

# Study on the Self-Adaptive College English Learning Model Based on Information Technology

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**Abstract:** With the rapid development of information technology, learners' adaptation to the continuously updating learning models will directly affect their learning efficiency in today's open networks environment. Taking the self-adaptive learning model as the breakthrough point, this research will study the application of this model in the college English learning period and explore the application characteristics and deficiencies. The current study aims to work out some strategies to help college students gain the ability to plan for their study according to their own learning goals to take the initiative to adjust learning methods, explore the most suitable learning strategies for themselves, and lay the foundation for lifelong learning.

## 1. Introduction

With the rapid progress in information technology, college English learning can no longer be confined to the traditional learning model. It should adjust to new times, being guided towards the direction of diversification and openness. In China, cultivating learners' self-reliance and creativity in learning is a significant educational objective in this new era. The self-adaptive learning model can significantly accelerate the process of achieving this goal. It helps learners improve their adaptability and competitiveness during their college years, which is crucial if they want to get integrated into society as soon as possible after graduation. However, it seems that problems are inevitable in applying the self-adaptive college English learning model, thus calling our attention to educational management and students' self-management.

## 2. Literature Review

Self-adaptive learning is also known as an intelligent assistant or personalized learning, on which the academic community has not yet formed a unified understanding. In particular, the boundary between "personalized learning" and "adaptive learning" becomes vague if they are limited to the scope of "technology-enhanced learning" as they have been used as two interchangeable terms in many extant studies<sup>[1-3]</sup>.

Education is highly valued in countries worldwide, especially in America, where relatively more in-depth research on self-adaptive learning has been done. The 2016 National Education Technology Plan, Future Ready Learning: Reimagining the Role of Technology in Education, articulated a vision of equity, active use, and collaborative leadership to make everywhere, all-the-time learning possible. While acknowledging the continuing need to provide more significant equity of access to technology itself, the plan went further to call upon all involved in American education to ensure equity of access to transformational learning experiences enabled by technology.

The study of self-adaptive learning started late in China, and educational informatization has a long way to go. In the 13<sup>th</sup> Five-year Plan for Educational Informatization of the Ministry of Education, the construction of network education was highlighted to meet personalized learning

needs. As a result, online education continues to develop and begins to involve every aspect of our lives.

Researchers abroad and at home have studied self-adaptive learning systems and model construction from various perspectives, such as metacognition, learners' emotion, and learning environment, combining with a particular subject [7-10] and even considering learning approaches of the disabled [4]. Self-adaptive learning focuses on the individual involved to formulate personalized learning models, continuing to in-depth development. Researches on it will become increasingly mature, leading us into the era of "future learning".

However, there are only a few researches that focus on its application in college English learning when it comes to the self-adaptive learning model. Besides, there is a dearth of discussion on how to solve the problems in its application process.

### **3. Methodology**

#### **3.1 Research Questions**

This research is conducted to get an overall understanding of the current application status of the self-adaptive college English learning model, point out some problems existing in the application process, and provide some suggestions to address those problems. The following questions are formulated to guide the research:

- (a) What is the current application status of the self-adaptive college English learning model?
- (b) What are the problems arising in the application process of this model?
- (c) What efforts should be made in order to tackle those problems of using this model?

#### **3.2 Research Methods**

As suggested by several review studies [5-6], it is critical to review articles from high-quality data sources. Therefore, the China National Knowledge Infrastructure database and Web of Science database were selected as the data sources for this research as they are among the most reputable literature collections. To be specific, the query ("self-adaptive learning", "adaptive learning" or "personalized learning") was issued to the two databases. Then, the retrieval results were reordered by relevance. As "adaptive learning" is also a term in the machine learning area in computer science, the category, title, and abstract of each retrieval result in the top 50 rankings were carefully examined. At last, the remaining 36 articles and theses formed the final dataset for analysis.

### **4. Results & Discussion**

#### **4.1 Current Application Status Analysis**

The application of the self-adaptive college English learning model becomes increasingly extensive, mainly reflected in language training, educational evaluation and APP development.

##### **4.1.1 Introductory Courses**

The self-adaptive college English learning model is often applied in university introductory courses. These courses for first-year students mainly consist of rudiments of English. With a self-adaptive learning platform, newcomers can more effectively complete the transition from high school English courses learning to university English courses learning, making up for the knowledge reserves in the university curricula.

##### **4.1.2 Regular Courses**

This kind of self-adaptive learning platform stresses the positioning of teachers in college students' English learning process. College English teachers improve curriculum design standards according to the syllabus and their teaching style. While students are studying on the platform, the system will automatically record the dynamics of learning and provide real-time feedback to keep track of students' learning situations, understand the difficulties and problems they encounter in

course study, and then improve teaching.

#### **4.1.3 Extracurricular Tutoring**

Many college students choose to purchase online courses, seeking extracurricular tutoring. The aim may be to improve oral and written English, or more practically, obtain a worthy certificate as an advantage for their later job-hunting. This kind of application of the self-adaptive learning model is characterized by lecturing, laying stress on transmitting specific knowledge.

#### **4.1.4 Educational Evaluation**

Nowadays, as educational technology reform is deepening and learning models diversified, it would be too hasty to rely solely on test scores and questionnaires to judge the quality of education. So, for the agility and validity of the educational evaluation, colleges gradually draw their attention to students' self-adaptive learning ability. With the help of information technology in data collection and analysis, colleges try to reflect students' learning performance objectively and comprehensively through a self-adaptive learning platform.

#### **4.1.5 Software Development**

The popularity of the self-adaptive learning model has set off a wave of English learning software development. TED Talks, Seed, English fun dubbing, and others alike have become necessary APPs for college students. APP store covers English learning software of various types, such as dictionary type, game type, words reciting type, and textbook synchronous type.

### **4.2 Current Application Problems Analysis**

#### **4.2.1 Personality Cultivation Problem**

Almost all the self-adaptive learning products focus on knowledge teaching and lack attention to educating people. Educating people is a complex and systematic project that requires teachers to set examples with their moral behavior and personal charm, imperceptibly influencing students. Advanced technical means can never replace teachers' role of guiding students to foster morally sound outlooks and values in their personality shaping process.

#### **4.2.2 Learning Motivation Problem**

In a self-adaptive learning environment, some students are motivated by personal interests, making friends overseas, and getting experience in different cultures. However, more college students whose learning motivation lies in the hope of making themselves familiar with academic or vocational examination mode and passing exams like CET4 and TEM4. The latter will tend to choose examination-oriented exercise books, testing banks, analytical video, and things alike as learning material and strive to enhance exam-taking ability while ignoring the systematic mastery of English knowledge and the cultivation of comprehensive ability in using English.

#### **4.2.3 Teacher-Student Communication Problem**

In fact, just shifting from the elementary teaching model to the teaching environment of higher education, many college students remain the psychology of passive learning, waiting for teachers' meticulous arrangements of learning tasks. The lack of communication with teachers often gets them confused and overwhelmed and even doubts willpower and learning ability. Then teachers' appropriate guidance is needed to help them regain confidence and faith in learning.

#### **4.2.4 Information Technology Support Problem**

In the current college education system, except for specific curriculum requirements, students' access to the teaching equipment of advanced quality is minimal. As a result, many students resort to learning platforms out of school to obtain more resources, which goes beyond school monitoring and management, posing threats to students' information security. To make things worse, the equipment in some schools is obsolete, the concrete manifestation of which is that the campus network is often slow and lacks stability, and the online system of teaching management will

probably collapse at the critical moment. Besides, many students do not get enough guidance on using informational teaching aids. Consequently, apart from computer majors, few students from other disciplines can easily use these tools to assist self-adaptive learning.

### **4.3 Countermeasures from the Aspect of Educational Management**

#### **4.3.1 Optimizing Educational Management Platform**

Colleges should introduce innovative educational management platforms with automatic data processing to get timely and practical learning feedback. Compared with the traditional pattern of educational management, its most advantageous feature is the visualization of management. Education managers can supervise the allocation of education funds, the performance of teaching staff, and educational equipment. Meanwhile, the educational management can demonstrate the operation of the entire education system with accurate and reliable data, leaving an impression of scientific and transparent management, which induces trust and participation.

#### **4.3.2 Perfecting Education Supervision System**

Colleges must improve the quality of teaching resources and tools of online courses. Moreover, the self-adaptive learning platform should be equipped with a complete system, including orderly sharing of resources, rational arrangement of courses, accurate evaluation of processes, etc. This platform requires synergy and tacit cooperation among various departments of the educational management. While pursuing flexibility, the content of online courses must be strictly based on relevant data. Indeed, information security is also too serious a problem to be ignored. Besides, students' personal information must be carefully protected by an effective system and prudent management.

#### **4.3.3 Integrating Online Learning Resources**

Given the complexity and irregularity of online resources, colleges should also attach great importance to the standardization and diversification of teaching materials. In addition, innovations should be encouraged to promote educational reform. Comparatively speaking, e-learning platforms and mobile English-learning software running in the enterprise mode show more willingness to create or actively introduce new methods and tools boldly. Innovations like English film dubbing and online recording of daily recitation are the external nutrients that colleges can absorb.

#### **4.3.4 Promoting Benign Teacher-Student Interaction**

Self-adaptive college English learning is not entirely out of touch with teachers. College teachers with relatively better information literacy can select helpful information online and recommend appropriate and high-quality learning resources for students. Moreover, college teachers with information-based teaching can guide students to formulate individualized plans for autonomous learning and effectively use a self-adaptive learning platform. Objectively speaking, it is necessary to combine computer-aided self-adaptive learning mode with traditional teaching mode and promote benign teacher-student interaction.

### **4.4 Countermeasures from the Aspect of Self-Management**

#### **4.4.1 Enhancing Self-Management Consciousness**

On the one hand, students should make psychological preparation to jump out of the teaching model of elementary education into the much freer learning environment of higher education. On the other hand, they should learn to conduct self-analysis, knowing their interests and habits as well as strengths and weaknesses. Moreover, it is worth mentioning that learners should constantly search for motivation to forge ahead perseveringly.

#### **4.4.2 Cherishing Learning Partnership**

The reciprocal influence between study buddies is sometimes far more significant than the function of teachers, which makes learning partnership crucial. Before learning activities, study

buddies should discuss learning plans and doubts together. While carrying out tasks, study buddies should monitor each other and choose reasonable time nodes to give feedback. Furthermore, if necessary, study groups can be formed to regularly report on learning processes, discuss difficulties and solutions, and sum up learning outcomes.

#### 4.4.3 Meeting Technology Development Requirements

Under a self-adaptive college English learning environment, to make full use of information technology and make more extraordinary achievements in learning, students must master the basic skills of manipulating a computer and learn to use essential e-learning software and platform. In addition, college students should cultivate the ability to independently select appropriate learning resources according to their own learning needs and capacity.

### 5. Conclusion

In summary, educators and learners should work together to integrate the self-adaptive learning model into college English education. With its modernity and popularity, the self-adaptive college English learning model is worthy of sustained attention. With limited materials for reference, this research sometimes resorts to personal experience and social reality to conduct analysis, ruining objectivity and credibility. The self-adaptive college English learning model will continue to extend the application field, and more detailed exploration in greater depth is expected.

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