Research on the Multi Interactive Teaching Mode of College English Under the Information Technology Environment

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Abstract

With the rapid development of information technology, traditional College English teaching can no longer meet the needs of individualized and interactive learning. Many current models still rely on teacher-centered instruction and lack flexibility in promoting students' initiative. This study aims to explore a multi-interactive teaching mode for English for Specific Purposes in a network environment. Based on constructivist learning theory and the goal-level theory of English learning, the model integrates classroom teaching, online self-learning, and multiple forms of evaluation. It emphasizes interaction among teachers, students, and digital resources to build an open and student-centered learning system. The findings show that this approach helps students set higher learning goals, improves learning motivation and efficiency, and enhances cooperation and participation. The study suggests that information technology can effectively support the reform of College English teaching, promote students' independent learning ability, and create a sustainable environment for personalized and interactive education in higher institutions.

1. Introduction

In recent years, the rapid development of information technology has brought new opportunities and challenges to College English teaching. The promotion of English for Specific Purposes (ESP) course construction within a network environment constitutes a primary issue that merits meticulous consideration (Liu et al., 2024). Drawing upon constructivist learning theory and the concept of interactive teaching, this study explores ways to enhance the effectiveness of ESP teaching in the network environment. The programme places emphasis on a variety of pedagogical approaches, including classroom instruction, self-directed learning post-class, and the assessment of learning outcomes. Additionally, it supports the creation of educational resources to facilitate the teaching of English for specific purposes. Network-based learning aligns with the core ideas of constructivism, providing students with an autonomous and open learning environment. In this setting, the conventional 'lecture-based' approach, predicated upon a didactic model, is supplanted by a student-centred and praxis-oriented paradigm. Autonomous online English learning has been identified as a highly effective solution to the contradiction between the needs of the modern era and the current limitations of English teaching. It has been demonstrated to meet the demands of new educational paradigms, encourage stu-

dents' active participation, promote innovation in learning methods and processes, and serve as an important extension of classroom instruction for realizing personalized learning (Bahari & Gholami, 2023).

The reform of English teaching in higher education has evolved from a practical exploration of pedagogical methods to a theoretical level (Li et al., 2022). This progress has led to the proposal of a multi-dimensional interactive teaching mode for College English. The present paper introduces the Theory of English Learning Objective Hierarchies, a framework designed to assist students in establishing clearer and higher learning objectives, and to enhance teachers' ability to stimulate students' interest and intrinsic motivation. The Theory of English Learning Objective Hierarchies divides English learning goals into three ascending levels. Action research is a pedagogical approach that encourages students to progress from lower-level objectives to higher-level goals, ultimately achieving the highest level of self-realization. Moreover, this study proposes the Grid Theory of College English Teaching Modes, which maps various existing models into a "College English Teaching Mode Grid." This proposal is based on a comprehensive analysis of existing college English teaching models in China. This framework illustrates the ideal state of a multi-dimensional and interactive College English teaching model in the information technology era.

Previous studies have mainly focused on online or blended English teaching but have often treated technology as a tool rather than as part of a complete learning system. In practice, many College English classes still rely on one-way teacher explanations, which limits students' engagement and creativity. To address this problem, this study aims to construct a multi-interactive teaching mode for College English under the information technology environment. The goal is to improve students' motivation, participation, and learning effectiveness through multiple forms of interaction, including teacher–student, student–student, and student–computer communication.

2. Significance of the Study

Research in practice, accelerate the transformation of scientific research results in teaching practice. When it comes to research, the first thing to think about is experimental research, which fully embodies the scientific spirit and is the most objective. However, this research method from natural science has obvious shortcomings in the research of humanities. Language teaching itself is a multi factor interactive process. In fact, in the teaching process, it is impossible to completely control all kinds of complex factors or simulate the laboratory conditions to complete the whole teaching process (Burns, 2019). This complexity makes it difficult to describe the relationship between teaching process and result with concrete and clear causality. In addition, in the field of foreign language teaching, various teaching thoughts, theoretical schools and teaching methods emerge one after another.

In the teaching practice, we also feel that many research papers and achievements on second language learning or foreign language teaching are out of touch with the teaching practice, or it is difficult to provide ready-made answers to specific problems in our daily teaching, and can not solve the problems encountered by teachers in daily teaching. This phenomenon has been recognized by many applied linguists and educators. Therefore, in order to effectively improve the quality of education in foreign language teaching, it is also necessary to train teachers in applied linguistics research methods, encourage teachers to summarize their own methods by analyzing, thinking, exploring and summarizing the actual teaching situation, and finally put the methods summarized in practice back into teaching practice to guide teaching

practice (Consoli, 2021). Only in this way can we solve the problems in our teaching directly and effectively. Moreover, it is increasingly recognized that it is more and more important to encourage teachers to use non experimental research methods to study the teaching process and results in foreign language teaching research.

3. The Cultivation of Learning Ability under the Network Teaching Mode

3.1 The characteristics of network teaching

The traditional teaching mode does not fully consider the differences of students, even if teachers consider the actual needs of students in classroom teaching. The unified teaching mode determines that teaching can only be arranged according to the level and requirements of most students. It is very likely that some students who have spare energy can not eat enough and some students with poor foundation can not keep up with it. The new model only stipulates the basic learning tasks. When students encounter difficulties in learning, they can seek help from teachers or graduate assistants at any time. Teachers can carry out personalized teaching according to the problems raised by students in learning (Walkington & Bernacki, 2020).

3.2 Application of the goal level theory of English learning for college students

In order to encourage students to develop towards a higher goal level, teachers should first fully understand the level of students' English learning objectives and objectively analyze the current position of students in English learning objectives. Among them, teachers should help students to achieve their basic learning goals through a variety of learning objectives. For students with social needs, teachers should give full play to the role of organizers and instructors, help students set up the second classroom English learning, and actively participate in the guidance. For students with high-level goals, teachers should encourage and praise their good performance in time, so as to meet their respect goals. After the students achieve the existing goals, teachers should help students to establish a higher level of goals. This goal should not only be higher than the original goal, but also not unattainable. If the goal is set too low, it is not conducive to the development of students' potential, affecting the students' initiative. On the contrary, if the goal is set too high, the students and teachers will be frustrated and even frustrated, which will affect students' interest in learning. Harmonious teacher-student relationship is very important in helping students set learning goals scientifically. Teachers need to pay attention to strengthen the emotional communication with students. They should be both teachers and beneficial friends of students (Yu, 2023).

4. Theoretical Foundation of the Multi-Interactive Teaching Mode

4.1 Constructivist learning theory

Constructivist learning theory is comprised of two aspects: the meaning of learning and the method of learning. In relation to the notion of "the meaning of learning", the theory posits that the acquisition of knowledge by learners does not occur in a passive manner through simple stimulus-response mechanisms. Rather, it is achieved through the construction of meaning, which is facilitated by interpersonal cooperation activities and the utilisation of necessary learning resources in specific circumstances. With regard to the question of "learning methods", constructivist learning theory advocates a learner-centred approach to education, overseen by teachers. Firstly, it is important to note that learners cannot be considered passive recipients of external stimuli; rather, they should be regarded as cognitive subjects. They have

the capacity to actively process external information and construct knowledge meaning. Secondly, the role of the teacher has evolved from that of the mere transmitter of knowledge to that of the facilitator and promoter of students' construction of meaning (Gao & Xu, 2023).

4.2 Goal level theory of college English learning

According to the hierarchy theory of College English learning objectives, college students' English learning goals and needs can be divided into four levels: (1) minimum goal: Safety/ examination goal level; (2) general goal: social goal level; (3) higher goal: respect goal level; (4) highest goal: self realization goal level (Meşe & Sevilen, 2021). Figure 1 illustrates the overall hierarchy of these English learning goals.
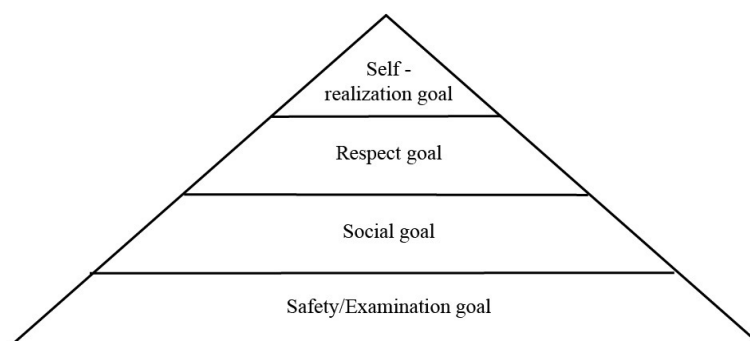

Figure 1 A map of the goal level of English learning for college students

The safety goal in college students' English learning corresponds to their instrumental motivation, which belongs to the lowest level of English learning and is also the lowest goal of many college students' English learning. The third chapter constructs the theoretical basis of the multi-dimensional interactive teaching mode of College English. As a major course, College English has a direct relationship with students' examination and graduation. If the exam fails, students will face the threat of not graduating. In addition, in recent years, the recognition of CET-4 certificate in the society also forces students to learn English for the sake of employment safety. In a large number of interviews with students in this study, many students reported that they lacked motivation to practice oral English. This phenomenon has something to do with the absence of oral test in all kinds of academic examinations and CET-4. This fully exposes a common phenomenon: at present, the only motivation for many college students to learn English is to be able to safely pass the academic examination and band 4 examination, and to graduate safely for employment. In other words, "being able to pass the English test" has become the basic goal of many college students' English learning. For these students, once the goal is achieved or the goal is broken, they will lose their interest and motivation in learning. In fact, the phenomenon that many college students' English learning objectives are still at the lowest level has become the main factor hindering College English teaching, especially oral English teaching.

5. Model Construction of the Multi-interactive Teaching Mode

In this study, the design idea of multi-element interactive teaching mode of ESP in the network environment is to establish a course teaching mode based on the network, with text, pictures, audio and video as the main interactive media, and the network teaching platform, e-mail and online chat tools as the main interactive mode. In the whole teaching process, the learning environment is designed by using the elements of situational creation, collaborative learning and conversation communication, and a classroom teaching mode of "learner centered and teacher

led" is established. At the same time, through the analysis of learners' background knowledge, language level and cognitive level, a learning resource database can meet the needs of different levels of learners. And through setting specific "tasks" based on a specific discipline, teachers can establish after-school autonomous learning under the guidance of teachers, and encourage learners to complete tasks through the cooperation of teachers and students, students and students.

Based on the concept of ESP course construction, the author constructs a multi interactive teaching mode under the network environment. It is defined as: under the guidance of constructivism learning theory and interactive teaching concept, relying on computer network technology, to improve the two-dimensional structure of learners' emotion and cognition. Taking the specific "task" as the starting point, the multi interactive teaching mode of "classroom teaching + after class autonomy + interactive learning + multiple evaluation" is established, which is "learner centered and teacher led". In this model, learners are the active constructors of language knowledge and the meaning of subject knowledge; teachers are the organizers, guides and promoters of learning activities, and use appropriate teaching strategies to help students complete the self construction of knowledge. The specific "task" is the starting point. Through the design and implementation of specific tasks, learners not only complete the perfect combination of subject knowledge and language comprehensive application ability (cognitive goal), but also improve the ability of autonomous learning, cooperation and knowledge inquiry (emotional goal).

Multimedia network is not only a tool for situation creation and knowledge transfer, but also a medium for multiple interaction and cooperation between teachers, students and students inside and outside class. It is also a cognitive tool to assist learners to complete autonomous learning and collaborative exploration. The rich network resource database is the main learning content of learners and an important guarantee for students to realize knowledge self construction. It is a beneficial attempt for College English teaching reform to make up for the defects of traditional English teaching and greatly improve the teaching efficiency and quality by using the network assisted autonomous teaching of College English, combining the principles of foreign language teaching with modern educational technology. Although the new teaching mode has many advantages, but in the process of implementation, due to the influence of teachers and students and objective environmental factors, there are some problems that can not be ignored.

First of all, teachers and students have different recognition of College English teaching reform, and the actual operation ability of computer and network is uneven, which will bring a lot of problems to teaching. Therefore, in order to confirm that computer and network assisted college English teaching is the future development direction, teachers and students should change their ideas and apply computer and network technology to teaching practice. Secondly, in the process of using network to teach college English independently, although students are allowed to set their own learning objectives, choose learning contents and design learning methods and strategies independently, they can not let themselves go. Teachers should follow the cognitive law of students, focus on students' autonomous learning, provide learning methods and learning resources that can be selected by students themselves, help and guide students at any time through the network, so as to make the autonomous interactive learning more reasonable. Through the cultivation of self-control ability, students will gradually obtain higher self-learning ability, and have the ability to reasonably allocate learning time, timely feedback learning effect, and properly adjust learning behavior. Thirdly, it is the objective environmental factors. Objective environment mainly refers to computer hardware configuration,

LAN network connection and multimedia learning courseware and other supporting facilities. The new mode has higher requirements for computers and networks. Although the school has arranged the best computer room for us to manage and maintain, due to the computer network failure and shortage of manpower from time to time, the normal teaching is also affected.

6. Conclusion

This study explores the construction and application of a multi-interactive teaching mode for College English in the information technology environment. Guided by constructivism and goal-level learning theory, the research designed a teaching model that integrates teacher–student, student–student, and human–computer interaction. Through classroom practice and reflection, the study shows that this model can create a more active, engaging, and student-centered learning atmosphere.

Taking "task" as the breakthrough point, this paper constructs the ESP learning environment from class to class, online to offline, and realizes the multiple interactive activities between teachers and students, students and computers, students and learning content. This not only changes the traditional teaching environment and means, but also changes the relationship between "teaching and learning" which takes teachers as the center and learners accept passively, and promotes the curriculum construction and reform to have a qualitative leap. The implementation of this model can effectively improve the problems in the current teaching. Based on the information technology environment, the research of College English multiple interactive teaching mode is an attempt in teaching ideas, teaching ideas and teaching methods. In the pilot teaching, this new mode has shown its advantages, which can greatly stimulate the enthusiasm and initiative of students, and lay a good foundation for the development of lifelong learning.

Looking at the current situation of foreign language teaching interactive teaching mode at home and abroad, most of them stay on the interactive relationship between teaching elements in the classroom (such as teacher-student interaction, student-student interaction, student-textbook interaction, etc.). In the few researches on the interaction between inside and outside the classroom (such as multimedia learning and campus culture), students' dormitories are ignored, and the interaction between teaching policy, teaching process and teaching effect is also ignored. After three rounds of teaching practice, this action research takes "interaction between classroom teaching and English Dormitory" as the core measure. By making use of the intimate relationship between the members of the dormitory and the convenient advantages of space and time, the action research makes students' Classroom English learning and dormitory English learning closely linked, and cooperates with a series of long-term interactive measures to make many elements in English teaching and teaching environment (Teng, 2021). For example, campus culture and teaching policy interact to form a kind of dormitory English and even campus English culture, so as to improve students' Comprehensive English ability in an all-round way, which is highly innovative.

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Conflicts of Interest

The author(s) declare no conflicts of interest regarding the publication of this paper.

Ethics Statement

Not applicable.

Reference

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