



Information Teaching Design of International Business Negotiation Based on BOPPPS Model and Intelligent Teaching Platform

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Abstract. Information technology is conducive to improving the digital, networked, and intelligent level of teaching management, and promoting educational decision-making and management. In recent years, the teaching mode based on information has evolved in many forms, but the informatization of some practical courses lags behind other theoretical courses. Based on this reason, this paper analyses the current application of information technology in teaching, as well as the status quo of teaching informatization of various courses. Using BOPPPS model, combined with the advantages of intelligent teaching platform, the course of international business negotiation is designed by information teaching. The teaching design is carried out and the comparative experiment is carried out. Through the data analysis of teaching experiment results, the problems found in practice are summarized, and the possible development direction in the future is put forward.

Keywords: Education Informatization · BOPPPS Model · Intelligent Teaching Platform · International Business Negotiation

1 Introduction

Education informatization is based on information system, data resources, infrastructure as the basic elements, using information technology to change management concepts, innovate management methods, improve management efficiency, support educational decision-making, management, and service. Driven by data, the use of information technology to improve the digital, networked, and intelligent level of educational process and teaching management will promote the great transformation of educational decision-making and education management.

China's education informatization started relatively late, but it is developing rapidly. The infrastructure has begun to take shape, the investment is constantly increasing, wireless networks are spread across campuses, and resource sharing has become the norm [1]. In addition, various information-based teaching methods based on big data emerge in an endless stream, represented by MOOC (massive Open Online Courses) and SPOC (Small Private Online Course). The blended teaching mode using intelligent teaching platform has also derived a variety of variations. However, most of the teaching

information, or blended teaching model based on new technology, is mostly used in theoretical courses. The teaching informatization of practical courses is in a state of polarization. How to make better use of the existing information technology to optimize practical courses is the key to adapt to the development of The Times and improve the quality of teaching.

2 Current Situation of the Application of Information Technology in Teaching

Modern information-based teaching is a process of deep integration of intelligent technology, Internet of things technology, cloud computing, network communication technology and teaching based on traditional teaching model [3]. A large amount of teaching data is collected by computer, mobile phone and other intelligent terminals, and the data is processed and analysed. Then the information technology is used to establish student behaviour model, learning support and evaluation, resource sharing and so on. Finally, students can carry out personalized learning through intelligent terminals; teachers carry on teaching management through intelligent terminal; teaching managers make scientific decisions through intelligent terminals. The data left on each intelligent terminal will be collected and fed back, eventually forming a closed loop of information technology application [4]. See Fig. 1 for details.

At present, the more common information technology in the process of teaching includes intelligent teaching platform, intelligent examination system, intelligent teaching robot, intelligent question answering system and so on. Among them, intelligent teaching platform is used most. See Table 1 for details.

There are significant differences in the application of information technology in teaching according to the nature of the course, as follows:

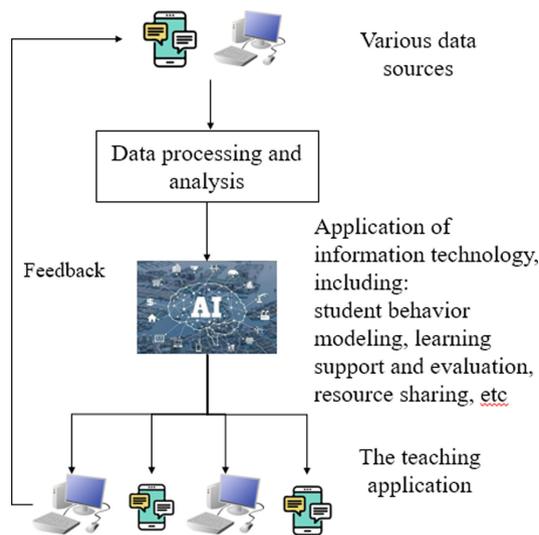


Fig. 1. Application of information technology in education

Table 1. Common information teaching tools

Name	Function Introduction
Intelligent teaching platform	Provide personalized learning solutions for teachers and students, push data, personalized services, analyse the learning process, build learning environment, support independent learning and collaborative learning.
Intelligent examination system	Real-time data statistics and analysis, test the learning effect, reduce the burden of teachers.
Intelligent teaching robot	Act as a teacher and complete classroom teaching tasks independently.
Intelligent Q&A system	Timely answer the difficult problems encountered in the learning process of students, improve the teaching efficiency.

2.1 The Present Situation of Teaching Informatization in Theory Course

Theoretical courses refer to courses in which the number of theoretical hours is greater than the number of practical hours. In traditional theory teaching, lecturing is a common teaching method. With the rapid development of information technology, the integration of information technology and face-to-face teaching has become popular. The theory course is the first type of course to try to use this teaching method. It is a mode of online teaching carried out by video-processing the teaching content and publishing it on the teaching platform, combined with other resources and activities on the platform.

2.2 The Present Situation of Teaching Informatization in Practice Course

Practical courses refer to courses whose practical hours are greater than or equal to the theoretical hours. In addition to social practice, which is directly practiced in the enterprise, professional practice courses are mainly divided into two categories: one is the practice course with simulation system, and the other is the practice course without simulation system.

2.2.1 Practical Courses with Simulation Systems

Practical courses with simulation system mainly include those based on fixed scenes with clear operation procedures, such as international trade practice, customs practice, accounting practice, etc. [5]. Because of the clear process and fixed scene, this kind of course can complete the study of business operation by establishing online simulation system. The teaching process usually revolves around the simulation of the system, which itself can record and evaluate the learning process. Therefore, this kind of courses in many schools do not carry out more popular information teaching mode.

2.2.2 Practical Courses without Simulation Systems

There are two types of practical courses without simulation system. One is practical courses that can carry out concrete operation, such as common engineering practice and medical practice. In this kind of practical class, the problem of online resources can be solved by the teacher recording real operation videos in practice. The other class is those practical courses that are difficult to visualize and usually exist in the form of cases and projects, such as international business negotiation, strategic management, marketing and so on. Compared with pure theoretical courses, this kind of courses pay more attention to the combination of theory and practice, and lags behind in the construction of teaching process informatization compared with pure theoretical courses.

3 The Teaching Pain Points of International Business Negotiation

3.1 Basic Information of the Course

International Business Negotiation is a general course of economic management, which is a typical combination of theory and practice, without simulation system and difficult to carry out concrete operation. Due to the particularity of business negotiation, its practice process is usually based on case negotiation simulation, which has many similarities with other cases and project-type practical courses, and is more difficult to handle online than theoretical courses.

3.2 The Difficulty of Teaching Informatization

The course of international business negotiation is a very practical and applied course. In addition to the traditional teaching method, the commonly used teaching methods also include case method, simulation negotiation method and so on. Compared with the theoretical course, the knowledge of this course is less, and it is relatively easy to understand. Therefore, in the offline teaching process, special attention is paid to the interaction with students and the comments after students' performance. After the online course, the interaction between teachers and students has been dislocated in space and time, so the traditional interaction mode is no longer applicable.

4 Information Teaching Design of International Business Negotiation Based on BOPPPS Model and Intelligent Teaching Platform

The BOPPPS model was initially created by the Canadian Skills Training Workshop, which consists of six steps: Bridge-in, Objective, Pertest, Participatory, Learning, Post-test, and Summary [2]. Many subjects have been applied and good teaching effects have been achieved. In view of this, based on intelligent teaching platform and BOPPPS model, the course of "International Business Negotiation" is re-constructed with information technology.

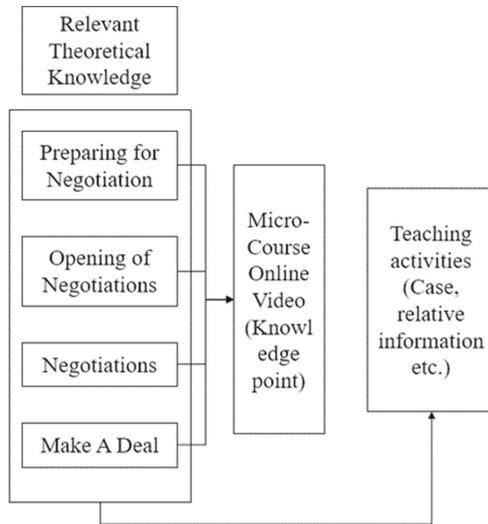


Fig. 2. Chain content design and related online resource construction of international Business Negotiation course

4.1 Integrate Related Knowledge Points to Reconstruct Intelligent Teaching Platform Resources

Business practice courses are basically practical applications in a certain scene, and most of them have clear workflow or logical thinking. Therefore, by summarizing knowledge points and implementing “chain” teaching, students can strengthen their understanding of professional knowledge and improve their application ability, to build a better curriculum knowledge system.

The process of international business negotiation includes four main parts: negotiation preparation, opening of negotiation, negotiations and make a deal, which constitute the basic content of knowledge “chain”. Since the negotiation process can only be carried out with the explanation of relevant theoretical knowledge, the “chain” consists of five basic parts. After the chain is determined, online resources are designed according to the characteristics of each part of the chain, which mainly includes two aspects: one is micro-lecture videos around important knowledge points, and the other is teaching activities around the practice part. Related online resources mainly include case content and relevant materials. The teaching activities mainly focus on the course content with practical hours. During international business negotiation, it is mainly the last four parts of the chain. See Fig. 2 for details.

4.2 Information Teaching Design Based on BOPPPS

Based on the course nature of international business negotiation and the functional characteristics of intelligent teaching platform, the research group carried out information teaching through BOPPPS model. The three links B, O and P are completed using the platform. Before class, teachers publish learning videos on the platform, push learning

Table 2. BOPPPS teaching design based on intelligent teaching platform

	Teaching link	Teachers' task	Students' task
Before class	Bridge-in	Release learning videos on the intelligent teaching platform	Learn basic knowledge through videos
	Objective	Push preview courseware on the intelligent teaching platform to clarify learning objectives	Courseware learning, clear goals
	Pertest	Push cases on the intelligent teaching platform	Collect relevant data, try to analyse cases
In the class	Participatory Learning	Around the case, organize classroom teaching, organize students to analyse and evaluate	Present analysis
After class	Post-test	Push relevant discussions or questions according to the cases on the intelligent teaching platform	Students modify their own analysis according to the teacher's summary in class and upload it to the intelligent teaching platform
	Summary	Push extended learning materials on the intelligent learning platform, and give feedback to students' analysis	Carefully study the teacher's feedback, summarize the content of this section, and submit a learning summary on the platform

materials, and clarify learning objectives; Students conduct video learning, courseware learning and case analysis on the platform. In this way, Bridge-in, Objective and Participatory Learning are completed. In class, Participatory Learning is completed. Teachers organize classroom teaching and complete feedback. After class, we also rely on the platform to push cases and extend learning, and students upload the modified case analysis and summary to complete the Post-test and Summary. The specific teaching design is shown in Table 2.

5 Teaching Experiment

5.1 Experimental Subject

Class 1 and Class 2 of 2021 International Business major were selected for comparative experiment. In terms of students' entrance results, Class 1 is relatively better, so we choose Class 1 as the control class and Class 2 as the experimental class. Both classes have 30 students. In addition, the content, and teachers of the two classes are the same.

Table 3. List of cases discussed in international Business Negotiation

Chapter	Case
Preparing for Negotiation	Negotiations on water supply
Opening of Negotiations	Negotiations on Joint Venture
Negotiations	Negotiations Relating to Price
Make A Deal	Calling for Bids and Bidding

5.2 Teaching Process

The teaching materials of Dong Lili edition of International Business Negotiations, third edition are used. The course has 32 h, including 16 theoretical hours and 16 practical hours. The traditional offline teaching method is adopted in the control class, and all teaching activities are completed offline. The experimental class is taught according to the BOPPPS teaching design based on the intelligent teaching platform. The cases involved are the same, choose water supply negotiation, joint venture negotiation, price negotiation and bidding negotiation. See Table 3 for details.

5.3 Teaching Evaluation

The teaching evaluation system of International Business Negotiation in the experimental class is designed into two parts, offline evaluation and online evaluation, each accounting for 50%. The offline evaluation is relatively simple, that is, the comprehensive assessment negotiation case analysis report submitted at the end of the semester.

The online evaluation is all completed based on the online platform, which is divided into three parts, online learning, online activities, and online homework. Online learning for 10% of the total score, including students' online video learning, online document learning, etc. Online activities, which account for 20% of the total score, mainly include case discussion or negotiation results uploading, in addition to other student discussions, questionnaires, sign-in, etc. Three evaluation methods are introduced in the online activities: teacher evaluation, student mutual evaluation and group mutual evaluation. Online homework accounts for 20% of the total score, mainly including the consolidation of knowledge or extension of learning assigned by teachers after class. See Fig. 3 for details.

The teaching evaluation of the control class is also divided into two parts, each accounting for 50% of the weight. Compared with the experimental class, the difference is that the online evaluation is replaced by the usual homework. The evaluation methods and principles of daily homework are consistent with online evaluation, and evaluation is carried out according to students' activities, discussions and homework in class. Only the 10% of the results of the online relevant materials are inconsistent, and the control class will be replaced by attendance.

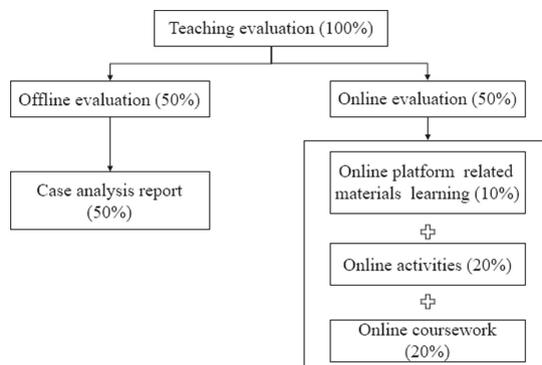


Fig. 3. Teaching evaluation system of International Business Negotiation

Table 4. Comparison of the number of students in the score section between experimental class and control class

Score	Control Class		Experimental Class	
	Number	Proportion	Number	Proportion
100–90	1	3.33%	2	6.67%
89–80	15	50.00%	19	63.33%
79–70	13	43.33%	9	30.00%
69–60	1	3.33%	0	0.00%
≤59	0	0%	0	0%
Average Score	81.11		82.6	

5.4 Evaluation of Experimental Results

After the teaching experiment, the two classes were evaluated by the above evaluation method, and the experimental results were fed back by the scores. From the point of view of the final score, the overall score of experimental class is significantly higher than that of control class, with more than 80 points accounting for 70%, far more than 53.33% of the control class, and no one has less than 70 points. The average score was 1.49 points higher than that of the control class. See Table 4 for details.

Because the two classes had different methods for 10% of the total score evaluation, homework scores and classroom performances with the same assessment content and scoring standards were selected for further analysis. These two sections will account for 40% of the total grade. SPSS software was used to analyse the evaluation data, and the average value was selected, which passed the t-test, and $p < 0.05$, indicating that the difference was significant and statistically significant. As can be seen from Table 5, the performance of the experimental class is significantly better than that of the control class.

Table 5. Comparison Table of Grades

Class	Sample Size	Homework Scores	Classroom Performances
Control Class	32	85.3	84.67
Experimental Class	32	86	89.75
T		2.537	2.433
P		0.019	0.023

5.5 Analysis of Experimental Results

From the above experimental results, it can be seen that the scores of the experimental class are significantly higher than those of the control class, which indicates that the teaching effect of the information teaching design of International Business Negotiation based on BOPPPS model and intelligent teaching platform is better than that of the traditional teaching mode. The online interaction mode broadens the learning space of students, lengthens the learning time of students, is more conducive to teachers to master the learning situation of students, is conducive to two-way feedback, and at the same time, it plays a role in promoting the active classroom atmosphere and improving the classroom teaching effect.

6 Conclusions

Through the integration of BOPPPS model and intelligent teaching platform, the curriculum reform of international business negotiation has achieved good results. Through 4 semesters of practice and process optimization, the course has accumulated 582 students, 210,000 page views and more than 2000 interaction times. The teachers' student evaluation scores were among the top in the school, and the students' classroom participation was mentioned to be 100%. The final grade also increased gradually from the average of 70.6 to 82.6. However, there is still a prominent problem that the existing technology cannot be effectively evaluated.

The student team often has students who are perfunctory, resulting in a low score of the uploaded homework, which affects the team's score, and leads to a low score of the students who perform well in the team. We also tried to introduce intra-group and inter-group evaluation to solve this problem, but it brought another problem, students grading emotional, no distinction, or malicious low marks.

For the course International Business Negotiation, we also try to use VR technology, hoping to deliver the case background to students through visual transmission. However, we are still exploring and the related cost is high, so we haven't applied it in the classroom.

The thesis comes from the practical analysis and experience, and there are many improper places, I hope colleagues are not stingy to correct.

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