

Exploration of Artificial Intelligence Driven Strategies for College English Vocabulary Learning in the Context of Big Data Era

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Abstract: At present, the rapid development of artificial intelligence technology in China has not only improved the quality of life of the whole nation, but also enriched the teaching methods in the field of education. Therefore, college English teachers need to actively carry out information-based classroom teaching models. When teaching students English vocabulary, they need to integrate more information-based teaching content. Teachers integrate rich teaching resources such as pictures and videos to improve students' understanding of vocabulary knowledge, cultivate students' interest in learning English vocabulary, and fully mobilize students' visual memory ability. They help students organize their own vocabulary knowledge structure, improve their overall vocabulary memory effect, and enable students to master efficient learning skills for college English vocabulary. The teachers can also use artificial intelligence technology to build a unified and harmonious teaching mode both online and offline, improve students' self-learning ability outside of class, and cultivate students' awareness of independent and efficient learning.

Keywords: big data era, artificial intelligence, college English, vocabulary learning strategies

Introduction

For English learning, vocabulary is the foundation of the English language and one of the most intuitive and effective carriers of language expression and cultural knowledge. Students' learning of English vocabulary will directly affect their learning effectiveness in English.^[1] If students' vocabulary is insufficient, it will be difficult for them to understand sentences, and there will be deviations in their understanding of reading materials, which will affect their overall English learning. Currently, many university students lack vocabulary and even exhibit a negative attitude towards vocabulary learning due to their failure to master the correct learning methods and strategies, making it difficult for them to effectively learn English vocabulary. Moreover, students find it difficult to concentrate during vocabulary learning, with mechanical memory dominating. They also did not do a good job of vocabulary review, resulting in difficulties in memorizing words and easy forgetting of words. Therefore, teachers should attach importance to the guidance of artificial intelligence technology on students' vocabulary learning, enabling them to master the correct learning methods and develop good learning habits.

1. Problems in college English vocabulary learning

1.1 Students' inability to concentrate

At present, there are many problems in the process of learning English vocabulary, which affect the efficiency of students' English vocabulary learning. Firstly, students find it difficult to concentrate during the process of learning English

vocabulary, resulting in a relatively low efficiency of their English vocabulary learning. For students, attention is an important psychological activity in the process of students' learning. Only by effectively concentrating can students effectively carry out learning and complete learning tasks. In college English vocabulary teaching, students usually listen to the teacher's explanation and recite words autonomously. However, due to the tedious process of learning English vocabulary, students are easily distracted and lose focus while listening to the teacher's explanations in class. Moreover, when students independently memorize words, they lack the correct learning methods and understanding of English vocabulary knowledge, which makes it very easy for them to get distracted and encounter significant difficulties in the process of learning English vocabulary.^[2] In addition, college students lack self-discipline, and due to low interest in learning, their enthusiasm for learning English vocabulary is not high, which can affect their attention span and the effectiveness of English vocabulary learning.

1.2 The dominance of mechanical memory

Many college students do not find the correct way to memorize English vocabulary when they are learning English vocabulary. Most of them focus on mechanical memory, which makes it difficult for students to memorize English vocabulary and easy to forget. Many college students use the method of mechanical memory when memorizing English vocabulary, mainly because their language expression, understanding and application ability are relatively low, and they lack a comprehensive understanding of the basic knowledge of English. When reciting English words, they can't find 'reference', and can't even understand the meaning and usage of words. When reading words, they can't pronounce correctly^[3]. Simply relying on students' rote memorization to memorize English vocabulary, the process of students' memory of English vocabulary can be said to be very 'painful', and this way of memory is mostly instantaneous memory, which is difficult to last for a long time. After a few days, students may forget more than half of the words. The way of mechanical memory is not a good method for students' English vocabulary learning, but also affects the development of students' thinking. The long-term use of mechanical memory will cause the rigidity of students' thinking and affect the formation of students' 'good learning habits'^[4].

2. Artificial intelligence driven strategies for college English vocabulary learning in the context of the big data era

2.1 Utilizing contextual memory to improve vocabulary learning efficiency

The biggest obstacle to English teaching is the lack of context. Whether it is English reading teaching or listening teaching, the lack of context seriously restricts the teaching efficiency^[5], and vocabulary teaching is no exception. Context is the most important factor for students to learn English well. Therefore, the creation of English context has always been a method for the majority of English teachers to explore and innovate. In vocabulary teaching, I also tried the context teaching method. Teachers provide students with an interesting and vivid context, and integrate vocabulary into the context, so that vocabulary no longer exists in isolation and allows students to understand more deeply. The most commonly used context is the life oriented context. For example, in the teaching of the word "aim", we can create the following context : "He aimed at bird but missed". "In saying this, I am not aiming at you". The teacher guides students to analyze two contexts, making them understand that words in different contexts express different meanings, and also uses different contexts to help students grasp the different meanings of the same word. For example, in the teaching of "put off", the teacher can set up the famous aphorism 'Never put off what you can do today until tomorrow', so that students can accurately grasp the meaning of 'put off'. In addition, we can also guide students to use causality, logical order and comparative analysis in the context to derive the true meaning of vocabulary so that students can master more vocabulary learning methods and improve their reading comprehension ability.

2.2 Using artificial intelligence technology to reduce the difficulty of vocabulary memory

Vocabulary learning is the basis of English learning, and it is also the focus and difficulty of English learning. In the traditional English classroom, English vocabulary learning is inseparable from auxiliary tools. Students use dictionaries and cassette tapes to memorize vocabulary. However, due to the complex composition of words and the lack of logical

thinking, students' memory of vocabulary is not solid enough, and it is difficult for them to find good vocabulary learning skills. And the use of artificial intelligence technology to mine a variety of learning materials and starting online vocabulary training in listening, speaking and reading can help students understand the scope of vocabulary meanings, and deepen the perception, understanding and application of vocabulary knowledge through linguistic output to enhance the effect of English vocabulary learning. For example, using online apps, teachers can mine words and phrases related to "bag", show students related vocabulary such as "a plastic bag", "pack a bag", "bag", and demonstrate the communication scenarios of vocabulary applications. Students can also deepen their understanding of vocabulary and complete the memorization of new words through online role-playing and sentence creation. Teachers can also use the testing function on the platform to detect and review vocabulary. For words that cannot be remembered, they can also be included in the collection for repeated training, thereby consolidating students' learning effectiveness. Learning English vocabulary is dull and tedious, and teaching English vocabulary is no exception. Therefore, teachers can effectively regulate the atmosphere of English learning, stimulate students' interest in learning, and improve their enthusiasm for English learning by utilizing various teaching related tours in the Ningjiao Cloud platform during vocabulary memorization, allowing students to actively memorize vocabulary in activities. For example, when learning past tense, you can use the game Lianliankan to connect the original form and past tense of verbs together, allowing students to learn English vocabulary while playing the game. This not only stimulates students' interest but also helps them learn vocabulary. These can help students understand the changes in common phrase expression forms, accumulate vocabulary expression methods, quickly expand their vocabulary, reduce the difficulty of memorizing words in the brain, and enhance their confidence in vocabulary learning.

2.3 Optimizing English classroom teaching design and improving memory effect

College English teachers need to attach great importance to students' performance in classroom learning. By optimizing the traditional teaching mode of college English vocabulary, they should focus on teaching students efficient methods of vocabulary memory. This not only effectively improves students' willingness to actively explore knowledge, but also guides them to actively complete designated vocabulary memory teaching tasks outside of class.^[7] At the same time, teachers also need to combine the cognitive development characteristics of university students and their interest in learning specific thematic vocabulary, actively adopt information technology teaching methods, and utilize students' rich visual memory abilities to integrate vocabulary with pictures or videos. It can not only stimulate students' interest in deep learning of vocabulary knowledge, but also make the originally boring vocabulary memory vivid and interesting. At the same time, teachers also need to constantly review and consolidate vocabulary knowledge, improve students' memory effect of English vocabulary, and establish a good English vocabulary teaching environment^[6]. For example, when the teacher is teaching content of "Wildlife Protection", the teaching objective of this lesson is to discuss the protection of endangered wildlife. At this point, teachers need to guide students to understand the deteriorating living environment of wild animals and the fundamental reasons why they are disappearing from the earth at an alarming rate in order to understand the direct relationship between human inappropriate consumption and their disappearance. Teachers can also actively optimize the traditional English classroom teaching mode, improve students' collection of details and sort out the logical relationships in the article, thereby cultivating students' ability to process information. Then the teacher can guide students to judge the part of speech of English vocabulary based on the real teaching context, and choose the best meaning of the word^[8]. These can effectively improve students' rigorous and accurate learning thinking in the process of English word learning, and guide them to combine their knowledge reserves of vocabulary to accurately translate the meanings of key words in sentences.

3. Conclusion

The awkward situation of AI driven college English vocabulary teaching in the context of big data era seriously affects students' English learning, subsequent exploration, and individual development, thus becoming an urgent practical problem to be solved.

This requires teachers to consciously explore the scientific expansion path of English vocabulary teaching, strive to

solve existing teaching problems and carry out curriculum reform with high-quality and efficient teaching methods. They also need to construct a high-quality, active and efficient growth environment for students, help them find effective ways to scientifically carry out vocabulary learning, and thus master more English vocabulary, and consolidate their English knowledge foundation. Teachers should take a sense of career and responsibility as their teaching motivation, and use innovative ideas of the times as scientific guidance. In the process of college English vocabulary teaching, they should consciously implement phonetic teaching, electronic teaching, scaffolding teaching, and discussion teaching, vigorously optimize English vocabulary teaching, help students scientifically and efficiently master more English vocabulary, and assist them in learning progress, ability improvement, quality development, and dream realization.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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