Autonomous Learning Model for College Students under Multimedia Environment

Shanhong Zhu¹, Cunchen Tang², Hong Pan³

¹International School of Software, Wuhan University, Wuhan, China
²School of Computer and Information Engineering, Xinxiang University, Henan, China

ABSTRACT

The traditional teaching model has not met current teaching demands. Exploration under the multimedia environment theory structure of college autonomous learning ability and good performance measurement questionnaire emphases on presentation according with the college teaching reforms initiated by the Ministry of Education in China. The study reports on an autonomous learning model based on the multimedia. In this study, the experimental design was based on constructivist learning theory and autonomous learning theory. Then, data were collected for a comparison between an experimental and a control group. Results indicate that multimedia-based autonomy learning is superior to traditional classroom teaching. Also, it was found that encouraging greater learner autonomy produced a positive learning attitude in students. Further research opportunities are also discussed.

Keywords: Learning design; ecological learning; open learning; supply

INTRODUCTION

Autonomous Learning (Self-Regulated Learning) refers to that the learners master their own learning which is opposite with other’s main learning; autonomous learning has the following three characteristics: emphasis on meta-cognition, Motivation and behavior of the application of the self-adjusting strategy. The emphasis on autonomy Learning is a kind of ego orientation feedback loop process. Who knows when and how to use specific learning strategies or make us optimal reaction? As a course goal, autonomous learning is the basis of the learners’ lifelong learning and lifelong development. Thus, autonomous learning based on a multimedia model has been applied widely at all levels in universities.

LEARNING THEORY

The renowned Swiss psychologist Jean Piaget’s personal constructivism emerged in the 1960s. Constructivism emphasizes that the learning process is one in which learners are active creators of their own knowledge based on reflection and past experience. New information is reconciled with the old; assimilated through an individual’s process of questioning, exploring and assessing. In a certain social and cultural environment, learners make use of the learning resources at hand and acquire knowledge by meaningful construction and some assisted means (such as through teachers or a network). They no longer are passive knowledge receivers, but knowledge constructors; teachers are no longer lecturers, but are organizers and instructors of learning activities [1]. During the learning process, learners’ should take initiatives: (1) They must explore new knowledge. (2) During the process of construction, they must research and analyze large amounts of information. (3) They need to combine old knowledge with new. The constructivist learning environment includes five factors: element, learning situation (environment), collaboration, conversation and construction of meaning (meaning construction); see Figure 1 applied to an on-line
LEARNING THEORY EVOLVED IN THREE STAGES, FROM BEHAVIORAL LEARNING THEORY TO CONSTRUCTIVIST LEARNING THEORY. COGNITIVE LEARNING THEORY HAS PROVIDED A THEORETICAL BASIS FOR COLLEGE TEACHING. IT COMBINES CONSTRUCTIVIST THEORY WITH MULTIMEDIA TEACHING. THE LATTER IMPLEMENTS THE CREATION OF THE REAL WORLD SITUATION, IN TERMS OF VOICE SUPPORT, IMAGERY, INTUITION AND AN INTERACTIVE LEARNING ENVIRONMENT, AS WELL AS PROVIDING TEACHING MANAGEMENT INFORMATION. THEREFORE, IT IS VERY SUITABLE FOR LEARNERS TO ACQUIRE NEW KNOWLEDGE.

LEARNER AUTONOMY IN LANGUAGE LEARNING
Autonomous learning is on the threshold of acceptable pedagogic institutionalization. It is necessary for teachers to make sense of the nature of learner autonomy. Linguists define learner autonomy in many different ways. Holec holds that autonomy is the ability to take charge of one’s own learning. Kelly emphasizes the importance of the environment where learning takes place [2]. All observations show that the requirements for teaching resources and environment should incorporate the following features: (1) Encouragement of learners to take responsibility for their learning; (2) Construction of an active and positive self-confident attitude, critical thinking and group interaction; (3) Assisting and guiding learners to reflect, monitor the learning process and evaluate their learning; (4) Integrating the Internet, multimedia and other IT facilities into autonomous learning.

PRINCIPLES OF MULTIMEDIA-BASED AUTONOMOUS LEARNING
In the traditional teaching model, the teacher is dominant in the classroom. Learners are passive in acquiring knowledge. In the autonomous learning teaching model, the teacher sets the teaching context around the learners (student-centric learning), helping students to make a practical learning schedule suitable for the individual learner, guiding their learning activities, assessing their performance and, in the end, motivating them to achieve their language learning goals and to make them independent learners. This is the first stage in a process where learners move towards autonomy in learning.

In the classroom, autonomous learning is implemented under the control and guidance of the teachers. All teaching activities can facilitate the learners’ initiative and participation, and are aimed at cultivating the learners’ skills.

The outside class activities, which are completely autonomous learning, are an indispensable part of knowledge construction. It will guarantee the learners’ consolidation and expansion of the knowledge achieved in the classroom activities. Therefore, classroom and outside activities make up an integral part of the whole learning process. Teachers assign learning tasks to students and offer them direction and guidance, while learners are encouraged to carry out their learning and to achieve language output[3].

DISADVANTAGES OF THE TRADITIONAL CLASSROOM TEACHING MODEL
It is rather obvious that traditional multimedia classroom teaching has its positive features, such as a big screen, beautiful pictures, visual imagery, and elaborate, rich and vivid information, but it has disadvantages, too. According to a survey conducted at Hubei Polytechnic University, some learners believe that although multimedia offers a large amount of information, it is hard for them to digest and absorb it in the classroom, and it also lacks adequate teacher-learner interaction and communication. On the other hand, the teachers think that growth in learner numbers is leading them to lose good command of the students’ learning. Sometimes, it is difficult to manage the whole classroom. In addition, the traditional multimedia courseware technology needs to be improved.
Constructivism holds that knowledge is not acquired through teachers’ teaching, but in a socio-cultural context, with others’ help during the learning process, the necessary learning materials and by way of meaning construction [3]. In the constructivist learning environment, design of the teaching should not only involve teaching objectives, but also the establishment of the learning environment.

CONSTRUCTING A MULTIMEDIA-BASED AUTONOMOUS LEARNING MODEL
An autonomous learning model based on constructivism is proposed, so as to improve students’ learning, to cultivate innovation and to meet society’s needs for international communication. The model consists of: autonomous learning strategy training + classroom teaching + extra-curricular autonomous learning. That is: the model is based on teaching theory, autonomous learning strategy training, a good classroom teaching environment, and the implementation, guidance and assessment of learners’ autonomous learning. The teaching is focuses on cultural knowledge, consolidation of the knowledge and developing autonomous learning, as well as improving language use and communication skills. The teaching model is shown in Figure 2.

![Fig.2: autonomous learning teaching model based on a multimedia](image)

The objectives and activities advantages of this model are: (1)To carry out autonomous learning strategy training,(2)To implement comprehensive teaching. The teaching program involves classroom teaching with large classes and autonomous networked classes. The teaching programme is aimed at cultivating the self-learning ability of students, emphasizing the students’ role more, e.g. learning initiatives, participation and creativity [4]. There are two kinds of class: large and small. The large class focuses on reading and writing. The purpose is to deal with the background and specific skills of students, and to cultivate students’ analytical and critical skills. The teaching includes a teachers’ guide to the student reviews that are completed before class, the collection of relevant information, the interactive classroom, the introduction to background knowledge, theme interpretation, discourse structure analysis and promoting learning style.

The autonomous learning model based on constructivism has effectively extended classroom teaching by providing the students with a rich variety of environments; therefore, guiding the individual in learning, as well as reinforcing classroom knowledge and language proficiency. It is necessary to strengthen administration and monitoring in implementing the teaching of autonomous learning to cater for the less capable student[5].

RESULT DESIGN
Using the self-made “under the network environment of college autonomous learning ability Measured questionnaire” and “the revised” learning autonomy scale” to measure. Predicting learning autonomy with "scale" (N pretesting=122),the result of the measurement strict parallel model reliability is approximately 0.738,Unbiased value of 0.761, internal consistency reliability is 0.794 .The questionnaire has good reliability which can be determined to indicate Language ability in last semester. Using SPSS 16.0 and Lisrel 8.70 manage and analysis the data statistically.

INITIAL ENCLOSED QUESTIONNAIRE
Objects in literature research and interview (interviews for 50 college undergraduates, boys and girls about 25 people), on the basis of preparation of open questionnaire and the participants in group A. According to the survey (NA=143), classify the answers to open questions, combine literature research, finally determine the initial closed questionnaire composed of 91 items (including lie groups), covering the Zimmerman model, behavior, environment in three sub-system respectively, learning motivation factors include self-efficacy, attribution, anxiety, value faith), strategies, factors (including cognitive strategies, meta-cognitive strategy) and environmental factors (including information technology literacy and social environment resources), using Likert scale 5 point scoring method.
CONCLUSION

The study indicates that, as compared with the traditional teaching model, a multimedia-based autonomous learning model has specific advantages, such as meeting individual needs at all levels and can be used at any time and in any place. It can also develop learners’ self-management. Furthermore, the development of an autonomous learning model based on constructivist theory is beneficial in promoting students’ autonomous learning and improving their study skills. Hence, this is an extremely valuable teaching method and model. This challenges the traditional role of teachers. However, teachers must be adequately trained to use this teaching method. That is, they must be ready to change their role to that of organizer, facilitator, counsellor or guide, even negotiator, in embracing the autonomous learning model.

Acknowledgments
This research reported in the paper is supported by the nature and science fund from Henan province ministry of education (Project No. JG [2013]13A520840)

REFERENCES
