

Research on the Innovation of College English Autonomous Learning Models in the Digital Environment

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Abstract: Against the backdrop of digital technology thoroughly penetrating the field of education, autonomous learning in college English is now facing new opportunities and challenges. This paper focuses on the characteristics of the digital environment, analyzes the connotation of autonomous learning in college English, at the same time, in response to issues such as fragmented use of resources and insufficient autonomous learning ability. Therefore, this paper proposes two innovative strategies: constructing a hierarchical resource system and building an intelligent monitoring platform. The study aims to provide a theoretical reference for optimizing English teaching models in universities, contributes to improve students' autonomous English learning abilities and overall application skills, and holds significant practical value for promoting the reform of college English teaching and adapting to the development needs of digital education as well.

Keywords: digital environment; college English; autonomous learning; model innovation; intelligent monitoring

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Introduction

With the rapid development of technologies such as 5G and artificial intelligence, the digital transformation of education has become an inevitable trend, and the model of college English teaching is also facing opportunities for reconstruction. In traditional English teaching, students passively receive knowledge, making it difficult to stimulate their potential for independent learning. In contrast, a digital environment provides ubiquitous resources and intelligent support for autonomous learning. Although college students' English autonomous learning currently relies on digital resources, there are still many bottlenecks that restrict the improvement of learning quality. Therefore, in-depth exploration of the current status and issues of college students' autonomous English learning in a digital environment, as well as the innovation of suitable learning models, has become a key topic for improving the effectiveness of college English teaching.

1.Characteristics of a digital environment

The digital environment, supported primarily by information technology, exhibits a range of features such as diverse integration, open connectivity, and intelligent efficiency. From the perspective of information dissemination, it breaks the traditional classroom's limitations of time and space, allowing English learning resources to flow freely across regions and platforms. Learners can access listening materials, reading texts, and interactive courses anytime and anywhere through online platforms, mobile applications, and various other channels, effectively creating widespread learning scenarios and equal learning opportunities. Based on this, the digital environment has established a rich and diverse system of multi-modal resources. In addition to traditional text materials, multimedia resources such as audio-visual courses, virtual simulation dialogue scenarios, and intelligent error-tracking tools, which feature strong visualization and interactivity, are becoming increasingly common. This enhances the appeal and impact of learning content and better accommodates individual differences in learners' cognitive styles and information reception preferences. The introduction of intelligent algorithms allows systems to dynamically adjust resource delivery strategies based on learners' behavioral data, enabling personalized adaptation in resource-rich environments and robustly supporting precise and autonomous English learning processes.

2.The Connotation of Autonomous Learning in College English

College English autonomous learning is not simply "self-study." It is a systematic behavior in which learners, guided by clear goals, actively use resources and strategies to plan, monitor, and reflect on their learning process.

Students can independently determine their learning content based on their own foundation, professional needs, and development plans, such as focusing on academic English or workplace English, rather than passively accepting a uniform arrangement. They also need to have good time management skills, reasonably plan the learning progress of various skills, and actively identify problems during the process—for example, adjusting focus in time when realizing difficulties in distinguishing connected speech through listening practice. Students need to flexibly use strategies such as resource searching, tool utilization, and collaborative learning—for instance, using online dictionaries for precise definitions or improving the logical flow of spoken expression through online discussions. The fundamental purpose of autonomous learning in college English is to cultivate students' lifelong learning ability, enabling them to continuously adapt to the dynamic development of English in a resource-rich digital context, and effectively meet the diverse needs of academic, professional, and cross-cultural communication.

3.The Current Situation of Autonomous College English Learning in a Digital Environment

3.1 Fragmented resource utilization lacks systematic approach

With the explosive growth of digital resources, on one hand, learners are provided with a wide variety of choices, but on the other hand, many fall into the 'fragmented cognition trap,' making it difficult to build a systematic knowledge framework. Various English learning apps, media platforms, and online courses continue to emerge, and learners often select learning content based on personal interest or random recommendations. As a result, the learning process tends to exhibit a 'fragmented' characteristic. Learners might watch a short video on speaking skills one day, engage in rote vocabulary memorization the next, and then turn to reading comprehension practice the day after. These learning contents lack logical connections, making it hard to form a complete knowledge system. Such shallow learning patterns cause knowledge acquisition to remain superficial. For example, vocabulary memorized in isolation is hard to use flexibly in writing, and scattered exposure to grammar points cannot form a coherent network. Learners generally lack the ability to filter resources. When faced with content of varying quality, they often spend time on resources that do not match their level, either feeling frustrated because the content is too difficult or becoming inefficient because the content is too simple, ultimately leading to stagnation in the improvement of their English skills.

3.2 Lack of self-directed learning ability and effective monitoring

Students' lack of intrinsic motivation and the absence of external regulatory mechanisms together become key obstacles to improving the quality of autonomous learning in college English. Some learners do not have clear learning goals, and once they enter the learning platform, they are easily distracted by pop-ups, social information, and other unrelated stimuli, turning planned listening exercises into 'background tasks,' with actual focused time being less than half of what was intended. Even with clear goals, most learners still perform inefficiently due to incorrect methods, such as blindly using a “practice through excessive assignments tactic” approach without summarizing mistakes, or limiting themselves to repeatedly memorizing words of the same difficulty. From the perspective of external supervision, under the traditional model, it is difficult for teachers to track individual learning dynamics in real-time. Relying solely on homework and periodic tests cannot timely identify students' cognitive confusion. When facing complex grammar or listening challenges, learners feel lost due to the lack of immediate guidance. Over time, this can lead to a sense of difficulty and even abandonment of plans, ultimately resulting in a vicious cycle of “having the willingness to learn but lacking effective methods, and being unable to sustain progress due to a lack of scientific supervision.

4.Innovative Strategies for Autonomous College English Learning Models in a Digital Environment

4.1 Build a hierarchical resource system to strengthen systematic guidance

The key to addressing the problem of fragmented resource utilization is to build a scientific, hierarchical

resource system. This system should be based on the "College English Teaching Syllabus," focusing on core knowledge such as vocabulary and grammar, and consolidating students' language foundation through systematic micro-courses, targeted exercises, and intelligent error management. Centered on the core skills of listening, speaking, reading, and writing, scenario-based modules like business negotiation simulations and academic writing guidance can be designed to strengthen language application abilities. At the same time, the system should align with intercultural communication and career development needs by introducing resources such as open courses from prestigious universities and industry case libraries. The system needs to incorporate personalized learning path recommendations, matching initial levels based on entrance test results and dynamically adjusting content according to learning data. By establishing logical connections and intelligent jump mechanisms between resources, learners can be guided to progressively advance according to cognitive principles during fragmented time, organically integrating sporadic learning into the goal of systematic skill development.

4.2 Building an intelligent monitoring platform to improve support for autonomous learning

Using big data and artificial intelligence technology to build an intelligent monitoring platform, this platform can provide precise support and effective supervision for the autonomous learning process. The platform can collect real-time data on learners across multiple dimensions, such as login frequency, resource preferences, exercise completion rates, and test scores, constructing a complete personal learning behavior profile. By leveraging algorithmic models to deeply explore the value within the data, the platform can accurately identify students' learning behavior characteristics and skill gaps. For example, if a student's listening accuracy is low, the system can automatically diagnose whether the root cause is a limited vocabulary or insufficient phonetic recognition ability. Based on the analysis results, the platform can provide the learner with personalized learning recommendations, such as suggesting appropriately leveled materials or generating a customized set of incorrect questions. The platform also provides teachers with a supervision portal, allowing them to use data visualization dashboards to understand the overall learning situation of their class. They can address common issues in group sessions or provide targeted guidance to students who lack motivation or use ineffective methods. In this way, a collaborative support system of 'intelligent platform empowerment and precise teacher intervention' is formed, enhancing the effectiveness of autonomous learning.

5. Conclusion

The digital environment provides a technological foundation and resource support for the innovation of autonomous learning models in college English, and its features of multi-dimensional integration and intelligent efficiency align closely with the core requirements of autonomous learning. The tiered resource system and intelligent monitoring platform strategies proposed in this paper can effectively address the current issues of fragmentation and supervision in autonomous learning. In the future, it is necessary to further promote the deep integration of technology and teaching, continuously optimize resource supply and monitoring mechanisms. It is believed that through model innovation, students' motivation for autonomous learning can be truly stimulated, their lifelong learning ability cultivated, and sustained vitality injected into the high-quality development of college English education.

References:

- [1] Zhen Qingzhi, Wu Xinlei, Yuan Lin. The Empowerment Logic and Practical Path of Short Video Self-Media on College Students' Autonomous English Learning[J]. English Square, 2025, (28): 113-116.
- [2] Chen Puyu. Research on Influencing Factors and Optimization Strategies of College Students' Autonomous Learning Ability under Digitalization[D]. Shandong University of Finance and Economics, 2025.
- [3] Ouyang Yuan, Zhang Chengsu. Research on the Interaction Mechanism and Strategies of College Students' Autonomous Learning under Education Digitalization[J]. Science and Education Guide, 2024, (21): 53-56.