

An Investigation of College English Autonomous Learning in Network Multimodal Context

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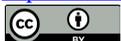
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Abstract

In the current society, based on the growing development of network information technology, the teaching in many colleges and universities has also introduced it to adapt to the situation. This trend can provide more useful conditions for students to learn, which requires students to master enough self-learning abilities to adapt to this model. The study in the paper shows that students are usually interested in autonomous learning in a multimodal environment, but the degree of strategy choice is relatively low, and the learning process is blind and passive with the lack of self-confidence. Facing the future, schools should actively integrate into network thinking, and teachers should change their roles and train and guide students' learning strategies and learning motivations, so as to achieve better teaching results.

Keywords

College English, Autonomous Learning, Ability Training, Network Multimodal Context

1. Introduction

In recent years, based on the development of our country and the continuous deepening of international standards, China needs a lot of professionals in various fields. Therefore, the scale of enrollment in colleges and universities in our country has been expanding, which has put forward more requirements for college students to learn English. Network technology can help college students learn English autonomously. Their motivations and interests can be stimulated in the process of supervised learning, which is different from that of the traditional English learning model in China [1].

In 1982, the scholar Field made use of network computer software tools to

study and analyze autonomous learning of college English. It was proved that learning in a multimodal environment can improve the students' English proficiency, and this method is more effective than traditional learning models, and it can also stimulate students' interests and motivations in learning [2]. In 2004, the scholar Boyd adopted questionnaires to study characteristics of English autonomous learning of college students in the network multi modal environment; combined with excellent student of the network course, he carried out a case analysis. It can be proved that the students' English proficiency in the network multi modal environment has been improved obviously [3]. Anna, a professor at University of Vienna, established an online English learning platform, made regular access analysis to the database, and studied the learning behaviors of autonomous learners [4]. American scholar Emerson established the personality model and behavior model of learner autonomy based on the network multi modal environment, and further analyzed the learners' learning behaviors [5]. The research concerning computer-assisting learning all contributes to the development of modal environment autonomous learning, and guides the further research and experiment in English teaching and learning in China. Under the guidance of these theory and practice, this paper tries to find and investigate college English autonomous learning in network multimodal context

This paper consists of five chapters. In the first chapter, the research status of foreign network multi-modality independent learning environment was introduced; in the second chapter, with constructivism, learning theory, the research status of domestic multimodal network of independent learning environment was introduced; in the third chapter, the definition of autonomous learning was outlined and experiments were analyzed and studied; in the fourth chapter, the test data before and after the experiment and questionnaire data were analyzed; in the fifth chapter, the summary and prospect were put forward.

2. State of the Art

With the development for many years, constructivism has unique views in teaching. Piaget believes that in the process of learning knowledge, learners should become independent learners and creators of knowledge on the basis of the original knowledge (Martin-Gutierrez J, *et al.* 2015) [6]. In 1960, Chen Bing held that through meaningful learning, the humanistic views of learning should be differentiated, so that learners can devote themselves to learning, which is the most complete study [7]. In 2001, a Chinese scholar Ding Xingfu proposed common points of student learning in network multi modal environment [8]; in 2004, Chen Li put forward that in a multimodal environment, learners' learning characteristics are composed of learning attitudes, ways, goals, and so on; through the questionnaire, Wang Lu made an empirical study on the characteristics of Web-based autonomous learning [9].

3. Methodology

3.1. The Definition and Characteristics of Autonomous Learning and the connotation and Composition of Self-Regulated Learning Ability.

Howard first proposed the autonomous learning, and he thought that autonomous learning is the ability to learn autonomously, and this ability is reflected in the learning objectives, contents, progress, decision-making, and so on. That is to say, learners should design and implement their own learning plans and be responsible for their own learning. Arno believes that independent learning ability of students is to monitor their learning and make an appropriate evaluation of the results of their studies [10].

Autonomous learning is mainly characterized as they can determine their own learning goals, arrange time reasonably, effectively understand the language teaching materials, combine learning network advantages and traditional online courses, and use appropriate learning strategies. In the process of teaching, teachers should actively cultivate students' autonomous learning abilities and the autonomous learning, and they should let students to develop learning plans, to master appropriate learning programs, to apply them into practice, to develop good habits of self-supervision and self-control, and to evaluate learning outcomes. Finally, students can change from passive to active and from negative to positive in the course of learning and become real autonomous learners.

College students' ability of autonomous learning means that students can collect relevant learning materials to complete learning tasks and learning goals within the specified time, carry out self-supervision and self-control in the whole process of learning, and evaluate, review and summarize the study results. Therefore, the autonomous learning of college students is also a manifestation of social adaptation ability and comprehensive quality [11]. The composition of autonomous learning of college students is based on the good habit of self-regulated learning, the combination with English majors, the consolidation and innovation of English knowledge, and the comprehensive ability.

3.2. Autonomous Learning Based on Network Multimodal Environment

Autonomic learning can change the traditional teaching methods in the network multi modal environment, arouse the enthusiasm of students and stimulate their interests. Through the network, teachers and students can have two-way learning, interaction and progress. The network can provide students with a large amount of learning materials and online courses. Through the network platform, teachers can solve all kinds of questions and difficulties of students, create subjective consciousness of autonomous learning, and take advantage of network resources to exert subjective initiative, so as to broaden the students' horizons and improve their English levels [12].

In the network multi-modal environment, teachers can assign assignments

through the network. Through Internet search and login, students can complete, submit, archive, evaluate and feedback learning tasks. With the help of network learning platform, teachers and students can collect a lot of learning resources for learning and references, and students can also break the shackles of book knowledge, actively participate in the learning team, complete the task of learning goals, and broaden their visions [13].

Students' autonomous learning in the network multi modal environment has the following characteristics: 1) Openness. The learning of the network platform is not limited by time and place, and is not limited to books. Depending on the requirements, students can study and adjust schedules. 2) Problematic. Based on the popularity and sharing of network resources, students can continuously search for information, discover and solve new problems, students' enthusiasm and curiosity can be stimulated, so they can develop the good habit of independent study. 3) Autonomy. Through the network, according to the learning requirements, students can customize learning plans and adjust the learning schedules. 4) Diversity. With the help of network environment students can carry out autonomous learning or online organization learning through online collaborative learning, mutual communication learning and resources sharing learning can be achieved [14].

In a network multi modal environment, students can submit answers by examination papers. With the help of internet platform, students will soon be given new assessments and feedback. So they can quickly learn about their own learning situations. Then, according to the assessment of the stage, they can adjust their learning progress, pay attention to their academic achievements, seek their own learning strategies, and pay attention to their own learning results.

In the network multimedia environment, the ways of students' autonomous learning are as follows: 1) with the help of network platform, abundant resources and online courses, they can adjust their learning goals. 2) According to the progress of the teachers teaching, they can arrange the study plans reasonably and adopt proper learning strategies to complete the task of study. 3) They can determine the appropriate learning contents according to the learning methods of teachers' teaching content and network resources. 4) Through online learning communication and interaction, they can accumulate their knowledge. 5) Based on the evaluation of the learning progress and the phrased results evaluation, they can recognize their changes at different stages. **Figure 1** shows the process of Students' Autonomous Learning under Network Environment

3.3. Research Design and Methods and Experimental Process

Background: The English Department in Baoding University was chosen as the experimental center; freshmen were chosen as the experimental objects; the experiment time was from January 2022 to July 2022; one-semester experiment was carried out to provide platform of autonomous learning network for students. 87 students are selected as the participants, with 42 in control class and 45

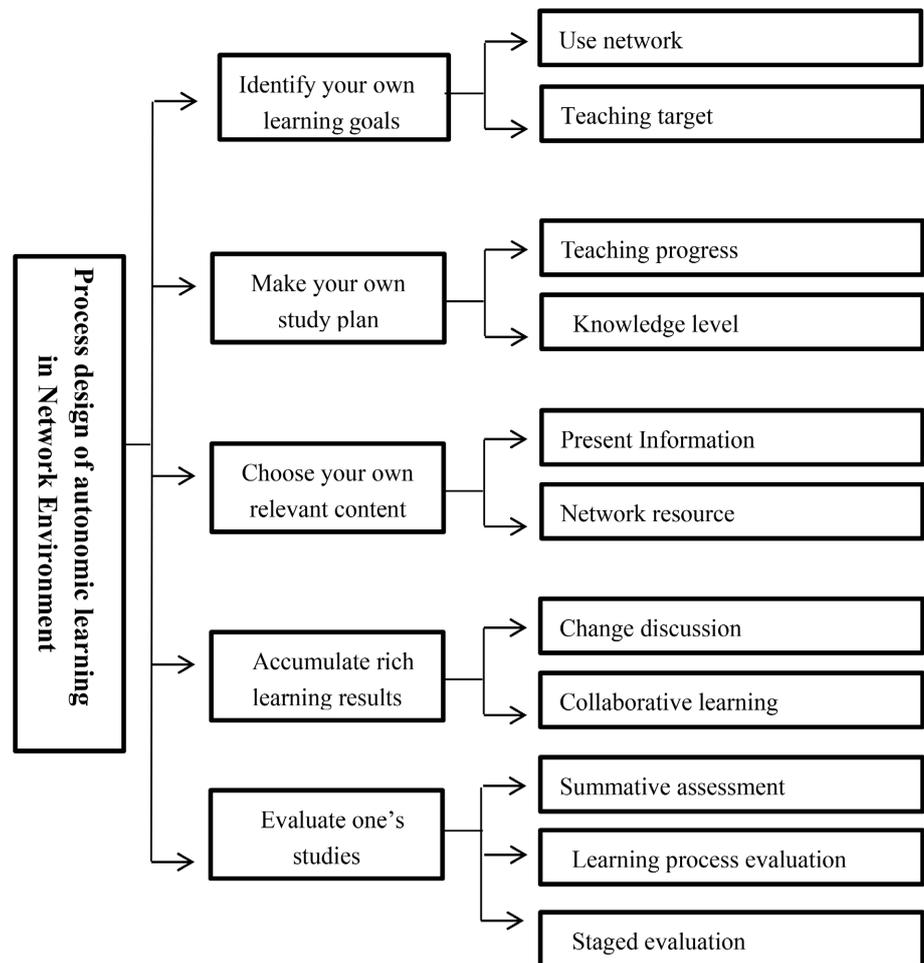


Figure 1. Process design of students' autonomous learning under network environment.

in experiment class. The control class are carrying out the English teaching in traditional way with the help of textbook, blackboard and other traditional tools, while the experiment class are equipped with multi-modal tools under network environment, such as computer, video-player, etc.

Experiment target and research hypothesis: with the advantages of traditional teaching and the combination of network teaching, the feasibility of the method can be proved by experiment. By means of pre-test and posttest, the experimental class and the control class should be compared.

Participants: 87 freshman students at the English Department of Baoding University were divided into experimental and control classes, and the teachers in the two classes were the same.

Experimental variable and independent factor control:

independent variables: the independent variable of the experimental class was network multi-mode learning model, and the independent variable of control class was traditional teaching mode.

Dependent variables: the dependent variables of the experimental class and the control class were all the mid-term English test results.

The purpose of the experiment is to verify whether the web-based teaching environment can improve the students' abilities to learn English autonomously.

Experiment tools: in the experiment, personal growth files, e-mail and practical English websites were fully integrated into English teaching under the network environment. Through study and practice module of network platform, students can answer and submit exercises, and the system will automatically review the answers. Teachers can monitor the students' learning process through the network platform and give feedback in a timely manner.

Experiment process: 1) experimental preparation stage. In the early days of the experiment, the teacher told the students that they would use online teaching at this semester, and that they would use the combination method of personal files, e-mail and English websites to finish courses. The performances of students on the Internet platform were accumulated, accounting for 20% of the final exam results. In the course of the experiment, according to each student's personality and English proficiency, the subjects in the experimental group were reasonably divided into several groups. On the basis of autonomous learning, team spirit was cultivated. 2) The implementation phase of the experiment. By e-mail, the teacher gave the students learning tasks; through the method of individual learning files, data was archived; according to the students' problems, students' problems were summarized and classified; students' questions in class were answered by the teacher with interactions; after class, students sent questions to the teacher by e-mail, and the teacher answered and evaluated these questions. 3) The concrete example of the experiment. In the first stage: students learned "the wealth in the orchard", and understood its meaning and usage; they analyzed the structure and meaning, and outlined the key words; the students knew what real wealth is and what wealth means; through network resources, they understood the author's writing ideas; the teacher guided the students to think, and put forward questions for them to answer. In the second stage, students' difficult questions were aggregated and classified, and they were sent to students by e-mail. In the third stage: in class, the teacher explained new knowledge and solved the difficult problems that students paid close attention to.

4. Result Analysis and Discussion

4.1. The Analysis and Results of Pretest and Post Test Data

In order to prove that learning based on network platform and network resources can improve English autonomous learning ability and cultivate good habit of self-regulated learning, before the experiment, students in two classes were tested, and the test results were obtained, as shown in **Table 1**.

As can be seen from **Table 1**, the score of the control class was 66.7; the score of the experimental class was 66.4; the results of the two classes were basically the same. The highest score of the control class was 77; the highest grade of the experimental class was 79; the standard deviations of the two classes were 4.147 and 3.962 respectively. This shows that the English levels of the two classes were

basically the same.

After the pre-test, the experimental class adopted network teaching, and the control class adopted the traditional teaching mode. The experimental class integrated personal files, e-mail and English websites into the network teaching. Two classes carried out study experiments. In order to get the experimental results, the experimental class and the control class were tested. The test results are as follows:

As can be seen from **Table 2**, the highest score of the control class was 88; the highest score of the experimental class was 92. The highest score in the control class was 5 percentage points lower than that in the experimental class. The minimum score of the control class was 63; the minimum score for the experimental class was 69, which was 6 percentage points higher than that of the control class. From the average of the two classes, it can be seen that the average score of the experimental class was higher than that of the control class, and the standard deviation between the two classes was 1.46. In the one-semester teaching, the experimental class carried out the teaching through the network. The experimental data can prove that the English proficiency of the experimental class is obviously higher than that of the control class.

4.2. Analysis and Results of Questionnaire Data

Before the experiment, the test papers were distributed to the students in the experimental class and the control class. 87 questionnaires were issued and 87 questionnaires were returned, indicating that all questionnaires were valid each question in the questionnaire had five choices: very satisfactory; basic satisfaction; uncertain; basic satisfaction; totally dissatisfaction. Different aspects of the problem were statistically analyzed.

Questionnaire contents included: the mastery of classroom contents, the purposeful planning of learning, the application of learning strategies in learning, the monitoring of strategies, the evaluation and monitoring of learning.

The questionnaire carried out the data statistics from five levels. The results

Table 1. Pre-test result of the experimental class and the control class.

Class	Number	Lowest score	Highest score	Average score	Standard deviation	Standard error
Control class	42	62	77	66.7	4.147	0.656
Experiment class	45	62	79	66.4	3.962	0.591

Table 2. Post-test result of the experimental class and the control class.

Class	Number	Lowest score	Highest score	Average score	Standard deviation	Standard error
Control class	42	63	88	73.6	8.05	0.653
Experiment class	45	69	92	78.4	6.51	0.589

analysis is as follows.

It can be seen from **Table 3**, in the network multimodal environment, in terms of students' mastery of classroom teaching contents, the average score was 3.93. The investigation and analysis of the data in the table shows that students can master the contents of the classroom teaching, and can also clear the content ideas.

It can be seen from **Table 4**, in a network environment, in terms of the purposeful planning of learning, the average score were 3.68. It shows that students have poor abilities in planning learning.

It can be seen from **Table 5**, the average score of the third part of the questionnaire was 3.77. There was a 4.04 score in the data, which shows that a small number of students can apply leaning strategies well in their studies. But on the

Table 3. The mastery of classroom teaching contents.

	Number	Average score	Standard deviation
1	87	4.02	0.720
2	87	3.88	0.768
3	87	3.94	0.703
4	87	3.94	0.730
5	87	3.85	0.840
Average score	87	3.93	0.7522

Table 4. The purposeful planning of learning.

	Number	Average score	Standard deviation
6	87	3.70	1.082
7	87	3.88	0.912
8	87	3.68	0.795
9	87	3.71	0.844
10	87	3.41	0.924
Average score	87	3.68	0.9114

Table 5. The application of learning strategies in autonomous learning.

	Number	Average score	Standard deviation
11	87	4.04	0.721
12	87	3.61	0.912
13	87	3.8	0.942
14	87	3.65	0.81
15	87	3.73	0.786
Average score	87	3.77	0.8342

whole, the vast majority of students have poor abilities in this field, so they should be paid attention to.

As can be seen from **Table 6**, the average value of this part of the test was 3.79, which shows that the students in the experimental class can well grasp the application of learning strategies, but they still need to adhere to develop this aspect.

As can be seen from **Table 7**, the every score of this section was 3.772. The data shows that Students have rooms for improvement and that students should work with each other during the learning process to strengthen their experiences and overcome all the emotional factors.

From the above data description and data analysis, we can see that in the network multimodal environment, the total average score of the students' autonomous learning ability was 3.7884, which belongs to the middle and top level. The research has showed the importance of changing the task of classroom

Table 6. The monitoring of strategies.

	Number	Average score	Standard deviation
16	87	3.86	0.721
17	87	3.86	0.912
18	87	3.81	0.942
19	87	3.91	0.810
20	87	3.73	0.786
21	87	3.70	0.810
22	87	3.72	0.766
Average score	87	3.79	0.821

Table 7. The evaluation and monitoring of learning.

	Number	Average score	Standard deviation
23	87	3.86	0.721
24	87	3.86	0.912
25	87	3.81	0.942
26	87	3.91	0.81
27	87	3.73	0.786
28	87	3.7	0.81
29	87	3.72	0.766
30	87	3.67	0.845
31	87	3.66	0.82
32	87	3.8	1.1
Average score	87	3.79	0.8871

learning into their own learning directions, which requires teachers to change the traditional teaching model into a new student-centered model. Therefore, teachers should come out from the traditional role of teaching management and play a role in guiding, cooperation, coordination and promotion. Students' autonomous learning ability and comprehensive ability should be emphasized. Students can actively participate in cooperative learning by means of online learning platform and abundant network resources, so as to constantly improve themselves.

5. Conclusions

Based on the network multimodal environment, the content of the autonomous learning English was emphasized in paper. The empirical research shows that the application of network technology is really helpful for English learning. At the same time, in the network multimodal environment, many college students are more interested in learning. But they still lack a certain initiative, so there may be some less ideal situations in the course of learning. In addition, compared with the traditional way college students have a strong willingness to learn, but the complexity of network information also increases the difficulty of self-learning. Therefore, teachers should come out from the traditional role of teaching management and play a role in guiding, cooperation, coordination and promotion. At the same time, teachers should also actively learn the knowledge of the network and develop with students.

Based on the huge size of the overall number of college students in our country, the scope of this study is not comprehensive enough; professional choice is limited; the number of samples is relatively low; research degree, time, content and other aspects are not deep enough. Therefore, we need to continue to explore. To solve these problems, combined with the actual situation, in the premise of respecting the law of learning English, the advantages of the traditional teaching model should be further developed; advantages of network technology should be taken full advantage of; a best model which can cultivate students' autonomous learning abilities should be created.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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