The Application of Problem Based Solutions in Junior High School English Learning Design in China

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Abstract. Moodle is a kind of online learning system which is guided by the learning theory of constructivist. And it develops with the characteristics of openness, flexibility, interactivity, sharing, etc. What’s more, in the process of English learning, most Junior high school students with learning difficulties in English are not good at managing, collecting and reusing the problem solutions, nor classification, induction, summary in English learning, which leads to the vicious circle: dislike leaning English—students with learning difficulties in English—dislike learning English. Besides, there are numerous data with problem solutions owned by educators. However, these educators maybe limited with time and energy to collect and share problems which students owned. Therefore, it is a waste of English learning resources for students and educators to not make full use of these resources. In network information age, information teaching mode has become a tendency, and it is necessary for learners to learn knowledge actively, proactively and personalized. It is a good way for educators to combine the internet learning platform with middle school English error management, to learn management system supervision, to encourage students to learn actively, so as to improve high school students learning initiative and then get the goal of improving English scores.

Introduction

In the process of English learning, there are many difficulties in learning English for junior middle school students, and most Junior high school students with learning difficulties in English are not good at managing, collecting and reusing the problem solutions, nor classification, induction and summary with English learning. And there are numerous data with problem solutions in the hands of educators, however, these educators maybe limited time and energy to collect and share problems which students owned. Therefore, it is a waste of English learning resources for students and educators. In the information age and internet society of today, information teaching mode has become a tendency, and it is necessary for learners to learn knowledge actively, proactively and personalized.

At knowledge economy age, the education era is undergoing a revolution, and there is a need for traditional education methods to keep pace with the times, to keep forging ahead in an innovative way and to follow the tendency of development. In recent years, it is a tendency to learn Moodle in the education field around the world. Moodle, which is a course management system (CMS) - a free open source software package designed to help educators create effective online courses based on sound. And currently, it is one of the most widely used worldwide online learning platforms in the world. Therefore, it is thought a good way to improve student learning English initiative and enthusiasm, which is to combine the junior high school English problems and online instruction together, to enable students to manage their own fault exam and problems, in addition to add the supervise and guidance of teachers. As the result, the grades of students increased for granted.

After checking out many domestic and foreign literature works and information, more specifically, the article consists of the following four aspects: introduction, the basic theory of the subject, the design and application of problem solutions, and conclusion.
The General Approaches of Problem Based Solutions for Both Teachers and Students

In contemporary age, more and more Moodle-based educational research are used for education; more and more people join in big data research; more and more courses are in the birth of the Internet. Therefore, it is an information time characterized by the development of computer, communication, network and technology. As human being’s society development, education field is also experiencing great changes around the world. And because of the change in the education sector, old ways of education and learning style face huge challenges.

In the process of learning English, students get a wrong answer for many reasons, the ways they deal with the incorrect solutions are also not the same. What is more, there is no doubt that more than 90% of the students have such an experience: many of the topics mentioned, done, exam passed, some topics even test several times, but ultimately wrong. Behind these wrong answers, the hiding truth is that students do not understand knowledge points thoroughly, as well as knowledge points of vulnerability.

The characteristics of English discipline are large vocabulary, grammar structure completed, with a large number of fixed collocations. At the same time, it will be affected by mother tongue, students easily damaged by careless and make mistakes, for which requires a student to establish the wrong title set. Students who are better at summing up the experience of failure than others will possess more opportunities of success, as the saying goes: "Failure is the mother of success". Thus organizing the wrong questions is a good way to improve academic achievement. Perhaps a numerous of middle school students have a mathematical or physical wrong title of this, however, they are hard to do the same for English. In fact, no matter mathematical or physical wrong notes text, the principles are equally. Behind these fault questions, there is often hidden knowledge that students do not understand thoroughly, as well as knowledge of vulnerabilities.

**Students Way of Solving Problems**

Majority of the students have their own wrong fault exam resources, part of the students also know the importance of these resources. But in reality, perhaps there are not many students who are really good at using the fault questions. (Sun 49-51) The students have accumulated fault exams in each semester; however, the fault exams do not play their best effort well. Many students established their own fault titles in a notebook, but they just keep it for several months. When new semester starts, they establish their new fault exams notebook again, and drop the previous one. It is not only a waste of time, but also do not live up to the efforts made down before long.

Most junior middle school students are not of great interested in English, on account of its large amount of English words, phrases and complicate grammar, as well as large task, which is just like high "mountain" for the leaners to climb. Therefore, only few students who learn English actively and consciously and building their own wrong topic texts. For students with learning difficulties, it is no doubt the difficulties of learning English add to their frustration. And a number of reasons make students become “poor students” in English, just like Fu Yu believed “students want to learn actively, but they learn with unsuitable methods, as the result, they failed and failed, and lost confidence finally.” (188)

Under the requirement of the teacher, students will be subject to their own fault extract and build their own short-term dislocation English exam. Students with learning difficulties have more fault titles to copy, which means they have the amount corresponding to their task more than other students. With long-terms goes by, students with learning difficulties will hate English. Generally, Majority of the students just excerpted down fault questions and memorized, but there are few leaners try to summarize, analyze and classify their mistakes. Therefore, although there are some ways to deal with English, the students did not really make up their own knowledge on vulnerability, which lead to the next encounter similar problems or mistakes.

When middle school start, students focus on more subjects than primary school. And obviously, pressures are also increased. English, as is a second language as well as a core course, it is inevitably for students to learn it well. Also, it is not easy for middle school students to find a suitable method of
learning English. They distressed, anxious, and upset. Unlike native language, English has its own unique characteristics, which make many students annoyed.

Therefore, it will be a great significance for learners to have a valuable way to learn English. Xu Shuanghua thought “It does not matter to make mistakes in the study, the important thing is that to think the reason why failed with the exam.” (Xu 41) Furthermore, the establishment of building a fault exam database system, and using big data to help middle school students, which will help students to learn English, especially students with learning difficulties of learning English.

**Teachers Way of Solving Problems**

English teachers hand of data and information on the student, but the time and energy are limited for teachers. They know what mistakes the students would make, but cannot take care of every student. The resources in teacher hands do not maximize its best effort.

Furthermore, the teacher has lots of resources to the fault exams, but it is very fragmented and difficult to centralized management. The time of teachers is limited, they are so busy that have little time to establish fault exams database. However, the Li Weirong believes “As the teacher, we should regard fault cases in exams as a kind of resources.”(63) If teachers establish a database about fault exams for English learners, it will be a good mean to help students with English learning.

**Moodle-based Learning Theory Research**

**The Features of the Moodle**

Moodle is a course management system (CMS)—a free Open Source software package designed to help educators create effective online courses based on sound (Romero and Ventura 368-384). There is also said by a website that Moodle is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning, anytime or anywhere. Whether you're a teacher, student or administrator, Moodle can meet your needs. Moodle’s extremely customizable core comes with many standard features. Take a look at a highlight of Moodle's core features below. Modern, easy to use interface, personalized dashboard, collaborative tools and activities, all-in-one calendar, convenient file management, simple and intuitive text editor, notifications, regular security updates, etc.

Moodle is one of the most popular course management system (CMS) in the world, due to it is free source software to use, as well as it possessed advanced design philosophy of education. The opening education management mode of Moodle allows teachers and enthusiasts around the world participate freely to design and develop the system, therefore, its function would be more and more powerful. According to the statistics by a website called Moodle. org, as of the end of May 2012, Moodle could support 97 kinds of different languages, 222 countries and regions were the members of Moodle, and there were 67,000, institutions have registered Moodle, the number of registered users reached 58 million, and the running course reached 6,000,000 [1]. In the promotion of these people around the world, the current development version has already become Moodle 2.0.1+. Like other free software, Moodle has gradually formed its own community (Li and Zhao 64).

**The Basic Theory Research of the Subject**

**Constructivism**

Constructivism is a theory of knowledge and learning, which emphasizes the initiative of leaners, and suggests that learning is a process based on learners' existing knowledge and experience to generate meaning and understanding of the construction, and this process is often done in social and cultural interaction. Furthermore, constructivism has profound ideological origins, and because it is different from the traditional learning theory and teaching ideas, it has important guiding value to the teaching design (Wang and Yu 178).

The earliest proponent of Constructivism can be traced back to a person named J. Piaget who lived in Switzerland. He was the most influential psychologist in the cognitive development area. He
founded the theory of cognitive-developmental perspectives known as the Geneva school. Piaget's theory is full of materialist dialectics, and he insists from the interaction between internal and external point of view to study the cognitive development of children. He believes that children are in the process of interaction with the surrounding environment, and gradually construct knowledge about the outside world, so that their cognitive structure has been developed.

Constructivism advocates learner-centered learning under the guidance of teachers, that is to say, it has not only stresses the main role of learners’ cognitive ability, but also treats teaching without neglecting the guidance of teachers. Teachers are the promoters and facilitators to help students do sense-making, rather than just indoctrinating and instilling knowledge to students. Still, students are the main body of information processing, the active sense maker of construction of meaning, rather than the passive recipients of external stimulus and infused objects (Wang and Ning 20-23).

Constructivism holds that students obtain knowledge with certain social and cultural background of the situation, with the help of other people (including teachers and learning partners), with the necessary learning materials, with the construction of meaning, rather than teaching by teachers. Because learning must be under a certain social and cultural background, realizing the construction process with the help of others meaning through collaborative activities among people, constructivists believe that "situation", "collaboration", "session" and "sense-making" are the four elements of learning environment.

Constructivism teaching thought contained six respects, which mainly reflected in knowledge outlook, learning outlook, the position and function of students and teachers, and the role of the learning environment as well as teaching principles.

The suitable teaching mode of constructivist learning theory and constructivist learning environment is: "On the basis of student-centered, teachers play the roles of organizers, mentors, helpers and facilitators in the whole process of teaching, exerting the initiative, enthusiasm and initiative fully of the students by using situation, cooperation, learning sessions and other environmental factors, ultimately, to enable students realize the significance of the current knowledge of the construction effectively."

**Humanistic**

Humanistic theory is one of the major genres of contemporary American psychology, founded by the American psychologist Maslow A.H, and now one of the representatives is C.R Rogers. Humanism is a paraphrase from the German word Anthropologismus. Humanism is opposed to the tendency of human's psychology vulgarization and animalization, as the result, it is called the third thought of psychology. The teacher and student theory advanced by Carl Ranson Rogers from humanistic theory has important stimulated usefulness to our comprehension and building healthy relation between teacher and student (Sun 63-64)

Humanistic psychology emphasizes the quality of love, creativity, self-expression, autonomy, responsibility and other personality characteristics, which has exerted profound impact on modern education. As the founder of humanistic psychology, Abraham H. Maslow affirmed the recognition of human dignity and worth fully, and he promoted the realization of human potential actively. Rogers is another important representative, and he also emphasizes the quality of human self-expression, emotion and subjectivity accepted. He believes that the goal of education is to develop a fully developed soul, and creating a positive environment for leaners’ growth.

Learners-centered' teaching theory is a newly-developed educational idea and is an important part of humanistic psychology. The teaching thought of humanistic is not only pay attention to the development of the teaching cognitive, but also taking more concerned about emotional, interests, the development of the law of motivation for middle school students. That is to mean, to focus on student understanding of the inner psychological world, to conform to the students' interests, needs, experience and personality differences, to develop the potential of students, to stimulate their cognitive and emotional interaction, and attaching importance to the restrictive function of psychological with creativity, cognition, motivation and emotion on behavior."
Cooperative Learning

Cooperative learning is a teaching strategy, which takes the students as the center, the group as the form, for the common learning goal, to learn together, to promote mutually and to improve together. Most of the traditional teaching theories focus on the cognitive function of teaching and pay attention to students' academic performance, but ignore the development of non-cognition aspects. Cooperative learning is different, and it is not only to enable students to acquire cognitive development, but also to enable students to have fun in the learning process, so that students are willing to learn without study motivation.

Cooperative learning advocates believe that learning is an individual process to meet internal needs, and learners are only willing to learn, they will be to learn better. Therefore, only to create the conditions to meet the needs of the students which are included a sense of belonging and influence, they will feel that learning is meaningful, and they will be willing to learn feel better as well as feel better.

The Design and Application of Problem Solutions

Research Project: Moodle-based English Problem Solutions of Junior High School

Moodle is the most widely used online teaching platform at present. As a free open-source platform, Moodle has three main capabilities which include content management, learning management, and curriculum management, including forums, quizzes, resources, questionnaires, assignments, chat and blog and other sectors (Zeng 1).

Moodle is a kind of knowledge management essentially, the connotation is to treat human beings as the center, treat information as the foundation, treat technology as a means, treat the knowledge innovation as the purpose, and treat the knowledge (explicit and implicit) as a kind of resource, capital, operation and production factors to be managed, on the basis of mutual trust, through the accumulation of knowledge, sharing, communication, take advantage of the collective data, information, knowledge, skills and wisdom to improve adaptability and innovation capacity of individuals or organizations.

Under the leadership of the teacher, we use Sanjiang English Resources Network and Haixueyuan-Knowledge Management Platform to upload and download learning materials. We envision that middle school students can make use of these two platforms to build their own error resource library, and derived from the same kinds of questions. So that it can practice students' ability of horizontal and vertical to acquire knowledge, and training students’ ability of dealing with knowledge points by repeating the same questions. Moreover, students organize their own error rescores to meet the goal of deepening the impression as well as enhance the students' enthusiasm for learning English. And our purpose thusly: to improve positive initiative of middle school students in learning English, the target is to help middle school students with learning difficulties in English.

Program

Moodle can be installed in Windows PC and Red Hat Enterprise Linux 5 as well as other systems. You can learn it from a book called "Moodle online course platform" which is written by Mr. Zeng Zonggen, there are detailed installation process in the book, and it is simple and easy to understand.

Process

In the book "Moodle Online Course Platform", Mr. Zeng Zonggen has said: “To use Moodle mainly in two ways, adding resources and adding events” (79).

Adding resources which include the preparation of text pages, writing web pages, linking to files or sites, displaying a directory, surveys, assignments, databases, discussion forums, a glossary of terms, etc. Moodle site management functions can be changed for the specific needs of configuration, including setting the theme style, setting the home page, setting up a mail server, registration, upload, modify the curriculum and so on. Add activities which include chatting, discussion forums, voting,
and homework and so on. In addition, we can also use third-party plug-ins to innovate, to develop new features. We will try our best to offer better service for students and teachers.

**The Feasibility of Research Instruction**

Teachers can configure questionnaire on Moodle as managers to facilitate a better understanding of the students. Also, teachers can assign a task in the job field. And students can register their own account and collect their own error resources. The system can derive from the relevant title to test, and teachers can browse student's error resources. Teachers can understand students better, and students’ proactivity of learning English can be also increased. Network is not just the Internet, it will be a tremendous resource and facilitate effective learning tool on education revolution.

**Preparation in Advance**

Under the guidance of the instructor, our team members finalize the topic through discussions. After that, the team members find some information about the relevant situation by division. And finally, the group determined the investigation of the survey methodology: literature research, questionnaire survey and interviews instant communication method.

Organization and implementation: Under the guidance of teachers who have been English teacher more than five years in middle schools in Yibin City, and who are willing to participate in middle school English teacher interviews of our project questionnaire.

Achievement promotion: The results of this study have a high theoretical and practical significance. It has a greater role in the promotion of students' innovation ability of scientific research and professional practice ability, and there is great reference value for students with learning English difficulties to improve their learning interests.

**Implementation and Evaluation of Instruction**

Though uploading and testing data on the Sanjiang English Resources Network and Haixueyuan-Knowledge Management Platform, it can be also set up problem solutions on the two websites.

**Procedure**

To open the link to the home page: [http://220.166.64.238/moodle 201919/ login/index.php](http://220.166.64.238/moodle 201919/ login/index.php), then registering an account or login to an account. As shown in figure 1.

![Login to the site](Figure 1. Login to the site.)

If you can’t own an account, you can also login as a guest. As shown in figure 2.
After logging in, users can modify their personal information here. And in the profile below, users can view the forum posts, blog, notes, messages, etc. As shown in figure 3.

Regular news discussion area and English learning resources related links. As shown in figure 4.
There are 2000 core vocabularies about senior high school entrance examination, and students may test problem solutions online here. As shown in figure 5.

To click into the interface which is called the application of PBL in junior high school English learning. As shown in figure 6.

This Glossary is to focus on The Application of PBL in Junior High School English Learning. We are looking forward to sharing with you concerning our problems in Junior High School English learning! As shown in figure 7.
Figure 7. Users could search word here.

Users could search word here. As shown in figures 8 to 9.

Figure 8. Users could search word here.

Figure 9. Users could search word here.
Conclusion

English language teaching is not that easy. I employed myself in teaching English as a tutor during my college life. The most of my students are like inferior bird, there are many qualities in common among them. Firstly, they are lacking of interesting in English. Secondly, they cannot control their learning time and action. Thirdly, they cannot take the same exam correctly. Then the grades of these English poor learners became lower and lower, which lead to parents and teachers worried a lot about the situation. As the result, the poor leaners are forced to spend more time on English even though taking an English class out of public school.

My students also told me that they wanted to learn English well, but they just felt helpless when taking out of English books, they have no idea with the words and sentences. Therefore, it is necessary to find some effective ways for learning English.

First and foremost, to cultivate interesting of poor students is a good way, interesting is also the mother of success. Secondly, leaning English personalized is important for students. Thirdly, a good teacher is also an essential fact for poor students to learn English well.

The initial results of “Middle school English teacher to promote learning knowledge management platform in Yibin" is the mutual and sharing platform to promote students study in Yibin city on the opening Sanjiang English Courses Online resources website. And we revised and improved constantly by the completion of the final result: the promotion learning platform V1.0 of Middle School English Teachers' Tacit Knowledge Management in Yibin City. And it will put into all the middle school English in Yibin to promote teachers-helping-students action, especially the students with learning difficulties in English. In this project, the junior explorers with difficult problems to be a part of the research, and using knowledge management process with error questions, which will be a great help for middle school students with English learning difficulties. We welcome the broad masses of teachers and students involved to deal with difficulties in middle school students with information technology as well as to improve English grades by solving the error questions.

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