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Research on the Integration of Adaptive Learning Mode and College English Teaching Empowered by Digital Intelligence

Lin Sheng

College of Foreign Languages, Ningxia Normal University, Guyuan, Ningxia, 756000, China

ABSTRACT
Empowered by digital intelligence, the adaptive learning mode can precisely address practical problems in current college English teaching, such as significant differences in students' basic English proficiency and the diversity of student needs, with its advantages including personalized recommendation of learning resources, precise adjustment of learning paths, and dynamic feedback on learning effectiveness. Promoting the integration of the adaptive learning mode and college English teaching not only helps improve the effectiveness of college English teaching, but also better achieves the educational goal of teaching students in accordance with their aptitude, providing strong support for the innovative development of college English teaching. On this basis, this paper will deeply elaborate on the feasibility, theoretical origins, and related strategies of integrating the adaptive learning mode with college English teaching empowered by digital intelligence, in order to build a new ecosystem of adaptive teaching in college English in the digital intelligence era, and help improve the quality and efficiency of college English teaching.

KEYWORDS
Digital intelligence empowerment; Adaptive learning mode; College English teaching; Integration

1 Introduction

The adaptive learning mode is a learning approach that dynamically adjusts teaching difficulty and content based on learners' abilities and needs. Integrating it with college English teaching can fully leverage its advantages of personalization, precision, and dynamism to enhance the pertinence and effectiveness of college English teaching. Therefore, in-depth research on the integration of the adaptive learning mode and college English teaching empowered by digital intelligence has become an important issue to be urgently addressed.

2 Feasibility of Integrating the Adaptive Learning Mode with College English Teaching Empowered by Digital Intelligence

Under the digital intelligence empowerment, the feasibility of integrating the adaptive learning mode with college English teaching mainly lies in application of diversified technologies. Specifically, the continuous emergence and rapid development of advanced technologies at present provide solid technical support for the integration of the adaptive learning mode and college English teaching. For instance, big data analysis can comprehensively collect and integrate various types of data such as students' mastery of module-specific knowledge and learning progress in college English learning. Based on the analysis results of these data, artificial intelligence can customize personalized English learning plans for students and precisely recommend English learning resources to them. The integrated application of these advanced technologies establishes favorable conditions for the effective implementation of the adaptive learning mode in college English teaching.

3 Theoretical Origins of Integrating the Adaptive Learning Mode with College English Teaching Empowered by Digital Intelligence

3.1 Connectivism Learning Theory

Grounded in digitalization, the connectivist learning theory can meet the learning needs of contemporary students. This theory emphasizes that learning is a dynamic and networked process, and that knowledge exists in various connections. It requires learners to possess the ability to filter out core information and strive to acquire relevant knowledge by constructing and expanding their personal learning networks [1]. In college English teaching, the adaptive learning mode empowered by digital intelligence can draw on this theory and utilize advanced technologies to build a vast English learning network for students. Within this network, students can access a wide range of English learning resources, covering English materials from different regions and cultural backgrounds. This breaks the limitation of relatively scare resources in traditional college English teaching, and further helps students efficiently build their own

English learning networks and enhance their comprehensive English literacy.

3.2 Constructivism Learning Theory

The constructivism learning theory emphasizes the initiative of learners, and holds that knowledge is acquired by learners through meaning constructing in specific contexts, based on their existing basic knowledge and experience, with the assistance of others and by utilizing necessary materials [2]. As a language discipline featuring both humanistic and instrumental values, college English learning involves the accumulation of basic linguistic knowledge such as vocabulary and grammar, as well as the cultivation of language application abilities (listening, speaking, reading, writing, and translation), cultural negotiation competence, and problem-solving skills. Therefore, the integration of the adaptive learning mode and college English teaching empowered by digital intelligence should be guided by this theory and adopt diverse scientific technologies to create rich and varied English learning contexts for students with significant differences in English foundations and cognitive levels. On this premise, students can take the initiative to explore knowledge according to their English proficiency and learning styles, thereby achieving the meaning construction of the English knowledge system. This is highly consistent with the constructivism learning theory and enables the transformation of college English teaching from a "teacher-centered" mode to a "student-centered" mode.

3.3 Zone of Proximal Development Theory

The zone of proximal development theory holds that there are two levels of student development. One is the actual developmental level of students, which refers to the level that students can achieve through current independent activities. The other is the potential developmental level that represents the potential students can attain through diligent learning. The gap between these two levels constitutes the zone of proximal development. In college English teaching, guided by this theory and supported by advanced digital technologies, the adaptive learning mode empowered by digital intelligence can accurately assess the current English proficiency of each student, thereby determining their zone of proximal development. On this basis, it can provide students with appropriately challenging English learning tasks and personalized learning resources and paths, ensuring that students will neither feel bored due to overly simple English learning tasks nor frustrated by excessively difficult ones. As a result, this effectively stimulates students' interest and internal motivation, enables them to gradually challenge more difficult English learning content within their capabilities, effectively narrows the gap between their current English learning proficiency and potential development, and promotes the all-round development of students' comprehensive English competence.

4 Strategies for the Integrating the Adaptive Learning Mode with College English Teaching Empowered by Digital Intelligence

4.1 Innovate Traditional Teaching Concepts

The innovation of traditional teaching concepts is the primary prerequisite for the integration of the adaptive learning mode and college English teaching empowered by digital intelligence.

Firstly, universities should establish an open and inclusive educational ecology to provide environmental support for the innovation of teachers' teaching concepts. To this end, universities should systematically disseminate knowledge about digital intelligence and adaptive learning modes, as well as case analyses and data interpretation on the integration of digital intelligence and English teaching among teachers, by regularly organizing specialized training sessions or workshops on the integration of the adaptive learning mode and college English teaching empowered by digital intelligence. It can drive English teachers to innovate their teaching concepts and comprehensively enhance their digital intelligence literacy and ability to integrate technology into teaching. At the same time, relying on teaching innovation competitions and other activities, universities should encourage teachers to explore new paths for the integration of the adaptive learning mode and college English teaching empowered by digital intelligence. This will motivate teachers to deeply integrate digital intelligence with English teaching and continuously optimize their English teaching processes using the adaptive learning modes, thus providing strong support for improving the quality of English teaching.

Secondly, traditional teaching concepts are often teacher-centered, but neglect the students' subjective status and individualized needs. In view of this, universities need to guide teachers to establish a students-centered teaching concept, and encourage teachers to gain an in-depth understanding of students' current English learning foundations, learning objectives and other relevant conditions, and utilize digital intelligence to analyze students' English learning data to design differentiated teaching contents and activities for students at different levels. Therefore, it can prompt teachers to transform from imparters of English knowledge to shapeers and facilitators of students' cognitive

improvement. On this basis, universities should encourage teachers to follow the student-centered teaching concept, and actively adopt adaptive learning resources empowered by digital intelligence to guide students to deeply identify their weak links in English learning modules, especially with regard to relevant knowledge graphs and prerequisite knowledge graphs, so as to provide precise guidance for students to explore adaptive English learning paths in the future. This measure enables teachers to be guided by their advanced teaching concepts, and allows the adaptive learning mode empowered by digital intelligence to exert the maximum effect in college English teaching [3].

4.2 Create a Digital-Intelligent Teaching Environment

Creating a digital-intelligent teaching environment is an important guarantee for the integration of the adaptive learning mode and college English teaching empowered by digital intelligence.

Firstly, under the empowerment of digital intelligence, to promote the effective integration of the adaptive learning mode and college English teaching, universities need to increase investment and construction efforts in digital teaching resources in accordance with the requirement of "developing digital educational resources using new-generation information technologies" specified in the policy document "Guiding Opinions on Promoting the Construction of New-type Infrastructure for Education and Building a High-quality Education Support System" [4]. They should establish a digital-intelligent teaching resource library, which integrates various high-quality English teaching resources such as electronic textbooks, English news videos, and instructional videos to meet the diverse needs of students' adaptive learning. Meanwhile, universities can leverage advanced technologies such as intelligent search and recommendation algorithms to optimize students' experience in using the digital-intelligent teaching resource library, and enable them to quickly locate English resources that match their own learning levels and interests, therefore achieving the goal of respecting students' individual differences and supporting their personalized learning.

Secondly, universities should increase investment in digital-intelligent teaching facilities. Particularly in the construction of smart education and English language laboratories, and equip them with hardware such as high-definition display devices, multimodal sensing equipment, and intelligent teaching terminals. These advanced digital-intelligent teaching facilities not only provide strong support for teachers to conduct digital-intelligent English teaching, but also create favorable conditions for students to engage in personalized English learning under the adaptive learning mode. In the meantime, universities should actively introduce advanced teaching software and tools, including intelligent speech recognition systems, personalized learning recommendation engines, and virtual simulation teaching platforms. These software and tools can precisely analyze students' English learning behaviors and needs, and assist teachers in realizing digital management and personalized services in English teaching. This meets the needs of students to learn English anytime and anywhere, and provides effective assistance in improving the application effect of the adaptive learning mode in college English teaching. Additionally, it is necessary for universities to strengthen the construction of campus network. This approach meets the need of massive data transmission and processing in adaptive learning, and supports the implementation of the adaptive learning mode in college English teaching.

4.3 Optimize the Teaching Evaluation System

Optimizing the teaching evaluation system is a key link in the integration of the adaptive learning mode and college English teaching empowered by digital intelligence.

First of all, universities need to establish digital intelligent evaluation indicators. Specifically, under the digital intelligence empowerment, in accordance with the requirements of the integration of the adaptive learning mode and college English teaching, students' English language application ability and autonomous learning ability are emphasized as evaluation indicators. The English language application ability is quantitatively evaluated through intelligent speech assessment, online writing correction and other means supported by digital intelligence. The autonomous learning ability is assessed by comprehensively tracking multidimensional data of students on the adaptive learning platform via learning analysis technology, such as learning trajectories, online learning duration, interaction frequency, online resource access situation and other multi-dimensional data, and a comprehensive and objective evaluation report is generated, thereby objectively reflecting students' English learning effectiveness under the adaptive learning mode. Based on this, the evaluation results should be promptly fed back to teachers and students, so that teachers can adjust their teaching strategies and students can improve their English learning methods.

Secondly, universities should optimize the diversified evaluation subjects. In the digital-intelligent era, the massive knowledge system is often characterized by the collision and interconnection of perspectives from diverse subjects, which requires that evaluation subjects cannot be singular [5]. On the one hand, industry experts should be introduced as external evaluators. Relying on their extensive professional knowledge and practical experience, they can conduct professional evaluations of students' learning outcomes under the integration of the adaptive learning mode and college English teaching empowered by digital intelligence from the perspective of practical English application, so as to make

the evaluation results more practical-oriented. On the other hand, students should be encouraged to conduct self-evaluation and peer evaluation. Student self-evaluation can guide students to use their personal learning portfolios on the intelligent teaching platform to review and reflect on their English learning process. In this way, they can deeply reflect on whether their English learning goals are reasonable, whether their time allocation is scientific, and whether their learning methods are effective, thereby enhancing their self-awareness and management abilities. In contrast, peer evaluation can enable students to utilize digital intelligence to visualize the evaluation process. Through in-depth communication and cooperation, it helps students expand their English learning thinking and the application approaches of the adaptive mode, and thereby provide a more comprehensive and objective evaluation perspective for the in-depth integration of the adaptive learning mode and college English teaching empowered by digital intelligence.

5 Conclusion

The integration of the adaptive learning mode and college English teaching under the digital intelligence empowerment is an inevitable trend for the education field to keep pace with the times. It not only brings new vitality and development opportunities to college English teaching, but also demonstrates great potential in improving the quality of college English teaching and cultivating students' comprehensive English literacy. In the future, with the continuous development of digital intelligence, the integration of the adaptive learning mode and college English teaching will be further deepened and expanded, creating a new ecological environment for college English teaching.

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About the Author

Lin Sheng, Ph.D., Associate Professor, Research Fields: English Teaching, Educational Management.

References

[1] CHEN Lihan, LI Wei, ZHAO Yuan. Reflections on the Current Situation and Path Research of College Students' Online Learning under the Connectivism Theory [J]. GuoJia TongYong YuYanWenZi JiaoXue Yu YanJiu, 2025, (10): 7-9.

[2] YANG Xiaoli, LI Yuan. Research on the Construction of Future Learning Centers from the Perspective of Constructivist Learning Theory [J]. New Century Library, 2025, (10): 12-19.

[3] SONG Dan, FENG Xia, HE Hong, et al. Research on Self-adaptive Learning Mode Driven by the Collaboration of Knowledge Graph and Educational Big Data [J]. Research in Higher Education of Engineering, 2022, (01): 163-168.

[4] Guiding Opinions of Six Departments Including the Ministry of Education on Promoting the Construction of New-type Infrastructure for Education and Building a High-quality Education Support System [J]. Gazette of the Ministry of Education of the People's Republic of China, 2021, (09): 15-19.

[5] ZHU Ruoyu, LI Rumi. The Logic and Approach of Teaching Evaluation Reform Empowered by New Knowledge Conception in the Era of Digital Intelligent [J]. Theory and Practice of Education, 2026, 46(01): 49-56.