

Constructing a Web-based autonomous learning model for teaching English

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ABSTRACT: One goal of education is to cultivate learners' autonomous learning ability. The traditional teaching model has not met current teaching demands. The method of presentation of knowledge is important for learning English in college. This emphasis on presentation accords with the college English teaching reforms initiated by the Ministry of Education in China. This study reports on an autonomous learning model based on the Web. 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 Web-based autonomy learning is superior to traditional classroom English teaching. Also, it was found that encouraging greater learner autonomy produced a positive learning attitude in students and improved their English language proficiency. Further research opportunities are also discussed.

INTRODUCTION

In 2004, the College English Curriculum Requirements issued by the Ministry of Education in China clearly stated:

The College English teaching goal is to develop students' English language competence, especially, listening and speaking. The new teaching model should be built on modern information technology, particularly network technology so that English teaching and learning will be, to a certain extent, free from constraints of time or place and geared towards students' individualised and autonomous learning.

Thus, autonomous learning based on a Web model has been applied widely to teaching English at all levels in universities.

An autonomous learning model assumes learners have reached a point where they define their own goals and create their own learning opportunities and who, by definition, are autonomous [1]. Much research has demonstrated that autonomous learning plays a vital role in successful foreign language learning [2]. However, there is relatively little empirical research on autonomous learning outside of taught classes in China. Descriptions and assessments of learning problems in a network environment are scarce [3]. The aim of this empirical study was to find out the feasibility and effectiveness of using a Web-based autonomous learning model for teaching English that can be used outside the classroom.

CONSTRUCTIVISM LEARNING THEORY

The renowned Swiss psychologist Jean Piaget's *personal constructivism* emerged in the 1960s. Constructivism emphasises 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 organisers and instructors of learning activities [2]. During the learning process, learners' should take initiatives:

- They must explore new knowledge.
- During the process of construction, they must research and analyse large amounts of information.
- 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 teaching system.

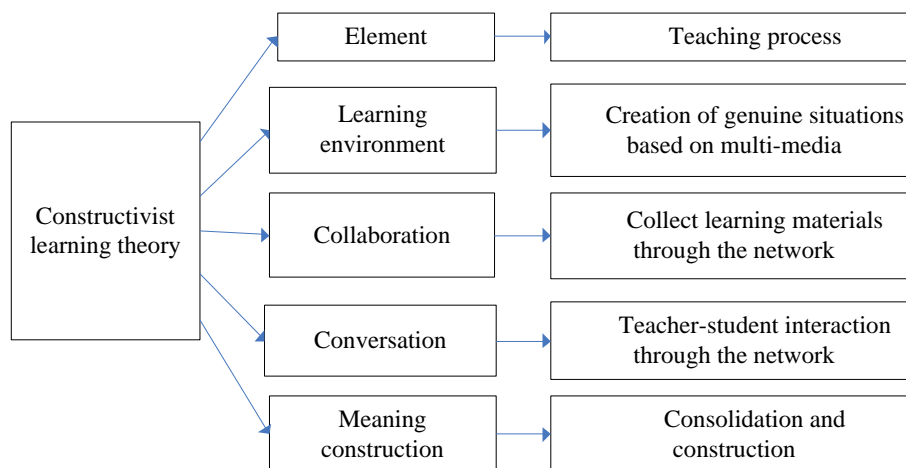


Figure 1: Constructivist learning theory.

Language learning theory evolved in three stages, from behavioural learning theory to constructivist learning theory. Cognitive learning theory has provided a theoretical basis for college English teaching. It combines constructivist theory with Web 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 (see Figure 2).

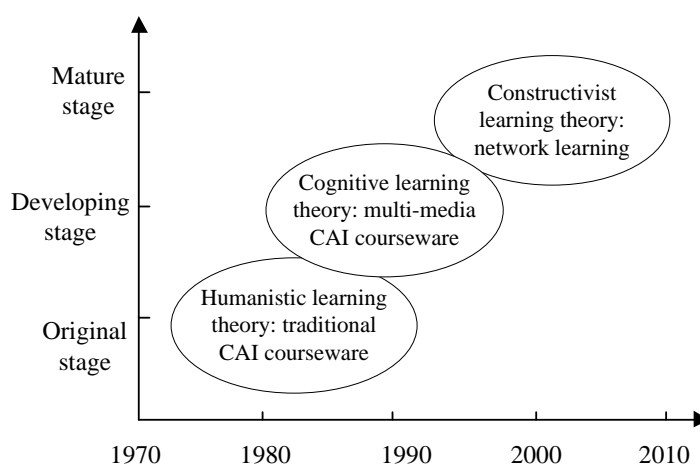


Figure 2: Development of language learning theory.

LEARNER AUTONOMY IN LANGUAGE LEARNING

Autonomous learning is on the threshold of acceptable pedagogic institutionalisation. It is necessary for teachers to make sense of the nature of learner autonomy [4]. Linguists define learner autonomy in many different ways. Holec holds that autonomy is *the ability to take charge of one's own learning* [5]. Kelly emphasises the importance of the environment where learning takes place [6]. All observations show that the requirements for teaching resources and environment should incorporate the following features:

- Encouragement of learners to take responsibility for their learning;
- Construction of an active and positive self-confident attitude, critical thinking and group interaction;
- Assisting and guiding learners to reflect, monitor the learning process and evaluate their learning;
- Integrating the Internet, multimedia and other IT facilities into autonomous learning.

Candy stresses that design of autonomy should be based on the concept of constructivism, which *leads directly to the proposition that knowledge cannot be taught but only learned (that is, constructed)*, because knowledge is something *built up by the learner* [7]. Here, Candy is taking into account constructivist learning theory, and exploring the relationships between teachers, learners, teaching content and resources, creating a visual autonomous classroom teaching model (see Figure 3) [7].

In the autonomous learning teaching model, the teachers are the organisers and instructors of the process. They will become facilitators to improve learner autonomy. The change in the teacher's role will enable students to be more active constructors of knowledge; the change in teaching content will provide the substance of learners' active construction of new meaning.

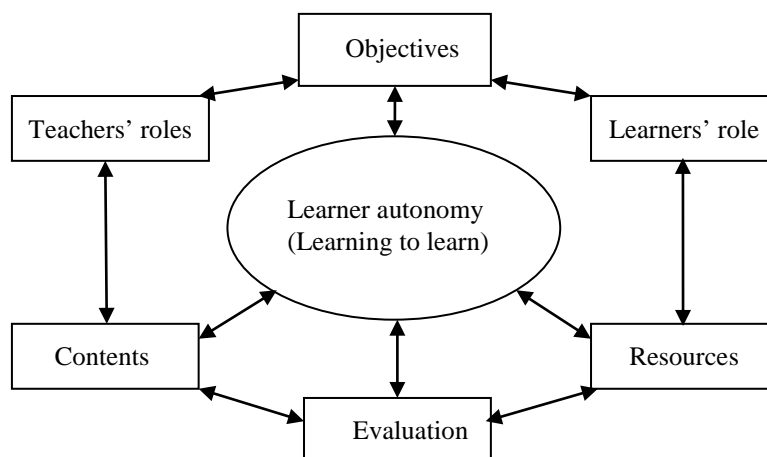


Figure 3: Relationship of elements in the Web-based autonomous classroom teaching model.

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 [8]. 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 [9]. In the constructivist learning environment, design of the teaching should not only involve teaching objectives, but also the establishment of the learning environment [8][9].

PRINCIPLES OF WEB-BASED AUTONOMOUS LEARNING

In the traditional English 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' language skills.

The outside class activities, which are completely autonomous learning, are an indispensable part of language 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.

CONSTRUCTING A WEB-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 foreign language teaching theory, autonomous learning strategy training, a good classroom teaching environment, and the implementation, guidance and assessment of learners' autonomous learning. The teaching is centred on language and

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 4.

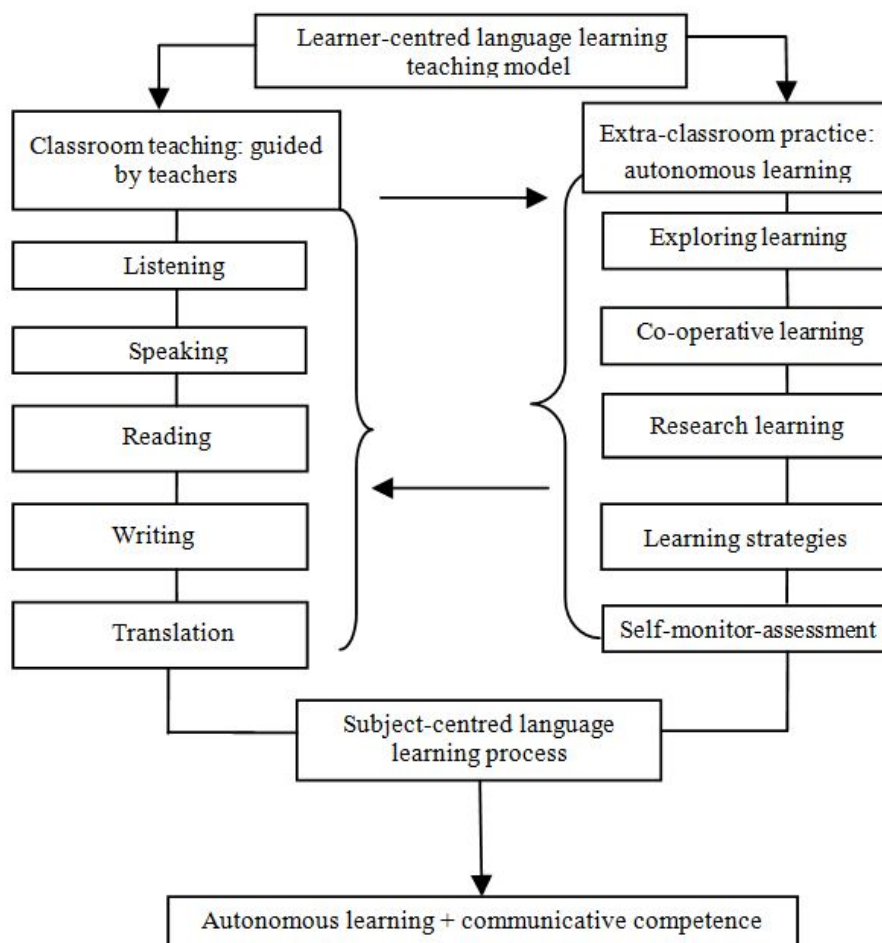


Figure 4: Construction of the autonomous learning teaching model based on a multi-media model.

The objectives and activities of this model are:

- To carry out autonomous learning strategy training.
- To implement comprehensive teaching.

The teaching programme involves classroom teaching with large classes and autonomous networked classes. The teaching programme is aimed at cultivating the self-learning ability of students, emphasising the students' role more, e.g. learning initiatives, participation and creativity [10]. There are two kinds of class: large and small. The large class focuses on reading and translation. The purpose is to deal with the background and specific language 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 a good writing style.

The main purpose of a small class is to develop English thinking and expression through students' co-operation and communication. Listening and speaking is at the heart of teaching. In the small class, the teachers can design audio-visual content; the learners carry out activities, such as presentations, group discussions and class debates. These activities of inquiry, experimentation and collaboration are designed to develop students' language skills and to stimulate more communication.

- To integrate intra- and extra-curricular practice.

Extra classroom activities can improve learners' English language proficiency and literacy. These activities include English Corner (the focus is on oral skills); all types of competition requiring English skills, English magazines and English drama.

- To strengthen administration and monitoring.

The autonomous learning model based on constructivism has effectively extended classroom teaching by providing the students with a rich variety of language 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.

Teachers should systematically cultivate in students the habit of independent learning. At the beginning, the teacher should arrange the learning time and content, and help the students to cultivate their independent approaches. After a period of time, the students should be able to choose the content and allocate the time to complete the learning tasks. The teacher is to strengthen management and supervision, ensuring an adequate level of pressure is applied. Thus, the ideal, personalised learning environment will be created [11].

RESEARCH DESIGN

To compare the effectiveness of autonomous learning in EFL (English as a Foreign Language) at the University, two parallel classes were chosen for investigation. All participants had the same English learning background and were classified as either an experimental group or a control group. Their English scores from the College Entrance Test (CET) were not statistically significantly different ($p = 0.31$). All the subjects took the English proficiency test as a pre-test in the second week of the programme.

Table 1: Pre-test performance of subjects in the experimental and control group.

Group	Teaching model	Sample	Mean	SD
experimental	traditional	61	60.7	12.56
control	traditional	60	60.5	11.24

The figures in the table above show there was no significant difference between the two groups when taught with the traditional teaching model. After the test, the experimental group began training in the Web-based autonomous learning mode. The control group was taught using traditional classroom teaching. After two semesters, the two groups were given the College English Test, CET-4. Data obtained from the pre- and post-test were processed with the statistical analysis program, SPSS 10.00, to determine learners' improvement in English.

Table 2: Post-test performance in the experimental and control groups.

Group	Teaching model	Sample	Mean	SD
experimental	Web-based autonomous learning	61	74.4	12.05
control	traditional	60	64.3	10.54

The means of the pre- and post-test results show that the experimental group significantly outperformed the control group. The t -test analysis indicated that the improvement of performance in the experimental group was significant for the post-test, compared to the pre-test ($t = 2.84, p < 0.01$). However, little change took place in the control group. This shows that the autonomous learning model in the Web-learning environment positively affects students' learning of English. The Web-based autonomous learning model enriched learning content by providing more depth and breadth of knowledge as compared with traditional teaching.

The points worthy of note are: the research was carried out without specially designed materials for the experiment and the experiment was not strongly monitored. The purpose of the experiment was to see whether the autonomous learning model was more helpful than the traditional teaching model in learning English. Although the result was positive, there are shortcomings. There are better ways to monitor learning. However, the shortcomings cannot affect the conclusion: compared with the traditional teaching model, the autonomous learning model in a Web-learning environment is more helpful to learners.

CONCLUSIONS

The study indicates that, as compared with the traditional teaching model, a Web-based English 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 and, of course, improves their English.

Furthermore, the development of an autonomous learning model based on constructivist theory is beneficial in promoting students' autonomous learning and improving their listening and speaking 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 organiser, facilitator, counsellor or guide - even negotiator - in embracing the autonomous learning model.

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