

## Effects of Autonomous Learning Software on Chinese Learners' English Performance and Course Assessment

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### Abstract

Based on the construction of an autonomous learning platform for college English learners, a one-year teaching reform experiment has been carried out and 204 subjects were involved. Data collection was conducted mainly through questionnaires and the subjects' autonomous learning achievements, regular grades, final exam performance, and English listening achievements. The software SPSS17.0 was applied to analyze those data. The results reveal that the experimental class' achievements on the self-learning platform are positively correlated with their achievements in the final examination. In addition, the correlation between the experimental class' regular grades and final exam performance is more statistically significant than the control class; moreover, the experimental class performed significantly better than the control class in the English listening test. The vast majority of the students in the experimental class hold positive attitudes towards the software; however, there is still some room to improve it.

**Key words:** Autonomous learning; Achievements; Regular grades; Grades in final exam; English listening

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### INTRODUCTION

Autonomous learning has influenced language teaching and learning worldwide in the era of science and technology with the help of internet, and English language learning and teaching in China is no exception. Early in 2003, the higher education section of Education Ministry of China urged the colleges attach importance to develop students' autonomous learning abilities. Later in 2007, the higher education section of Education Ministry of China again stressed it by saying "English listening teaching should be mainly accomplished in the network environment" in the college English Course Requirement. To answer this call, almost every university introduced software for students to learn English, especially English listening autonomously in the network environment. Some researchers have proved courses online and English learning platforms are positive to improve students' self-learning abilities as well as their English performances, because they are beneficial for students to monitor their own learning process (Li & Zhang, 2006; Fu & Yang, 2007). However, there are various platforms or software and different universities have different requirements to manage and monitor their students' English autonomous learning, there is still a long way to go before we come to a conclusion that which platform is better or which method is best in managing students' autonomous learning. The current study intends to investigate the effects of software used in author's college for English autonomous learning. Specifically, its effects on learners' English proficiency and its impacts on the course assessment results are going to be explored as well.

### 1. REVIEW OF LITERATURE

#### 1.1 Autonomous Learning and English Learning

The concept of autonomous learning originated from the philosophy of education in the western countries in the

1960's. Two decades later, Henri Holec (1981) introduced this concept into foreign language teaching in his book "Autonomy and Foreign Language Learning", and he explained that the autonomous learning is an ability of managing one's own learning process, such as setting learning goals, choosing appropriate learning strategies, making schedules, monitoring one's own learning process and evaluating learning effects. Since then, much efforts and attention have been devoted to the examination of autonomous learning worldwide. Generally speaking, autonomous learning has been well discussed by many researchers. Generally speaking, researchers fully scrutinized the definitions of autonomous learning and how to develop learners' autonomous learning abilities in the 1980s. Then, researchers in the west began to study its theoretical basis, the implementing methods and its practice. What's more, some deepened their research into how to improve learners' language proficiency through autonomous learning from the perspectives of culture and psychology in the 1990s (Dam, 1995; Dickinson, 1992).

However, among the ample research in this field, studies in China are comparatively limited to literature review or introductions to the studies in the west. Actually, the author has collected the key paper issued from 1997-2012 in China by using the searching aid of CNKI, it turned about that among the 507 issued papers in the past 15 years, less than 20% probed into the practice by an empirical studying method. In addition, while most research were centered on the role of teachers, the methods to develop learners' the strategies in autonomous learning setting, and the factors influencing the effects of autonomous learning (Gao, 2005, p.60). Less attention has been paid to the effects of autonomous learning on the course assessment. Therefore, the present study attempts to investigate the effects of autonomous English learning software on learners' English learning and the results of course assessment as well.

## 1.2 Course Assessment

Teaching evaluation is closely related to teaching. Summative assessment and formative assessment are two kinds of the most common and important evaluation methods. Summative assessment refers to the evaluations which are made at the end of a certain learning phase or a semester; it is usually in the form of exams and gives the students' grades. However, the formative assessment is to record, inspect, evaluate and analyze the student's daily learning activities, which is a kind of periodic assessment (Bloom, 1971). As we all know, in most universities in China, most courses combine the two evaluating methods, because their regular grades are achieved by the formative evaluating method, while students' on the final exam are results of the summative assessment.

Since the 1960s, many scholars have begun to focus on the teaching assessment, but most of them are concerned about the summative evaluation. From 2002,

foreign language researchers began to study the formative assessment, but most studies are about the differences between the formative assessment and summative assessment. Later, in the 1980s, the research into this field was broadened. Researchers (Bachman, 1981; Pilliner, 1982; Brown, 1989) explored the summative assessment and formative assessment from different angles. They compared the two methods in different means: the purposes, the subjects, the advantages and different advantages, and etc. After the 1990s, more and more scholars studied the effects of formative assessment on teaching. For example, Cao, Zhang, and Zhou (2004) tentatively puts forward an English writing teaching pattern by designing and implementing the ten-week teaching experiment aimed to study the influence of formative assessment on college students' writing ability. In addition, Zhou and Qin (2005) apply the formative assessment to English teaching in the context of network and have achieved satisfactory results.

Generally speaking, methods of the formative assessment are diverse, and its process is even more complex. Weir and Roberts (1994) summarized 13 methods, including observing, diary writing, questionnaire, interview, literature, data analysis, self-assessment, and etc. Researchers at home have also summed up the formative assessment methods which are commonly used by teachers in college English curriculum: homework, quizzes, individual or team performance, class attendance, answering questions in class and etc. (Qu, 2012). To study the effectiveness of the formative assessment method, the researchers generally agreed with the positive role of the formative assessment method: Cheng (2000) believed that formative assessment can not only evaluate learners' academic performance, but also can promote the development of the learner's positive emotional factor in foreign learning<sup>[13]</sup>. Another empirical study shows that the application of formative assessment in English writing class can help cultivate students' autonomous ability.

To sum up, language researchers both at home and abroad have researched a lot in formative assessment. Although their findings are different, they generally agreed that formative assessment

can promote teaching. So, in this experimental study, is there correlation between the students' autonomous learning performance and their marks on the final exam? How does the autonomous learning performance affect the course assessment? The author will discuss these questions in this study.

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## 2. THE STUDY

To improve students' English language proficiency, especially their speaking and listening abilities, the college where the author has been working constructed a new English learning platform, namely "An Easy Access to English Speaking and listening". Deferent from

other software used by other universities, this platform added the function of oral English practice and testing. More importantly, to monitor students autonomous learning process effectively, we record their learning time period and performances each semester. At the end of each semester, every student's autonomous learning performance will be produced automatically by the software, and learning time period (450 minutes each semester) and test performance (average for grades in 4 English speaking tests and 8 English listening tests) at the platform will account for 50% respectively. What worth noting is that the autonomous learning performance will make up 30% percent of the students' regular grades in English course each semester, and the regular grades will account for 30% for the final grades. Therefore, the application of this platform does not only influence the learners' English learning in our college, but also it changes the component of regular grades, thus affecting the assessment results of college English course. By analyzing the data, the current study intends to study the effects of the autonomous learning software on students' English learning as well as the course assessment results. At the same time, questionnaires will be applied to find out the strengths and weaknesses of the software.

### 3. METHODOLOGY

#### 3.1 Participants

Participants in this study are 204 non-English majors at Minjiang University. They are divided into two groups: the experimental group and the control group. The experimental group includes 103 freshmen who are in the first year of their study at university and are supposed to finish English autonomous learning task as we've described in part two in this paper through the second year. The control group includes 101 students, they were sophomores when this experiment started, and the platform for English autonomous learning hasn't been constructed, so they did not have the access the platform to learn English autonomously. All the participants were majored either in physics or electrician information. The author has used SPSS17.0 to give an independent sample test to the two groups English marks on the college entrance exam and results show that the two groups' English proficiencies have no significant difference (Sig. = 0.280 > 0.05). All participants use the same English textbooks, and the teaching contents and teaching progress are almost the same. Moreover, the experimental group was taught by the author through the two academic

years, while the control group was taught by another teacher who is close to age and teaching experiences with the author.

#### 3.2 Instrumentation

In order to find out the effects of the English autonomous learning software applied in the study, the author collect the experimental groups' autonomous learning record and performance, their regular grades as well as their grades in final exams in the second year. For the control group, their regular grades and grades in final exams in the second year were collected two. In addition, a listening English quiz was carried out when the experimental group and control group at the end of their second year respectively. The listening English quiz was the same, and it was similar to the listening part in College English test Band 4 in China. It included four parts, short conversations, long conversations, passages and words filling, so the full mark is 35 points. Finally, to investigate the participants' feedback about the software, a simple questionnaire was designed by the researcher and distributed to the experimental group. Participants were required to complete the items like: a) "Are you satisfied with the software while you are using it to learn English autonomously?" (A. very satisfied; B. satisfied; C. ok with it; D. not satisfied; E. cannot stand it). b) "Do you agree with the proportion (30%) autonomous learning performance accounts for their regular grades of English course?" (A. yes B. No. 3). What are your suggestions for improving the software?" To ensure fair and objective response to the questionnaires, all the participants were told that the questionnaires are anonymous and would by no means influence their final assessment since the investigation served for only academic purposes.

#### 3.3 Data Collection and Analysis

After the data were collected, the SPSS17.0 statistical software is used to analyze the data. First, a Pearson Correlation test is carried out between the experimental groups' autonomous learning performance and their marks in the final exam in the fourth semester. Then, Pearson Correlation test are conducted between the two groups regular grades and marks on the final exam in the fourth semester. Thirds, one-way ANOVA analysis is made to compare the two groups' performances in the same English listening test. What's more, the experimental group's responses to the questionnaires are collected and divided into several categories according to the different items. Finally, for each category of frequency and percentage was calculated.

## 4. RESULTS AND DISCUSSION

### 4.1 Correlation Between Autonomous Learning Performance and Grades in the Final Exam

**Table 1**  
**Correlation Between the Experimental Group's Autonomous Learning Performances and Grades in the Final Exam**

Category	Pearson correlation	sig. (2-tailed)
Autonomous learning performances VS grades in final exam	0.405**	0.000**

Note: \*\*p<.01; \* p<.05

As table 1 shows, there is a positive correlation relationship (sig. = 0.000<.05) between the experimental group's autonomous learning performances and marks on the final exam. The explanation may lie in the fact that learners' autonomous learning performance consists of two parts: the learning time period and performance in the oral and listening tests at the autonomous learning platform. It is natural to come to the conclusion that high-achievers are more willing to spend more time learning English autonomously and have better performance in the quizzes. In the mean while, those students will have better performance in the final exam, and vice versa. Consequently, there is a positive correlation between those students' autonomous learning performances and marks on the final exam.

### 4.2 Correlation Between Regular Grades and Grades in the Final Exam

**Table 2**  
**Correlation Between Regular Grades and Grades in the Final Exam**

Groups	Pearson correlation	Sig. (2-tails)
Control group	0.270**	0.046**
Experimental group	0.427**	0.000**

Note: \*\*p<.01; \* p<.05

As illustrated in Table 2, although there are positive correlations between regular grades and grades in final exam in both groups, there is noticeable difference. The experimental group's correlation coefficient is 0.427, while the control group's is only 0.270, which means the correlation is more significant in the experimental group. As we all know, the regular grades are results of students' daily performance in English learning, and teachers usually take students' attendance, class performance, performance in quizzes or homework into account while grading students' regular grades. Moreover, among the teachers' regularly used formative assessment methods, word dictation and test are important components of the regular grade. These parts of the regular grades are closely related to students' English level. That is to say, students who have good performance in test and word dictation are usually those who study hard and can probably get a good mark in the final exam. Therefore, there is a significant

positive correlation between their regular grades and marks on the final exam in both groups.

What needs to be noted is that the correlation is more significant in the experimental group. The role of the learners' autonomous learning achievements may account for this result. In the study, the experimental group's autonomous learning performance makes up for 30% of the regular grades, while there is no such part in the control group's regular grades. As we've mentioned in part 4.2, autonomous learning performance is positively correlated with the final exam performance, and it is relatively objective because it is calculated by the software. By contrast, all the regular grades of the control group were given by the teacher, so the result is more subjective and the difference was shown in the different correlation coefficients of the two groups.

### 4.3 One-Way ANOVA Analysis on the Scores of Listening Test

**Table 3**  
**Descriptive Results of One-way ANOVA Analysis**

	Control group	Experimental group
Means	18.97	21.07
Standard deviation	2.30	2.38
Minimum	8.00	10.00
Maximum	29	30

Note: the full score is 35 points

**Table 4**  
**Results of Post-hoc-Test LSD**

Group	Standard error	p
Experimental group VS control group	1.24242	0.042*

Note: \*\*p<.01; \* p<.05

As Tables 3 and 4 show, the experimental group has performed significantly better than the control group in the English listening test, and the mean score of the experimental group was higher than that of the control group (21.07 > 18.97). Moreover, the difference of the two groups is a statistically significant (p = 0.042 < 0.05). As better performances of the experimental group tend to reflect that the autonomous learning platform is beneficial to the students' English learning, especially the English listening, the data indicate that the majority of the students under study appreciate the positive effects of the autonomous learning software on their English linguistic abilities. However, English listening abilities' improvement is the combined result of teachers' efforts as well as learners' involvements. Although all the subjects of the experimental group were required to finish the autonomous learning task, the achievement may not be very satisfactory in every student's case if the student is not very willing to learn autonomously or lack of effective learning strategies. On the contrary, although the control group did have the access to the autonomous learning platform mentioned in the study, some highly-motivated learners may try to learn English autonomous through

internet or other resources after the class, which in turn improve their English proficiency including their English listening skills. As a result, the difference of the two group is not very significant as it was shown in the Table 4 ( $p = 0.042$ ), which is very close to the significance level (0.05).

#### 4.4 Results of the Questionnaire Survey

The entire experimental group was involved in this survey on the feedback of the English autonomous learning platform used in the study. Altogether 96 questionnaires were valid and analyzed. The results are: 37.2% of the students agreed that the platform is very necessary for their English learning, and another 42.5% think it is necessary, while 13.8% say they are ok with it, and 6.5% don't think it is necessary. In regard to their attitudes towards the software, 54% of the students are positive to it, another 40% think it is just so-so, and 6% gave negative feedbacks to it. As for the proportion of the autonomous learning performance in their regular grades (it was set 30%), 44.3% showed their approval, while 26.3% expressed their disapproval, and they argued the proportion of 30% was a little to high. What's more, about 30% of the students think the proportion is too low. Finally, some students pointed out that some of the learning materials are out of date, and there are no captions in some of the video clips etc. Generally speaking, the results show that the majority of the subjects are positive to the English autonomous learning platform in our college; however, there is some room to improve it.

#### CONCLUSION

The learner's autonomous learning ability is set as the priority in higher education in China, because it is essential to adult-learners in second language learning. It is also important to build good platforms for English learners through the Internet, and it is even more necessary to evaluate those platforms used in our English learning and teaching practice. Results showed that the platform applied in our college was positive to learners' English learning, and the majority of the users appreciated the platform for it was helpful to supervise their learning process and improve their English language skills, whereas others complained about the platform for being outdated and demanding. In addition, the positive effects of the platform on the course assessment were found too, and the autonomous learning performance has diversified the components of the regular grades and enables the formative assessment result to be more scientific. While strengths of the platform could be sustained and taken reference from for other autonomous learning software developers, its deficiencies exposed should be paid attention to by not only users but also software developers. Due to the time limit and the fact that there is no national standard speaking test for all college English learners, the study was unable to find out the effects of the platform

on the learners' English speaking skills. Moreover, how to make the autonomous learning at the platform more interesting and fruitful needs to be explored in the further research, too.

#### REFERENCES

- Bachman, L. F. (1981). Formative evaluation in specific purpose program development. In R. Mackay & J. D. Palmer (Eds.), *Language for specific purposes: Program design and evaluation* (pp.106-119). Rowley, Mass: Newbury House.
- Bloom, S. B., Hastings, J. T., & Madaus, G. F. (1971). *Handbook on formative and summative evaluation of student learning* (p.193). New York: MacGraw-Hill.
- Brown, J. D. (1989). Language program evaluation: A synthesis of existing possibilities. In R. K. Johnson (Ed.), *The second language curriculum* (pp.222-241). Cambridge: Cambridge University Press.
- Cao, R. P., Zhang, W. X., & Zhou, Y. (2004). The application of the formative assessment in the college English writing course for non-English majors. *Foreign Language and Their Teaching*, 25(5), 82-87.
- Cheng, X. T. (2000). Emotions and language learning. In J. Arnold (Ed.), *Emotion and language acquisition* (pp.279-282). Beijing: Foreign Language Teaching and Research Press.
- Dam, L. (1995). *Learner autonomy (p.3): From theory to classroom practice*. Dublin: Authentic.
- Dickinson, L. (1992). *Learner autonomy (p.2): Learner training for language learning*. Dublin: Authentic.
- Fu, L. F., & Yang, J. D. (2007). A study on learner autonomy in the teaching and learning model based on multimedia and networking teaching. *Foreign Language and Teaching*, 223(10), 36-38.
- Gao, J. L. (2005). An overview on research on autonomous learning at home and abroad. *Foreign Language Education*, 26(1), 60-63.
- Higher Education Section of Chinese Educational Ministry. (2007). *Teaching requirements for college English course* (p.11). Shanghai, Shanghai Foreign Language Education Press.
- Holec, H. (1981). *Autonomy and foreign language learning* (p.3). Oxford: Pergamon Press.
- Li, P., & Zhang, G. Y. (2006). Developing students' self-access English learning ability: A case study of the web course online. *Foreign Language World*, 115(5), 17-21.
- Pilliner, A. E. G. (1982). Evaluation. In Heaton (Eds.), *Language testing* (p.2). Oxford: English Publications/Macmillan.
- Qu, W. H. (2012). The practice and research on the summative assessment and the formative assessment in English teaching and learning. *Capital University of Economics and Business Journal*, (2), 120-123.
- Weir, C. J., & Roberts, J. (1994). *Evaluation in ELT* (p.152). Oxford: Blackwell Publishers.
- Zhou, P. D., & Qin, X. B. (2005). The Application of the formative assessment in college English based on networking teaching. *Computer-assisted Foreign Language Education*, (5), 9-13.