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The Application of Moodle-Based Platform in College English Learning*

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After a brief introduction to current situation of College English teaching, the paper explores the theoretical foundations for designing a Moodle-based College English learning environment. Through a quantitative and qualitative research, the author proves its effectiveness in College English learning. In this new teaching environment, the learners can take initiative to construct knowledge with the assist of modules provided on Moodle platform. Their comprehensive language ability is greatly improved in this harmonious and equal environment through the interaction and communication with peers and the teacher.

Keywords: Moodle-based platform, College English learning, constructivism

Introduction

With the continuous reform of College English, the computer-aided teaching mode is rising quietly and pervasively in China. Educators strongly hold that it is greatly important and necessary to apply multimedia in College English teaching. In the new era, with the rapid development of science and technology, "Computer and English" has become two indispensable skills. The College English Curriculum Requirements issued by Ministry of Education proposed using the Internet as a medium to better English teaching and learning in higher education. However, traditional teaching of English has shown more and more shortcomings, such as teacher-dominating teaching, single teaching mode, boring learning material, which has hindered the students to greatly improve in English learning. Until now, more and more research and study about College English learning has been carried out. Varieties of teaching methodologies and teaching modes are applied in English teaching. However, the teaching effect is far from satisfying.

The Moodle-based College English instruction can compensate for the deficiency of the traditional way, integrating the multimedia, network, and English, with the teacher as the guider and the student as the center. The Moodle platform can combine sound, picture, characters, figure, cartoon, and movie, thus arousing and stimulating the students' interest and initiative, so as to improve the students' language ability.

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Theoretical Foundations of the Current Research

Studies of Constructivism

Constructivism is also known as structuralism with the early representative Jean Piaget and Lev Vygotsky. Piaget (1972) declares that through interaction with the environment, children can construct new knowledge on the basis of their existing knowledge and experience. L. S. Vygotsky (1978) insists that students' cognitive development is a changing process from lower level to higher lever under the influence of education and interaction. Shuell (1988) adds that learning is an active, cumulative, constructive, and goal-oriented activity. In conclusion, the basic viewpoints of constructivism are summarized as follows: (1) Knowledge comes from the individual's initiative understanding of the world; (2) Knowledge can be acquired through discussion and interaction with peers; and (3) Knowledge acquisition is closely related to learners' interests and personal needs. If learners' interests and needs could be met, their strong learning motivation would be aroused.

Following the theories of Piaget, Vygotsky and other constructivists, many researchers and scholars developed the designing principles and objectives of constructivist learning environment. Jonassen (1991) explains that individuals make full use of materials, pedagogical and evaluation tools pursuing their learning goals through interaction with their teachers and classmates. The teacher should act as the guider and coach during the problem-solving activity. In order to make all students involved in the classroom activity, multiple-representation of learning materials and flexible ways of learning should be provided. Authentic language context and situation should be designed in the task-based activity.

Studies of Web-Based Learning Environment

With the rapid science and technology, more and more researchers explore the application of Internet and web in the language learning. Abdelraheem (2003) states that the future learning environment is a place where abundant databases, devices, materials will be provided for learners to seek information. BAI (2008) discusses web-based learning environment from cognitive, psychological, and system dimensions. Cognitive dimension refers to everything related to learning materials, strategies, and models. Psychological dimension explains learners' mental conditions during their learning process which can be positive or negative depending on specific situation. System dimension describes the technological conditions of the learning environment.

Several functions must be fulfilled for building an effective web-based learning environment. The website or platform must allow teachers and students to freely and conveniently upload and download materials. The website or platform must support synchronical exchanges and communication between the teacher and students. Search engines such as Baidu, Google, or Yahoo should be embedded in the platform so that students can explore information and knowledge. Self-evaluation function should be set for learners to check and review. The platform should allow teachers to trace and monitor students' learning behavior. Therefore, Moodle, as an effective software package, is selected to build a web-based English learning environment.

Introduction to Moodle

Moodle refers to the Object-Oriented Dynamic Learning Modular Environment. It is a software package for helping educators to build effective online dynamic educational courses. This open-source e-learning platform was developed by Australian teacher Dr. Martin Digammas and upgraded by many programmers and educators. It is created on the basis of social constructivism which highlights students' acquisition of new knowledge and

constructing their own cognition during the process of interaction with teachers.

This platform is warmly welcomed by teachers not only because it can be installed in a minute but also it provides varieties of powerful activity modules for teachers to design learning tasks and upload learning materials. Teachers can upload additional learning materials in the forms of documents, PowerPoint, video, and audio in resource function module. They can design short/long conversation listening comprehension tests, T/F tests and note-taking tests in Quiz module. The objective tests can be graded automatically by the platform and scores and detailed explanations are given to the students after the test is done. Students can communicate with teachers synchronically and all the contents of conversation will be saved by the platform for future study.

The Application of Moodle Platform in College English Learning

Research Questions

Research questions are as follows: Firstly, whether Moodle-based College English teaching can improve students' comprehensive language ability under the condition of reduced teaching time; secondly, whether Moodle-based teaching mode can stimulate students' autonomous learning interest.

Subjects

One hundred freshmen of non-English majors from Qingdao University of Science and Technology participated in the experiment. Fifty-two students are in the experimental class and 48 students are in control class with the same teaching materials and the teacher. The experiment lasts one year.

Instrument

The instrument used in the study includes the analysis of pre-test and post-test results and one questionnaire.

Procedures

The control class was given lectures on intensive reading course and listening and speaking course for 32 hours respectively with the traditional teaching mode. On the contrary, a blended teaching mode was adopted in the experimental class, that is, 16 hours for intensive reading, 32 hours for listening and speaking, 3 hours per week for Moodle-based English autonomous learning. The specific arrangements of the course for each class will be detailed in the following part.

Intensive reading: The experimental class has two hours' lecture for intensive reading every two weeks. The students have the autonomous learning based on the tasks designed by the teacher on the Moodle platform. The main tasks for the face-to-face teaching are as follows: checking completion of the assignments, explaining the difficult points and answering questions, and evaluating and summarizing the students' performance. The control class has two hours' lecture for intensive reading every week with the teacher as the dominator.

Listening and reading: The experimental class has two hours for speaking while they autonomously finish listening tasks on Moodle platform. The students must well prepare for all the speaking topics and specific tasks given beforehand on the platform. During the preparation, they can search related new words and materials on the platform and carry out discussions and exchanges with their peers through the forum function. Meanwhile, they can gain and select some listening materials including videos, audios, and flashes on the platform according to their own interests and needs via the resources function. On the contrary, the traditional teaching mode is still employed in the control class, using earphones, paper listening materials, and exercises.

After-class autonomous learning: The experimental class carries out three hours' learning on the Moodle platform. They download the assignment given by the teacher and then upload their homework when they finish it. Students and the teacher can have synchronical communication and question and answer through the forum module. The control class finishes the exercises following each unit of the textbook.

Results

Test Scores of the Experimental Class and Control Class

Independent samples t-test was conducted to compare the results of the pre-test and the post test between the experimental class and the control class respectively. The pre-test was held in the first term of 2014–2015 school year and after one year the post-test was carried out. The results are shown in Table 1 and Table 2.

Table 1

Independent Samples T-test of Pre-test Between the Experimental Class and the Control Class

	Class	N	Mean	Std. Deviation	Sig. (2-tailed)
Pre-test	Experimental class	52	72.460	3.336	0.003
	Control class	48	70.091	4.844	

From Table 1, it can be seen that the mean score and the standard deviation of the experimental class is 72.460 and 3.336 while the control class is 70.091 and 4.844, which shows that the language competence of the students in the experimental class is better than that in the control class. The significant difference is 0.03 (< 0.05) which means there is a great difference between the experimental class and the control class.

Table 2

Independent Samples T-test of Post-test Between the Experimental Class and the Control Class

	Class	N	Mean	Std. Deviation	Sig. (2-tailed)
Post-test	Experimental class	52	70.331	3.120	0.001
	Control class	48	62.426	4.812	

As shown in Table 2, students in the experimental class have greatly improved compared with the control class after a whole year's learning and practicing. The mean score of the experimental class is 70.331, which is almost eight points higher than that of the control class (62.426). Moreover, the standard deviation of the experimental class is 3.120 and the control class is 4.812, which indicates the gaps among the students in the experimental class are much smaller than those in the control class. Plus, the difference between the experimental class and the control class is much more significant compared with the pre-test.

In a word, the statistic data in the two tables shows that the Moodle-based platform can greatly improve the efficiency of the English teaching and learning.

Questionnaire and Data Analysis

The aim of the questionnaire is to investigate the students' attitude to the Moodle-based platform learning and their learning behavior. Four aspects of learners' attitude in 20 items are designed in the questionnaire including the cognitive aspect, the psychological dimension, learning behavior, and learning environment. The cognitive aspect covers the following items: (1) learning resources: investigate students' perception of online

learning resources and (2) tasks: obtaining students' attitude to online-based leaning tasks. Psychological aspect evaluates students' perception of peer and teacher-student relationship in online-based learning environment. Learning behavior scale assesses students' attitude to their online learning behavior. The last aspect evaluates students' views on Moodle-based English teaching in the future.

Fifty-two subjects in the experimental class attended the questionnaire. The questionnaire was distributed after the post-test with 10-minute break. In order to make sure all the subjects carefully respond to the questionnaire, detailed instructions on how to answer the questionnaire were given and a small gift was delivered to each of them as a reward. Besides, the questionnaire can be answered anonymously which makes sure to some extent the subjects respond to the questionnaire freely and frankly. The questionnaires were collected immediately after finished. The number of valid questionnaire is 52 and the response rate is 100%.

The feedback from the questionnaire is desirable on the whole. 92% subjects agree that Moodle-based platform provides rich learning materials. 82% consider the online-based learning environment of presenting language resources combining the form of video, audio, pictures, and text can attract learners' attention. 73% believe that the Moodle-based platform provides many chances for learners to practice their language skills with colorful tasks. 65% think they can get help and support from the interaction and communication between peers. However, 89% hold a positive view that they can get much more help from the teacher rather than peers. The traditional spoon-fed teaching style maybe account for this phenomenon. 82% students strongly agree that the Moodle-based platform stimulates learners to use search engine to find answers to problems and improve their autonomous learning ability. 95% students expect to have opportunities to experience on-line language learning in the future.

Conclusion

After reviewing the theoretical bases for the creation of the Moodle-based language learning environment, the paper does a quantitative and qualitative research to test its effectiveness. The results of the research prove the success of the Moodle-based platform for language learning. In this new teaching environment, the learners can take initiative to construct knowledge with the assist of modules provided in Moodle platform. Their comprehensive language ability is greatly improved in this harmonious and equal environment through the interaction and communication with peers and the teacher.

Though the results are desirable and comparatively satisfactory, there is still some room for improvements. To obtain much more valid data, the sample size should be larger enough to make the findings more convincing in the current study. Further study may be done in the future. For example, factors which could influence learners' interaction in the Moodle-based environment should be explored. Longer experiment time is necessary to make sure whether learners' interest for Moodle-based learning environment will decline with time going on.

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