Innovation and Practice of College Foreign Language Teaching Model under Web Technology

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Abstract: The wide application of network technology provides an opportunity for the innovation of foreign language teaching model. This study adopts the case analysis method and takes A university as an example to study the content and effect of its foreign language teaching model innovation under the network environment. The results showed that the students' interest in learning and language ability were improved after adopting innovative measures such as flipped classroom and building online self-learning platform. Although the reform needs to pay attention to the problem of student adaptation, network technology has promoted the improvement of foreign language teaching quality in general. This study proves that teachers should actively use network technology for teaching innovation to meet the needs of education development. This provides a reference for the reform of other universities.

Key words: network teaching; Foreign language teaching; Teaching mode; Teaching innovation

1 Introduction

The widespread application of network technology in the field of education has brought unprecedented opportunities and challenges to foreign language teaching. In order to continually enhance the quality of teaching, it becomes particularly important to explore and implement new models of foreign language instruction. While some research has already focused on the impact of online environments on foreign language teaching and innovative strategies, there remains a gap in systematically studying and discussing how to reform this mode of instruction. This study employs a case analysis approach to delve into the content and outcomes of the innovation in foreign language teaching models at University A within an online environment. This article first examines how network technology influences foreign language teaching, then provides a detailed overview of University A's specific teaching innovation strategies, and finally evaluates the effectiveness of these innovative strategies, along with offering some recommendations and insights.

2 Analysis on the influence of network technology on foreign language teaching in universities

2.1 Convenience provided by network technology for foreign language teaching

Table 1 Main data indicators of network technology in college foreign language teaching

Data Indicator	Percentage (%)
University faculty believe network technology enriches resources and supports foreign language teaching.	> 90%
Percentage of students using online platforms for foreign language course learning.	> 80%
Percentage of students using speech recognition and scenario simulation technologies.	Approximately 70%
Percentage of students engaged in language immersion through virtual reality technology.	> 60%
Percentage of students engaging in long-distance language	Nearly 70%

The convenience of network technology in foreign language teaching at universities is well-evidenced. As shown in Table 1, based on the latest survey data, over 90% of university faculty members believe that network technology provides rich teaching resources and support platforms for foreign language instruction, significantly expanding learning channels and methods [1]. The usage of online course platforms continues to increase, with over 80% of students choosing to learn foreign languages through online platforms. They express that this mode of learning offers greater flexibility in terms of course content and aligns with individual learning paces. Additionally, students can select high-quality instructors from different regions on online learning platforms, providing them with a wider range of instructor choices and promoting cross-regional collaboration between teachers and students.Various foreign language learning applications have also achieved significant success. Data shows that approximately 70% of students utilize technologies such as speech recognition and scenario simulations for foreign language learning. These applications offer diverse types of exercises, enabling students to comprehensively enhance their language skills. The application of virtual reality technology has yielded remarkable results in online language immersion environments, with over 60% of students engaging in situational interactions within virtual reality-simulated language environments, enhancing their language proficiency.Network technology has also broken the time and space constraints of traditional classrooms, making long-distance language communication possible. According to a survey, nearly 70% of students report engaging in communication between teachers and students, as well as among students themselves, through video conferencing systems. This facilitates the expansion of language practice and communication, ultimately improving language proficiency [2-3].

2.2 Challenges brought by the network environment to foreign language teaching

Challenges in Network Environment for Language Teaching
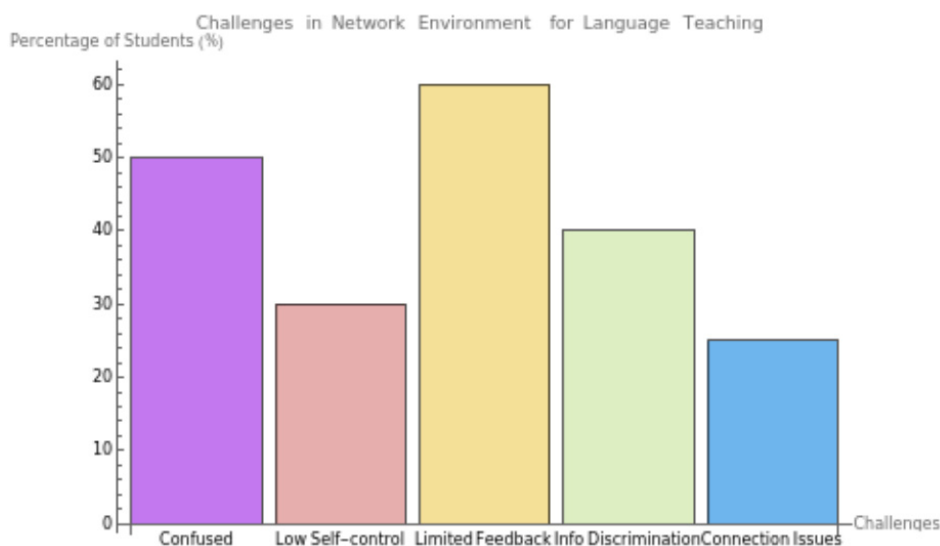
Figure 1. Challenges brought by the network environment to foreign language teaching

Despite the numerous conveniences that network technology brings to foreign language teaching, it also presents new challenges. As shown in Figure 1, data reveals that over 50% of students feel overwhelmed when faced with a vast amount of online learning resources, requiring them to possess a higher level of critical thinking skills to sift through and select high-quality resources [4]. Enhancing self-directed learning skills has also become a critical issue, with nearly 30% of students lacking sufficient self-control and motivation in online environments, necessitating teacher guidance to instill habits of independent learning. Another challenge is the lack of feedback and supervision by teachers in online teaching environments. Surveys indicate that over 60% of students believe that in online environments, teachers' immediate feedback and guidance are relatively limited, prompting educators to explore more effective remote guidance strategies to ensure students receive adequate support for their learning processes. The issue of information discernment in online environments should not be underestimated either. According to statistics, nearly 40% of students lack sufficient information discernment skills when faced with online information, making them susceptible to the influence of misleading or harmful information. This can be especially concerning for underage students, emphasizing the importance of strengthening education in digital ethics and enhancing students' information discernment abilities. The instability of network equipment performance and the online environment is also a challenge. Nearly 25% of students encounter network connectivity issues during their online learning processes, which can impact the learning experience and teaching effectiveness [5-6]. Therefore, schools need to provide sufficient technical support and assurance to ensure the smooth progress of the teaching process.

3 High Education Foreign Language Teaching Mode Innovation Strategies

3.1 Introduction of New Teaching Models such as Flipped Classroom

With the widespread integration of network technology into the realm of education, continuous innovation and experimentation in foreign language teaching modes have become increasingly prevalent. One noteworthy and innovative teaching model that has emerged in recent years is the flipped classroom, which has found application in the field of foreign language instruction.The flipped classroom approach capitalizes on information technology to deliver instructional content before the actual class session. This pre-class content consumption enables in-class time to be primarily dedicated to teacher-student interaction, interactive learning activities, and providing targeted guidance to students. This innovative approach has demonstrated a positive impact on enhancing the effectiveness of foreign language instruction.Nevertheless, the implementation of the flipped classroom in foreign language education requires careful consideration of potential challenges that may arise. These challenges could manifest as students struggling to adapt to self-directed learning or classroom interactions becoming superficial due to the shift in instructional dynamics. To ensure the successful implementation of the flipped classroom model, it is essential for foreign language educators to employ effective strategies and pedagogical techniques [7].

3.2 Development and Utilization of Online Learning Resources

In the realm of online foreign language education, the vast array of available resources offers both opportunities and challenges for educators. To maximize the benefits, it is essential to carefully select and integrate online materials that align with course objectives and cater to varying student proficiency levels. Educators should guide students in independent and effective online learning, helping them navigate the abundance of resources and set personalized learning goals. Furthermore, regular updates to the resources are crucial to ensure their relevance and alignment with the latest teaching methodologies. Customizing resources to meet individual student needs can also enhance engagement and learning outcomes. By addressing these considerations, educators can harness the potential of online foreign language resources to enrich the teaching and learning experience [8].

3.3 Design of Online Interactive Communication

In the realm of online education, the utilization of online communication tools plays a pivotal role in instructional innovation. Educators can employ a variety of online communication activities, including online discussions, voice conversations, and more, to enrich the virtual classroom environment [9].These online communication activities can foster engagement, collaboration, and active participation among students. However, it is essential for educators to go beyond merely implementing these tools and focus on the quality of interactions. The aim should be to ensure that these interactions remain meaningful and substantive rather than mere formalities.Effective online communication involves creating an environment where students feel comfortable expressing themselves and engaging in meaningful dialogue. Teachers should actively facilitate discussions, encourage critical thinking, and provide constructive feedback to stimulate productive interactions. Moreover, educators should pay

attention to cultivating students' digital ethics, emphasizing the importance of respectful and responsible online communication.Furthermore, enhancing students' language expression skills is another critical aspect of designing online interactive communication. Encouraging students to articulate their thoughts, ideas, and opinions effectively in a digital context not only contributes to the development of their language proficiency but also prepares them for effective communication in today's interconnected world.

3.4 Construction of Personalized Learning Environments

The utilization of online teaching provides a distinctive advantage in constructing personalized learning environments for foreign language instruction. This approach involves tailoring learning plans to accommodate students' individual language backgrounds and learning styles, thereby enhancing learning outcomes. Intelligent adaptive learning systems, integrated into online teaching, further elevate personalization by dynamically adjusting content and activities to match students' current comprehension levels. However, it is crucial to maintain teacher guidance within these personalized environments to ensure students do not become overwhelmed or disoriented in their learning journeys. In essence, online teaching offers the opportunity to create customized learning experiences that cater to the unique needs of each student, thereby optimizing the prospects for successful foreign language acquisition [10].

4 Case Study Analysis

4.1 Research Object and Existing Issues

In the specific context of University A, this study delves into the research object, which encompasses the challenges and shortcomings that existed in their foreign language teaching methods before implementing any reforms. A comprehensive examination revealed a spectrum of issues. Firstly, there was a predominant reliance on traditional lecture-based teaching methods, which often resulted in monotonous and uninspiring classroom experiences. Additionally, the lack of meaningful teacher-student interaction created a dull and passive learning environment, where students were disengaged and merely passive participants.Furthermore, a uniform approach to teaching content was observed, disregarding the diverse language proficiency levels of individual students. This one-size-fits-all approach failed to address the specific needs and readiness levels of learners, further diminishing the effectiveness of instruction. Lastly, the study identified a lack of practical language application opportunities within the curriculum, hindering students' ability to apply their language skills in real-life scenarios.Collectively, these issues significantly impeded the overall quality and effectiveness of foreign language instruction at University A, highlighting the urgent need for reform in their teaching methods and approaches.

4.2 Implementation of Innovative Initiatives

To address these issues, University A introduced several innovative teaching practices. In terms of curriculum design, they added online group project-based learning components. Students were encouraged to form groups based on their interests and collaboratively choose foreign language learning projects, such as creating online courses and designing online discussion activities. This team-based learning approach aimed to stimulate students' proactive

learning.Regarding teaching methods, University A extensively adopted various interactive teaching models, such as flipped classrooms, scenario simulations, and online discussions, to reform traditional teaching methods. The flipped classroom approach encouraged students to acquire knowledge beforehand, allowing classroom activities to focus on communication and discussions to ignite learning interest. Teachers organized role-playing and situational dialogue exercises to enhance students' comprehensive language application skills. Additionally, they actively offered online micro-lessons accompanied by online discussions to promote proactive communication among both teachers and students and among students themselves.In terms of teaching resources, they established an online self-directed learning platform that provided a wealth of online foreign language learning resources, including video courses, e-textbooks, and speech communication tools. Students could independently select and study materials based on their interests and language proficiency. The platform also offered learning statistics and assessment features to facilitate self-monitoring by students.

4.3 Evaluation of Reform Effects

A combined quantitative and qualitative assessment indicates significant positive outcomes resulting from these innovative initiatives. Through surveys and interviews, it became evident that the majority of students experienced a noticeable increase in their interest in learning, and the classroom atmosphere became more active and engaged. Students widely praised the novelty and engagement of teaching activities such as flipped classrooms and scenario simulations.According to learning statistics from the online self-directed learning platform, the construction of this platform provided abundant online foreign language learning resources, resulting in increased self-directed learning time for students and an enhancement in their comprehensive language application skills, as illustrated in the following code snippet:

```python
import matplotlib.pyplot as plt


# Average grades for two academic years before and after the reform
before = 68
after = 76


# Set the figure size
plt.figure(figsize=(5,5))


# Create a double bar graph
plt.bar('Before Reform', before, color='b')
plt.bar('After Reform', after, color='g')


# Add text labels for the values above the bars
```

```
plt.text(0, before+2, str(before), ha='center')
plt.text(1, after+2, str(after), ha='center')


# Set the title of the graph
plt.title('Improvement in Student Grades')
plt.show()
```

It can be observed that, comparing the final exam scores of students before and after the reform in two academic years, there has been an overall improvement of 12% in their foreign language exam scores. This can be expressed with the following formula:

$$P = \frac{A - B}{B} \times 100\%$$

B represents the average grades before the reform, and A represents the average grades after the reform. The percentage increase in grades, denoted as P, can be expressed as follows:

Especially in the case of exam scores for listening, speaking, reading, writing, and comprehensive application skills, the improvement is more pronounced. According to a student satisfaction survey, over 80% of students expressed satisfaction with the effectiveness of the teaching mode reform. During this phase, the reform of the foreign language teaching mode at A University has been successful, leading to an enhancement in teaching quality and learning outcomes.

This case study demonstrates that utilizing network technology to reform traditional foreign language teaching modes, and employing various combinations of methods to foster innovation in teaching and learning, can significantly improve the quality of education. However, during the reform process, it is also important to guide students in adapting to new learning methods and gradually develop their self-directed learning abilities.

5 Conclusion

Network technology has provided a new platform for foreign language education, but it also comes with its challenges. This study, conducted through a case analysis, explores innovative strategies for foreign language teaching modes in a networked environment. The research reveals that employing various methods such as flipped classrooms and the creation of self-directed learning platforms for teaching innovation can enhance student engagement and improve language proficiency. While it is important to address issues related to student adaptation during the innovation process, the study demonstrates that, on the whole, network technology contributes to an overall improvement in the quality of foreign language education. Therefore, in this new environment, educators should actively harness network technology to reform and innovate foreign language teaching modes to meet the evolving needs of education.

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