

# Practice and Research on College English Teaching from an Interdisciplinary Perspective

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**Abstract:** *With the deepening of globalization, English, as the main language of international communication, is no longer limited to the teaching of language knowledge, but pays more attention to the cultivation of comprehensive application ability from an interdisciplinary perspective. This paper aims to explore the practice and research of college English teaching from an interdisciplinary perspective. By analyzing the current status and shortcomings of college English teaching, combined with multidisciplinary perspectives such as philosophy, culture, and politics, this paper proposes strategies and methods to improve college English teaching. Through practical teaching and case analysis, this paper verifies the effectiveness of college English teaching from an interdisciplinary perspective and looks forward to its future development direction.*

**Keywords:** Interdisciplinary Perspective, College English Teaching, Practical Teaching, Advanced Mathematics Perspective.

## 1. Introduction

In the context of globalization, English has become the main language of international communication. Traditional college English teaching mainly focuses on the teaching of language knowledge, such as grammar, vocabulary, and the cultivation of listening, speaking, reading and writing skills. However, with the rapid development of society and the increase in international communication, simply mastering language skills can no longer meet the needs of today's society. Therefore, college English teaching from an interdisciplinary perspective is particularly important.

College English teaching from an interdisciplinary perspective not only focuses on the cultivation of language skills, but also emphasizes the integration of multidisciplinary knowledge such as philosophy, culture, and politics with English teaching to cultivate students' comprehensive application ability. This paper will explore the practice and research of college English teaching from an interdisciplinary perspective, in order to provide a reference for the reform of college English teaching.

## 2. The Current Situation and Deficiencies of College English Teaching

### 2.1 Current Situation

At present, college English teaching has made certain achievements in curriculum setting, teaching methods and evaluation system. In terms of curriculum setting, college English courses usually include comprehensive English, listening, speaking, reading, writing and other modules, aiming to comprehensively improve students' language skills. In terms of teaching methods, teachers generally use multimedia teaching, task-based teaching, cooperative learning and other teaching methods to stimulate students' learning interest and enthusiasm. In terms of evaluation system, college English examinations usually use a combination of formative evaluation and summative evaluation to comprehensively evaluate students' language ability and learning effects.

### 2.2 Insufficient

Although college English teaching has achieved certain results, there are still some shortcomings. First, the curriculum is too focused on the teaching of language knowledge and ignores the integration of interdisciplinary knowledge. Second, the teaching method is too single and lacks innovation and pertinence. Finally, the evaluation system is too focused on test scores and ignores the evaluation of students' comprehensive application ability.

## 3. College English Teaching Practice from an Interdisciplinary Perspective

College English Teaching from the Perspective of Advanced Mathematics

As globalization deepens, the importance of English as an international common language is self-evident. However, traditional college English teaching often focuses on language skills training, such as vocabulary accumulation, grammar mastery, and the improvement of listening, speaking, reading and writing skills, while neglecting the integration and penetration of other subject knowledge. With the continuous advancement of educational concepts, interdisciplinary teaching has gradually become a hot topic in the field of education, and college English teaching from the perspective of advanced mathematics is an important exploration under this trend.

The core of college English teaching from the perspective of higher mathematics is to integrate the thinking mode and methods of higher mathematics into English teaching, so as to improve students' logical thinking and problem-solving ability. Higher mathematics is not only a subject, but also a way of thinking, which emphasizes logical rigor, reasoning accuracy and innovative problem solving. Introducing the concepts and methods of higher mathematics into English teaching aims to break the limitations of traditional English teaching, broaden students' knowledge horizons and cultivate their comprehensive qualities.

In the process of teaching English, teachers began to skillfully introduce concepts and methods of higher mathematics. For example, when explaining English scientific literature, teachers will guide students to use logical reasoning and data analysis methods to deeply understand the experimental data and research conclusions in the text. This teaching method not only helps students improve their reading comprehension ability, but also allows them to learn how to extract key information from complex data and conduct scientific analysis and judgment. At the same time, when explaining English debates and speeches, teachers will use logical argumentation techniques in mathematics to help students construct more rigorous and powerful arguments. By training students' logical thinking and expression skills, they can more confidently express their views in debates and speeches, and win the recognition and respect of the audience.

College English teaching from the perspective of higher mathematics also focuses on cultivating students' interdisciplinary literacy. Interdisciplinary literacy refers to the ability of students to learn, research and innovate across disciplines on the basis of mastering the knowledge of their own disciplines. In the combined teaching of higher mathematics and English, students must not only master the basic language skills of English, but also learn to use mathematical thinking to analyze and solve problems. This interdisciplinary teaching method not only enriches the connotation of English teaching, but also provides students with a more diversified learning experience. Through interdisciplinary learning, students can better understand the connections and differences between different disciplines and cultivate their innovative thinking and critical thinking skills.

In addition, college English teaching from the perspective of higher mathematics also promotes the close connection and mutual promotion between mathematics and language learning. Mathematics and language are two major tools of human thinking, and they play their own unique roles in different fields. However, in practical applications, mathematics and language are often intertwined and interpenetrated. For example, in the fields of economics, computer science, biology, etc., mathematical language and English language are both indispensable tools. Through college English teaching from the perspective of higher mathematics, students can better understand and use these tools and improve their comprehensive quality and competitiveness.

In college English teaching from the perspective of higher mathematics, teachers also focus on cultivating students' autonomous learning ability and teamwork spirit. Autonomous learning ability refers to the ability of students to actively acquire knowledge, solve problems and conduct self-evaluation in the learning process. In the combined teaching of higher mathematics and English, teachers need to guide students to learn how to autonomously learn relevant knowledge of higher mathematics, how to apply it to English learning, and how to evaluate their learning outcomes. At the same time, teamwork spirit is also one of the important requirements for talents in modern society. In interdisciplinary teaching, students need to collaborate with each other and complete tasks together, which not only improves their learning efficiency, but also cultivates their

team awareness and communication skills.

In summary, college English teaching from the perspective of higher mathematics is an innovative and challenging teaching model. By integrating the thinking methods and tools of higher mathematics into English teaching, teachers can improve students' logical thinking and problem-solving abilities, and cultivate their interdisciplinary literacy and autonomous learning abilities. At the same time, this teaching method also promotes the close connection and mutual promotion between mathematics and language learning, providing strong support for students' all-round development.

#### **4. College English Teaching Strategies from an Interdisciplinary Perspective**

##### **4.1 Integrating Interdisciplinary Knowledge**

College English teaching from an interdisciplinary perspective should focus on integrating interdisciplinary knowledge and combining philosophy, culture, politics and other multidisciplinary knowledge with English teaching. By introducing knowledge and methods from related disciplines, teachers can enrich teaching content, broaden students' knowledge horizons, and cultivate students' comprehensive application capabilities. For example, when explaining English literary works, teachers can conduct in-depth analysis of the works in combination with philosophical thoughts; when explaining the cultural customs of English-speaking countries, teachers can conduct cultural comparisons in combination with historical and political backgrounds.

##### **4.2 Innovative Teaching Methods**

College English teaching from an interdisciplinary perspective should focus on innovative teaching methods, adopt diverse teaching methods and strategies, and stimulate students' interest and enthusiasm in learning. For example, teachers can adopt teaching methods such as project-based learning, cooperative learning, and flipped classrooms to guide students to actively participate in learning and cultivate students' independent learning ability and cooperative spirit. At the same time, teachers can also use modern technology means, such as multimedia teaching and online learning platforms, to enrich teaching resources and improve teaching effectiveness.

##### **4.3 Improve the Evaluation System**

College English teaching from an interdisciplinary perspective should focus on improving the evaluation system, establishing a diversified evaluation mechanism, and comprehensively evaluating students' language ability and comprehensive application ability. The evaluation system should include a combination of formative evaluation and summative evaluation, focusing on monitoring and evaluating the students' learning process. At the same time, the evaluation system should also include the evaluation of students' cross-cultural communication ability, critical thinking ability, political literacy, etc., to fully reflect the students' comprehensive quality and ability level.

## 5. Case Analysis of College English Teaching from an Interdisciplinary Perspective

### 5.1 Case 1: Application of Advanced Mathematics in English Teaching

In an innovative college English teaching case, the teacher skillfully integrated advanced mathematics into English teaching. This approach aims to improve students' logical and abstract thinking abilities, while enhancing their understanding of complex grammatical structures and logical relationships in the English subject. By introducing mathematical formulas, logical reasoning, and data analysis, the teacher designed a series of mathematical activities related to English teaching. These activities not only helped students consolidate their mathematical knowledge, but also made them more comfortable in English learning and able to understand and use complex English sentences and paragraphs more accurately.

### 5.2 Case 2: Application of Flipped Classroom in English Teaching

In a university English course, the teacher adopted the teaching method of flipped classroom. Before class, the teacher uploaded relevant teaching materials and videos to the online learning platform for students to learn independently. In class, the teacher mainly answered questions and held group discussions. Through flipped classroom, students can preview and think about the knowledge they have learned before class, and pay more attention to interaction and discussion in class, which improves learning effect and teaching quality. At the same time, flipped classroom also cultivates students' autonomous learning ability and independent thinking ability.

### 5.3 Case 3: Practice of Cultivating Cross-cultural Communication Skills

In a university English course, teachers focus on cultivating students' cross-cultural communication skills. By introducing cultural knowledge and cultural comparison, teachers help students understand language usage habits and communication methods in different cultural backgrounds. At the same time, teachers also organize students to participate in cross-cultural communication practice activities, such as simulated international conferences and international business negotiations. Through practical activities, students not only improve their language skills, but also cultivate cross-cultural communication skills, communication skills and adaptability.

## 6. Prospects for College English Teaching from an Interdisciplinary Perspective

### 6.1 Strengthening Interdisciplinary Knowledge Integration

In the future, college English teaching from an interdisciplinary perspective should further strengthen the integration of interdisciplinary knowledge. Teachers should focus on combining multidisciplinary knowledge such as philosophy, culture, and politics with English teaching, and

enrich teaching content and teaching methods. At the same time, teachers should also pay attention to the latest developments in the discipline and the latest research results, and constantly update teaching content and teaching methods to meet the needs of social development.

### 6.2 Innovative Teaching Models and Methods

In the future, college English teaching from an interdisciplinary perspective should continue to innovate teaching models and methods. Teachers should focus on using a variety of teaching methods and strategies to stimulate students' interest and enthusiasm in learning. For example, teachers can use teaching methods such as project-based learning, cooperative learning, and flipped classrooms to guide students to actively participate in learning and cultivate students' independent learning ability and cooperative spirit. At the same time, teachers can also use modern technology means, such as multimedia teaching and online learning platforms, to enrich teaching resources and improve teaching effectiveness.

### 6.3 Improve the Evaluation System and Mechanism

In the future, the evaluation system and mechanism of college English teaching from an interdisciplinary perspective should be further improved. The evaluation system should include a combination of formative and summative evaluation, focusing on monitoring and evaluating the students' learning process. At the same time, the evaluation system should also include the evaluation of students' cross-cultural communication skills, critical thinking skills, political literacy, etc., to fully reflect the students' comprehensive quality and ability level. In addition, a diversified evaluation mechanism should be established, such as student self-evaluation, mutual evaluation, teacher evaluation, etc., to comprehensively evaluate the students' learning effect and quality.

## 7. Conclusion

College English teaching from an interdisciplinary perspective is one of the important directions of the current college English teaching reform. By integrating interdisciplinary knowledge, innovating teaching methods and improving the evaluation system, students' comprehensive application ability can be cultivated and their comprehensive quality and competitiveness can be improved. This paper analyzes the current status and shortcomings of college English teaching, and proposes strategies and methods to improve college English teaching from a multidisciplinary perspective such as philosophy, culture, and politics. Through practical teaching and case analysis, the effectiveness of college English teaching from an interdisciplinary perspective is verified. In the future, with the continuous development of society and the increase in international exchanges, college English teaching from an interdisciplinary perspective will play a more important role.

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