

# An Empirical Study on the Efficacy Output of Internet English Learner Autonomy—Based on the Online Course "English Intensive Reading 2" of Wuhan University of Technology

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**Abstract:** Even though learner autonomy and online courses have received a lot of attention, few research has been deepened recently on the efficacy output of learner autonomy in relation to online course study. In order to close the gap, this study analyzes and evaluates the efficacy output of online English learner autonomy based on data from attentively chosen students who took the same online course. To show the elements influencing students' learner autonomy performance, both qualitative and quantitative methodologies are used in the research. In addition to examining attitudes, approaches, abilities, and efficiency, it is discovered that self-awareness of one's own learning capacity will be a more comprehensive aspect included in the notion of learner autonomy, which sheds fresh light on learner autonomy and efficacy output in the future.

## 1. Introduction

Modern progress is mostly driven by intellectualization, information technology, and the modernization of education. Today, one significant goal and direction of China's ongoing educational reform is the profound integration of the internet and education. The distinct appeal of cutting-edge internet technology, new mechanisms, and new models is becoming increasingly evident when compared to the traditional teaching model. English learning for college students can be made more effective and individualized by incorporating a variety of interactive, service-oriented, and experiential teaching methods into the teaching and learning process, which will help students develop their learner autonomy ability and realize the highest level of efficacy output from online autonomous learning.

This study aims to conduct an empirical study based on learner autonomy, efficacy output, and individual differences in L2 acquisition and evaluate their autonomous learning efficacy output based on an online course—"English Intensive Reading 2", thus enriching the studying field of learner autonomy, efficacy output and foreign language learning. The study participants are sophomore of English majors at Wuhan University of Technology who took the TEM4 last year.

## 2. Theoretical Foundation

### 2.1 Learner Autonomy

Henry Holec first proposed the concept "learner autonomy" in the early 1980s, and it was later applied to foreign language teaching. Regarding autonomy, Holec (1981: 3) described it as "the ability to take charge of one's own learning", which means that learners hold the responsibility for all the decisions concerning all aspects of their learning [4]. Zhang Dianyu (2005:52) summarizes foreign language autonomous learning as: the result of the coordination and unity of learners' external environment and internal environment. The external environment includes teachers, teaching facilities and corpus, while the internal environment contains the attitude and ability of learners [7]. Brown (1987) thought that a positive attitude can enhance the learning motivation [2].

## 2.2 Efficacy and Output

The academic meaning of the term efficacy is usually reflected in two levels. The first level originates from Bandura (1977), the self-efficacy notion in his social learning theory, which refers to the speculation and judgment of whether their ability to complete a certain behavior [1]. The second level of the concept is from the management science. According to Stephen Covey(1989), efficacy has two factors: "output", what you want; and "capacity", the asset or ability you use to achieve your goals. Output and capacity must be equal and be balanced to achieve the real "high efficacy" [3]. In 2011, Wang Guodong, Cui Yaping, and Zhou Chunyan did research on efficacy output and learner autonomy with the goal of promoting the long-term development of the online autonomous learning mode [6].

## 2.3 Individual Differences in L2 Acquisition

Three dimensions were focused on by Rod Ellis (1997) in terms of individual differences in L2 acquisition, that is language aptitude, motivation and learning strategy. He believed that “learners who score highly on language aptitude tests typically learn rapidly and achieve higher level of L2 proficiency than learners who obtain low scores” (1997: 74). Besides, motivation is also important in L2 acquisition, which include the attitudes and affective states. (1997:74) And he also found out that “successful learners use more strategies than unsuccessful learners.”(1997:78) [5]

Based on these theories, this research will put forward a hypothesis that students’ attitude towards online autonomous learning has the greatest implication on their efficacy output given that the studying tasks set by teachers is not that difficult. And this paper tends to assess students' attitudes, approaches, abilities and efficiency on the basis of online learning data, exploring the relationship between learner autonomy ability and efficacy output.

## 3. Data Analysis

Since autonomous learning is typically a dynamic and long-term process, this study chooses to analyze students' online learning circumstances for "English Intensive Reading 2" between March 2022 and the end of October 2022. The total number of the selected class is 49 though, due to the Covid-19, the TEM 4 examination this time was not compulsory for every students. Some gave up the chance to take the exam because their lack of confidence. In the end, only 17 students participated in the TEM 4 exam. Therefore, the data used in this paper only come from the 17 students. In order to analyze their independent study on the school network platform of learning, the main analysis contents will include independent discussion link answer, online homework completion, and course total learning time.

The chosen students will be divided into different groups based on their scores on the TEM4. The first group are those who failed the exam; the second group includes those who received grades between 60 and 70; the third group entails students who had scores between 70 and 80; and the fourth group covers students who received marks more than 80. The English letters of those students' last names will be used to code them one at a time to preserve their privacy. To differentiate the letters, various numbers will be placed behind each letter.

### 3.1 Data on Independent Discussion

Table 1 Independent discussion answer

Group	Headcount	Submission for the first discussion	Total answer-count	Proportion
Group 1	3	2	9	60%
Group 2	5	4	20	80%
Group 3	1	1	5	100%
Group 4	8	7	35	87.5%
Total number	17	14	69	81.18%

It needs to be clarified that throughout the chosen time period, the course issued 5 independent discussion activities. The total number of answers for these five discussion exercises, assuming that each student provided one response, should have been at least 15, 25, 5, and 40 for each of the four groups, or 85 in total. Based on Table 1, the first group has the lowest overall submission percentage, which partially reflects how the students in this group perceive about autonomous discussion activities. To fully reflect their attitude and aptitude toward studying language, this study also extract specific material of the first discussion topic from each group to analyze students' word-organization skills, attitudes and studying approaches. The following are the response cases elected from the four groups:

Discussing question 1: how to remember new words and employ at random?

Z1 from Group 1: It is very difficult for me to remember words. I don't think my memory is strong enough. But in my opinion, it is a good way to memorize words by writing them down on paper several times. In this way, it will be easier to get a general picture of the words in my mind, and it will be good for my review.

Y1 from Group 2: Memorizing vocabulary is necessary for English Major, and here are my methods to memorize new words. For dictation: First, I look up the correct pronunciation of the word in the dictionary and repeat after it. I believe in the saying that if you can read, you can write. Second, I will memorize the words by using some examples and I am also learning how to use the word. Third, the most important point is to repeat, through constant repetition, my mastery of the words will become stronger. At ordinary times, I also use some apps like Shanbei and Baicizhan, which help me memorize words efficiently.

S1 from Group 3: For most of the time, I try to memorize words through a splitting method. I prefer to give a simple examples below. The first word is “amass”. We can divide the word into two parts—“a” and “mass”. Try to view this as one-to-many process and this process needs accumulation. Accordingly, the word means “collect, accumulate or gather.”

Z4 from Group 4: These are the ways that I frequently used for memorizing new words. First, I memorize those vocabulary by binge-reading them out loud and scribbling them several times. Second, I read English novels to enhance the sustainability of my memory. Third, through reading English magazines intensively, I pick out both unfamiliar and useful words and write a summary about the whole passage.

According to the information above, Group 1 student Z1's attitude was indicated in the first phrase, which stated that he found it challenging to memorize words and only cited one method, showing his lack of confidence. In contrast, the student in Group 2 (Y1) thought it was important to remember words and listed three study strategies; Group 3 student S1 described the specific process of memorizing words; Z4 in the fourth group also provided three strategies. Besides, Z1's expression frequently employed the formal subject "it", failing to show the variety of sentence structures. While in Y1's response, the linguistic organization was made clearer by the ordinal expressions and alterations of sentence patterns. Z4 demonstrated his language ability by applying the TEM8 word "binge-reading" and the TEM4 word "scribbling".

To sum up, there is a clear distinction between the first group and the other three groups in terms of attitudes, abilities and approaches in the analysis of this section. First, the first group demonstrated a considerably less positive and confident learning attitude, although the other groups did not convey overtly negative feelings. Second, while it cannot be generalized, the above analysis at least demonstrates the differences in students' language application abilities. Third, the rest of the group offer more varied learning strategies than that of the first group.

### **3.2 Data on Homework Completion**

As can be seen from Table 2, Group 1 continues to score the lowest compared to the other groups, which serves as a further indication that students in this group may not be as positive about online independent study as students in the other three groups, proving the importance of studying attitude.

From independent discussions and homework completion data analysis, it was discovered that other groups perform better than Group 1 in terms of attitude, approach, and ability, demonstrating

their relatively higher level of learner autonomy.

Table 2 Homework completion

Group	Headcount	Submission for the first discussion	Total answer-count	Proportion
Group 1	3	2	47	71.21%
Group 2	5	4	107	97.27%
Group 3	1	1	22	100%
Group 4	8	7	172	97.72%
Total number	17	14	348	93.05%

### 3.3 Data on Total Average Learning Time

Efficiency is significant in people's learning in addition to attitude and ability. A couple of the students chosen for this study put a lot of effort into their studying, but the outcomes weren't satisfactory. The goal of this section is to show if efficiency can be viewed as one of the important factors in affecting learners' efficacy output when they study independently.

Table 3 Login times and total learning time

Group	System login times	Course entry times	Total duration of course online learning/(minute)	Total online time/(minute)
Group 1	1001	171	2884	26431
Group 2 and Group 3	1573	451	1668	51471
Group 4	2441	516	1972	73415

Table 4 Average learning duration and course entry times

Group	Average course entry times	Average duration of course online learning/(minute)	Average length of studying per time/(minute)
Group 1	57	961.33	16.87
Group 2 and Group 3	90.2	333.6	3.70
Group 4	64.5	240.88	3.73

Groups 2 and 3 are considered as one large group in Table 3 since there was only one student in the third group. The data shows that although the average online learning time of the first group is the highest, their final score was the lowest, demonstrating that their learning efficiency was not ideal as that of the other groups. As a result, this section illustrates how important efficiency is to students' independent online learning.

In summary, according to the learning data and results of the students in the fourth group, one's learner autonomy may be able to produce a relatively high efficacy output when combined with a positive studying attitude, effective and diverse learning methods, and appropriate play to their own learning ability.

## 4. Implication

In order to better explore the relationship between learner autonomy and efficacy output, this part makes an attest to draw a relation map to clarify the relationship between the key factors included in learner autonomy and efficacy output based on the previous statistic analysis and theoretical foundations.

The third chapter's investigation led us to the conclusion that approach, ability, and attitude are the key factors that influence how effectively pupils learn independently. And all three of these factors interact to influence the pupils' overall efficacy effect.

The three bolded circles in Fig. 1 represent the relationship between the three elements. In

addition to encouraging students to select certain learning approaches to complete independent learning, students' proper attitude activates the performing of their abilities to learn and ultimately produces a certain result, that is the area of the three circular junction. The circle that is not bolded, however, indicates that if the students' attitude changes, the cross-area between the three factors will be further expanded. This will encourage students to give full play to their learning abilities and motivate them to explore more diverse learning approaches, resulting in relatively high productivity.

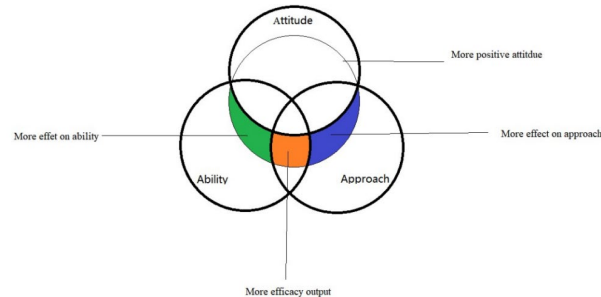


Figure 1 Effect of Attitude in efficacy output

It is made evident in the last section that the main difference between the first group ranking the lowest score, and the fourth group ranking the highest, is the students' attitudes. The data and the students' own emotional expressions of their attitudes show the importance of a positive attitude in autonomous learning process. A positive learning attitude is therefore essential for achieving higher efficacy output, which not only further mobilizes students' learning aptitude and but also drives them to apply more approaches in their learning.

## 5. Conclusion

In conclusion, this study indicate that the main elements in releasing students' learner autonomy and producing high efficacy output are attitude, approach, ability, and efficiency. Among these, attitude is considered as the most important one which affect the effect of other factors, resulting in different efficacy output. In addition, self-awareness involving more affective factors such as diffidence, can be stated to enhance the definition of learner autonomy and offer guidance for future research. Nevertheless, the small number of chosen participants in this study restricts a comprehensive representation of the learner features. Future research should therefore take more learner features into account and deepen the study in this field.

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