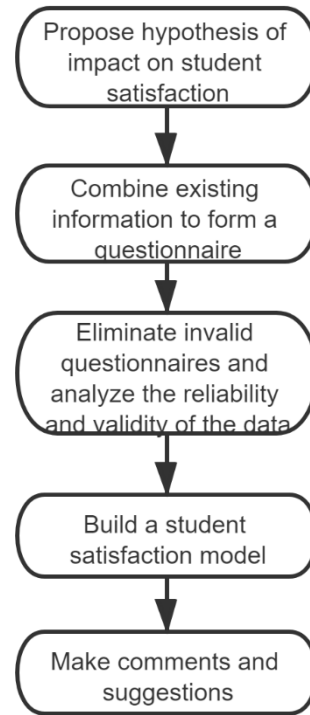


Figure 1 Schematic diagram of research methods

2.3 Data Analysis

2.3.1. Teacher Image Variable

The change scale of teacher image is shown in Table 1. As an important externalized indicator, teacher image reflects the basic professional quality of teachers, which is reflected in three aspects: professional ethics, academic foundation and teaching activity organization and management ability.

Table 1. Teacher image variable

Variable	Number	Metrics
Teachers' image	A1	I am satisfied with the professional ethics of Chinese and foreign teachers

	A2	I am satisfied with the academic skills of Chinese and foreign teachers
	A3	I am satisfied with the teaching organization ability of Chinese and foreign teachers

2.3.2. Student Expectation Variable

The variation scale of students' expectation is shown in Table 2. In online course teaching of Chinese and foreign teachers, students' expectation refers to the comprehensive estimation of the quality of teaching items by learners before receiving the teaching, which is reflected in three aspects: expectation value of the course, expectation value of online platform teaching, and expectation value of learning resources.

Table 2. Student expectation variable

Variable	Number	Metrics
Students' Expectations	B1	I would rather have a Chinese teacher or a foreign teacher to teach
	B2	I expect Chinese and foreign teachers to add more online learning platforms on the existing basis
	B3	I look forward to more learning resources from both Chinese and foreign teachers

2.3.3. Obtaining Value Variable

The variation scale of acquired value is shown in Table 3. The value gained in the teaching of Chinese and foreign online courses is obtained in the following three aspects after the comprehensive consideration of the time and energy spent by learners and the gains gained by learners.

Table 3. Obtaining value variable

Variable	Number	Metrics
Received value	C1	Chinese online teaching vs. foreign online teaching knowledge
	C2	The ability of Chinese online teaching to analyze and solve problems independently compared with foreign online teaching
	C3	Chinese online teaching is more systematic and complete than foreign online teaching

2.3.4. Quality Perception Variable

The variation scale of quality perception is shown in Table 4. In Chinese and foreign online course teaching, quality perception refers to the quality of each link in the teaching process. In this study, quality perception refers to students' perception of the quality of Chinese and foreign online course teaching services. The survey design of quality perception is divided into the following four aspects.

Table 4. Quality perception variable

Variable	Number	Metrics
Student loyalty and satisfaction	E1	I think whether Chinese online courses are more beneficial to my future development than foreign online courses
	E2	I would recommend more students to participate in Sino-foreign Cooperation education projects through online teaching
	E3	Chinese online course teaching and foreign online course teaching, which one is more satisfied

2.3.5. Student loyalty and Satisfaction Variable

Variable scales of student loyalty and satisfaction are shown in Table 5. Students' loyalty and satisfaction most directly reflect students' views on online course teaching by Chinese and foreign teachers. In order to measure students' actual feelings in online course teaching by Chinese and foreign teachers, the survey was conducted from the following three aspects.

Table 5. Student loyalty and satisfaction variable

Variable	Number	Metrics
Quality perception	D1	Can Chinese online courses compare with foreign courses to keep up with the cutting-edge and integrate theory with practice
	D2	Can Chinese online courses provide more learning resources on the learning platform than foreign online courses
	D3	Compared with foreign online courses, the Chinese online courses are designed more abundantly and in more forms

2.4 Reliability and Validity Analysis of The Questionnaire

2.4.1. The Reliability Analysis

The reliability analysis of the recovered data was carried out with SPSS software to determine the reliability and accuracy of the quantitative data. The reliability coefficient Cronbach α of each variable in the questionnaire was found to be between 0.76 and 0.95, all greater than 0.7, and the reliability index of each variable was acceptable.

Table 6. Reliability analysis table

Variable	Cronbach α coefficient
Teachers' image	0.838
Students' Expectations	0.761
Received value	0.929
Quality awareness	0.952
Student loyalty and satisfaction	0.822

2.4.2. Validity Analysis

The validity of the questionnaire is an important factor to ensure the accuracy of the investigated things. The higher the validity of the questionnaire, the more truly the measurement results can reflect the properties of the tested things. According to the purpose of the questionnaire design and the characteristics of the respondents, the author ensures the rationality and consistency of the design of the questions. After listening to the instructor's opinions on the conformity

and rationality of the questionnaire, the formal questionnaire is formed. Therefore, the questionnaire of this study has been carefully designed and scientifically modified, so the validity of the questionnaire is high. In order to represent the validity of the questionnaire more objectively, validity analysis was conducted on the recovered data, and the KMO values of each variable in the questionnaire were all above 0.7, indicating that the validity of the data was good.

Table 7. Validity analysis table

Variable	KMO value
Teachers' image	0.729
Students' Expectations	0.773
Received value	0.743
Quality awareness	0.759
Student loyalty and satisfaction	0.769

2.5 Questionnaire Model Establishment

The author establishes a model for the data related to the satisfaction of Chinese and foreign teachers in online course teaching by using five variables. After analyzing the survey data of the satisfaction of Chinese and foreign teachers in online course teaching and combining with relevant references, the structural equation model made by AMOS is shown in Figure 2.

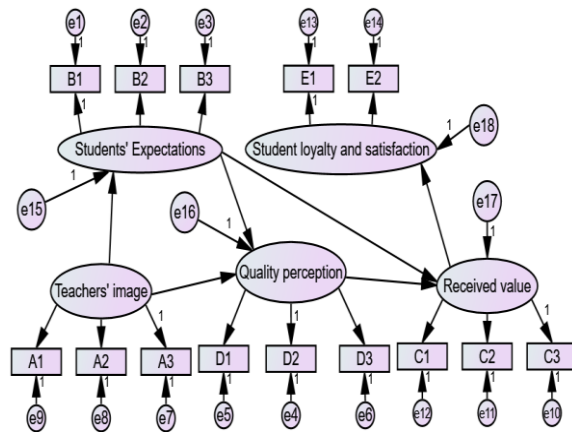


Figure 2 Structural equation model

Then analyze the Estimate and Cr values of variables, and the results are shown in Table 8. From Table 8, it can be seen that the Cr value is greater than 2, indicating that these variables are completely significant.

Table 8. Estimate,CR value

	Estimate	C.R.
Quality awareness <--- Students' Expectations	0.631	5.19
Received value <--- Students' Expectations	0.342	2.848
Received value <--- Quality awareness	0.701	4.622
Student loyalty and satisfaction <--- Received value	0.939	8.989

In order to judge the fitting degree of the whole model, other fitting indexes of the model were verified. Generally speaking, CFI value is greater than 0.9, RMSEA value is less than 0.08, and CMIN/DF value is less than 3, which indicates that the model has a high degree of fit. Amos was used for data analysis, and the results were shown in Table 9, which basically met the ideal state, and the overall fitting index of the model was reasonable.

Table 9. Other fitting indexes

Fit index	CMIN/DF	RMSEA	CFI
Results	2.252	0.091	0.85

3. QUESTIONNAIRE MODEL ANALYSIS

3.1. Construction of Student Satisfaction Model

The model of influencing factors of students' satisfaction in online course teaching for Chinese and foreign teachers is based on a new thinking on the problem from the perspective of students. The author constructs the model affecting student satisfaction from the perspective of students and verifies the fitting degree of the model, so as to obtain the student satisfaction model that meets the expectation. The final model of student satisfaction is shown in Figure 3.

3.2. Problems Existing in Online Course Teaching for Chinese and Foreign Teachers at present

Variables of teachers' image after the results of statistics, the magnitude scale ZhongWaiFang teachers' professional ethics, academic skills, teaching organization and management ability degree of

satisfaction scores were 4.21, 4.16, 4.08, the Chinese teacher's professional ethics, academic skills, teaching organization and management ability degree of satisfaction score of 3.82, 3.71, 3.71, respectively. Therefore, the image of Chinese teachers is worse than that of foreign teachers.

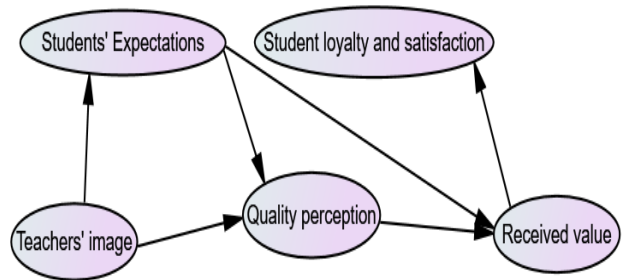


Figure 3 The final model of influencing students' satisfaction with Chinese and foreign online courses

According to the results of the questionnaire survey, more than 60% of the respondents think that Chinese and foreign teachers need to add more online learning on the existing basis, and more than 70% of the respondents think that Chinese and foreign teachers need to introduce more teaching resources.

Through cross-analysis of different variables, it is found that students of different genders and ages have great differences in teaching satisfaction with Chinese and foreign teacher' online courses. Male students' satisfaction with foreign online courses is 37 percent higher than female students, and their expectations for foreign online courses are 27 percent higher than female students. As I grow older, my expectations and satisfaction with online courses in China gradually increase.

On the five-point scale, those who expect more from a Chinese online course score 3.47, while those who expect more from a foreign online course score only 2.53. Judging from their scores, students' expectations of foreign courses are low.

3.3. Suggestions for Existing Problems

Based on the summary and analysis of the above research and the reference of the literature, the following suggestions are summarized to prepare for the high-quality development of teaching in the future.

Through the analysis of the data, it is found that the image of foreign teachers is more likely to win the satisfaction of students. It can be seen that some Chinese teachers are partially deficient in professional

ethics, academic foundation, teaching activity organization and management ability, etc. In teaching, I can organize teaching activities more scientifically, treat teaching more rigorously, pay more attention to the correction of details and annotation in the correction of course assignments, and improve my teaching image by strengthening my teaching quality.

During the study found that the students' individual variables have larger influence on student satisfaction, focus on how to improve students' interest in online courses, focus on what students can pass the course how much knowledge and improve ability, through improving the quality of online courses and value, really will Chinese and foreign teachers do online courses teaching take the student as the main body, To improve students' harvest of online course teaching by Chinese and foreign teachers, and reduce the gap of individual satisfaction with online course.

From the point of data analysis and recommendations to students, the students hope to have more to online learning resources to assist teaching, the teaching designers and implementers need to be attention, if not enough learning resources to help students complete the study, will affect students' value and quality awareness, thus reducing student satisfaction. Therefore, educators should provide students with better learning resources and a better learning environment, which is more conducive to improving student satisfaction.

At the end of the questionnaire, we designed an open question: Could you please talk about what needs to be improved in the online course teaching of Chinese and foreign teachers at this stage? The students participating in the survey all put forward valuable suggestions. The main problems are as follows. It is hoped that Chinese and foreign teachers' online course teaching will be conducted in the form of live broadcast rather than recorded in advance. Secondly, it is hoped that foreign teachers will be able to compare the courses. More difficult content will be explained, and it is hoped that teaching administrators and teachers can seriously consider the opinions and suggestions put forward.

4. CONCLUSIONS

Based on literature and concepts, this paper uses questionnaire survey and structural modeling methods to analyze the models that affect student satisfaction and find out the relevant variables that have an impact on student satisfaction. The concentrated analysis of these variables points out the problems existing in the

teaching of Chinese and Finnish online courses are discussed, and suggestions that are beneficial to the teaching of Chinese and foreign online courses are put forward.

From the perspective of students, this paper establishes a theoretical model of student satisfaction of Chinese and foreign teachers in online course teaching and conducts data analysis to analyze and evaluate the student satisfaction of the School of International Education at NJIT, which provides good development materials for the progress of education. However, with the progress of the research, there are still some deficiencies in this part. When the author conducted literature research, although scholars all maintained a positive attitude towards the importance of student satisfaction, the research in this direction has not reached a further consensus, so different scholars have produced different research standards and theoretical models for the model research of student satisfaction. At the same time, this study also has limitations, because limited by the sample size and sample breadth, the model obtained in this study may be used in similar studies with deviation, which also needs further in-depth study by scholars.

ACKNOWLEDGMENTS

This paper is financially supported by the Undergraduate Science and Technology Innovation Fund Project of Nanjing Institute of Technology (No.TB2021016009).

REFERENCES

- [1]. L. Chen, S. Dong, Standardizing in opening up and strengthening in cooperation: Investigation and thinking on the status quo of Sino-foreign cooperation in running schools, *Strait Science* (04) (2003) 34-35.
- [2]. B. Fang, M. Chen, Analysis of influencing factors of student satisfaction with engineering undergraduate teaching quality, *Higher Education Research* (06) (2010) 78-83.
- [3]. X. Zhan, Analysis of the development of online education in colleges and universities in the post-epidemic period, *Science and Technology Vision* (23) (2020) 1-3.
- [4]. R.E. Clark, Reconsidering research on learning from media, *Review of educational research* 53(4) (1983) 445-459.
- [5]. K. Wan, X. Zheng, Y. Ren, Are you ready for large-scale online learning? ——Thinking about

- online learning and smart technology application in the post-epidemic period, *Journal of Distance Education* 38(03) (2020) 105-112.
- [6]. B. Li, *Teaching Theory*, People's Education Press, Beijing, 2001.
- [7]. <https://wenku.baidu.com/view/720057e40975f46527d3e19b.html>
- [8]. X. Liu, *Research on Student Satisfaction of Hebei University of Science and Technology Based on Structural Equation Model*, Hebei University of Science and Technology, Hebei, 2019.
- [9]. N.M. Punyanunt-Carter, J.J. De La Cruz, J.S. Wrench, Investigating the relationships among college students' satisfaction, addiction, needs, communication apprehension, motives, and uses & gratifications with Snapchat, *Computers in Human Behavior* 75 (2017) 870-875.
- [10]. Q. Yang, G. Shui, Investigation on "Satisfaction" of College Students, *Exploration* (02) (2003) 27-32.
- [11]. A.M. Alemu, J. Cordier, Factors influencing international student satisfaction in Korean universities, *International Journal of Educational Development* 57 (2017) 54-64.