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Prospects and Application of MUD/MOO/VR in Foreign Language Teaching

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Abstract
Constructivism and social constructivism are theories frequently cited in the area of education research recently. The application of MUD/MOO/VR conforms to the study demand of constructivism and has broad prospects of application. This paper analyzes the combination of MUD/MOO/VR and foreign language teaching, introduces some teaching cases and thus puts forward the development trend of MUD/MOO/VR application in foreign language teaching.

Key words: MUD/MOO/VR; Virtual environment; Constructivism; Social constructivism

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INTRODUCTION
Today's world is a world of network. With the constant emergence of new technologies and the appearance of World Wide Web, internet has evolved from information transmission media based on texts into Hypermedia environment based mainly on multi media. This enables users to use the Internet more conveniently. With a click of mouse, users can surf the net freely. The application of Broad Band even escalates the speed of internet transmission considerably, which makes real-time transmission of audio and video possible.

In recent years, more and more educators begin to realize the significant learning potential offered by the new technology. They claim that the Internet can break the physical barriers of the classrooms and create a wall-less learning environment, thus extending the learning environment. Schools of different levels invest large amount of money in the innovation of network equipment and teaching activities based on network have been highly recommended in the education area. Among tons of network teaching applications, MUD/MOO/VR, which is completely based on the Internet, has been widely used and fully developed abroad. But it is not getting its due importance in our country and it's hard to get access to relevant researches. The teaching practices abroad show that MUD/MOO/VR is a very good technology which can construct virtual study space and create study environment. It conforms to the teaching philosophy of situational teaching and has broad teaching application prospects.

Both constructivism and social constructivism emphasize the process of study, that is, the construction of knowledge. However, constructivism emphasizes the construction of personal cognition more. It stresses the center position of the students and demands the students change from passive receiver of knowledge to active constructors of information. At the same time, it demands teachers change from feeders and educators to helpers and promoters in the process of students' active construction. On the other hand, social constructivism emphasizes shared knowledge in learning communities more. Dewey's social constructivism gives attention to both the differences among students and the interactions in the learning communities. Information technology provides students with tools for exploration, experience, construction, communication and thinking so that they can construct new knowledge based on old experiences in the interaction with the outside information.

Chen and Hsu (1999) categorize teaching functions with network technology into seven categories according to the teaching strategies being supported. One of the categories, situational tools mainly provide study environment for students, making them feel at home. We name this process MUD→MOO→VR. Simple situational tools cannot meet the demand of comprehensive development of foreign language teaching in listening, speaking, reading and writing.

This paper introduces the theories of constructivism and social constructivism, talks about the combination of network technology and foreign language teaching in network environment, analyzes how to use MUD/MOO/VR technology to enhance foreign language teaching in such environment and puts forward the future development trend of these technologies.

1. BRIEF INTRODUCTION OF MUD/MOO/VR

MUD/MOO is a multi-user asynchronous communication system which became popular on the Internet since mid 1990s. MUD stands for virtual Multi User Dimension. MOO (Multi user dimension Object-Oriented) develops from MUD, and is an object-oriented MUD. It provides virtual social environment to users by sharing core database composed by different MOO objects. MOO provides real-time online communication and it adopts the metaphoric idea of room. Each room has a discussion topic, on which users from geographically different places can interact and cooperate in a shared space. There are three types of MUD/MOO, namely social MUD, educational MUD and war-oriented MUDMUD/MOO is being more and more widely used in education and research and it provides new and effective measures for online cooperative study.

MUD is a virtual world based on texts, which is shown by ASCII characters and ASCII simple graphs. The first MUD originated from internet-based games developed by programmers and other computer enthusiasts. Players in these early multi-user games cooperated with one another to create virtual communities. Many of these early MUDs still exist today. This virtual world exists in people's brain via people's imagination, and on the screen you can only see texts and graphs. All the activities in the MUD world are conducted via text instructions. Participants need to devote more to the interaction of the system, the interaction between the users and the media, as well as the interaction with other participants. OO stands for Object Oriented, which adds dimensions to a MUD, thus extending simple chat into a richly textured and active learning environment. In MUDs and MOOs, we can build anything with words, from a world which resembles our physical world to a world which is totally imaginative.

VR (Virtual Reality) makes use of three dimensional digital map production technology, interactive multi-sensor technology and high resolution images show technology to produce three dimensional virtual environment. Users can use sensors like special helmets, data gloves and so on, or input equipment like keyboard, mouse to enter into the virtual space and become a part of the virtual-environment to have real-time interaction, perceive and operate all kinds of objects in the virtual world. The introduction of VR is revolutionary. It may play a major role in the future of education. Students can learn best when they construct understanding for themselves, which VR mainly focuses on. A good command of a foreign language is both difficult and time-consuming for non-native speakers. VR, a computer-generated interactive artificial world, creates the illusion of reality. Via VR, learners can be "placed" in foreign countries where they are forced to communicate in a foreign language and learners can be more motivated in this way.

2. COMBINATION OF MUD/MOO/VR AND FOREIGN LANGUAGE TEACHING

One of the important characteristics of MUD/MOO is that it is an activity space for a group of people, because it provides a situation for cooperative project and the space (including room and object) can be constantly built and rebuilt by participants cooperatively. The best cooperation happens in the activities participated by people together. Sharing one situation cannot construct best cooperation and interaction. In MUD/MOO, the activity participated together is to construct virtual world cooperatively and interact with the virtual world. Constructivism theory emphasizes individuals' constructing their own meaning based on experiences. This theory fully presents itself in MUD/MOO, the very powerful, text-based, collaborative learning space. Most virtual environments mainly based on texts are extended by users themselves.

The virtual reality technology MUD/MOO based on Internet and texts have many advantages and have potential application prospects in foreign language teaching. The characteristics of MUD can be listed as follows.

MUD is completely based on texts and it describes the world with the texts, so it has natural advantages in language teaching. We can construct a MUD interactive environment in language teaching, limit it to a learning group and people communicate and learn with a specific language. It is kind of like a foreign language corner and benefits a lot for language learning. Learning is best done in a social setting. The MOO environment offers the opportunity for collaborative learning for the students and as well as collaborative instruction and collaborative professional development for the teachers.

Participants of MUD can come from different places and they don't know each other, and they construct a real virtual space. It's more like the third place which is open to everyone and offers equality. The first place is where we live, the second place is where we work and the third place exists on neutral ground and guarantees all members

social equality. In some degree, this is a space of great equality, and people can literally talk freely, convey their true ideas. People come to the third place on a voluntary basis. This is very important for cooperative study and academic research, which is hardly achieved in tradition face to face communication.

In MUD/MOO, everything is constructed by the participants, and there is no limitation from the outside, which is completely conforming to the study philosophy of constructivism. In the meantime, the competitive, interactive and entertaining features of MUD/MOO make it very attractive to the learners and can motivate them to work harder. In this environment, learners are more likely to overcome the intimidation and shyness commonly seen in the traditional classrooms because of the lack of face to face communication. Every learner is responsible and participating actively. It is easier to follow the rhythm of the learning since the learners enjoy more freedom.

The virtual environment of MUD based on texts exists via people's imagination. It helps to cultivate students' special imagination and abstract thinking and make students have a better understanding and grasp of the abstract concepts and principles. Of course certain experiences are essential.

In MUD, learners can effectively create learning situations, support cooperation, promote communications and enhance knowledge expression and application. It combines games for the brain, situational learning, cooperative learning and online education, and is a very excellent constructivism learning environment. Still this environment doesn't cease to exist once all users log out. Revisiting users can find the same rooms and objects they remember for prior visits. This gives it a sense of permanence so important to the development of a long lasting community.

3. APPLICATION CASES OF MUD/MOO

The educational application of MUD/MOO has achieved greatly abroad, and many research activities have been conducted. Numerous colleges and universities have implemented MUD/MOOs designed with a specific discipline and pedagogy in mind. There are many successful application cases of MUD/MOO. We divide them as follows according to different learning purposes.

System used for training reading abilities:

CollegeTown, telnet://galaxy.bvu.edu:7777/

Diversity University, telnet://moo.du.org:8888/

GrassRoots MOO, telnet://rdz.stjohns.edu:888/

System used for training reading and writing abilities

Lingua MOO, http://lingua.utdallas.edu/

System used for training reading and writing abilities, as well as listening and speaking abilities

EcoSchool, http://www.applications-server.net/group5/index.asp

The last one is a MUD/MOO based on Web. The assumed time is 2029, location is Singapore. Severe industrial pollution, fire in the west and the south devastated the local environment. Both humans and other creatures suffer quite a lot from this. It is gaining wider attention and people need to solve the problem immediately. In this virtual environment, students are divided into groups of five, and the roles are assigned by teachers or students themselves. The roles include the spokesman, the polluter, the environmentalist, doctor and scientist. Every role should investigate the reasons and the impacts on the local environmental problems. Group members explore, provide information, research and form common decisions. The communication of the information is conducted through online meeting, BBS and emails.

Apparently the system trained students' reading, writing, listening and speaking abilities. Network environment helps more to express ideas. A very common characteristics of Chinese students is that they are not good at express their ideas publicly and they tend to speak up only when they are fully prepared. In the network environment, students can avoid the embarrassment in the face to face communication and express their ideas more freely.

Of course, simple situational tools cannot satisfy the comprehensive demand of listening, speaking, reading and writing development. The acquisition of a second language is a trying and long-term task. While MUD/MOO/VR is promising in language learning, the role of traditional classroom learning and teaching should by no means be neglected. Education systems of the 21st century must become responsive to changing social needs and become more efficient as well as effective in language learning and teaching. We mention some problems and come up with some possible solutions.

4. PROSPECTS OF MUD/MOO/VR APPLICATION IN EDUCATION

According to the viewpoint of constructivism, learning is accomplished by learners in a certain situation, social cultural situation, with the help of others (teachers, study mates, etc.), necessary learning information and meaning construction methods. Learning environment is providing plenty resources for students to explore, to find and solve problems actively. Learning communities analyse factors of learners' learning from a perspective of outside relations, focuses more on the whole community. Learners accomplish all kinds of learning objectives through cooperation and support in the process of learning. Learners should actively cooperate and participate. Both the teachers and the learners should help each other, take responsibility, be constantly motivated and rely on rich resources and information.

Therefore, learning should take place in a rich situation which can reflect the real world and make the construction of knowledge happen and can be used outside school or classroom. MUD provides an environment which is centered on learners. It puts the learning contents in the

situational activities supported by computers and lets the learners learn through meaning construction. In the meantime, study groups and cooperative groups are an important part of learning. In this learning environment, learning is not controlled and managed by teachers. Instead, learners support each other and cooperate, communicate with each other. MUD/MOO can meet the demand of this kind of learning environment to the largest degree.

So in the development of network foreign language teaching, people should pay more and more attention to the virtual space technology of MUD/MOO and at the same time pay attention to the combination of MUD/MOO and the foreign language teaching. In the practical application, the following problems should be noticed.

First of all, MUD/MOO cannot do much in the learning of phonetics or speaking. With the development of technology, today's network can better support the digitalization and transmission of audio and video. Therefore more support should be added to sound, image and video in MUD/MOO so that listening and speaking can be bettered. We can also alter the proportion of text information and audio information. PSU MOO: A 21st Century Learning Center developed in 1997 is a great example of teaching writing with the technology. During a typical MOO day, students of PSU either meet for a brainstorming session or for a peer response/revision session. Both types provide unique opportunities for the students to enrich their learning experience.

Second, MUD/MOO is mainly to provide a cyber learning environment and space to communicate and cooperate. But the text information lacks real feeling. Technology is getting mature, and things will change. Whatsoever, technology is technology. Face to face communication's status in language learning should never be underestimated. MUD/MOOs appeal to a particular intelligence in students. Not all students are attracted to it and not all are in favor of virtual learning environment. Students' learning styles and personalities inevitably have some influences.

Third, teachers need to make more decisions in the process of guiding students, making comments or giving timely suggestions. This means higher demands for the high qualities of teachers. In traditional classrooms, the teachers' role is more like a lecturer or instructor, while in MUD/MOOs, the teacher's role varies depending on the teaching goal and personal style. Yet with the development of artificial intelligence, auxiliary decision system will get better and better, which will help improve the teaching. Of course, the methods of teaching should always be in accordance with the methods of learning. To achieve this, the teachers should work on the students' prerequisite competencies, target competencies and attitudes and facilitate whenever students need.

CONCLUSION

In modern society, people are paying more and more attention to study. The concept of education and teaching is undergoing great changes. For learning to be meaningful, the focus must be on the learner: his/her motivation, interests, attitudes. The most frequently cited theories in the language teaching area are constructivism and social constructivism. The former stresses the construction of personal cognition, and the latter stresses the construction of the shared knowledge in learning community. The network application form of MUD/MOO/VR conforms to the study demand of constructivism well. Every MUD/MOO should have distinctive themes or a series of projects so as to attract more people, to form a communicative and collaborative group and study together and to supply the learners with a suitable network study environment and space. The design of the environment and resources is crucial.

In the application of MUD/MOO, both the teachers and the students should realize that this is only a supplement for the traditional classroom learning and teaching. It cannot help much in listening and speaking, so other forms of learning should be brought into the system. Students should also be aware of the fact that they shouldn't make it into a game MUD/MOO, thus wasting precious time. The teachers should equip themselves with the necessary technology, prepare for the classes in depth, encourage the students to be innovative and creative and promote the development of the students' qualities.

MUD/MOO/VR suits foreign language teaching naturally as a very good virtual learning environment, but relevant researches are still very weak both theoretically and practically. This paper analyzes the combination of MUD/MOO/VR and foreign language teaching, introduces some teaching cases and thus puts forward the development trend of MUD/MOO/VR application in the foreign language teaching and calls for more attention and research in this area. Hopefully this wonderful virtual learning environment can benefit more foreign language learners.

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