Study on the Computer Database Technology in College English Teaching

Shuangshuang Yu1,*
1Nanyang Institute of Technology, Nanyang, Henan, China, 473000

*Corresponding author e-mail: 8182098@nyist.edu.cn

Abstract. With the rapid development of global economy, the use of English is becoming more and more important, which leads to more and more attention to college English teaching. The database technology has become an important part of current higher education, which can help students better improve the quality of English learning. For example, a corpus database is a collection of language examples, which can provide practical cases for English learning, which can help students to fit in with foreign language learning methods. Therefore, database technology provides language optimization teaching method, which provides students with a new way of knowledge acquisition and knowledge mining. Through the database technology, we optimize the language material, which allows learners to have a new cognitive process. Firstly, this paper analyzes the current English teaching database model and data mining technology. Then, this paper analyzes the role of database technology in English teaching.

Keywords: Computer, Database technology, English teaching

1. Introduction
With the improvement of English teaching methods, the focus of English teaching has shifted from the basic language to the improvement of cultural application. The traditional English teaching has been unable to meet the basic needs of students, which requires colleges and universities to gradually apply multimedia teaching[1]. With the change of teaching content and form, we need more ways to obtain more high-quality English teaching resources, which plays a positive role in promoting college English teaching. For example, multimedia corpus database is a new language learning discipline, which improves the application of English Linguistics in many aspects, including vocabulary, grammar, pragmatics, etc[2]. Through the collection, storage, processing, mining and statistics of natural language texts, we can better supplement the importance of context to English learning. Multimedia corpus database is an auxiliary tool, which is mainly used in English language teaching[3]. Therefore, database technology is an advanced teaching and learning resource tool, which can better carry out database language teaching[4].

2. Computer database technology
2.1. English teaching database model

Database design is the key stage of College English teaching design, which requires colleges and universities to decompose demand analysis step by step. Through the conceptual structure design of database, this can better design English teaching database\(^5\). This paper designs an English teaching database model, as shown in Figure 1.

![Figure 1. English teaching database model.](image)

2.2. The process of data mining

The design of English teaching database is complex and diverse, which needs to be obtained through different objects. Data mining technology can be divided into data acquisition, preprocessing, mining, visualization, which can directly affect data selection, cleaning, integration and conversion\(^6\). Data mining is the exploration and analysis of data, which is not a simple collection of independent tools. Data mining is a specific step of database knowledge discovery, which can extract data patterns. The data mining process is shown in Figure 2.

![Figure 2. Data mining process.](image)
3. The role of database technology in English teaching -- taking corpus database as an example

3.1. Diversified presentation
The retrieval results of multimedia corpus database will be presented by multimedia, which is a diversified presentation mode. Through the visual and visual presentation, students are more likely to learn English. Generally, the retrieval method of corpus database will be in the form of keyword in context, which is a way to retrieve keywords. Through text, sound, graphics, images and other forms, the database will give the corresponding files, which helps to attract learners' interest in learning. Through the intuitive and easy to learn form, students will have a deep impression on the learning content, which is the hope of experiencing English vocabulary learning.

3.2. Students become the main body of learning
Corpus database is a learning tool, which needs students to apply spontaneously. Therefore, through database technology, students will become the main body of learning, which requires students to have the initiative of English language learning. By creating a good language environment, students will be more interested in learning, which will produce twice the result with half the effort. Database retrieval technology is only the form of providing answers to questions, which requires students to find answers with their own wisdom.

3.3. Automatic parsing of syntax, morphology and grammar
The retrieval of multimedia corpus database can carry out syntax, morphology and automatic grammar analysis. One of the early purposes of corpus linguistics is to use corpus for grammatical analysis. Nowadays, people study and process the corpus at a higher level, which needs to make the corpus intelligent and multimedia. By visualizing the original difficult to understand language theoretical analysis, students will be more easy to understand and master. Through part of speech coding and syntactic analysis, corpus can be described according to a specific grammar. The computer has processed the corpus with artificial intelligence, which makes it possible to analyze the corpus automatically. Through database technology, we visualize the semantic and functional research of words, the comparative study of synonyms, the study of collocation and structure.

3.4. Help students analyze their writing
The retrieval of multimedia corpus database can help students to analyze their writing. Some students' writing styles can refer to the corpus, which can count the word frequency of each student's composition separately. In this way, teachers can easily analyze whether students can use the words or phrases correctly, which will correctly guide students to apply to the language environment. Therefore, the language teaching of multimedia corpus database can let students learn language in real language environment and active observation and discovery, which is different from the traditional and rote learning method.

4. The role of multimedia database in English teaching

4.1. The role in classroom teaching
First, the multimedia database in English teaching class makes the form of presenting teaching content change from flat to three-dimensional. Students are not fond of reading textbooks and listening to the rules and usages of the teachers in English learning. However, students are interested in videos, pictures and charts presented by multimedia. In the process of looking for the key points, students can experience the sense of achievement, which will enhance their learning enthusiasm. Second, the application of multi-media database in English teaching makes the situation simulation degree higher, and students are easy to enter the role in the simulation scene. Compared with the traditional teaching, multimedia is more conducive to the establishment of cooperation mode, which will receive better results. Thirdly, the multimedia database in English classroom teaching makes it easier to realize the
role exchange. Under the guidance of teachers, students can arrange according to the resources in multimedia database, which enables students to deeply understand the learning content. In this way, students can get a greater sense. In the role exchange, students' enthusiasm to participate in classroom learning is fully mobilized. Moreover, teachers can guide students to discuss in time, which makes students better grasp the content.

4.2. On the role of extracurricular learning
First, in English extracurricular learning, multimedia database is better to students' autonomous learning ability. For students with weak foundation, classroom teaching time is not enough for English learning, which needs to be supplemented by students' Extracurricular Autonomous Learning. However, students' English learning methods are not very clear. Therefore, the teacher's reasonable guidance can promote students to carry out effective autonomous learning. Second, in English extracurricular learning, multimedia database is conducive to increase students' oral English communication opportunities. Through the use of multimedia database resources, students can use the online platform to exchange their experience, which is a good opportunity for students to improve their oral English. Thirdly, in the extracurricular English learning, multimedia database is helpful to enhance students' self-confidence. In the multimedia database learning, students can not only get the teacher's evaluation, but also other students' evaluation and self-evaluation, which helps to understand their actual English level. Through continuous learning and progress, students will gradually improve their self-confidence.

4.3. Association rules analysis of students' grades
The process of English learning is gradual, which requires students to lay a good foundation. There are some internal relations and order relations among the courses. Poor basic courses will inevitably affect the learning of subsequent courses. Therefore, the correlation between courses plays an important role in students' learning and teachers' teaching. Based on students' test scores, we can find the correlation between courses. Through the association rules of data mining technology, teachers can remind students and strengthen their learning awareness, which will improve learning efficiency. In the process of teaching implementation, teachers are faced with a large number of student performance data. But for these data, most of the time, they are just simple query and statistics, and the real meaningful knowledge hidden in the results has not been discovered. Through data mining technology, we can analyze the factors that affect the performance, which will better improve the quality of English learning.

4.4. Cluster analysis of teacher evaluation
At present, the continuous development of cluster analysis has greatly promoted the evaluation of College English teaching. Through data mining, we can easily reflect the differences in teaching evaluation indicators, which will guide to improve methods in the teaching process. Only teachers make continuous progress in the teaching process can we improve the teaching quality and teaching effect. By mining students' teaching evaluation of teachers, we can reflect the teaching level, which will improve the assessment of teachers. Through cluster analysis, colleges and universities can improve methods and effect, which will promote the optimization of teachers' quality.

5. Conclusion
College English teaching is limited by teaching conditions and foreign language environment, which ignores the training of students. The traditional teaching methods are basically based on the teacher's explanation, and the students are more passive in the classroom, and the subjective integration is not strong. With the improvement of English teaching, language educators gradually realize the urgency of changing the existing teaching materials and teaching methods. Database technology provides learners with a real English environment, which can make students become the main body of learning. Through the computer database technology, we can better stimulate the enthusiasm of students.
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