Strengthening Practical English Teaching and Improving College Students' Comprehensive English Ability

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Keywords: Machine Learning Algorithm; Practical Teaching; English Teaching

Abstract: Due to the development of economic globalization and the rapid improvement of China's economic strength, the importance of English is self-evident. Flipping classroom teaching is becoming more and more popular in the teaching of colleges and universities in China because of its strong practicality. This paper mainly studies how to enhance practical English teaching through the flipping classroom based on machine learning algorithm, so as to improve the comprehensive ability of college students.

1. Introduction

Since the beginning of the 21st century, the rapid development of various information technologies has triggered the transformation of English teaching methods and students' English learning models in Chinese universities, diversified teaching modes, English classroom flipping, knowledge system diversification, English micro-classroom and various The emergence of English learning mobile terminals, etc., provides a basis for strengthening practical English teaching [1]. The study of characteristic English training mode has become an important feature of English teaching in the information age of China [2]. Although the existing English teaching mode in colleges and universities is relatively mature, the practical effect is not good. The characteristic English teaching mode based on machine learning can improve the English comprehensive ability of college students [3].

2. Methodology

2.1. Application and basic principles of machine learning algorithms in flipping classroom

Learning in our common algorithms refers to the enhancement or improvement of the system's own capabilities in repeated work, so that the next time the system performs the same task or similar tasks (referring to tasks with the same distribution), it is better than now. Better or more efficient, this process is called systematic self-training or self-learning. Machine learning is a method of knowledge discovery. It refers to a system that improves its ability to deal with a problem by performing a process [4]. In the concrete realization process of this paper, the flipping classroom English teaching mode is applied according to the individual differences, the English learning interest, the professional English demand and the differences of English learning ability of different genders according to the students' own English level. Machine learning algorithms to achieve flip teaching for different student groups. Secondly, we will classify the practical aspects of English content in the flipping classroom through machine learning algorithms, so as to highlight practical teaching, realize students in accordance with their aptitude, and improve students' actual English level and comprehensive ability.

2.2. Machine Learning Algorithm Implementation Steps in Flipping Classroom Mode

The machine learning algorithm in this study needs to meet the following three factors to complete the intelligent process: they are: consistency assumption (conditions of machine learning algorithm), sample space division (determining the validity of the model to the sample set), pan The ability to determine the validity of the model to the world is shown in Figure 1. In the process of

  DOI: 10.25236/icetem.2019.186

constructing the English teaching mode of flipping classroom, we will classify the teaching content according to the practicality through machine learning algorithm, then analyze the learning data of the students in the flip classroom, and feedback the results of the analysis to the teacher. In order to strengthen the teaching of practical English, and truly enhance the comprehensive ability of college students.

In order to satisfy the above-mentioned consistency hypothesis, that is, the conditions of the machine learning algorithm, we consider that the research focuses differently in different periods, so we divide the students into different vector matrices according to their professions. These matrices are different. Vector set composition.

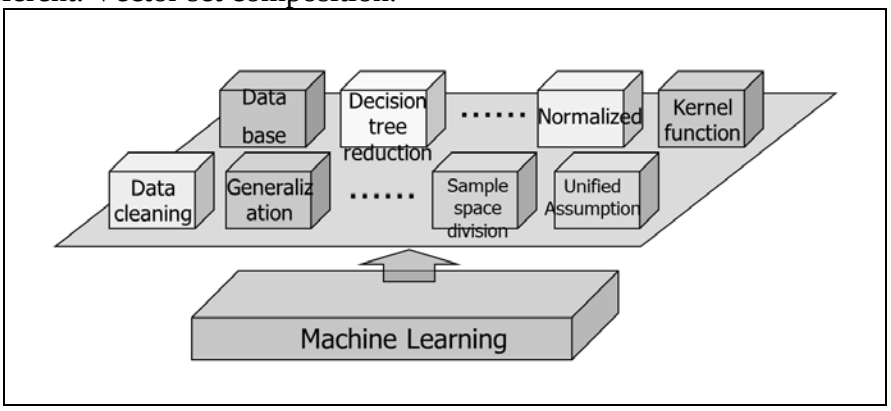

Fig.1. Necessary requirements for the operation of machine learning algorithms

First of all, the machine learning algorithm used in this study will be grouped according to the practicality of the teaching content and the professionalism of the students in the process of processing such information.

The basic implementation process of the machine learning algorithm is as follows: firstly, data processing, that is, different English teaching content is processed by data processing, and then divided into multiple clusters by random process processing, and according to the principle of highest similarity (practicality and professional difference) The plurality of student objects are divided into each cluster, and comparative analysis processing is performed. When each student object belongs to a collection corresponding to the center of the node closest to it, the iterative processing is ended.

The second step is data integration. The purpose of data integration is to combine multiple data sources. The biggest advantage of this paper in flipping the classroom English teaching mode is that it can accurately classify students and different teaching contents of different majors, and can classify according to the practicality of current English and the teaching requirements of different majors, so that each step can be gradually obtained. The central vector (reference vector) of a vector group, and using this as a standard vector, to achieve effective English teaching for different student groups, strengthen practical English teaching, and truly enhance college students' interest and comprehensive ability in learning English.

Finally, decision tree reduction processing is performed. Decision tree reduction constructs a structure similar to a flowchart: each non-leaf node represents a test on an attribute, each branch corresponds to an output of the test; each leaf node represents a decision class. Flipping classroom teaching mode In the process of identifying student groups for different majors, the discrimination is realized by comparing the vector feature values represented by each student. This greatly improves the efficiency of filtering and vector grouping.

In terms of data conversion, we need to normalize and fuzzily. In the normalization of finite intervals, we deal with it by the following formula:

$$v' = \frac{v - min}{max - min} \tag{1}$$

The normalization formula for an infinite interval is:

$$v' = \frac{1}{1+e^{-v}} \tag{2}$$

Where V is the result of the operation of the machine learning algorithm in the last self-learning process, and V' is the result of the normalization process.

3. Result Analysis and Discussion

The author finds out that the problems existing in the current English teaching in colleges and universities in China are mainly in the practical English teaching mode. Most colleges and universities follow the traditional teaching ideas and neglect the cultivation of practical skills and comprehensive abilities. English teaching is based on basic English and general English, which leads students not only to be interested in traditional English teaching, but also to improve their practicality [4]. On the other hand, English teaching still pays attention to teaching basic skills such as “listening, speaking, reading and writing”, diluting the development and construction of flipping classrooms, lacking the cognition and attention to flipping classroom teaching, and training the ability to turn classroom teachers more. Speaking [5]. In addition, the author learned through the query data: Most college English teaching models do not involve the teaching model aimed at strengthening the practicality of English and cultivating students' comprehensive ability. Therefore, it is difficult to achieve a very effective improvement [6]. Therefore, from the perspective of English teaching mode, according to the students' English learning characteristics, interest in learning and the practicability of English courses, an efficient and interesting English teaching system is realized through the "flip classroom" teaching mode based on intelligent algorithm [7]. The characteristic teaching of students and the improvement of students' comprehensive ability have become an important research direction in the teaching process of higher education institutions in China.

3.1. Time-based construction of flipping classroom English teaching model based on machine learning algorithm

In order to better strengthen practical English teaching and improve college students' English comprehensive ability, we designed a "flip classroom" English teaching mode based on machine learning algorithm [8]. This teaching mode is based on improving students' comprehensive ability as the main training target. The basic realization process of the new teaching mode of English training and specific English teaching is shown in Figure 2. The purpose of this model is to create an innovative classroom where students and teachers interact effectively, and to achieve true teaching in accordance with their aptitude.

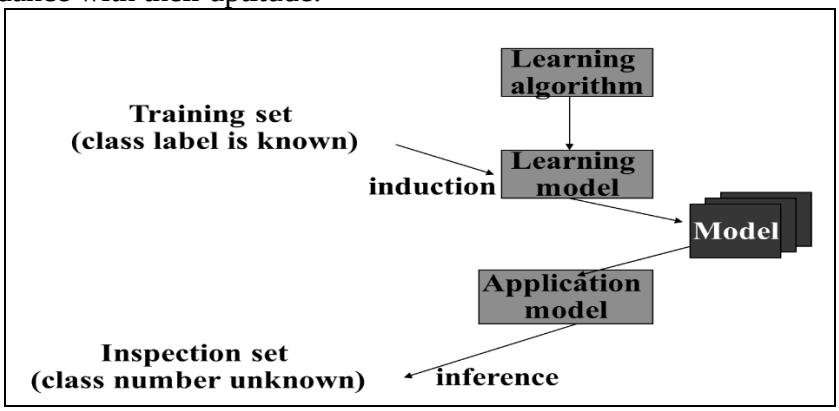

Fig.2. The basic realization principle of flipping classroom based on machine learning algorithm

In this study, when the flipping classroom mode is in the teaching process, the practicality of the English course will be analyzed first, followed by the feature information extraction [9]. Secondly, through the English learning information, English classroom assignments, English original listening, English writing performance methods and other information, to achieve an analysis of the English

learning behavior of students in the flip classroom. Therefore, each student is scientifically trained in specific English teaching, and each student's comprehensive ability is rapidly improved.

3.2. Practical English teaching effect under the flipping classroom mode

In order to better reflect the practical application of this research, we conducted a practical test for students in a certain university. In this study, two groups of students with different English proficiency levels were selected as subjects [10]. One of the students had an initial score of 61 in the final exam and the other had an initial score of 88 in the English final exam. The practicality of passing the test in the past year was 88. Teaching in English, I found that the two students have greatly improved their practical aspects and comprehensive ability in English. One from the English final exam score of 61 points to 78 points. Another student was upgraded from an English final exam of 88 to an English final exam with a score of 94. By observing the results of the practical English teaching training of the two groups of students, we can know that the English teaching mode of the flip classroom can effectively enhance the practical English teaching and improve the English comprehensive ability of college students.

In the evaluation of the teaching effect of the flip classroom in this study, we will use the English final exam score of 65 as the standard reference value. According to the test results, the average level of English in the first group of students is lower (0.61), and the average level of English in the second group is higher (0.87), which means that the flipping mode can be applied to College students with different levels of English. Next, we will carry out different inversion classroom English teaching training through the differentiated results, achieve high-precision teaching in accordance with their aptitude, further enhance students' interest in English learning and test scores, and improve the comprehensive ability of college students.

4. Conclusion

In order to better improve the English teaching effect of colleges and universities, strengthen practical English teaching and improve the comprehensive ability of college students. This paper proposes an English flip classroom teaching mode, which is based on machine learning algorithms. Next, through the comparative experiment of two students who have great gaps in the existing English level, and test the practical English teaching. The teaching effect of the model. The experimental results show that the English teaching mode can effectively improve the students' comprehensive ability. Therefore, this model can be applied to practical English teaching in current colleges and universities.

References

[1] Kong L F. Study on Teaching Mode of College English "Flip the Classroom" from the Perspective of MOOC. Journal of Jiamusi Vocational Institute, 2017:101-103.

[2] Liu Y S, Liu X L. Study on Application of Flip Classroom Method in Teaching of Specialized English for Chemistry and Chemical Engineering. Guangzhou Chemical Industry, 2017. 12(9):41.

[3] Li Y, Xu W, Guoquan Z. To Teach Professional English of Packaging Engineering Using Team Work and Flip Type Classroom. Guangdong Chemical Industry, 2016:1-3.

[4] Peng, Qian. Research on College English Teaching Mode based on Taskbased Teaching Method and Flip the Classroom Mode. 2016 (7):15-17.

[5] Wang X D. The Application Research of Flipped Classroom in University Teaching——A case study on professional English of Educational Technology. Modern Educational Technology, 2013:76-78.

[6] Huang Y N, Hong Z R. The effects of a flipped English classroom intervention on students' information and communication technology and English reading comprehension. Educational Technology Research & Development, 2016, 64(2):175-193.

[7] Hung H. Design-Based Research: Redesign of an English Language Course Using a Flipped Classroom Approach. Tesol Quarterly, 2017, 51(1):180-192.

[8] Leis A, Tohei A A, Cooke S. The Effects of Flipped Classrooms on English Composition Writing in an EFL Environment. International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 2015, 5(4):37-51.

[9] Finardi K R. English distance learning: possibilities and limitations of MEO for the Flipped Classroom Aprendendo Inglês à distância: possibilidades e limitações do MEO para a Sala de Aula Invertida. Revista Brasileira De Lingã¼ã-stica Aplicada, 2016, 16(2):181-208.

[10] Liu D. The Reform and Innovation of English Course: A Coherent Whole of MOOC, Flipped Classroom and ESP. Procedia - Social and Behavioral Sciences, 2016, 232:280-286.