

# The Research of Blended Learning Model of the “Apple Teacher” Program

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## Abstract

The “Apple Teacher” program adopts a mixed learning mode in course teaching, combining network resources with the real environment to form “Online Learning + Teaching Assistant Support; Offline Class + Theme Learning; Exchange Discussion + Summary Reflection” in one of the blended learning modes and “Basic Knowledge—Self-testing—Theme Learning—Self-creation—Summary Reflection” form of learning activities. “The national medium and long-term education reform and development program outline (2010-2020)” since its launch, pays more and more attention to education informatization in our country. In the “Internet+” era, information technology and teaching idea constantly updated. The combination of online blended learning mode has become a trend, and blended learning effect has already become the important direction of teaching reform in education field. In the “Apple Teacher” program, learners take an active part in learning, actively construct and realize the harmonious unity of “Individual Knowledge Construction—Learning Community”.

## Keywords

Apple Teacher, Blended Learning, Model

## 1. Introduction

The “Apple Teacher” program is a teacher training program cooperated by The Modern Education Technology Center of Nanjing Normal University and Apple Inc, and the course is mainly for the in-service teachers or future teachers. The purpose of “Apple Teacher” is to help teachers master the way to acquire digital information resources, apply modern teaching methods to classroom teaching activities, and ultimately find innovative ways of classroom teaching. With the rapid development of information and network technology and the continuous

integration of information technology and education, e-learning (digital learning) has been rapidly applied in educational practice, resulting in changes in the traditional learning environment, and simple classroom teaching can no longer meet the learning needs of learners (Fan et al., 2017). Therefore, blended learning has become a common trend in the development of higher education and basic education (Johnson, Adams Becker, & Estrada, 2015). Through data analysis, relevant foreign studies have found that blended learning is more effective than traditional face-to-face teaching and online learning (Fan et al., 2017). After more than ten years of development, blended learning has gradually shifted from the broad sense of “mixed” to the narrow sense of “mixed”, which specifically refers to the combination of face-to-face learning and online learning to achieve the purpose of learning (Luo, Sun, & Gu, 2014). In the program of “Apple Teacher”, the curriculum adopts the learning activity form of “Basic Knowledge—Self-testing—Theme Learning—Self-creation—Summary Reflection”, and organically combines network resources and real environment to form “Online Learning + Teaching Assistant Support; Offline Class + Theme Learning; Exchange Discussion + Summary Reflection” in one of the mixed learning models. It fully embodies the educational concept of “learner-centered” and the educational thought of “student-centered” (He, 2013). This is conducive to improving learners’ interest in learning, promoting their autonomous learning and deep learning, and promoting their active construction of knowledge to achieve the purpose of learning.

## 2. The Features of Blended Learning Model of the “Apple Teacher” Program

Blended learning is the combination of various learning methods, including offline Learning and online Learning, autonomous Learning and collaborative Learning, as well as the combination of structured and unstructured Learning, etc. (Yang & Cao, 2017). Blended learning the key word is “blended”, is not only a narrow understanding of “online” and “offline” mix, and it should be noted that one of the only mix elements of education technology, the key lies in teachers based on information technology for a certain or a variety of learning resources, environment, methods and style of mixed choose (Duan, 2017). In other words, the leading role of teachers in guiding, inspiring and monitoring the teaching process should be brought into play, and the initiative, enthusiasm and creativity of students as the subject of the learning process should be fully reflected (He, 2004).

In this paper, the essential connotation of “blended learning mode” is understood as follows: the key point of blended learning is to reasonably select and optimize the combination of all elements of “teaching” and “learning”, and different teaching theories should be used as guidance according to the actual situation (Ao, Liu, & Gu, 2013), which is specifically manifested as “Online Learning + Teaching Assistant Support; Offline Class + Theme Learning; Exchange Discussion + Summary Reflection” in one of the blended learning model. In order

to meet the requirements of diversified learners, diversified learning resources and diversified environment and ultimately achieve the optimal teaching effect (Ao, Liu, & Gu, 2013), the focus is not only the learning results, but more importantly the construction of knowledge in the learning process and learners' mastery of skills.

The implementation of the blended learning mode of “Apple Teacher” program (Figure 1) is divided into three parts: 1) The Basic Knowledge Learning—the combination of online learning and teaching assistant support, and the use of the resources provided by the official Apple website for learners' independent learning. In this process, learners regulate and monitor the cognitive process and behavior, and actively participate in the whole learning process (Zhao, Chen, Zheng, & Zhang, 2014). The foundation of learning is the existence of differences (Zhang & Guo, 2012), and the teaching assistant plays the role of learning support in this process. After learning the network resources, learners can conduct tests in a timely manner. If they pass the test, they can get the badge and be qualified to apply for the “Apple Teacher” certificate. 2) Theme Learning—combining offline teaching and self-creation, the teaching assistant organizes learners to study in the apple experience store. Lecturers teach knowledge and skills based on previously selected topics. In this process, learners can further pool their knowledge and skills and improve and perfect their cognitive structure by communicating with lecturers and peers. In the part of self-creation, learners practice by themselves to realize the externalization of knowledge. 3) Summary and reflection—communication and discussion combined with self-reflection, learners share their learning experience and experience in the online communication group, or problems and doubts encountered in the learning

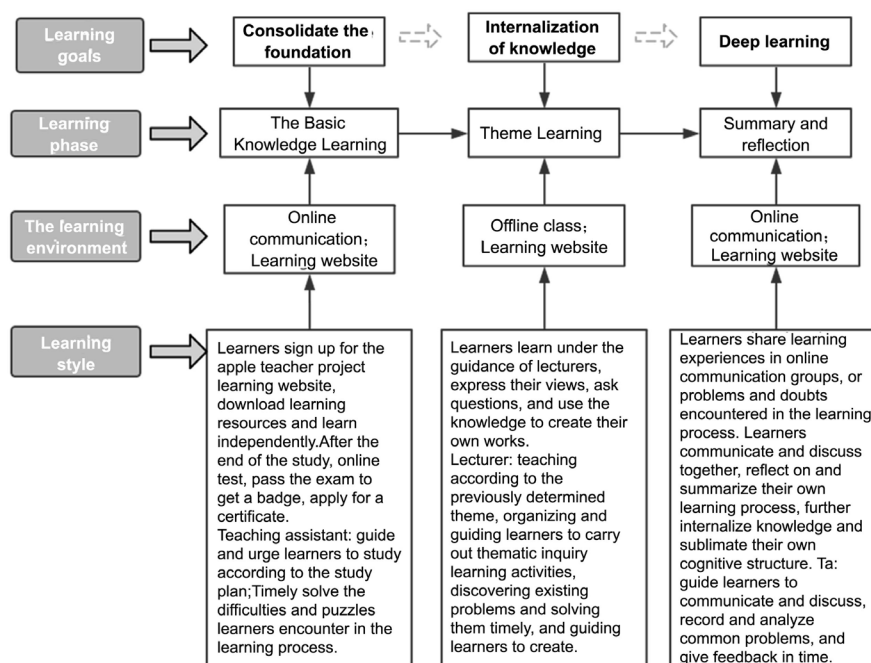


Figure 1. The blended learning model of the “Apple Teacher” program.

process, and exchange deconstructed knowledge. Learners reflect and summarize their learning process, further internalize knowledge and sublimate their cognitive structure. The three learning stages are interlocking and push forward one after another to strengthen learners' theoretical cognition and improve their practical skills, so as to jointly promote the effective implementation of the "Apple Teacher" program.

### 2.1. "Online Learning + Teaching Assistant Support"

Learning is essentially a process in which learners construct individual knowledge (Li & Zhang, 2017). In the online learning stage, learners register and log in the "Apple Teacher" program learning website, download learning resources, and arrange the learning time and content according to the curriculum setting. The learning resource is a collection of eight e-books developed and designed by Apple. E-books set video, audio, image, text and other learning resources in one. It has the characteristics of content integration, resource richness, media inheritance, knowledge visualization and nonlinear link (Bai & Zhang, 2017), which can help learners understand each knowledge point, learn various skills and apply them in teaching. E-books are the learning content tailor-made by Apple for the "Apple Teacher" program. Each e-book corresponds to a theme or software learning, with pictures and texts, supports various media resources, can be repeated learning, and can be highlighted and noted at any time, convenient for later review.

Learners can also ask questions and discuss with online communication groups. The online teaching assistants can help learners solve the difficulties and puzzles in the learning process and urge them to complete the learning program on time. In this process, the teaching assistant plays the role of learning support. In 1978, professor David Sewart, then the director of the student support center of the Open University of England, summarized the discussion on the teaching theory of distance education as the continuous attention to students' learning (Keegan, 1986), and based on this, put forward the concept of "learning support" systematically (Li, Lu, & Xue, 2017). Chinese scholars generally believe that "learning support" is the sum of all kinds of information, resources, personnel and facilities support services provided by "distance education institutions" and their representatives for distance students, mainly including face-to-face communication between teachers and students and two-way communication based on technical media (Yang, Liang, Gao, & Zhao, 2006). Learners can seek help and solve problems in a timely manner when learning difficulties arise. The teaching assistants provide learning support services for learners to improve learning efficiency and promote the internal knowledge construction of learners. The presence of teaching assistants can also reduce the loneliness of individual learning (Nie & Wang, 2010). The "Online Learning + Teaching Assistant Support" blended learning model can break the limited time limit in class. This enables students to fully study before entering the classroom, and the classroom

becomes a place for “interactive communication, cooperation and common learning” between teachers and students and between students and students (Fan et al., 2017).

## **2.2. “Offline Class + Theme Learning”**

In the offline class, the lecturer will explain relevant knowledge points according to the predetermined themes and cases. The teacher guides the students to communicate and discuss the key problems, core knowledge and skills in online learning. Students can raise difficulties and doubts in the learning process at any time, and the lecturer can solve them in time. Through this kind of classroom learning form of teacher-student interaction and student-student communication, learners’ cognitive structure can be improved step by step. The offline face-to-face course is conducted in the apple experience store of Jinmaohui, where the course content is taught by professional lecturers and learners are tutored. Since learners come from different colleges and majors, and some of them even have different learning styles, at the beginning of the course, the lecturer will ask them to introduce themselves in the form of games to help them get familiar with each other. Learners begin the course in a pleasant and relaxed atmosphere. For example, in the study of Keynote (Apple’s presentation software), since most of the learners have not been exposed to apple devices or apple software before, the lecturer will connect them with PowerPoint (Microsoft’s presentation software) to help learners form correct internal cognition. When learning the function of Keynote, the lecturer first demonstrated the function of different modules and menu commands, and then the learner practiced by himself, “learning by doing”. In this process, the direct subjective experience of learners is emphasized, personal exploration of students is advocated, and practical knowledge is emphasized (Dewey, 2005). Learning process is from simple to deep, from simple to complex. In the process of learners’ self-creation, task-driven teaching method is mainly adopted, which emphasizes practical learning. Learners are task-driven and aim at solving problems (Xie & Zeng, 2011). The instructor’s patient and careful guidance ensures that every learner can understand, apply and master the skills. At the same time, learners can communicate with each other, impart learning experience, think positively, cooperate and form a good learning atmosphere.

There are various subjects to be taught in class, including photos and video, music, art and design, programming, business, parent-child, teachers and products, and different types can be matched with each other. For example, the study of Keynote software mentioned above integrates various types of learning such as teacher, art and design. There are courses on different topics in different time periods, such as “Creative Workshop”, “Advanced Lecture: Writing Wonderful Articles with Pages”, “Creating Music with Library Band”, “Creating Game Art”, etc. Learners can choose according to their own interests. This training mode of theme creation exercises learners’ comprehensive problem-solving ability, media

application ability and teamwork ability, expands course learning methods, enriches course learning resources, builds a trans-temporal “organizational memory” (Zhu & Zhang, 2012), and realizes the sustainable development of course teaching and learning (Li & Zhang, 2017).

### 2.3. “Exchange Discussion + Summary Reflection”

“Learning without thought is useless, thought without learning is dangerous”. Timely reflection and communication on the learning process will help improve the efficiency and effect of learning and promote deep learning. Dewey also incorporated reflection into experience, emphasizing the connection between reflection and experience. In his opinion, “reflection” refers to “reflection in experience”, whose purpose is to establish the connection between old and new experience. “Experience” refers to “reflective experience”, without which meaningful experience cannot be produced (Wu, Zhang, & Ni, 2014). Through online communication groups, learners can share their own learning experience and experience, or problems and doubts encountered in the learning process, and exchange deconstructed knowledge. Learners participate in discussions, come up with different ideas, and think positively. Teaching assistants timely guide learners to reflect and summarize their learning process, further internalize knowledge, and sublimate their cognitive structure. While sharing, learners also constantly improve and improve their cognitive structure, forming a virtuous cycle of “Thinking—Communication—Introspection—Re-thinking—Deep Learning”.

The “Apple Teacher” program can be divided into online communication and offline communication according to the forms of communication, and can be divided into teacher-student communication and student-student communication according to the objects of communication. At the beginning of learning, learners can communicate with other learners or learning assistants in the online communication group, propose the learning difficulties encountered, and solve them in time. Or it can share learning experience and harvest, from which other learners can draw nutrients and improve learning efficiency. In addition, learners can express different views on the same issue, think and communicate from different perspectives, form a collision of ideas, and trigger learners to think at a deeper level.

“Apple Teacher” programs to adopt a mixed teaching mode, which abandons the traditional indoctrination teaching with one piece of chalk and one mouth (Xie, 2008), and diversified teaching forms and methods. In the form of teaching, it is not a mixture of “online” and “offline” in a narrow sense, but forms “Online Learning + Teaching Assistant Support; Offline Class + Theme Learning; Exchange Discussion + Summary Reflection” in one of the blended learning mode and “Basic Knowledge—Self-testing—Theme Learning—Self-creation—Summary Reflection” all-round and multi-angle learning activities. In terms of teaching methods, autonomous learning method, lecturing method, discussion method, task-driven method, exercise method and other methods are organically inte-

grated with the classroom learning of “Apple Teacher” program. Lecturers mainly use participatory teaching, heuristic teaching and other methods that are conducive to the development of students’ innovative ability and the formation of creative thinking to guide learners’ learning.

### **3. The Value of Blended Learning Model of the “Apple Teacher” Program**

The blended learning mode of the “Apple Teacher” program achieves the harmonious unity of “Individual Knowledge Construction—Learning Community” to a certain extent. In 1995, Ernest L. Boyer, a famous educator, proposed the concept of learning community for the first time, he thinks that “learning community is all due to the mission of community and learn together towards a common vision of the organization, the people in the community share the interest in study, and jointly seek to the journey of knowledge and understanding of the way of the world, towards the same goal of education interaction and participation” (Zhang & Guo, 2012). Online self-study part helps learners to consolidate basic knowledge and promote the construction of individual theoretical knowledge. In face-to-face teaching, case teaching is used to inspire students to think positively and internalize knowledge. In self-creation, learners apply the acquired knowledge and skills into practice. Instructors guide students to communicate with each other, raise doubts and solve problems in time, and learn to apply knowledge and skills. Learners share learning experience and put forward opinions through online communication groups. The teaching assistants guide learners to discuss problems, stimulate learners’ emotional cognition, generate resonance, and promote the formation of a learning community.

#### **3.1. Student-Centered**

The concept of “student-centered” education is to change from “teaching-centered” to “learning-centered”, that is, from “teachers impart knowledge to students” to “students discover and create knowledge by themselves”, and from “imparting mode” to “learning mode” (Liu, 2012). Ancient Chinese educational thoughts also attached great importance to the concept of “student-centered” education, such as Confucius’s “teaching students according to their aptitude” (Zhu & Wang, 2016). In the learning process of the “Apple Teacher” program, the “student-centered” education concept has been reflected throughout. In the online self-study stage, learners arrange the learning content at their own pace, take an active part in learning and actively construct individual knowledge. In practical teaching, cognitive development is the basic task of teaching, and knowledge goal (including skills as procedural knowledge) is the primary goal of teaching (Pan, 2016). In offline classroom learning, lecturers do not mechanically explain knowledge points, but take the initiative to establish a positive relationship with learners, guide students to discuss and create topics, and realize the transformation of their knowledge from “internalization” to “externalization”. There are var-



ious ways for students to acquire knowledge. They are not only users of resources and builders of resources, but also creators of wisdom. The student-centered learning community construction respects students' diversity, ensures students' better and more effective learning, and promotes students' overall development (Xu & Yang, 2015). The whole learning process emphasizes the active learning and positive thinking of learners, encourages students to bring the original knowledge and experience to learning, links new information with "old knowledge", and truly realizes "learner-centered".

### 3.2. Harmonious Teacher-Student Relationship

Teacher-student relationship is the most basic and core relationship in education and teaching. In order to provide good education for students, the relationship between teachers and students must be properly handled (Ma & Zhu, 2017). The "Apple Teacher" plan follows the principle of "two subjects" (Wang, Yan, & Zheng, 2017). When learners start to learn the learning content of the "Apple Teacher" program, some of them have never been exposed to Apple products or Apple teaching software before. At this stage, the lecturer or teaching assistant will provide help to learners according to their learning situation, guide them to learn and organize teaching effectively. When learners have a certain understanding of the content, they are allowed to use the knowledge they have learned to create in class. At this time, the lecturer or teaching assistant will provide guidance to learners as required. The education turns to take the student's subjectivity as the main body, the teacher's subjectivity as the auxiliary body. In the whole learning process, teachers and students should correctly grasp the reasonable core and extension of the teacher-student relationship to build a harmonious and symbiotic teacher-student relationship, instead of simply pursuing the "equal" teacher-student view (Ma & Zhu, 2017), so as to better serve the "Apple Teacher" teaching program.

### 3.3. Open Learning Environment

Gagne believes that learning has a huge dependence on the environment, and the environment of developing children, whether consciously or unconsciously arranged, has a huge impact on them (Gagne, 1999). In other words, learners' learning environment will also have a huge impact on them, so the construction of learning environment should be paid attention to in the learning process. The "Apple Teacher" program regards learning as an event of in-depth investigation and understanding. The whole learning environment is open and suitable for learners. When studying online, learners can choose their own learning environment. The offline course is different from the previous face-to-face classroom. First of all, tables and chairs are not placed in a formal and orderly way like the traditional classroom. Instead, the classroom is centered on a large rectangular desk. Secondly, students study in a digital and information-based learning environment. The development and popularization of digitization and in-



formation technology have affected educational and teaching activities to a large extent and at a certain level. In the field of education and teaching, traces of digitization and information technology can be seen almost everywhere (Wang & Li, 2016). Students use the tool is not paper textbooks, but MAC (apple development of personal consumer computer) or the (developed by apple tablets) and other apple devices, more diverse learning resources and learning style, and the entire classroom will cover wireless network, students can be very easy to connect to the Internet to obtain information and related resources, the whole learning environment is not closed, fixed, but an open, diverse, is helpful to learners more freedom and happy learning.

## **4. The Effect Analysis of Blended Learning Model of the “Apple Teacher” Program**

### **4.1. Basic Data Statistics**

As of December 2018, the “Apple Teacher” program has carried out six training courses, in which 176 people have signed up and 159 have passed the test and obtained the “Apple Teacher” certificate, with a passing rate of 90.3%. In view of this, the learning effect of the “Apple Teacher” program in the mixed learning mode is good.

### **4.2. Evaluation of Blended Learning Effect**

In the communication and discussion session, many students Shared their own learning experience and experience, not only put forward their own views, positive thinking, and other learners to communicate with each other, timely summary and reflection, but also expressed some views on the curriculum, some excerpts are as follows:

S1: the study of online platform enables me to know more about the basic functions of apple software. Physical teaching enables me to know the use tips and innovation points of iwork (office software developed by apple) software series. For example, keynote has some functions of word and ps, which are simple, easy to operate and beautiful. In the defense of the innovation and entrepreneurship competition, I used Numbers (an electronic form application developed by apple) to make data graphs, which was simpler than excel operation, with intuitive results, and easier to display my research results in the defense. Each software has many powerful functions, and I think I need more time to explore the iwork series.

S2: through this training course of “Apple Teacher”, I feel that “Apple Teacher” is a self-improvement, open and free learning platform. Me as a normal, had a 50% increased risk of employment direction is to become a Teacher, and I hope if I become a Teacher, lecture to students from three aspects of audiovisual said, meet the needs of different types of students, therefore, I choose to contact the Apple of the Teacher curriculum, modern education technical skills help me to improve myself.

S3: many contents in the “Apple teacher” make the teaching more interesting and vivid. With the help of these tools, the teaching can present the content in a more specific way and the students will be more motivated. At the same time, the “Apple teacher” training made me focus again on the two aspects of teaching efficiency and data collection. Due to the complexity of teaching content, teachers usually have a large number of data files, and the traditional sorting efficiency is not enough. However, many functions in the “Apple teacher” have realized data sharing, co-construction and multi-party synchronization. This is very helpful for students to update and sort out their materials. In addition, Apple makes teaching more efficient through the concept of minimalism. Many procedures are simple and clear, which helps teachers save a lot of time.

S4: with the continuous development of modern technology, the way of classroom education is also changing constantly. Nowadays, many middle and high schools have introduced iPad teaching into the classroom of schools and are constantly exploring it. As a normal university student who grew up in the era of science and technology, after today’s training, I believe I will continue to find out the best way of combining modern science and technology with traditional teaching in the future practical teaching.

S5: “Apple teacher” is a good project to help teachers apply Apple technology to the classroom. From the beginning when I was unfamiliar with APPLE’s software, to the learning of its functions in the user manual, to the training of its advanced functions, I benefited a lot. Teaching is a somewhat tedious business. In a traditional classroom, students may have no interest in learning and do not want to learn. Teachers are not motivated or creative because of repetitive work. However, “Apple teacher” provides a good opportunity to help teachers apply modern technology to teaching, improve students’ attention in class, and make the class more dynamic and full of new ideas. It was a brilliant attempt.

S6: as a future is likely to be a chemistry teacher of the students, for apple products meet shallow I never contact apple products type of education function, however, participated in the event, I have a completely different understanding to its, we use a variety of software, multi-sensory teaching, improve teaching efficiency and real-time grasp the learning situation of students and make a feedback, let the students greatly involved, feel the joy of learning. In my opinion, it is undoubtedly more vivid and interesting for the teaching of chemistry. This training activity also aroused my interest in deeply understanding the different functions of apple and made me wonder whether I could use apple for more interesting and special teaching in the future.

From the summary and reflection of learners, it can be seen that learners still gain a lot through the “Apple teacher” program. In the teaching of mixed learning mode, learners have learned the use tips and innovation points of apple teaching software, applied the acquired knowledge and skills into real situations, and improved their theoretical knowledge, understanding ability, application level, analytical ability, attitude thinking and many other aspects to varying de-

grees. In the learning process, I take the initiative to participate in all links, think actively, communicate actively, improve each other, and actively build knowledge.

## 5. Conclusion

In the “Apple teacher” program, learners adopt the learning activity form of “Basic Knowledge—Self-testing—Theme Learning—Self-creation—Summary Reflection”. Moreover, teachers combine online resources with the real environment organically, forming a mixed learning mode that integrates “Online Learning + Teaching Assistant Support; Offline Class + Theme Learning; Exchange Discussion + Summary Reflection”. On the contrary, we should respect students’ individuality, shape their own subjectivity, pursue equal participation of students, and pursue diversity of thinking and opinions. The collision of different thoughts and opinions among students can promote their deeper understanding of a certain problem. At the same time, only when students’ individual subjectivity is reflected, can they treat each other honestly, respect each other, cooperate and consult with each other, create an equal and democratic learning atmosphere, and realize real learning (Zhang & Guo, 2012). In the learning process, it fully embodies the educational concept of “learner-centered”, promotes the construction of knowledge actively, achieves the learning purpose, and realizes the harmonious unity of the self-constructed knowledge and learning community.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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