Research on the Application of Blended Teaching Mode of Computer Technology from the Perspective of Connectivism

Zhijuan Yu*

Department of Primary Education, Shangrao Preschool Education College, Shangrao, China

*Corresponding author e-mail: zhijuanyu@srygz.com

Abstract. Simmons systematically proposed the idea of connectivity in the article "Connectivism: A Learning Theory for the Digital Age", pointing out that learning is no longer a person's activity, but learning is a process of connecting specialized nodes and information sources. This article is to discuss the application of blended teaching mode with the help of computer technology, as well as the relationship with connectivism.

1. Introduction

Connectivism expresses a learning model that adapts to changes in the current social structure. Learning is no longer an internalized personal activity. When new learning tools are used, people's learning methods and learning goals have also changed. Connectivism is based on the understanding that rapid changes in the knowledge base lead to changes in decision-making, new information continues to be obtained, and the ability to distinguish important information from non-important information is crucial [1]. The starting point of Unicomism is the individual. Individual knowledge forms a network. This network is incorporated into various organizations and institutions. In turn, the knowledge of various organizations and institutions is fed back to the individual network to provide individuals with continued learning [2].

Connectivism is a learning theory that explains how Internet technologies have created new opportunities for people to learn and share information across the World Wide Web and among themselves. These technologies include Web browsers, email, wikis, online discussion forums, social networks, YouTube, and any other tool which enables the users to learn and share information with other people.

A key feature of connectivism is that much learning can happen across peer networks that take place online. In connectivist learning, a teacher will guide students to information and answer key questions as needed, in order to support students learning and sharing on their own. Students are also encouraged to seek out information on their own online and express what they find. A connected community around this shared information often results.

The massive open online course (MOOC) phenomenon comes from connectivist theory. In a connectivist MOOC (cMOOC), it is open to anyone who wants to enroll, it uses open software and systems across the Web to facilitate learning and sharing, it takes place primarily online, and it happens according to a specified curriculum for a designated period of time. While facilitators guide the cMOOC,
its participants are largely responsible for what they learn and what and how they share it; this connected behavior largely helps create the course content.

2. Views of connectivity learning

Connectivity learning theory is a learning concept that has brought about a big explosion of knowledge in the Internet age and has caused great changes in the learning methods, learning tools and learning resources that people use. Its learning philosophy is mainly embodied in four aspects that are different from the previous views of knowledge, learning, practice and innovation.

2.1. Knowledge view

Connectivism’s expression of knowledge is different from what we think of as knowledge summarized in books and those fixed knowledge skills that require hands-on operations. It believes that knowledge is a process of dynamic change. It is constantly updated and circulated. Only when each node connects it to form a knowledge network can it realize its due meaning and value. And this node is us human beings, so knowledge is spread in the form of fragments in the network, each of us owns a part of it, and everyone can create, improve, update and criticize the knowledge in it.

2.2. Learning view

The idea of connectivity points out that learning is no longer a person’s activity, but a continuous, knowledge network formation process, that is, a process of connecting specialized nodes and information sources. It emphasizes the establishment of the relationship between people and the outside world and the knowledge network. set up. The starting point of Unicomism is the individual, who believes that individual knowledge constitutes a network, which is incorporated into various organizations and institutions, and in turn, the knowledge of various organizations and institutions is fed back to the individual network to provide individuals with continued learning. This cycle of knowledge development (person to network to organization) keeps learners in their respective fields through the connections they establish. Therefore, the individual's ability to learn the knowledge needed for tomorrow is more important than the ability to master the knowledge of today. The real challenge for all learning theories is to promote the known knowledge while applying knowledge. And because knowledge continues to grow and evolve, the way to obtain the required knowledge is more important than the knowledge currently mastered by the learner. The faster knowledge develops, the less likely it is for individuals to possess all knowledge. Therefore, the focus of learning is no longer the knowledge content itself, but the behavior of creating a personal learning network. Only by focusing on cultivating one's own learning ability will it not be eliminated by the constantly updated knowledge network. Just like the difference between “teaching people to fish and teaching people to fish”, a successful learner should not be reflected in how well he has mastered the current knowledge, but should be reflected in his own learning through the learning of this knowledge. How to learn this and other types of knowledge.

2.3. Practice view

Connectivism focuses on the formation process and the creation of meaningful networks, which may include technology-mediated learning, acknowledging that learning occurs when we talk to others. Connectivism focuses strongly on the connection of external sources of knowledge, not just trying to explain how knowledge is formed in our minds. So, after we have established a personal learning network, we can learn in various ways anytime and anywhere, and even the learning process will happen unconsciously. Usually, what we think of as "don't know" is not because we lack theoretical knowledge, but because we lack the process of doing it. Since we already have a personal learning network, a lot of knowledge is scattered in the network. For new knowledge, as long as we combine the relevant knowledge that already exists in the personal network and practice with some external resources, we will definitely be able to master it.
In addition, learners should also pay attention to the timely update of each connection node after establishing a personal learning network, otherwise they may not keep up with the pace of the information age.

3. The Blended Learning

3.1. Preliminary preparation for online and offline blended teaching

Students' initiative and enthusiasm are poor overall, and very few complete preparatory tasks. The fundamental purpose of online and offline hybrid teaching is to effectively enhance the depth of learning for most students. a) There are resources online, and the construction specifications of the resources must be able to realize the explanation of knowledge. b) There are offline activities, which must be able to test, consolidate, and transform online knowledge learning. c) The process is evaluated, both online and offline, the process and results need to be evaluated. Assign learning tasks, study independently before class, and internalize knowledge in class.[3] Diagnostic evaluation, process evaluation, and summative evaluation; learning tasks are open lines, and knowledge, skills, and quality training are hidden lines; this is the overall process of blended teaching. The overall process of blended teaching is shown in Figure 1

![Figure 1. The overall process of blended teaching.](image)

3.2. Organization of a series of teaching activities in class

The first step is to determine the teaching activities in class, such as debate and answer test questions. And the questions are designed in exact form methods: a. Follow the order of course knowledge points. b. Design from easy to difficult. c. Focus on basic knowledge. The main purpose is to check again before class, review and strengthen basic knowledge.

The second step is to explain the knowledge points. The implementation method is the summary by teachers of complex knowledge; summary by students of general knowledge. The main purpose is to systematically summarize course knowledge.

The third step is the group discussion. The problems are designed in methods: a. Design some difficult questions; b. Practical issues are best; c. Focus on the combination of knowledge and interest. The main purpose is to deepen understanding of knowledge and solve the real problem.

The fourth step is the extension exercises. They are design in method of extension exercises: a. Set up some more difficult questions; b. Expansive practical issues. The main purpose is to deepen understanding and solve practical problems and develop their inquiry learning ability.

The fifth step is practice. They are designed in methods: a. Operate practical tasks in the classroom; b. Use QR code scanning to quickly fill in the experiment report. The main purpose is to focus on the combination of theory and practice and cultivate practical ability [4].
3.3. Online and offline teaching connection
Carefully study the teaching materials, thoroughly study the basic ideas and concepts of the teaching materials, understand the important and difficult points, and be able to use them freely.

Online learning has greatly tested the students' autonomous learning ability and self-discipline, but it also has certain limitations. The lack of teacher-student interaction and student communication links results in a lack of initiative and participation in the course of students. In addition, it is easy to be affected by external factors, students' thinking is easily interrupted and it is not conducive to the development of some behavior habits of students. The existence of these problems is bound to become an obstacle to the development of offline teaching. Therefore, it is imperative to restore the learning state, create a good class atmosphere, build a harmonious teacher-student relationship, and help students restore their learning state as soon as possible. We can encourage students to communicate and interact in a relaxed and joyful manner by carrying out learning activities such as mutual assistance at the same table, eugenic display, and group cooperation, so that they can enhance their learning confidence and rebuild learning rules [5].

First of all, the connection of subject knowledge content is a key link in the connection of online and offline teaching for students. Teachers must carry out online learning effect detection activities and other activities to find out the online teaching situation, and effectively grasp the learning situation of students; Secondly, conduct an overall analysis of the learning situation of the whole class. For the common problems of the students, the teacher should take it in the classroom, focus on explaining and emphasizing that for the problems of individual students, they can communicate and discuss with each other and cooperate in groups. Etc., to help the child find a solution;

Finally, every teacher is required to prepare lessons carefully, and review and sort out the previous content before each new lecture, especially related knowledge, to deepen the impression of students, so as to achieve the convergence of subject knowledge learning [6].

Students love to play, are active, and have poor self-control and self-discipline abilities. Therefore, it is necessary to make full use of the time after class, especially for the backward students [7]. Teachers should fully understand the current situation of the students and provide targeted guidance.

4. Conclusion
In this paper, Finally, while returning to traditional classroom teaching, we continue to make full use of the advantages of online teaching and learning. Returning to classroom teaching is not to leave online teaching behind, but to actively utilize the advantages of online teaching while conducting offline teaching.

Acknowledgments
This work was financially supported by Science and Technology Research Project of Jiangxi Provincial Department of Education (Gjjz No.191257).

References
[1] Siemens, G. (2005). Connectivism: A learning theory for the digital age. International Journal of Instructional Technology and Distance Learning, 2 (1), 3 - 10.
[2] Downes, S. (2010). New technology supporting informal learning. Journal of Emerging Technologies in Web Intelligence, 2 (1), 27 - 33.
[3] Lan Yongping. The basic characteristics and implementation strategies of the blended teaching model [J]. China Vocational and Technical Education, 2018 (32): 5 - 9.
[4] Luo Yinghong. The construction and practice of hybrid teaching mode in colleges and universities [J]. Higher Education Exploration, 2019 (12): 48 - 55.
[5] Rong Mei, Peng Xuehong. The history, current situation and practical strategies of flipped classrooms [J]. China Audio-visual Education, 2015 (7): 108 - 115.
[6] He Kekang. Looking at the new development of educational technology theory from Blended Learning (Part 1) [J]. China Audio-visual Education, 2004 (3): 5 - 10.
[7] Ma Zhiqiang, Kong Lili, Zeng Ning. Trend analysis of domestic blended learning research in the past ten years ---based on the 2005-2015 educational technology field degree thesis [J]. Modern Distance Education, 2015 (6): 73 - 81.