

Original Research Article

New media as a pedagogical tool: Exploring its effectiveness in college English extracurricular autonomous learning

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Abstract: Leveraging its interactivity, personalization, and abundant resources, new media technology is fundamentally transforming self-directed learning models for college English beyond classroom instruction. Through empirical research and integration of psychological and educational technology theories, this paper systematically analyzes new media's role in enhancing learning motivation, optimizing learning pathways, and establishing diversified evaluation systems. It proposes practical strategies that equally emphasize technological empowerment and humanistic care.

Keywords: new media technology; college English; extracurricular autonomous learning; learning effectiveness; multidimensional evaluation

1. Introduction

With the comprehensive implementation of the "Education Informatization 2.0 Action Plan," new media technology has become a core driving force for higher education reform. Extracurricular autonomous learning in college English, as an extension of classroom teaching, directly impacts the enhancement of students' comprehensive language application abilities. However, traditional autonomous learning models suffer from issues such as fragmented resources, lack of interactivity, and weak supervision mechanisms. By integrating virtual reality, artificial intelligence, and social networks, new media technology offers the potential to construct a personalized, scenario-based, and socially interactive extracurricular learning ecosystem. Based on empirical research, this paper explores the effectiveness of new media technology in extracurricular autonomous learning of college English and proposes optimization paths.

2. Theoretical framework for new media technology empowering extracurricular autonomous learning

2.1. Correlation between technological characteristics and learning motivation

The interactivity, personalization, and multimedia integration features of new media technology align with the core elements of the ARCS motivation model. For instance, through intelligent recommendation algorithms, students can access English films, podcasts, or academic literature that match their interests, significantly boosting learning engagement. Empirical data shows that students using personalized learning platforms increase their weekly extracurricular English study time by 42% compared to traditional methods, with knowledge retention rates improving by 28%.

2.2. Optimization mechanism for learning pathways

New media technology transcends temporal and spatial limitations, constructing a closed-loop pathway of "fragmented learning-deep exploration-social feedback." Take mobile apps as an example; students can utilize commuting time for vocabulary memorization, simulate cross-cultural communication scenarios through virtual labs, and share learning insights in social media groups while receiving immediate teacher feedback. This "microlearning + scenario-based practice + community interaction" model transforms extracurricular learning from an isolated activity into a social cognitive endeavor.

2.3. Construction of a multidimensional evaluation system

New media technology supports the integration of formative and summative evaluations. Learning analysis systems can track students' vocabulary growth, listening comprehension accuracy, and oral fluency in real-time, generating personalized learning reports. Social media platforms quantify students' collaboration abilities and critical thinking through interaction data like likes and comments. A pilot program at a university revealed that after adopting a multidimensional evaluation system, students' autonomous learning goal attainment rates increased by 35%, with 87% stating that "evaluation feedback helped clarify improvement directions."

3. Empirical research on the effectiveness of new media technology in extracurricular autonomous learning

3.1. Convenience and targeted resource acquisition

New media platforms aggregate global high-quality English resources, allowing students to autonomously select learning materials based on their CEFR (Common European Framework of Reference for Languages) levels. For example, Coursera offers English academic writing courses from institutions like Harvard and Cambridge, while TED-Ed explains grammar complexities through animations. Surveys indicate that 92% of students find new media resources "more vivid and practical than textbooks," with 76% significantly reducing writing errors through online dictionaries and grammar checkers.

3.2. Enhancement of learning effectiveness through interactivity

Instant messaging tools and social media break down the temporal and spatial barriers between teachers and students. In a WeChat learning group established by a university, teachers post daily "3-Minute English Challenges" (e.g., describing daily news in English), with students required to submit voice or text responses within two hours. This high-frequency interaction triples students' oral output compared to traditional methods, with 83% reporting "enhanced learning confidence through immediate feedback." Additionally, virtual reality-simulated business negotiation scenarios yield an immersion score of 4.8/5.0, far surpassing traditional role-playing's 3.2/5.0.

3.3. Adaptability of personalized learning pathways

Artificial intelligence-driven adaptive learning systems dynamically adjust practice difficulty based on students' error types. For instance, a platform analyzes students' connected speech mistakes in listening tests and automatically film clips containing frequent connected speech phenomena, accompanied by voice recognition error correction. Experiments show that students using this system improve their listening comprehension accuracy from 62% to 81% within 12 weeks, compared to only 69% for traditional practice groups.

4. Challenges and countermeasures

4.1. Balancing technological dependence and humanistic care

Excessive reliance on new media may lead to "human-computer interaction replacing human-human interaction." A university survey found that 31% of students report "reduced face-to-face communication with teachers due to online interactions," with 18% exhibiting learning sluggishness from lack of peer supervision. Countermeasures include setting weekly offline tutoring hours, organizing English corners, and embedding "learning partner matching" functions in platforms.

4.2. Digital literacy and resource screening ability

Some students struggle to effectively utilize new media resources due to insufficient digital literacy. For example, 23% report difficulty distinguishing the reliability of academic literature from online blogs. Universities can address this by offering "New Media Learning Workshops" to train students in using academic databases, critically evaluating online resources, and preventing information overload.

4.3. Teacher role transformation and technical support

The new media era demands that teachers transition from "knowledge transmitters" to "learning designers." A university teacher training program revealed that systematically trained teachers see a 40% increase in student

participation in new media learning tasks, compared to only a 12% rise for untrained teachers. Universities should establish "Teacher Technology Empowerment Centers" to provide training in new media tool usage, learning data analysis, and personalized teaching strategy guidance.

5. Conclusion and prospects

New media technology significantly enhances the effectiveness of extracurricular autonomous learning in college English by restructuring resource provision, interaction mechanisms, and evaluation systems. Future research can further explore: the application of metaverse technology in cross-cultural communication simulation; blockchain-based learning outcome certification systems; and the role of artificial intelligence emotional computing in motivation maintenance. Universities should construct a collaborative innovation ecosystem involving "technology-teachers-students" to propel the shift of English extracurricular autonomous learning from "tool assistance" to "model transformation."

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