Blended Learning Model Based on 5R Adaptation Framework

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Abstract: This study draws on data about College English courses in four leading universities to analyze the current circumstances of English teaching in Chinese universities, and on that basis, explores a new student-centered model for English blended learning combining autonomous learning via massive open online courses delivered on smartphone and computer with face-to-face traditional classroom learning based on 5R adaptation framework. It emphasizes four modules: preliminaries, self-study before class, discussion and assimilation in class, and reflection and enhancement after class. To identify whether this model provides a positive experience for students, it is tested in an English course for freshmen. The findings indicate that after four weeks learning under the blended model, students' average score on a mock CET4 increased by 15.3 points compared with their placement test. Thus, this innovative model does promote freshmen to adapt the new learning environment quickly and motivate students to learn autonomously.

Keywords: College English, Blended learning, 5R adaptation framework, online learning

1. Introduction

With the rapid advances of digital and internet technologies, great changes have taken place in teaching methods and means of learning. Network-based learning, one new education method, pays great attention to students' active participation and has been practiced widely. This model transcends limitations of time and space and has had a considerable impact on traditional classroom teaching. However, simply moving learning online does not promote mastery of systematic knowledge or cultivation of students' emotions and values, and didactic teaching does not create a student-centered learning situation. To address these problems, a new teaching approach called blended learning has been developed. The blended learning model, which combines online learning and regular classroom learning, has been getting more and more international attention as an innovation in teaching modes and methods. In the United States, the Horizon Report: 2017 Higher Education Edition asserts that the design and application of blended learning will be important areas of higher education in the future.

English learning plays an important part in higher education in China. This paper aims to apply 5R framework adaptation to English learning to develop a new blended learning model. The blended learning model studied in this paper depends much on MOOCs as well as WeChat and QQ (an application for social communication developed by the company Tencent in China) groups conducted over smartphones. The main tasks are as follows: study and analysis of related research, exploration of a model of blended learning that may improve students' learning interest and achievement, carrying out experimental English course, analysis of findings, and suggestions for successful implementation of this model.

2. Literature Review

2.1. 5R Adaptation Framework

The 5R adaptive framework was proposed in 2009. 5R refers to the right time, the right location, the right device, the right contents, and the right learner. 5R adaption framework is based on mobile learning. The purpose is to establish a universal mobile learning system, so that learners can adapt to the mobile learning environment at the highest speed and achieve the expected teaching effect. The core content is to provide appropriate learning content for the appropriate learners at the appropriate time, at the appropriate place, using the appropriate equipment.

2.2. Blended Learning

The study of blended learning has developed along with that of e-learning. Paechter and Maier (2010) state that blended learning provides learners with an efficient learning environment that combines face-to-face learning and online learning. It focuses on motivating the learners and improving their learning effectiveness (Bersin, 2004). Stockwell et al. (2015) asserts that blended learning helps to create a student-centered learning environment through the mixture of various learning activities in and out of class. The mixture of learning activities and methods ensures that blended learning has many delivery models available, such as flip, online lab, flex, and online driver models. The flip model reverses traditional classroom learning, encouraging students to learn before class and then interact with teachers in class and get help from teachers. The Online Lab model needs students to go to a traditional computer lab to learn online under the supervision of lab teachers. The Flex model enable students to move to different learning modalities based on their needs and interests; the teacher gives face-to-face instruction when necessary. The Online Driver model also focuses on flexibility; students may learn online and communicate with the teacher via an online platform. The blended learning model used in this study is designed based on the above-mentioned models, integrating the features of these models, attaching importance to the cultivation of students' interest and motivation and the promotion of learning effectiveness.

3. Method

In actual teaching as well as in research, employing English blended learning not only requires carefully selecting the optimal course from a large number of online resources, but also relies on such factors as syllabuses, students' Basic English levels, students' learning needs, adequate platform support, and appropriate learning time and place. In this section, first, an English blended learning model is established on the basis of 5R adaptation framework, the learning theories of connectivism (Siemens, 2005), constructivism (Ertmer & Newby, 1993), cognitivism (Cooper, 1993), and humanism (Norman, 2004). Next, implementation of learning activities is considered, along with the capacity for aid from diverse application functions of the WeChat and QQ group exchange platforms, which Chinese students are generally familiar with and able to skillfully use on their smartphones. The model includes four modules: preliminaries, self-study before class, discussion and assimilation in class, and reflection and enhancement after class (Figure 1).
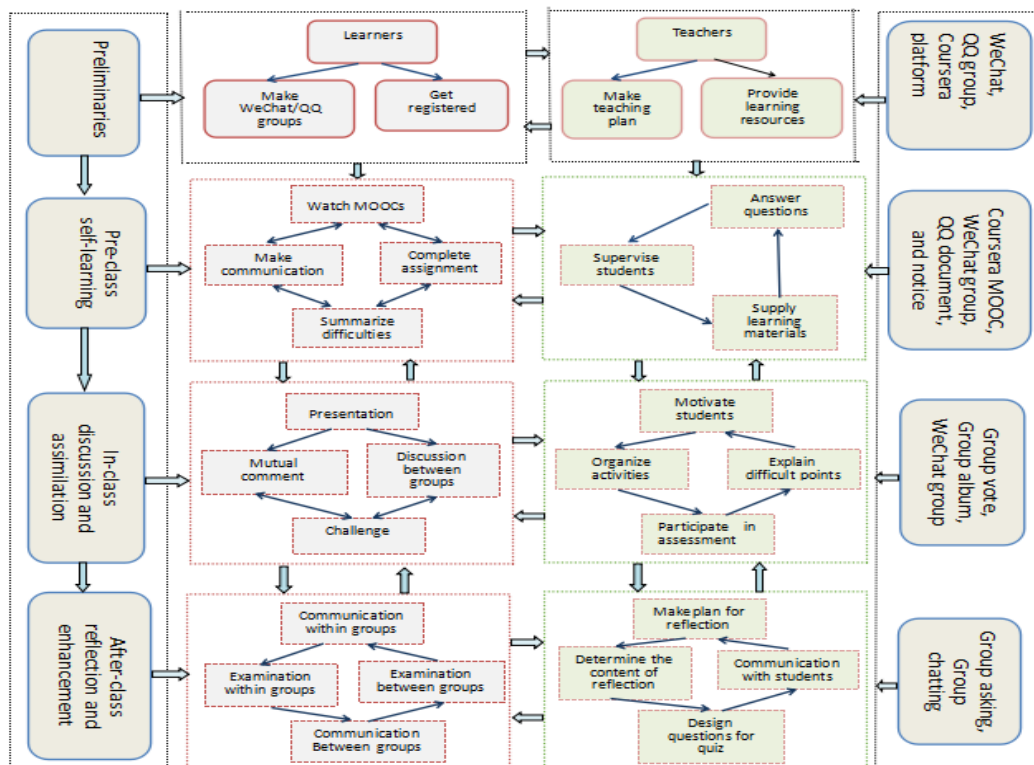

Figure 1: English blended learning model based on 5R adaptation framework

3.1. Practice of English Blended Learning Model Based on 5R Adaptation Framework

3.1.1 The English Course

The English course is a compulsory course for freshmen who are going to take the CET4. The course used in the study is implemented in a multimedia classroom of 51 students by a professor of EFL. The university is an ordinary one in northern China with an enrollment of about 10,000.

3.1.2 Preliminaries

English blended learning based on 5R adaptation framework is a learning model that emphasizes student-centered self-learning; however, instead of relying solely on individual motivation and watching online courses, students are required to set up a group learning community and help each other through group learning and healthy competition. This approach is meant to enhance students' interest, motivation, and outcomes in autonomous learning.

First, the class teacher created a WeChat group and a QQ group both named "English + Class Number"; then, each student in the class joined both groups under their names. Students are divided into study groups of six to eight according to their scores on the placement test, taken in advance, to ensure that the learning abilities of members in each study group form a gradient so as to help the comparatively weak ones (Armenth-Brothers, 2009). For each group, the leader is required to create another WeChat and QQ group for discussion and communication, and to name it after discussion with group members. Students can communicate not only within their groups but also with teachers and classmates in other groups, publicly or one on one.

In order to carry out English blended learning effectively, the teacher used anonymous questionnaires to evaluate the students' learning needs, motivation to learn, skillfulness with the Coursera platform, personal expectations for learning, attitudes toward blended learning, and English learning styles and backgrounds (on the basis of which the learning materials were selected). Students were interested in blended learning. However, almost all of them seemed to be new to MOOCs and Coursera. Therefore, the teacher helped them register for the online course, and then classified the learning tasks into small topics for teaching and self-learning based on the division in the textbook and the features of the students, thus doing students the favor of conducting fragmented learning.

3.2. Pre-Class Activities and Autonomous Learning

English course emphasizes the practical use of language in a given context. CET4 involves the "four language skills" of listening, speaking, reading, and writing; the teacher developed a plan combining content and activities related to each of these. Learning activities are the sum of cooperation by learners, their partners in the learning groups, and teachers to achieve specific learning objectives (Daradoumis et al., 2013).

The design of learning activities is the core of the blended learning model. Learning activities include both face-to-face classroom activities and e-learning activities based on the (in this case, Coursera) MOOC platform. Based on the analysis conducted in the preparation period, the teacher divided the complete task into small study topics with different learning objectives. Students are required to learn independently prior to class in response to WeChat or QQ group bulletin notices and to complete given tasks. When learning autonomously, students are able to try to overcome difficulties by watching MOOC videos multiple times and/or using the discussion groups to ask their fellow students or their teachers for help. Conversely, students can use these venues to share their own valuable experiences, insights, successes, and hardships.

3.3. In-Class Discussion and Enhancement

As students have autonomously studied and gained a basic understanding of course topics (that is, language topics) online before class, the teacher in the classroom needs only to reiterate important points, not give detailed explanations; then, the main task of the teacher during face-to-face teaching is to help students solve the problems they have encountered in self-study, consolidate what they have learned, and give them an opportunity to practice. Classroom activities were designed and face-to-face discussions organized to address the difficulties students had when working on the topics by themselves online, based on the teachers' ongoing monitoring of their discussions and presentations. The teacher set up a number of multiple-choice questions for voting in the QQ or WeChat group (using smartphones). Students answered questions immediately in class, and teachers then made the next plan

based on these answers in order to determine what needed further explanation and more practice. In this session, the teachers gave students with relatively high scores the opportunity to further explain specific knowledge points to, and share their learning methods and ways of thinking with, their peers. In this way, students were not only able to clarify existing points of confusion but also to encourage other students to prepare for subsequent classes and stimulate their enthusiasm for learning through positive peer pressure. In addition, the teacher gave each group opportunities to present their distinct ideas by PowerPoint as a way of reflecting and expanding on what they had learned online and develop their critical thinking skills. This design trains students to speak in public, enhances their team spirit, and improves their learning enthusiasm and learning capacities.

3.4. After-Class Reflection and Consolidation

After class, each study group conducts an overall review and reflection session on the problems encountered, and posts a report in their QQ or WeChat group as a shared document. All students are then able to learn from different groups and comparatively analyze what they have learned or failed to learn, clarifying their strengths and weaknesses; they are also able to communicate with their classmates and teachers on these matters through the Internet platform, to complete the integration and internalization of knowledge. They can discuss problems using words, audio, or video. Students from the same or different groups may enhance and internalize what they have learned by testing each other on key points. To do so, they can design items themselves based on their own understanding, difficulties, and questions.

4. Results and Analysis

The effects of this intervention were evaluated based on students' mock CET4 scores and the feedback from everyone in the experimental class. The mock test was structured the same as the official CET4 and was taken after four weeks' learning with the new blended model. Feedback was collected through questionnaires and interviews, and mainly focused on the topics of class performance, experience taking MOOCs, average time spent on MOOC learning, learning motivation, and satisfaction with the course. At the end of the questionnaire, students were requested to mention problems and give suggestions for improvement.

4.1. Achievement Analysis

Total individual scores on the mock test ranged from 49 to 86, as shown in Figure 2. The average score was 70.5, higher than that on the placement test by 15.3 points. Most students passed the mock test, with scores over 60, but 7 did not. In all, 82.7% of the students did better in reading and writing than in listening and speaking. Of the students, 75.3% were satisfied with their achievement and claimed that their English had improved over the four weeks of the intervention. The average time they spent preparing for the BEC was from 5 to 7 hours per week (for 62.4%), including the time they spent watching MOOCs as well as doing the quizzes. Most of them said they spent more time learning English because of the pre-class tasks, and that they were generally motivated by the new way of learning.
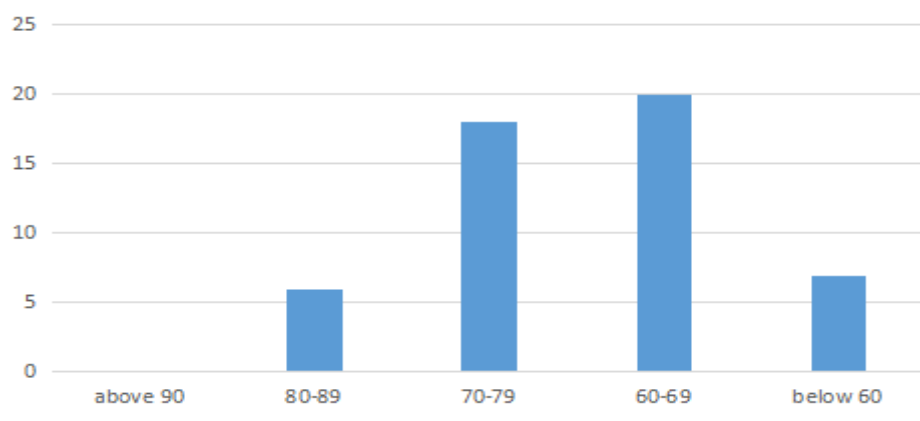

Figure 2: Mock test score distribution in experimental class Motivation Factors

According to the questionnaire and interview results, the blended learning model does motivate students to learn independently and autonomously. Such motivation can also be detected when students participate in classroom activities. Students said that this motivation comes from the pressure provided by competition and interaction with other groups and from basic interest in the MOOCs. Students in the same learning community encourage each other to work hard to prepare for classroom presentations and for questions that may be posed by the teacher and classmates in face-to-face learning. Students gradually realize that teamwork helps them considerably to deal with difficulties and develop more interest in learning the material. In addition, the process of communicating with others online makes students more and more confident in themselves. This blended model leads students to set aside much more after-class time to learn independently because they have to finish the set tasks and so provides them more opportunities to make more in-depth presentations and conduct more competition, interaction, and discussion among groups, which certainly pushes them to think critically. These benefits also all serve as motivation factors that push students to learn before and after as well as during class.

4.2. Satisfaction with the Blended Model

The feedback from students indicates that 92.5% of them are satisfied with the new model. They accept that MOOCs provide a unique and interesting mode of resource presentation and functional design that helps students learn on their own. They can learn virtually anywhere and anytime which is very convenient and encourages their passion for learning. The unique video design of MOOCs provided on the Coursera platform successfully meets the need for fragmented interactive learning and also narrows the distance between teaching and learning. Under the guidance of teachers, students make use of their fragmented leisure time to learn autonomously, complete tasks related to their MOOC, and consolidate important knowledge points by answering embedded, interactive questions. Students are happy using smartphones to learn inside and outside of the classroom. They enjoy communicating with their peers and teachers in the learning community to solve problems encountered in self-regulated learning. When they learn with teachers and classmates face-to-face in the traditional classrooms, they can share learning experiences with their partners, summarize and reflect on the knowledge points that they are interested in and on their learning outcomes, and make presentations. Most students insisted that in this blended learning, they learned from each other and expanded the boundaries of their knowledge. However, 8% of students did not like MOOC learning, because they thought they were much more disposed to learn from their teachers in person.

4.3. Challenges

Several students complained about the slowness of connectivity and the burden of extensive preparations. They put it that they spend much more time searching and waiting online because of slow connectivity, leading them to spend up to around an hour more than they expected in English learning at times. Most of them said this new model broadened their horizons concerning MOOCs and other online resources, but also that it really overloaded them compared to before. In the traditional approach they had previously been learning under, they had just needed to attend class regularly, learn from the teachers, and occasionally do some homework, but now they needed to watch MOOCs themselves and prepare for each class, every day. This provided both challenge and motivation.

5. Conclusion and Suggestions

The purpose of this research was mainly to explore a widely used blended model for English learning that has been an important part of higher education. The results of the study lead to the following conclusions. First, the application of the blended learning model had a significant effect on students' achievement. Almost all the students improved. And their testing scores increased after four weeks learning under the guidelines of a new blended model. Second, the blended model using MOOCs and smartphones helped students to increase their learning interest. Students find English learning much more fascinating than before when they use a computer and smartphones to finish the tasks. It is these devices that induce them to spend more time learning and do it more passionately. Third, students enhance their ability to learn independently and autonomously in such a blended learning pedagogy. Their learning agency is developed in the process of preparing and delivering a presentation, in the impromptu competition that occurs in class and in the communication between students and teachers. Last, most students in the experimental class preferred blended learning. This

model can help them learn at their own pace and encourage them to think critically in order to give an impressive presentation, and more importantly, they adapt to the new way of learning in a short time.

However, some challenges associated with the blended way of English learning certainly still exist. For example, the blended learning model may require students to spend much more time preparing for each class. They are much more loaded than before. And the new learning model is also demanding for teachers. They have to learn to make full use of the affordances of information and communication technology (ICT). A successful performance of blended learning model requires to form communities of practice to cooperate with each other to improve their English proficiency and to develop the skills to use ICT to facilitate teaching. The learning communities for teachers will also help them to share ideas when preparing for the course. A skillful and learned teacher will surely give guidance to students in a timely way when they have difficulties. In a word, the success of English blended learning relies upon carefully-designed course plans based on 5R adaptation framework and MOOCs as well as classroom activities based on students' independent learning.

Acknowledgments

References

[1] Armenth-Brothers, F. (2009). How to make small-group learning work. South Lake Tahoe, CA: Pentronics Publishing.

[2] Bersin, J. (2004). The blended learning handbook. New York, NY: Wiley.

[3] Cooper, P. A. (1993). Paradigm shifts in designed instruction: From behaviorism to cognitivism to constructivism. Educational Technology, 33(5), 12–19.

[4] Daradoumis, T., Bassi, R., Xhafa, F., & Caballe, S. (2013, October). A review on massive e-learning (MOOC) design, delivery and assessment. Paper presented at the Eighth International Conference on P2P, Compiegne, France.

[5] Driscoll, M. (2000). Psychology of learning for instruction. Needham Heights, MA, Allyn & Bacon.

[6] Dudley-Evans, T., & St. John, M. J. (1999). Developments in English for specific purposes: A multi-disciplinary approach. Cambridge, UK: Cambridge University Press.

[7] Ertmer, P. A., & Newby, T. J. (1993). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. Performance Improvement Quarterly, 6(4), 50–72.

[8] Hutchinson, T., & Waters, A. (1987). English for specific purposes: A learning-centered approach. Cambridge, UK: Cambridge University Press.

[9] Norman, R. (2004). On humanism: Thinking in action. London, UK: Routledge.

[10] Paechter, M., & Maier, B. (2010). Online or face-to-face? Students' experiences and preferences in e-learning. Internet and Higher Education, 13(4), 292–297.

[11] Siemens, G. (2005). Connectivism: A learning theory for the digital age. International Journal of Instructional Technology and Distance Learning, 2(1), 3–10.

[12] Stockwell, B. R., Cennamo, M., & Jiang, E. (2015). Blended learning improves science education. Cell, 162(5), 933–936. doi.org/10.1016/j.cell.2015.08.009