Analysis on the Effectiveness of Blended Learning Mode based on Mosoteach Platform

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Abstract — **Blended Learning is an important research and practical direction for teaching revolution in colleges at present which is the teaching mode combining traditional teaching and online teaching. The essence of educational information development is applying information technology which takes multimedia computer and network communications as the core to optimize teaching processes and reach the effective teaching objectives. The study establishes a framework of activities and illustrates the living example of blended learning in the subject of Cambridge Business English Certificate, based on the network platform of Mosoteach. Through a comparative analysis between experimental and control group, the results of experiment shows that the learning initiative, collaborative capability and communication of students are improved, online and offline learning schedules are convenient for students to arrange their study at their convenience. The study also proposes countermeasures and suggestions on applying blended learning mode in course teaching, which provide relevant reference to the further research on the same area.**

Keywords - Blended Learning; teaching mode; e-learning; mosoteach

I. INTRODUCTION

Education information development is very important element of modern education technology, which applies information technology as the core of multimedia and network telecommunications to optimize teaching procedure and achieve the aim to promote teaching effect and profit. The improvement of teaching effect in colleges is reflecting of teaching effectiveness. Class instruction is the center procedure and basic form of college teaching task and is the key to ensure and improve teaching quality.

Blended learning is a formal education program. Student learns –at least in part – through online delivery of instruction and content with some element that student controls over time, place, and path and pace [2]. Compared to traditional teaching, Blended learning focuses on improving students' innovation and its teaching efficiency reflects students' autonomic learning and innovative capabilities. As for teaching method, Blended learning emphasizes the multi-interaction between teacher and students, and its effects directly reflect students' collaborative and communicative capabilities. As for teaching quality, Blended learning adapts to the development of information development, which is not only beneficial to enlarge students' knowledge scope, but also broadens thinking space and improves students' exploratory capability. The form of blended learning combines online learning and face-to-face learning. Its further profound function includes blending various teaching modes of teaching theories, such as constructivism, behaviorism and cognitivism, blending teacher's dominant activities and students' participant activities, blending different teaching environments of class teaching and online learning, blending the different learning methods of autonomic learning and collaborative learning. Emphasizing the organic combination of teacher's leading role and students' dominant position is its core idea.

At present, the problem of blended learning of course teaching in colleges is to choose an appropriate network platform to enhance the effectiveness of blended learning. How to blend various teaching methods in practical instruction and apply the best optimistic instruction mode according to the individual's characteristics is the continuous supplementary stage. In the paper, the environmental establishment, course framework design, teaching mode, learning method, interaction and evaluation of the subject called BEC will be discussed in vocational colleges under the direction of blended learning theory.

II. STATE OF THE ART

Blended learning was dated from long distance education which has 100-year history. However, in order to solve some problems of separating teacher and students, the long distance education emphasized the importance of face-to-face education. Singh & Reed pointed out that blended learning was an effective learning method to transfer appropriate capability to appropriate learners by right learning technique at a proper time to get the optima learning effect [1]. It is regarded as an emerging teaching mode based on network environment to promote teacher and students' online communication, which provides support to transfer the online learning contents on the basis of computer standardization learning system.

From year of 2000 to 2011, blended learning mainly focused on some topics, such as, definition, model and potential future etc. The teaching design, intention, exploration and teaching efficiency were researched from 2012 to 2014. Clarke, Lindsay, McKenna & New have offered a case. They created a set of learning assistant system in the form of multiple choice questions in the process of

making speeches of introducing college regulations and rules for freshmen that supported them learn better after class [3]. In their research, how the after-class was organized didn't be mentioned. The blended learning in China concentrated on higher education area. The teaching design and strategy were the hot topic to be researched which mainly focused on the mode of blended learning, learning process and learning environment. Bernard has analyzed the learning effects of higher education by meta-analysis [1]. Chen Weidong analyzed the blended learning from four aspects, object, technology, environment and method [4]. Wang Xianya established the influencing factor model based on the willingness to apply E-Learning [9]. Padilla-Meléndez carried out a research about the deciding factor—perceived enjoyment for technology acceptance and application willingness under the environment of blended learning, which released that perceived enjoyment depended on the gender difference[7].

It is clear to see that scholars at home and abroad have carried out many plenty of researches on blended learning mode, but there are still some disadvantages of it. Firstly, in terms of research object, there are few researches carrying out research on vocational college students. Secondly, the research on blended learning concentrated on design model, teaching framework, teaching strategy and tool, while relevant variables influencing blended learning and relation analysis are seldom researched. Thirdly, as the development of mobile network, the teaching environment will be changed. There is no research of blended learning under the environment of mobile network platform. The proportion of face-to-face and online learning of blended learning, how to blend, how to instruct the face-to-face instruction and when the online learning needed will be the further discussing topics. The rotation model will be analyzed in the following part which is a creative organization for face-to-face instruction in the blended learning. A mobile platform will be applied to create an effective learning environment which the researchers have never tried before.

Ⅲ. DESIGN OF BLENDED LEARNING INSTRUCTION MODE

The design of blended learning mode is demonstrated in the following part. Students learn the basic knowledge independently at their free time through online platform, then they raise questions in the platform and discuss them online. Offline teaching is the process of discussion and interaction between teacher and students, whose stages include presentation, question discussion, solving puzzles, class test and evaluation, and summary feedback. The teaching mode and process is shown in figure 1.

A. The role of teacher

The blended learning emphasizes teaching activities-centered, which not only requires teacher be skilled at traditional class teaching to organize discussion and interaction, but also shift the online and offline teaching effectively. In a word, blended learning requires teacher optimize teaching design to solve problems in the teaching process. Specifically, teacher can utilize advanced information technologies and IT skills to connect the offline and online teaching effectively.
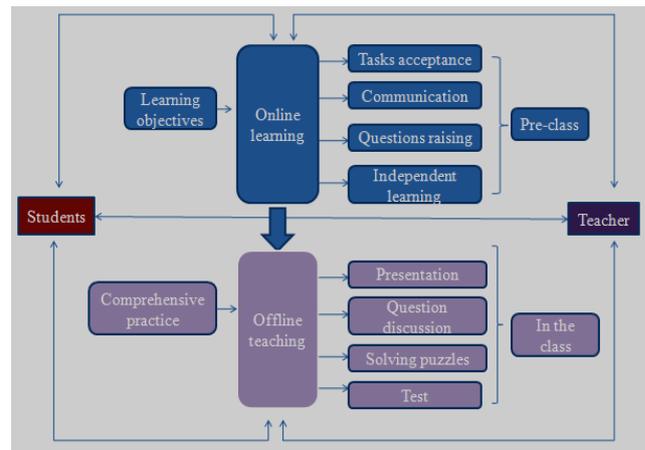

Figure 1: The design of Blended Learning teaching mode

Moreover, with the aim of improving students' thinking ability and innovative capability, teacher can organize the teaching activities in the basis of specific platform to foster students' initiative and exploratory skills.

B. Students' learning efficiency and acceptance

Students, as the teaching subject, are used to traditional class learning mode. Blended learning has broken the traditional recognition, so students may like a fish out of water. Students' initiative and teacher's guidance level can influence learning quality and efficiency. In an unguarded moment, students may become indulged rather than initiative. According to the teaching plan made by teacher, students should make learning plan and procedure that fit them best. So that, they can improve their active study skill, acquire learning material through platform, and establish their own knowledge.

C. The functionality and maneuverability of network platform

The key to achieve blended learning mode is the teaching network platform with perfect functions and easy operation. The blended learning platform integrates visual and aural techniques, multimedia technology and IT technology, which can make full use of traditional classroom teaching and e-learning, enliven various teaching methods to favor teaching system. Mosoteach is the cloud service platform based on mobile network environment, which develops the online and offline teaching activities by mobile phones. Teacher can create an invented class in the platform which can provide services in the mobile devices such as course subscription, message delivery, assignment, courseware, video and documents. Teacher is easy to manage the class in Mosoteach through any mobile devices or PC. Teacher carries out some interactive activities, such as poll questionnaires, brainstorming, assignment sharing, test and so on in traditional class or online. The advantage of the platform is instant feedback and timely comment. The platform offers great convenience to blended learning.

Mosoteach is a platform that delivers most curricula. The teacher provides support on an as-needed basis. It provides students with opportunities to take online courses that supplement in-person courses. Online learning is remote, and traditional learning is in a brick-and-mortar classroom.

Students within a classroom – or lab – rotate across differentiated learning stations on a fixed schedule, or at the teacher's discretion [3]. Learning methods often include small group instructions by the teacher, collaborative or independent practice by students themselves, and self-directed, online activities. The features of a blended learning platform are shown in figure 2.
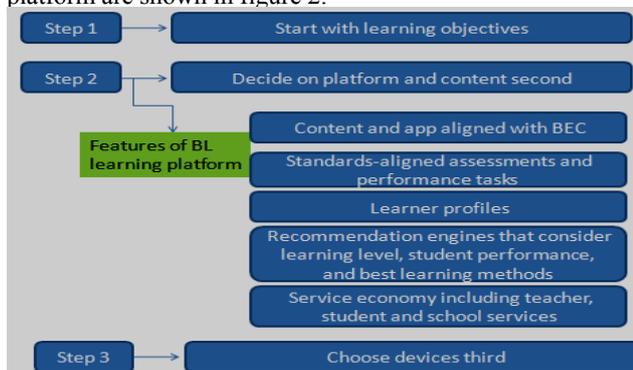

Figure 2. Features of BL Platform

IV. EXPERIMENT OF APPLYING THE BLENDED LEARNING MODE IN BEC

The course of BEC is internationally recognized qualifications that show employers skills for using English in workplace. Its course content includes business meetings, writing business correspondences, product introduction and company introduction etc. Role-play, presentation, speech, group work and case study are applied in the class teaching to help students learn the oral, listening, reading and writing skills in business- related situations.

A. Objects of study

BEC, covering 64 class hours, was chosen as the experimental course. Objects of the experiment were sophomores, majoring in Business English in vocational college. 2 classes were chosen at random from 4 classes to participate in the experiment, with 35 students in each class. One class was regarded as the experimental group which learned the course of BEC with the blended learning mode on the basis of cloud platform Mosoteach. While, another class as the control group was taught with the traditional class mode without any online teaching process. Both classes were taught by the same teacher and had the same teaching conditions. Teaching plan and teaching contents are arranged the same. The English level of the members of the class had no significant difference. 71.4% of students in experimental group have passed CET-4, and 74.3% of students in control group have passed CET-4.

B. Research methods

After one-year experiment, the research group organized the questionnaire to learn the satisfaction and efficiency of the blended learning mode in the course of BEC teaching. Microsoft Excel 2010 software was used to gather and sort experimental data.

C. Experimental design

The progress of blended learning mode was arranged in the course of BEC as follows.

(1) Pre-class and online arrangement

Generally speaking, teacher planned the teaching schedule and learning objectives, then uploaded them in the Mosoteach. Before the class, teacher would announce the learning objective for each class, and made a mini-class video beforehand to upload in the cloud class. The learning objective included the allocation of this class, emphases and difficulties, what problems would be solved in the platform bulletin.

As soon as a class section finished, teacher would release some questions for discussing that were relevant to a specific section. Students should express their opinions on the online bulletin. To increase the interest of platform learning, the types of question would be required questions and elected questions. Teacher could arrange a certain amount required questions according to teaching schedule. Students would get a certain percentage of scores if they finished them. Of course, if students would be willing to answer more question, that would be better. Teacher can add more scores to them.

(2) Face-to face and offline learning

After every 4 online allocations, teacher would arrange a face-to-face instruction. The attendance and class performance would be marked. In the offline class, students would be required to make presentations of what they had learnt in online platform and show their learning achievements. Teacher would summarize knowledge and solve difficulties that student had met. If there would be any assignments, teacher would evaluate them.

The Rotation Model is a common implementation of blended learning during a 90-minute face-to-face instruction; for example, students in small, differentiated groups rotate across learning stations at 30-minute intervals. The class would be divided into three groups. One group would be teacher-led or small group instruction, the second group would be independent and collaborative practice, and the last group would be personalized and online instruction. Each of groups plays an important role in help students applying the knowledge. This Rotation Model provides targeted teaching and learning chances to teacher and students, at the same time, it offers multiple data points to help teaching practice.
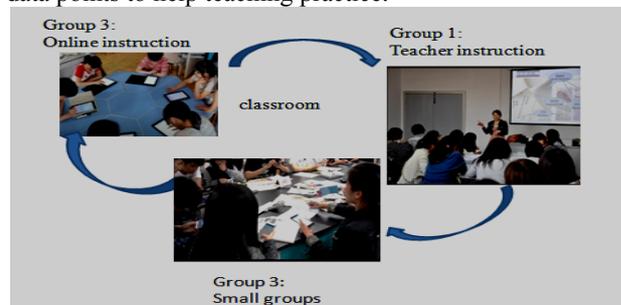

Figure 3: The Rotation Model of Blended Learning.

V . RESULTS ANALYSIS AND DISCUSSION

A. Results analysis

This paper discussed the effect of blended learning mode in the course of BEC. The result of questionnaires and the passing rate of Cambridge Business English Certificate Preliminary would be analyzed.

The activities in the blended learning mode include teacher and students' activities, or class instructions, collaborative activities and online communication. After one-year experiment, over 90% students in the experimental group were satisfied with the Mosoteach platform and blended learning mode. Statistical results of the questionnaire about application of the blended learning mode are shown in Table 1. Likert-scale is adopted to analyze the results from 5 aspects, they are, very unsatisfied, unsatisfied, not sure, satisfied, very satisfied.

TABLE 1: THE SATISFACTION RESEARCH

Question	The percentage of "satisfied" and "very satisfied"
Platform operating performance	94.3%
Meeting the learning needs	85.7%
Improving leaning initiative	91.4%
Increasing learning interests	88.6%
Strengthening teacher and student's interaction	97.1%

From the statistical results, we can see that students are satisfied with the mode applying based on Mosoteach platform. Students learnt that they should be responsible for their study. Under the environment of blended learning mode, students are free to arrange their study according to teacher's schedule online. If there are some units easy to grasp, students can decrease study time, otherwise, they can increase the time. This kind of class mode adheres to students learning rule and can meet different students' needs. The teaching mode changes teacher's role in traditional class instruction. Teacher is not the main role in the class, but leaves the teacher's desk and blends into the students. Through online and offline instruction, teacher can learn students more and know individual's learning situation. Teacher has changed into conductor from decision maker. The interaction between teacher and students is strengthened which can make "students-centered" class come true.

However, some students do not adapt to blended learning mode. They think the learning material in the platform which they should learn beforehand is not effective. They prefer some documents rather than videos, which is totally different from what the teacher assumed. Therefore, enriching resources and designing more interesting activities in the platform is still the key to promoting the applying of platform. It is lucky to see that the passing rate of BEC in the experimental class is significantly higher than that of the control group. 65.7% of students in experimental group have got the certificate, while 51.4% of control group got the certificate. Thus, the experiment demonstrates that the effect of applying the blended learning in the course of BEC teaching has significant achievement.

B. Countermeasures and suggestions

Blended learning mode makes overall arrangement by integrating traditional class instruction with online learning which can deal with the difficulties that traditional instruction can't solve, including difficult tasks design, offering extended activities to sort of students, providing more chances to get feedback, helping students completing assignment and communications among groups and the whole class. However, the following issues are still to be explored.

(1) Optimizing structure of blended learning

The design of blended learning activities should meet students' needs, and know students' study characteristics. As college students, they have strong individual consciousness and personal responsibility, so they can choose learning contents and plan learning schedule by themselves. Different grades, ages, majors, study style and levels will influence students' participation, interaction and management in the learning process. Therefore, before designing the teaching activities, carrying out a research about students' needs is necessary. After the activities, measuring students' satisfaction is also essential to adjust students' demands.

(2) Improving teacher's skills

Teacher has many different roles in blended learning mode. Firstly, they are the instructors to know the teaching objectives. Then, they are the consultants and answer all the questions raised in the platform. At last, they should grasp the importance and difficulties of the course, make sure learning objective in each unit, and design targeted methods to control the class. Blended learning focuses on interaction between teacher and students and establishing knowledge actively. The teacher should decide on the course design and implementation, the connection of class instruction and online teaching and deep communication and interaction according to the characteristics of students, course and learning environment. The tasks designed for face-to-face instruction in traditional class and blended learning mode is different, and the latter is not just explaining the knowledge, but piloting students to learn online, inspiring them to communicate and collaborate on the platform.

(3) Establishing guiding and supervising evaluation system

Teacher's instruction process is recorded in the form of video, so that teacher can know what problems exist in the instruction and adjust immediately. Teaching evaluation is the monitor to results of teacher's instruction and students' learning, and is the supervision of the efficiency to the blended learning. Only through instant feedback, can adjust and optimize instruction system, and help teacher and students know the situation of instruction and learning, thus it can improve teaching effects and quality. E-profile is also a key tool to promote students to rethink profoundly and evaluate, which emphasizes the process of self-evaluation, self-examination and self-management, and make the data collection comprehensive and authentic in a whole process.

VI. CONCLUSION

To change the traditional class teaching and explore a way to foster students' initiative and collaborative capability on the basis of network platform, the paper discussed the course

design and application of blended learning on the mobile cloud platform Mosoteach. The conclusions were reached as follows.

(1) The course design of blended learning was created. Course design of blended learning was divided into three stages: overall design, unit activity design and material design. The application of online asynchronous learning and offline synchronous learning was achieved which reconstructed the teaching and learning mode.

(2) Network teaching material was integrated in the mobile platform. Teacher uploaded some material with high quality, such as mini-class video, relevant video and extended information to the platform. The fragmented material would be applied effectively based on tasks by online tools and online test.

(3) Teacher made learning objectives to students and directed them to learn on network basis. Students connected the textbook knowledge with online learning and made the learning process of blended learning present dynamic, which help them establish netlike connection between new and old knowledge.

(4) Students shared their learning material and expressed their learning experience to the platform which made the communication between students and teacher convenient and effective. The individualized learning mode was established.

(5) The evaluation of blended learning based on Mosoteach platform would be multidimensional and with high reliability. The duration of watching material online, individual presentation, group discussion and degree of activeness would be the scale of marks.

A course as a medium should be used in the blended learning in vocational colleges, which integrates students' emotion support, recognition promotion and motivation inspiring into teaching design. Moreover, the mode offers meta-cognitive support to students on the basis of class instruction and online network teaching platform to strengthen students learning experience and efficiency. Of course, the quality of blended learning is decided by many elements in the teaching activity. Therefore, elements variability, activity variety, individual difference should be considered in the instruction. The quality of blended learning will be improved by adjusting continually, research, exploration, summary and optimization to strengthen instruction effects and foster students with high quality and strong independent innovation skills.

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