

# Practical Exploration of Blended Teaching Model in Colleges and Universities

Xiaolu Ye, Yongfeng Diao

Sichuan University of Arts and Sciences, Dazhou Sichuan 635000, China.

---

## Abstract

With the coming of information society, educational informatization has entered a new stage of development, and information technology has brought an unprecedented change to higher education. To promote the deep integration of information technology and higher education, by reforming the traditional teaching mode, the blended teaching mode formed by combining face-to-face teaching with online teaching, which integrates the advantages of traditional face-to-face teaching and new online teaching, effectively improves the efficiency of teaching, and better achieves our teaching objectives and the ideal teaching effect. In the environment of adequate teaching resources, the concept of blended teaching is introduced into the university teaching, the flexible and diverse ways are used to teach, which emphasize not only the leading role of teachers but also the main position of students. With the increasing number of college students, it is necessary to improve the current teaching quality and cultivate comprehensive talents with both professional knowledge and innovative spirit, so that the existing information environment can give full play to achieve greater benefits. Based on the related concepts and theoretical basis of blended teaching, this paper analyzes the challenges and difficulties in the development of blended teaching in colleges and universities, which expect colleges and universities better promote blended teaching to provide for reference.

## Keywords

Blended teaching, Teaching model, College education.

---

## 1. Introduction

With the coming of information society, educational informatization has entered a new stage of development, and people's ideas have been greatly updated and changed, among which the most important renewal is: "student-centered" educational thought gradually turned to the blended teaching thought symbolized by B-Learning<sup>[1]</sup>. In recent years, more and more experts at home and abroad believe that the combination of online teaching and face-to-face teaching will become the inevitable orientation of future education through the constant introspect on online teaching. Blended teaching can effectively make up for the advantages and disadvantages of traditional teaching and network teaching mode, and realize the optimal allocation and integration of educational resources. It combines the two makes the construction of new teacher-student relationship and the deepening of multiple interactive learning concept become an important trend in the future.

## 2. Research Status of Mixed Teaching Model

The emergence of mixed teaching mode provides new ideas for educational reform and new channels for the transformation of learning mode. From "digital learning" to "Blended learning", blended teaching mode has become an inevitable tendency.

The main focus of blended teaching abroad is corporate training and distance learning. Since the end of 1990s, online education has been rapidly developed and technologically innovated. In this process, people's understanding and reflection have been gradually deepened, the blended learning has first appeared in the field of corporate training. For example, Thomson and General Motors uses blended training for its employees. In the meantime, foreign countries have gradually extended the research results and experience to the field of education, which make the usage rate of blended teaching rise gradually. Since 2005, Korea National Open University has introduced blended coaching for freshman to help them adapt to the environment and learn better. The University of Florida has adopted a mixed learning approach to master's degree in business administration and on-the-job doctoral programs in pharmacy<sup>[2]</sup>.

Kekang He<sup>[3]</sup> points out that blended teaching is to combine traditional learning with E-learning advantages. Kedong Li and Jianhua Zhao discussed the theoretical basis, basic principle, process design and application mode of blended learning<sup>[4]</sup>, Ronghuai Huang and others believed that blended learning is a teaching strategy evolved from E-Learning, which provides a new way of thinking and method for the current teaching reform in colleges and universities<sup>[5]</sup>. Weidong Chen et al analyzed the essence of blended learning from four dimensions: human, technology, environment and method. They believe that blended learning is a rational regression of learner's congration of learning process and outcome based on technology support environment, and the key to its successful implementation lies in paying attention to the integration of these four dimensions, which serves the needs of human development and cognition, skills and emotional learning<sup>[6]</sup>. Xiang Li and others summarized the six mixed dimensions of blended teaching, which are the blending of teaching methods, learning methods, interaction methods, teaching tools, evaluation methods and teaching resources<sup>[7]</sup>. In July 2015, Tsinghua University set up the blended teaching workshop, which became the first teaching and research integrated organization of blended teaching in China.

### **3. Connotation and Theoretical Basis of Blended Teaching Model**

#### **3.1 Connotation of the blended teaching model**

Blended teaching first originated in the United States, western countries used to refer to "blended teaching" as "blended learning" from the perspective of learners<sup>[8]</sup>. The English word for blended learning abroad is "Blended Learning", sometimes uses "Blending Learning" or "B-Learning". But most of domestic scholars equate the concepts of blended learning and blended teaching directly, such as Shengquan Yu, Qiliang Zhang and other scholars in the use of Blended Learning, the concepts of "blended learning" and "blended teaching" are not treated differently. So far, there is no unified conclusion about blended teaching, and the similar names and terms are still being replaced. This paper holds that the blended teaching mode refers to the combination of traditional classroom teaching and online courses, it is a teacher-led and student-centered compound learning method that based on various teaching modes and means.

#### **3.2 Theoretical basis of blended teaching model**

##### **3.2.1 Mastery learning theory**

The so-called "mastery learning" is guided by the learning concept that "most students can master", based on collective teaching, supplemented by regular and timely feedback, which provides students with the individualized help and the extra study time they need, so that most students may achieve the mastery standards stipulated in the teaching objectives. Bloom believes that as long as enough time and proper teaching are given, almost all students can reach a level of mastery over what they learn. The core of mastery learning lies in giving students enough training opportunities to ensure enough training time; meanwhile, teachers should give students regular feedback and evaluation to improve students' interest and confidence in learning. Mastery learning theory emphasizes that teachers should diagnose and pay more attention to the whole learning process of students, analyze their personality characteristics and learning ability, and understand students' mastery of knowledge.

In the blended teaching, the positive communication and interaction between teachers and students and the design process of online courses embody the connotation and principle of mastery learning theory. Through the timely online and offline communication, teachers and students solve the difficulties in learning together, especially the cultivation of students' deep learning ability and the creation of learning environment, which create space for students to construct knowledge and improve their ability more actively.

### 3.2.2 Constructivism learning theory

From the point of view of constructivism learning theory, learning is always related to certain situations. Constructivism learning theory emphasizes the main role of learners and the initiative, sociality and situational of learning. In the constructivism learning theory, learning is the process in which learners construct their own knowledge, which means that learners do not passively accept stimuli, but actively choose and process external information to construct the meaning of information. The meaning of external information is not determined by itself, and it has no meaning in itself. It is formed by learners' repetition of old and new experiences and bidirectional operation process. Every learner will encode the new information based on his original experience and form his own understanding, and the original knowledge will be adjusted and changed because of the entry of the new experience, so the information is not only a simple accumulation, but also includes the concept and structural reorganization caused by the conflict between the new and the old experience<sup>[9]</sup>.

The blended teaching mode of "taking students as the main body and teachers as the leading" is a beneficial practice to the learning mode based on problem and situational advocated by constructivism under the condition of information age. Through the organic combination of teachers' teaching practice and constructivism learning theory, this practical process becomes a meaningful construction process for teachers and students themselves.

### 3.2.3 Humanism learning theory

When humanism emerged as a movement and a school in the 1960s, it wanted to be the true science of people. They believe that psychology should explore the complete human being, instead of analyzing the various subordinate aspects of the human being separately and reductively. The common belief of humanists is that everyone has the ability and motivation to develop their potential. Therefore, they pay special attention to the self-actualization of people. Individuals are free to choose the direction and value of their own development and are responsible for the results of their choice. Rogers, a representative of humanistic psychology, believes that human beings have innate desire and potential for learning, which is a kind of trustworthy psychological tendency and can be released under suitable conditions; when students understand that the content of learning is related to their own needs, their enthusiasm for learning is most easily stimulated, and they can learn better in an environment with a sense of psychological security. Rogers believes that the task of teachers is not to teach students knowledge, nor to teach students how to learn knowledge, but to provide students with the means to learn, and how to learn should be decided by themselves. The role of teachers should be the "facilitator" of students' learning, which emphasizes the autonomous position of students in learning.

In blended teaching, online platform plays an important role, and the key to the effective development of online learning is the active participation and learning of students, which accords with the "student-centered" teaching concept advocated by humanism. At the same time, teachers strive to create the class atmosphere to promote empirical learning, create teaching situations around students' needs and interests, organize teaching activities, expand the space-time dimension of learning, inspire students to think, make students realize the exploration and communication of learning in the environment of autonomous learning and cooperative learning, which realize the organic integration of teaching and learning. Through the interaction and communication of the communication platform in and out of class, the emotion between students and teachers and students is continuously enhanced. Blended teaching has basically realized the purpose of making students learn independently, self-evaluation

and supervision advocated by humanism, which embodies the people-oriented thought and teaching idea.

#### **4. The Difficulties and Challenges of Blended Teaching in Colleges and Universities**

With the introduction of blended teaching in colleges and universities, an increasing number of colleges and universities have carried out the practice of blended teaching, and made certain achievements in teaching development and reform. However, there are still many problems in the practice of blended teaching.

##### **4.1 Recognition of credits**

At present, the important index for college students to successfully complete their studies is to complete the corresponding credits within the prescribed time. Therefore, credit is an important factor to measure the degree of completion of students' courses and their learning. In the traditional teaching environment, students complete their course assignments after class and attending lectures in the class, and teachers decide whether students can reach the credit of this course by evaluating their final grades. But in the blended teaching mode, credit recognition becomes relatively complex. First of all, the blended teaching combines the content of network teaching and traditional teaching, and the assessment method is gradually transitioned to process evaluation and formative evaluation, which has some supervision and tracking difficulties for students' online learning links, this leads to more factors to be considered in credit recognition, which is difficult to balance effectively; secondly, students are difficult to grasp the scope of course selection and credit standard when selecting courses, resulting in misselection or wrong selection. Due to the lack of a perfect and unified credit certification system, the evaluation standards of traditional courses and mixed courses are not consistent. In the end, the construction of blended teaching platform is not mature and complete, and the teaching evaluation and course learning tracking link is not in place, especially for many inter-school learning mixed courses, there is still no broad consensus and recognition among colleges and universities, so the credit acquisition and exchange can't be fully realized. All of these have posed a challenge to the credit recognition and management in colleges and universities.

##### **4.2 Blended teaching requires teachers to devote more time and energy**

In the new era of rapid development of education informatization, the development of blended teaching with deep integration of information technology requires teachers to devote more time. First of all, blended teaching is not just a change in teaching methods, nor is it to mechanically move the original teaching content to the internet. In most courses, teachers have to do a lot of preparatory work before implementing blended teaching, for example: reconstructing the curriculum framework, reorganizing the knowledge points, redesigning the teaching contents, remaking or organizing the teaching resources, redesigning the evaluation system of learning effect and so on. Therefore, before the implementation of blended teaching, teachers should fully study the teaching objectives, curriculum framework, teaching content, knowledge difficulty and so on<sup>[10]</sup>. Second, teachers need to spend more time interacting with their students. There are few opportunities for interaction between teachers and students in traditional teaching. Limited by the teaching place, the interaction between teachers and students is mainly in the class. If the class size is large, the opportunity of teacher-student interaction will be further reduced. Through the introduction of online teaching platform of blended teaching, on the one hand, it provides more convenient channels for teachers-student interaction and student-student interaction, on the other hand, because the online teaching platform is not limited by time and space, teachers are also required to devote more energy to answering students' online questions or participating in students' online discussion activities.

##### **4.3 Teachers are required to have certain IT capabilities**

In addition to having solid subject knowledge and teaching method, teachers who implement blended teaching should also have certain information technology ability in addition to completing the work

required by traditional teaching. When blended teaching is a kind of daily teaching form, video shooting and editing become a part of teachers' daily teaching work. They need to complete the production of electronic teaching resources, the shooting and post-editing of teaching video to meet the daily production, supplement and update of teaching video. Some teaching resources such as handouts, assignments, tests and so on also need to be electronic processing, teachers need to set up online homework question bank, test questions bank and so on. In addition, the skilled application of online teaching platform, the upload, release, update and maintenance of electronic teaching resources, and the ability to integrate technology, content and teaching methods to apply to blended teaching, which can freely switch between online and offline teaching, and achieve the expected teaching results.

#### **4.4 Inadequate provision of teaching resources**

Teaching resources include hardware and software supporting measures, network curriculum resources construction. As a new teaching mode based on network education platform, blended teaching is a complex teaching process with various resources and conditions. Compared with the traditional face-to-face class, it needs more teaching equipment and environmental support, so there will be an increase in the cost of teaching. However, as far as the present situation is concerned, the vast majority of colleges and universities lack the resources to invest in blended teaching, which makes the construction of blended teaching limited by the lack of hardware facilities and difficult to achieve effective development. This requires the relevant departments of the school to be inclined in the formulation of financial budget and allocation arrangements, which provide sufficient material and financial support for the development of blended teaching courses, improve the construction of hardware facilities, and equip modern teaching facilities. To carry out blended teaching, we need to have a smart campus environment, one is a wireless campus network with all-weather, full coverage and full application, which breaks through the limitation of time and space, and meets the students' individualized learning needs and fragmented learning methods. At present, for many ordinary colleges and universities, the construction of network facilities is relatively lagging behind, so that they can't achieve the whole school-wide wireless network coverage. Therefore, colleges and universities should actively build campus wireless network, so that students can enjoy the convenient advantages of the network anytime and anywhere, and provide network support for students' online learning. The second is the construction of intelligent classroom with multimedia interactive function, immersive classroom, mobile desk and chair, computer terminal, intelligent terminal, intelligent touch interactive large screen, physical display stand, instant feedback system, real-time classroom recording and broadcasting system in one of the modern teaching media, so as to facilitate the development of group learning activities and facilitate the multiple interaction between students and students in class.

From the point of view of online teaching platform, in recent years, a number of online teaching platforms have emerged in China, such as iCourses, XuetangX, Superstar, Rain Classroom, Zhihuishu and so on. From the current practice situation, these platforms have their own characteristics, all of them have a considerable number of users, but also more or less there are some shortcomings, in the comprehensive function still seems to be lacking, in practice, some teachers have to use two or more platforms at the same time to meet the teaching needs.

#### **4.5 It's difficult to motivate teachers' enthusiasm and creativity due to the lack of incentive mechanism**

At present, the evaluation system of "emphasizing scientific research and neglecting teaching" is common in Chinese colleges and universities. The unbalanced evaluation system of colleges and universities makes scientific research become an essential index for assessment and promotion, but pays little attention to teaching, so the development of teaching lacks scientific planning and complete investment. Schools often take scientific research projects, subject applications, the number and quality of papers published as the essential indicators for the evaluation of teachers' professional title assessment. Teachers who need to be evaluated are often burdened with heavy teaching tasks, which

makes teachers have to concentrate on scientific research. It is difficult to take into account classroom teaching. So, they try to complete the basic teaching tasks to ensure the smooth progress of the teaching process and avoid teaching accidents<sup>[11]</sup>. This directly leads to the stagnation of classroom teaching, and the resulting problems cannot be solved in time, not to mention attempted at teaching innovation and reform. This kind of blended teaching with deep integration of information technology requires a new mode of coordinated operation of information technology and education, it requires teachers to invest more time and energy to achieve good results. Therefore, in the practice of education, teachers are more reluctant to spend too much time on studying the teaching process, which directly leads to the difficulty in achieving good results in blended teaching.

## 5. Conclusion

With the coming of the information society, Chinese education informatization has entered a new stage of development, information technology has brought an unprecedented change to higher education. Promote the deep integration of information technology and higher education and innovate the mode of talent training has been placed in a very important position. Informatization of higher education is an important way to promote the reform and innovation of higher education and improve the quality of education and teaching. Introducing the concept of blended teaching into college teaching can better accomplish our teaching objectives and achieve ideal teaching effect. By reforming the traditional teaching mode, and combining the traditional face-to-face teaching with online teaching, the blended teaching mode is one of the development trends in the field of higher education in recent years, which is a beneficial practice and inevitable requirement for the transformation of teaching structure in colleges and universities under the condition of information technology.

## Acknowledgements

Fund project: This paper is a phased research result of the "Research and Practice of online mixed applied Course Construction in newly-built undergraduate colleges", a project of industry-academy cooperation and education of the Higher Education Department of the Ministry of Education.(Project No: 201802282028).

## References

- [1] K.K. He: The Concept Renewal and Theoretical Thinking of the New Stage of the Development of Educational Informatization, Courses, Teaching materials, Vol.(2016)No.2, P.3-10.
- [2] X. Huang: Design and Application of Blended Learning Mode of Information Retrieval Course in Higher Vocational Colleges, (MS, Southwest University, China 2013).
- [3] K.K. He: New Development of Educational Technology Theory from the Perspective of Blending Learning. Audio-visual Education Research, Vol. (2004)No.3, P.1-6.
- [4] K.D. Li and J.H. Zhao: Principles and Application Pattern of Blended Learning, Audio-visual Education Research, Vol.(2004)No.7, P.1-6.
- [5] R.H. Huang, Y.L. Zhou and Y. Wang: Theory and Practice of Blended Learning, (Higher Education Press, China 2006).
- [6] W.D. Chen, X.H. Liu and H.Y. Wang: Analysis on the Essence of Blended Learning, Modern Distance Education, Vol. (2010)No.5, P.30-33.
- [7] X. Li and H.F. Daen: A Study on Blended Teaching Mode, China Educational Technology Equipment, Vol. (2016)No.24, P.149.
- [8] C.X. Li: Case Study of Blended Teaching Based on MOOC Resources, (MS, Yunnan University, China 2016).
- [9] X.H. Chen: Modern Educational Technology, (Beijing University of Posts and Telecommunications Press, China 2009), No.4.

- [10] M.J. Zhang and H.J. Du: Current Situation and Research Trend of Blended Teaching, China Education Informatization, Vol.(2020)No.1, P.83-84.
- [11] J.Y. Ma: A Study on the Development and Guarantee System of Blended Teaching in Colleges and Universities, (MS, Southwest University, China 2018).