Construction of College English Classroom Ecological Teaching Mode Based on Modern Technology

Meiling Guo

School of Foreign Languages, Inner Mongolia University of Science and Technology, Baotou City, Inner Mongolia, 014010, China

Abstract

With the continuous innovation and development of education, educational ecology has been studied by many educational scholars as an emerging discipline. Therefore, it has become an important way to study classroom teaching with ecological thinking methods. In order to better realize the purpose of education, scholars apply the concept of educational ecology to educational research. The classroom is the basic unit of school education, so building a harmonious and green ecological classroom is our common goal. This article aims to study the construction of an ecological teaching model for college English classrooms based on modern technology. This article mainly uses the literature research method to collect and organize the information needed in this article. In the empirical investigation stage, this article uses a combination of questionnaire survey, classroom observation method and case study method to collect experimental data and information and quantitative analysis. The experimental results show that only about 30% of students have a good understanding of ecological teaching, and as many as 90% of students have a certain understanding of ecological teaching. In addition, most students believe that the ecological teaching mode of college English classroom English under modern technology is beneficial to reducing the difficulty of learning English.

Keywords

Modern Technology; College English; Ecological Teaching Mode; Ecological Classroom.

1. Introduction

With economic globalization and social informatization, English plays an important role as a bridge. The rapid mastery and improvement of English proficiency is a hot topic that everyone pays attention to [1-2]. This puts new requirements on the teaching methods and methods of English education. In light of the actual situation, the majority of English educators boldly carry out research and practice, especially the effective combination of advanced English teaching methods and modern technology. The development of English teaching has ushered in the spring, and the development of new teaching methods is unstoppable [3-4]. However, modern technology, as a novel teaching tool and method, serves the content of teaching. Nowadays, some teachers just pursue the diversified forms and methods in the classroom regardless of whether the teaching content is suitable, blindly apply various modern technologies, and pile up a large amount of resources [5-6]. This leads to a teaching misunderstanding, thinking that as long as a class with modern technology is used, it is a good class. Investigating its status quo, we, educational technology workers, must pay attention to it. To change the current state of education, according to the characteristics of college English classes, explore how to build an ecological classroom, incorporate useful concepts into it, and make English teaching more colorful and easier [7-8].

Many scholars have achieved good results in the research on the construction of the ecological teaching mode of college English classroom in modern technology. J Xu said that the ecological
teaching model is a new teaching model, which has attracted the attention of the academic community in recent years and has been widely used in Chinese teaching practice. In order to optimize the effect of teaching and learning, we need to combine this model with college English classrooms, and attach great importance to the key role of modern technology in the ecological education model of college English classrooms [9]. Zhang S pointed out that the enthusiasm, initiative and creativity of college students to learn English knowledge are important foundations and prerequisites for stimulating the English learning environment. Modern technology-assisted college English courses can enrich teaching content and resources, from diverse teaching models and breakthrough teaching stand out. The limitation of time and space expands the learning materials, thus creating a good language learning environment for students [10].

This article combines modern technology with college English, and finally forms a novel ecological teaching mode by applying modern technology to college English classrooms. This article is guided by ecological ideas, and focuses on the micro-fields of education ecology, and discusses the ecological classroom teaching of college English as a system. This not only enriches the theory of college English classroom teaching but also provides college English to a certain extent. The classroom doors provide clearer theoretical and practical materials, hoping to point out the direction for the future development of college English teaching.

2. Construction of Modern Technology-Based Ecological Teaching Mode in College English Classrooms

2.1. Research Methods

The research methods of this article are mainly literature research method, questionnaire survey method, classroom observation method and case research method.

2.1.1. Literature Research Method

This article analyzes the domestic research results of the application of modern technology in college English classrooms with the help of references and network resources, and lays a preliminary theoretical foundation for the research of this article. This method is an important method for learning theoretical knowledge and collecting relevant information. The required information mainly comes from relevant educational theory books and the Internet.

2.1.2. Questionnaire Survey Method

The questionnaire survey method is that this article conducts a survey through pre-prepared questions and analyzes the answers of the interviewees to draw the necessary conclusions. Through the design of questionnaires, to understand the changes in the learning situation of the research objects, the purpose of which is mainly to investigate students’ interest, views and feelings about the ecologicalization of college English classrooms.

2.1.3. Classroom Observation Method

In order to more accurately understand the actual situation of college English classroom teaching, understand the interaction of students and teachers in English classrooms and classroom teaching, this article has conducted a period of investigation in a college and made detailed records to increase the content of this article.

2.1.4. Case Study Method

Do a good job in the analysis and research of teaching cases, and summarize the methods and experience of effective classrooms from the cases, and find out the existing problems and corresponding solutions, so as to strive to improve the level of teachers.
2.2. The Positive Effect of Modern Technology on the Ecological Teaching Mode of College English Classroom

2.2.1. Conducive to Improving the Beliefs and Professional Abilities of College English Teachers

To form a constructive ecological classroom in college English, there must be three elements: teachers, students, and environment. The teacher's quality, belief, and ability determine the progress and process of the entire classroom implementation, and determine the quality of teaching. University teachers should study extensively, broaden their knowledge, improve their new understanding of English subjects, and improve their understanding of students' psychological activities and classroom rules.

2.2.2. Facilitate Teachers to Expand Teaching Content According to Actual Conditions and Teach Students in Accordance with Their Aptitude

Adjusting teaching according to actual conditions is a necessary quality for teachers. Failure to follow a step-by-step approach and bold innovation is the inevitable state that our "constructive ecological classroom" pursues. The correct and appropriate education method is the internal driving force of the constructive ecological classroom. Teaching students in accordance with their aptitude is an idea proposed by Confucius, a great educator in my country. Using modern technology to construct an ecological classroom is a classroom that focuses on the growth of students' lives. On the road of healthy growth, they can enjoy a teaching method that suits their own personality. Only the teaching that conforms to the students' individualization conforms to the "ecological outlook".

2.2.3. It is Conducive for Students to Build A Learning Model of Independence and Cooperation, Inquiry and Generation

"Constructive Ecological Classroom" emphasizes letting students take the initiative to construct and form their own knowledge system. Therefore, teachers should use more independent learning and group cooperative learning methods for teaching. Thus, the variety of content and forms of modern technology courses are more advantageous than other subjects in stimulating students' imagination and creativity. In the ecological classroom, cultivating students' excellent qualities and healthy personality is more important than learning knowledge in a sense.

2.2.4. Conducive to the Construction of A Good Technical and Humanistic Environment

The last environmental requirement of the ecological classroom concept is to have a good cultural environment. For college English, what we are concerned about is the unification of modern technology and the humanistic environment. Constructive postmodernism also emphasizes the unity of man and nature, and emphasizes that everything is a whole, so our technology and humanities are complementary and inseparable. Teachers display some materials that can experience cultural heritage in teaching, which can not only arouse students' interest in learning, not only can they learn technology, but also understand Chinese traditional culture, and at the same time improve their own moral sentiment.

2.3. Collaborative Filtering Recommendation Algorithm Based on the Ecological Teaching Mode of College English Classroom

In order to make the research content of this article more credible and more assertive, this article will use the following algorithms to show that modern technology has a positive effect on the construction of college English ecological classrooms.

Similarity measurement is an important step in cluster analysis. For different data objects and clustering algorithms, different similarity measurement methods are usually selected. The distance between data objects is commonly used to evaluate the similarity between objects, so
similarity Metrics can also be understood as distance measures. The most commonly used distance measures are as follows:

\[ d(i,j) = \sqrt{W_1(x_{i1} - x_{j1})^2 + W_2(x_{i2} - x_{j2})^2 + \ldots + W_n(x_{in} - x_{jn})^2} \] (1)

Among them \( x_i = (x_{i1}, x_{i2}, \ldots, x_{in}) \), \( x_j = (x_{j1}, x_{j2}, \ldots, x_{jn}) \), \( x_i, x_j \) represents two n-dimensional data objects. If the weight of each dimension in the object is different, you can add a weight to the attribute of each dimension to obtain the weighted Euclidean distance. The calculation formula is:

\[ d(i, j) = |x_{i1} - x_{j1}| + |x_{i2} - x_{j2}| + \ldots + |x_{in} - x_{jn}| \] (2)

d(i,j)\leq d(i,h)+d(h,j), the distance function satisfies the trigonometric rule, and the distance between objects i and j is not greater than the distance of other objects h.

In addition to using distance to measure the similarity, the similarity coefficient can also be used as the unit of measurement. At present, the commonly used similarity coefficient is the angle cosine similarity. For two vectors A and B, the calculation formula is:

\[ \text{sim}(A, B) = \frac{\langle A, B \rangle}{\|A\|\|B\|} = \frac{\sum_{i=1}^{n} A_i \times B_i}{\sqrt{\sum_{i=1}^{n} (A_i)^2 \times \sum_{i=1}^{n} (B_i)^2}} \] (3)

3. An Experimental Study on the Construction of An Ecological Teaching Model for College English Classrooms Based on Modern Technology

3.1. Research Purpose

With the advancement of modern science and technology and the development of modern life, ecological concepts have taken root in the hearts of the people, not only affecting the environment, civilization, ethics, food and many other fields, but ecological thinking has also been extended to college English teaching. Therefore, the research focus of this article is to analyze the ecological factors in the current college English teaching system based on theories and principles of ecological philosophy and classroom ecology, and to combine ecological theory with college English teaching practice to construct a new ecological teaching model of college English.

3.2. Sources of Experimental Data

In the empirical research phase of this article, some college teachers and students were invited to participate in the questionnaire survey of "Evaluation and Attitudes to the Ecological Mode of College English Classroom in Modern Technology Environment", in order to reduce the concerns of teachers and students in accepting the survey and eliminate the self-defense of interviewed teachers and students Psychology, to ensure that teachers and students can speak freely on the topic of the questionnaire, this article conducts the questionnaire survey anonymously. And all the completed questionnaires are collected in a timely manner. Combining interview information and classroom observation records, the questionnaire data will be stereotyped and quantitatively integrated statistical analysis.

3.3. Data Modeling

The expression of big data is to express a fact as it is. It is a complete and comprehensive survey, and the sampling survey can only be partial and complete, and replace all the facts with a small number of facts. Therefore, it is reasonable to use data to express the expression that can really
explain the truth. Big data expression is supported by all the facts, which means that the current era of big data is no longer an era of eloquence. Any expression needs to be supported by facts and data can be used to convince others.

4. Experimental Research and Analysis of the Construction of the Ecological Teaching Mode of College English Classroom Based on Modern Technology

English teaching occupies a very important position in the university stage, but college English teaching also has backward and outdated teaching methods, and there are many obstacles to students learning English. This article has made an understanding of the ecological English teaching model for students in two classes in a university. The main performance of the survey is shown in Table 1:

| Table 1. The level of understanding of the ecological English teaching model |
|--------------------------------|-----------------|-----------------|
| Know very well                | 15%             | 17%             |
| General know                  | 50%             | 49%             |
| Never heard                   | 35%             | 34%             |

It can be seen from Figure 1 that in the two classes A and B, very few students have a good understanding of the ecological classroom model, only 32%. Most of the students still have a certain understanding of the ecological classroom model, but the level of understanding is also very limited. Yes, there are many people who have never heard of the ecological classroom model, accounting for 69%. Therefore, in addition to focusing on traditional teaching, the school must increase the promotion of the ecological classroom model and use it in the classroom.

In addition to investigating the degree to which college students understand the ecological teaching model, this article also investigates whether college students believe that the application of modern technology to the ecological teaching classroom model will reduce the difficulty of learning English. The results of the survey are as shown in Table 2:
Table 2. Will it reduce the difficulty of learning English?

<table>
<thead>
<tr>
<th></th>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very useful</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>helpful</td>
<td>35%</td>
<td>34%</td>
</tr>
<tr>
<td>Little effect</td>
<td>25%</td>
<td>17%</td>
</tr>
<tr>
<td>no effect</td>
<td>10%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Figure 2. Will it reduce the difficulty of learning English?

According to Figure 2, although the promotion of ecological teaching in English classrooms is not high in universities, more than 60% of students believe that the ecological teaching mode under modern technology is very difficult to learn English. 69% of the students think it is helpful, and a small number of students think that the help is little or no help. It can be seen that university students have high expectations for the ecological teaching model, and the development prospects of the ecological teaching model are very optimistic.

5. Conclusions

In the context of an increasingly globalized world, language has become a bridge between people, and English communication skills will better help people integrate into the world. With the advancement of modern technology, great changes have taken place in the reform of English teaching and the English evaluation system. The study of the teaching model of ecological language in education provides a new direction for the research of education and teaching. This teaching model insists on harmony, integration and unity among students, teachers, language and ecological environment. Only in this way, each element in the English teaching system can play its greatest role, and college English teaching can achieve its sustainable development. Therefore, the construction of an ecological university English teaching model can bring new ideas and hopes to English learning. In other words, the harmonious development between teachers and students should be realized, and the existing teaching methods, teaching concepts and other teaching elements should be changed according to the requirements of the ecological teaching model. If so, English learning can achieve a balance between people and the environment, avoiding inefficiency and utilitarian tendencies, which believe that learning aims to gain more benefits.
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References


