

The Application of Discovery Teaching Method in English Teaching for Non-English Majors

Qiaoling Ma^{a,*}, Yangna Ju^b

Haojing College of Shaanxi University of Science and Technology, Xi'an, Shaanxi, China

^a1098609672@qq.com, ^bjona468@163.com

**Corresponding author*

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Abstract: Discovery teaching method is a method used by teachers in class. It has changed the traditional single and boring way of listening to classes to a certain extent, allowing students to actively participate in learning. Take the problem as the center and stimulate students' independent inquiry ability by creating situations. Therefore, in order to improve the English achievement and ability of non-English majors, this paper studies the application of discovery teaching method in English class. This paper mainly uses the methods of experimental investigation and comparison to compare the learning situation of non-English majors in the experimental group and the control group. The experimental data shows that the number of excellent students in the experimental group under the discovery teaching method accounts for 40%, while the proportion of excellent students in the control group is 28%, indicating that the discovery teaching method can strengthen the teaching effect.

1. Introduction

In English teaching, discovery is a very important learning method, which is widely recognized by many people and widely used. It allows students to compare and analyze the knowledge they have mastered and are familiar with. Then explore the problem according to what you have learned. This can not only stimulate their thirst for knowledge, improve their ability level, but also cultivate their innovative spirit and practical skills. Discovery teaching method is more focused on solving students' "problems".

Educators have conducted a variety of studies on the classroom teaching methods of non-English majors and summarized many theories. For example, some experts believe that the interactive teaching method can help improve the oral skills of non-English students [1-2]. In order to further explore and study the mission English teaching model of universities, some researchers have studied the current situation of English teaching in non-English major universities under the guidance of the teaching concept of teachers and students as the center [3-4]. In addition, some experts have used the multi-mode teaching method in the English class of high-level non-English majors, and used SPSS17.0 data analysis software to analyze the test and questionnaire data before and after the experimental teaching [5-6]. However, there are few applied research theories of

discovery teaching method, so this paper aims to clarify the effect advantages of discovery teaching method.

This paper first studies the discovery teaching method, expounds its theoretical knowledge and puts forward its advantages in teaching. Secondly, it analyzes and describes the factors that affect the effectiveness of English teaching for non-English majors. Then the application of guided discovery in grammar teaching is investigated. Finally, relevant data and conclusions are drawn through examples and experimental investigations.

2. The Application of Discovery Teaching Method in English Teaching for Non-English Majors

2.1 Discovery Teaching Method

Discovery teaching method regards students as an independent individual who can acquire new knowledge through their past learning and experience. In traditional English classes, teachers usually use a single form such as "cramming". Although this model can effectively stimulate students' enthusiasm for autonomous learning, too mechanical explanation of grammar rules may make students bored. If the discovery teaching method is used to sort out the problems and then put forward the solution strategy, the problems can be handled well. There are many ways to use discovery teaching method in teaching, but few can really apply discovery to the classroom. Take students with the same or similar tasks as a whole, let them talk and cooperate with each other in learning, and solve these problems together. This can cultivate their good sense of cooperation and team spirit [7]. Discovery teaching method can fully mobilize the classroom atmosphere. In the teaching of non-English majors, Discovery Teaching Method is a completely new and efficient classroom management mode. Its main purpose is to train students to become talents with high skills and practical abilities and certain development space.

Under the traditional teaching mode, many students' enthusiasm for English learning is generally not high, and even some students will be afraid of teachers. The discovery method can solve this problem very well. Let students interact and cooperate with each other through discovery, classroom discussion, role play and other ways to complete the tasks assigned by teachers and the division of work among team members. At the same time, some activities can be organized after class to make students actively think and summarize what they have learned. This method is conducive to the cultivation of learning interest of non-English majors. The discovery teaching method allows both teachers and students to participate, fully mobilizing the enthusiasm of both sides. In such an atmosphere of democracy, equality, cooperation and exchange, students can be inspired to explore and innovate knowledge. At the same time, it can also improve their autonomous learning. This method is conducive to improving students' English skills [8]. Discovery teaching method refers to the teaching process in which teachers use certain methods and means to guide students to carry out autonomous learning activities according to the content of teaching materials and learning situation. This can not only cultivate non-professional talents but also enable them to master basic knowledge.

In view of the application strategy of discovery teaching method in non-English majors' English classes, the following suggestions are put forward: pay attention to problem situations and stimulate interest. Problems are the most important factors that can attract attention, attract attention and resonate with students in the learning process. Therefore, teachers can create a rich, interesting and meaningful topic from the actual life. The discovery learning method can transform the boring and boring teaching method with single and even meaningless content into a colorful and interesting topic model with interactive communication links. Establish a feedback mechanism of "discovery

training application". In class, teachers should pay attention to guiding students to use their knowledge to solve practical problems.

2.2 Factors Affecting the Effect of English Teaching for Non-English Majors

In traditional teaching, teachers often take teaching grammar and sentence structure knowledge as their main task. But this kind of classroom model is easy to make students feel boring. The discovery method, also known as "brainstorming" and "situational questioning", can help them think and solve problems, thus improving learning efficiency and cultivating good thinking mode and psychological quality. The current teaching situation of non-English majors in China is not optimistic [9]. The teaching method lacks pertinence, systematism and purpose.

Teachers' teaching methods and students' learning. In the traditional concept, most teachers require students with their own fixed standards, rather than conduct personalized difference analysis according to different students. In this way, students will feel bored and have no sense of freshness, which reduces their understanding of the knowledge points of the English class and the efficiency of the class. They will become bored, and even affect their future learning and working conditions. The teaching objectives are not clear. In the traditional English class, teachers mainly complete the explanation according to the textbooks, rather than students' autonomous learning [10]. This method has certain disadvantages. Teachers' teaching methods and ideas. If the teacher still teaches according to the traditional interpretation method, the classroom atmosphere will appear dull. If the discovery education mode is adopted to teach the course content, it can stimulate students' interest in professional courses and improve the teaching effect. The teaching attitude of teachers and students. Under the old concept, most students learn English mainly to cope with examinations, rather than to improve their professional level. When learning English, students often understand it by memorizing grammar and vocabulary knowledge. But the discovery method can make them easier to accept and quickly learn some basic skills and application methods. At the same time, it can also cultivate students' sensitivity and patience to language [11-12].

3. Application of Guided Discovery Method in Grammar Teaching

3.1 Purpose of Teaching Practice

Check whether the findings of grammar teaching have solved the two main problems of grammar class in the questionnaire: first, grammar class is not good. Second, it is generally believed that learning grammar is boring and boring, and this teaching practice research has been carried out. The three questions that the research institute must answer are:

Can the discovery grammar course help students learn grammar?

Does this method help students discover grammatical features and awaken grammatical awareness?

Can this method make up for the shortcomings of traditional grammar teaching methods?

3.2 Teaching Practice Process

Before teaching practice, the author observed the English grammar course of non-English majors and made a recording (the first two weeks). In the third and fourth weeks, the author investigated the design and implementation of the questionnaire and examined the "teaching" of English grammar and the "learning" of students from the perspective of students.

The experimental course is conducted in practice (the last seven weeks). Based on the guided discovery method, the author designed the grammar points of each unit from the three-dimensional

concepts (form, meaning and application) of grammar teaching, and applied the guided discovery grammar teaching to grammar teaching.

After the teaching practice, the author randomly selected students from the classroom to have a dialogue and obtained feedback information in order to test and find the effect of teaching.

3.3 Instructional Design

According to the characteristics of the guided discovery method, several aspects must be considered when designing the curriculum: analysis and integration of teaching materials, determination of teaching objectives, selection of teaching strategies and teaching environment. Before forming the teaching concept, teachers must treat the teaching materials correctly according to the actual situation of themselves, students and teaching environment. The specific operation is shown in Figure 1:

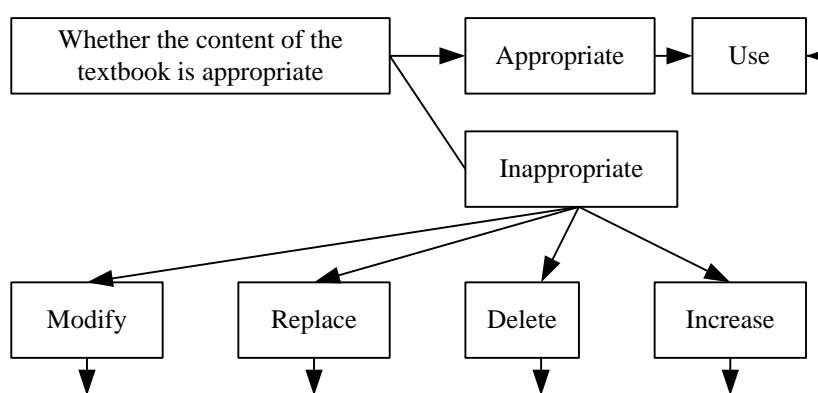


Figure 1: Specific Operation of Textbook Selection

Textbooks are difficult to meet the needs of all learners. Therefore, when analyzing and integrating teaching materials, teachers should make appropriate decisions on teaching materials and arrangements according to the actual situation of students and curriculum objectives. The purpose of teaching is not only to enable students to expand their information knowledge, but also to develop their cognitive skills, thinking ability and the ability to find and solve problems through information processing.

3.4 Classroom Observation

Discovery teaching emphasizes students' ability of independent exploration and active learning. After teaching practice, the "discovery" of some grammatical phenomena in the new text has been improved. Although some "discovery" is not enough, "discovery" grammar knowledge will certainly help to further learn English. By observing the curriculum in the classroom, we can see that the guidance and discovery curriculum can mobilize students' motivation, activate the classroom atmosphere, and change the role of teachers [13]. Although some students are not used to the leadership discovery course at the beginning, because they have been dominated by the receptive course for a long time, and are a little confused about active learning, with the constant help of teachers, these students gradually adapt to the new method. After a semester of teaching practice, the grammatical errors in written expressions are significantly lower than at the beginning of enrollment [14]. Facts have proved that the discovery of guiding grammar curriculum has practical significance, and can also partially make up for the deficiencies of traditional grammar curriculum.

4. Analysis of Survey Results

4.1 Analysis of Interests of Non-English Majors

Based on the survey data, this paper makes statistical analysis and describes the importance of grammar, interest in grammar learning, grammar ability and confidence in grammar learning. The evaluation indicators are divided into four levels: unimportant, general, important and very important [15]. According to the data in Table 1, a small number of students in the control group think grammar learning is important, while most students think English grammar learning is important. Only about 15% of students think grammar learning is not important.

Table 1: Interest of Non-English Majors in the Control Group

	Not important	General	Important	Very important
The importance of grammar	11.5	21.3	46.8	20.4
Hobby learning grammar	12.1	36	43.1	8.8
Grammar ability	34.2	42	19	4.8
Confidence in learning grammar	18.6	39.3	34.3	7.9

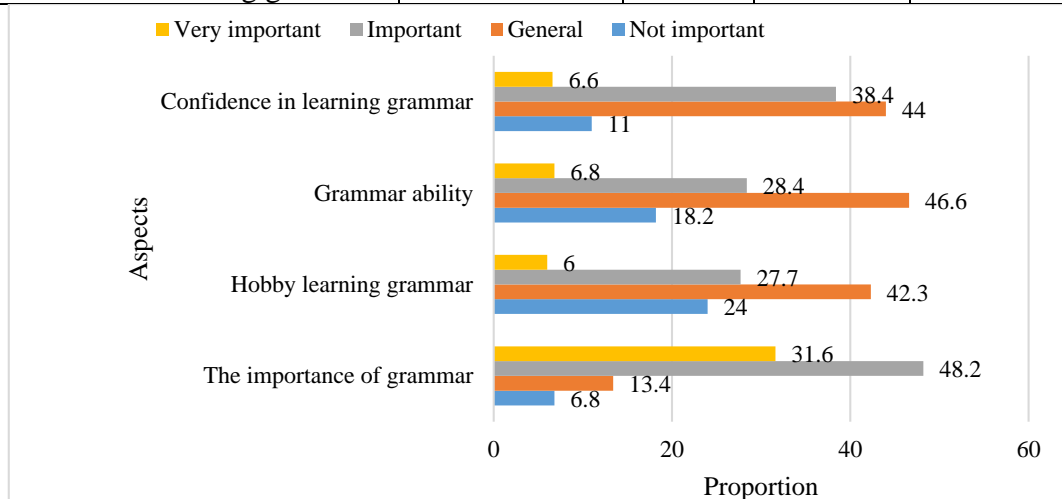


Figure 2: Interest of Non-English Majors in the Experimental Group

As shown in Figure 2, we can see that most people are confident in the study of English grammar and have a positive attitude towards the ability to master grammar, the interest in grammar learning and the importance of grammar. 79.8% of the students think grammar is important, 33.7% of the students think they have strong interest in grammar learning, and 35.2% of the students have a good command of grammar. 45% of the students are confident to learn English grammar well. This shows that even for non-English majors, the attitude of the experimental group towards English learning is still correct.

4.2 Attitude Analysis of English Grammar Learning

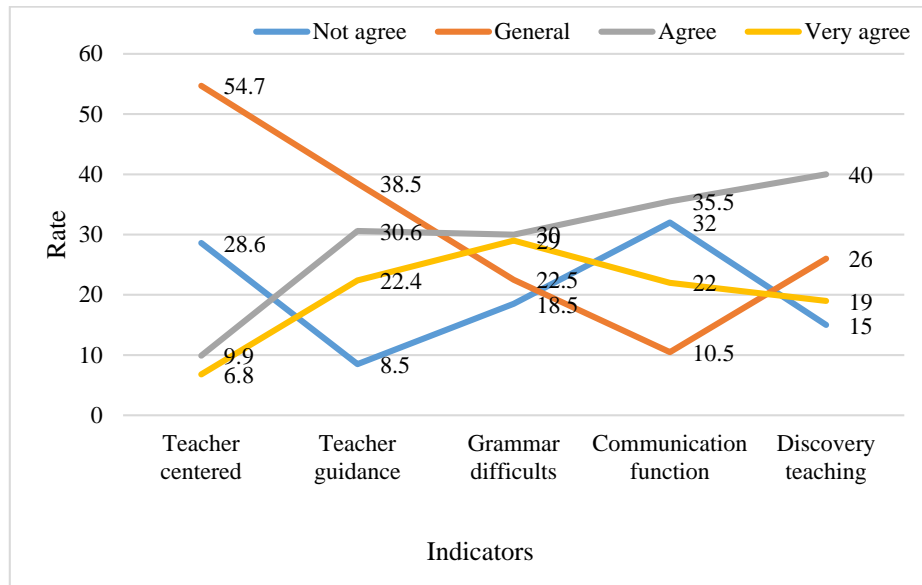


Figure 3: Attitude towards English Grammar Learning

As shown in Figure 3, we can see that in English grammar teaching, 28.6% of the students do not agree with the teacher-centered teaching method, and 53% of the students think that the teacher-oriented teaching method should be carried out. In terms of the learning difficulty of English grammar, 59% of the students think that grammar is difficult, and only 18.5% think that grammar is not difficult. 57.5% of students agree with the role of grammar in English communication, and 59% of students agree with the application of discovery teaching in English class.

4.3 Normality Test of Post-Test Scores in Experimental Class and Control Class

Suppose A_1, A_2, \dots, A_m is a sample of post-test results, and the sample center moment is expressed as:

$$n_i = \frac{1}{m} \sum_{k=1}^m (A_k - \bar{A})^i \quad (1)$$

In skewness test, the test statistic is:

$$\hat{y}_t = \frac{n_3}{n_2^{3/2}} \quad (2)$$

The kurtosis test statistics are:

$$\hat{L} = \frac{n_4}{n_2^2} - 3 \quad (3)$$

Under some conditions, bias and peak test statistics have excellent properties and good asymptotic normality effects.

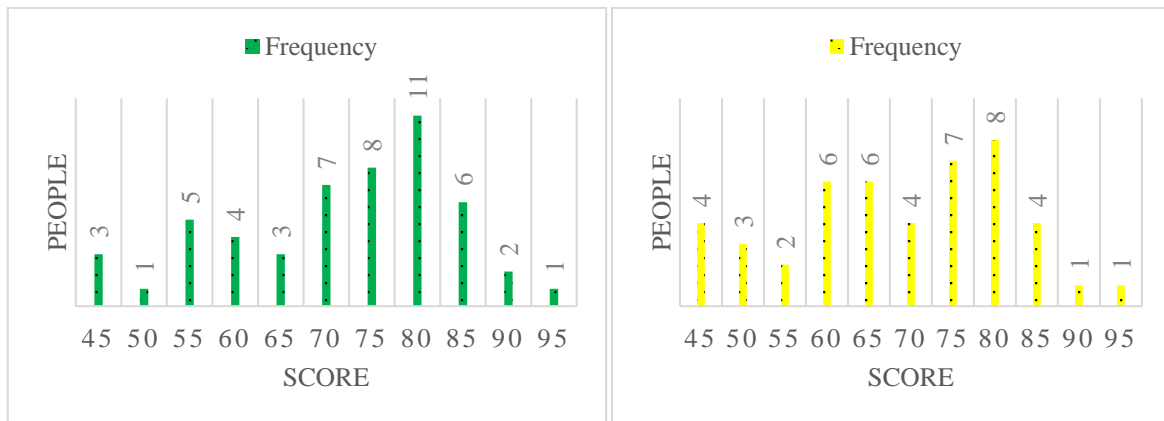


Figure 4: Post-Test Score Distribution of Experimental Class and Control Class

As shown in Figure 4, we can see that after 11 weeks of discovery teaching practice, students have accepted the PRECO B test and collected corresponding experimental data. Then, the author usually uses SPSS software to test the data, and then carries out an independent Probe T test to determine whether there is a significant difference between the two classes, so as to understand the impact of the discovered teaching method on improving the English performance of high-level non-English students.

5. Conclusion

Discovery teaching method is that teachers use purposeful and conscious language phenomena in the classroom, observe and record the relationship between the problem solver and the respondent through questioning students. This method can not only stimulate students' interest in learning, but also help students generate positive thinking. It helps to cultivate students' ability to solve problems independently. In class, teachers can ask questions in various forms according to different situations. This paper makes an in-depth study of discovery learning and induction. In the process of teaching, teachers need to use discovery and non-verification methods to guide students meaningfully and effectively. Through the research of discovery teaching method, this paper discusses that in non-English majors' English classes, teachers can stimulate their learning interest; improve their memory ability and oral expression skills through discovery teaching method.

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