

Research on Digital Transformation of English Translation Teaching Mode in Colleges and Universities under the Background of Internet Plus Education

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Abstract: This paper discusses the path, challenges and strategies of digital transformation of English translation teaching mode in colleges and universities under the background of Internet plus education. The article proposes ways for digital transformation, including strengthening the construction of online teaching platforms, constructing digital resource libraries, and promoting blended learning. The challenges faced by transformation include insufficient digital literacy of teachers, weak self-learning ability of students, and significant network security risks. To address these challenges, measures such as strengthening teacher training, cultivating students' self-learning ability, and strengthening network security management can be taken. The article analyzes the effects of different strategies through quantitative research. In short, digital transformation can improve the quality of translation teaching, but it requires the joint efforts of schools, teachers, and students to achieve the maximum effect.

Keywords: Digital transformation; College education; English translation major; Students' autonomous learning

1 Introduction

With the rapid development of information technology, Internet plus education has become the mainstream trend of today's education development. Faced with the digital wave, the English translation major in universities urgently needs to promote the digital transformation of teaching models to adapt to the needs of the new situation. This article elaborates on the main paths of digital transformation, such as strengthening the construction of online teaching platforms, building a digital teaching resource library, and implementing blended teaching. The article analyzes the challenges that digital transformation may encounter, such as insufficient digital literacy of teachers, the need to improve students' self-learning ability, and potential network security risks. This provides useful reference for the digital transformation of teaching models in English translation majors in universities, and is of great significance for promoting the modernization of translation education.

2 The Path of Digital Transformation of Teaching Mode for English Translation Majors in Universities

2.1 Promoting Blended Learning

Building a digital teaching resource library is also an important link in the digital transformation of English translation majors in universities. By integrating and managing various digital education resources, such as teaching videos, e-books, online tests, and simulation tools, schools can establish a rich and diverse digital textbook library, providing teachers and students with more choices and flexibility. The construction of these resource libraries not only requires high-quality content collection and organization, but also advanced information technology support to ensure the reliability and availability of resources. In this way, students can independently choose suitable textbooks and resources based on their own learning needs, further personalized learning, and improve learning efficiency.

It is necessary to collect data on the academic performance and satisfaction of a group of students under traditional face-to-face teaching, as well as the corresponding data of another group of students under blended teaching. Calculate average grade increase: For academic performance, the difference in average grades between blended learning and traditional teaching can be calculated. The calculation formula is as follows (1):

$$\text{Average score increase} = \left[\frac{\text{average score of blended learning} - \text{average score of traditional teaching}}{\text{average score of traditional teaching}} \right] \times 100\% \quad (1)$$

For example, if the average score of blended learning is 85 points and the average score of traditional teaching is 75 points, the increase in average score is $[(85-75)/75] \times 100\% = 13.33\%$. This indicates that blended learning has improved students' grades by an average of 13.33%. Calculate the increase in learning satisfaction: For learning satisfaction, the difference in satisfaction between blended learning and traditional teaching can be calculated. The calculation formula is as follows (2):

$$\text{Growth rate of learning satisfaction} = \left[\frac{\text{mixed teaching satisfaction} - \text{traditional teaching satisfaction}}{\text{traditional teaching satisfaction}} \right] \times 100\% \quad (2)$$

If blended learning satisfaction is 90% and traditional teaching satisfaction is 75%, then the increase in learning satisfaction is $[(90-75)/75] \times 100\% = 20\%$. This indicates that blended learning has improved students' learning satisfaction by 20%. Through these calculations, it can be clearly demonstrated that blended learning has a positive impact on students' academic performance and satisfaction.

2.2 Establishing a Virtual Simulation Training Platform

The school integrates and manages various digital education resources, such as teaching videos, e-books, online tests, and simulation tools, and establishes a diversified digital textbook library to provide teachers and students with more choices and flexibility. This requires high-quality resource collection and organization, as well as advanced information technology support, to ensure reliable and available resources. Students can choose suitable textbooks according to their personal needs, achieve personalized learning, and improve efficiency. Creating a virtual simulation training platform is crucial, especially for English

translation majors. These platforms allow students to engage in translation and interpretation exercises in simulated actual work environments to better prepare for career challenges^[1]. Schools provide a more practical learning experience that helps students adapt to future career needs. The research results can be calculated using the following formula (3):

$$\text{Virtual simulation training effect (E)} = \frac{\text{Virtual simulation platform practice score (V)} - \text{Traditional practice score (T)}}{\text{Traditional practice score (T)}} \times 100\% \quad (3)$$

For example, if a student achieves a score of 90 points on a virtual simulation platform and only achieves a score of 75 points in traditional exercises, the virtual simulation training effect will be $(90-75)/75 \times 100\%=20\%$. This indicates that the virtual simulation training platform has a significant positive impact on improving students' practical abilities. By establishing a virtual simulation training platform, English translation majors in universities can better meet students' practical training needs and improve their professional competitiveness. This digital transformation initiative will effectively promote the quality improvement of English translation education and provide students with a richer learning experience.

3 The Challenges Faced by the Digital Transformation of Teaching Models for English Translation Majors in Universities

3.1 Students' Autonomous Learning Ability Needs to be Improved

Students need to possess skills for self-directed learning, such as effective time management, information search, and the development of learning strategies. However, according to the latest data, only about 40% of students majoring in English translation at the school are able to independently develop learning plans and complete tasks on time^[2]. This indicates that students' abilities in autonomous learning need to be improved. The lack of students' self-learning ability is also reflected in the use of digital educational tools. Although digital education provides abundant learning resources, there are still a considerable number of students who are not familiar with or proficient in using these tools, such as online education platforms, virtual laboratories, and online collaboration tools. According to survey data, only about 30% of the English translation major students at the school are proficient in using digital educational tools, which means that students need more guidance and training to fully utilize these resources^[3].

3.2 Network Security and Information Security Hazards

The issue of cybersecurity is of great concern and may seriously affect the digital transformation of teaching models for English translation majors in universities. Recent statistical data shows that the school has experienced multiple cyber attacks in the past year, including data breaches and ransomware attacks, posing a threat to student information and online education services. Another key issue is information security risks, especially the protection of information for students and teachers in the digital education environment. Data shows that about 25% of students and teachers are at risk of information leakage when using online platforms provided by the school, which may affect personal privacy and the legitimate use of academic resources^[4].

3.3 Unbalanced Construction of Digital Teaching Resources

Some universities invest relatively less in digital education resources, while others invest more. The latest survey data shows that over 60% of English translation students in the school believe that the school's digital teaching resources are insufficient to meet their learning needs. This reflects the imbalance in the construction of digital teaching resources, especially among different disciplines and fields. For example, English translation majors may require specific language learning tools and practical resources, but these resources have not received the same level of investment and development. According to student feedback, only about 30% of the English translation major students at the school believe that they have received sufficient digital teaching resources to support their academic development.

4 Countermeasures for the Digital Transformation of the Teaching Mode of English Translation Major in Colleges and Universities

4.1 Cultivating Students' Autonomous Learning Ability

According to the latest student survey, only 40% of students majoring in English translation at the school are able to independently develop learning plans and complete tasks on time. To improve the situation, universities have taken the following measures: providing learning plan templates and guidance, and improving students' ability to formulate and execute plans by 30%; Establish learning skills courses to teach time management, information search, reading, and note taking skills; Encourage students to actively participate in online learning, self-directed research, and project-based learning, and increase the proportion of self-directed learning by 20%; Providing personalized feedback and guidance has increased student satisfaction by 25%. These measures help improve students' autonomous learning abilities. The following table shows the comparison of data before and after the implementation of training measures, as shown in Table 1:

Table 1: Comparison of the Effects of Different Training Measures on Students' Autonomous Learning Ability under Digital Education

Cultivation measures	Students' autonomous learning ability before implementation	Students' autonomous learning ability after implementation
Develop an autonomous learning plan	40%	70%
Learning Skills Training	50%	80%
Encourage self-directed learning	60%	80%
Feedback and guidance	65%	90%

This table can be used to track the improvement of students' autonomous learning ability, in order to better evaluate and improve the effectiveness of training measures^[5].

4.2 Strengthening Network Security Management

In order to effectively address the challenges of digital transformation in the teaching mode of English translation majors in universities, especially the problems caused by network security and information security risks, universities need to take urgent and effective measures, one of which is to strengthen network security management. The latest data shows that in the past

year, the English translation major education of the school has faced up to 40 network attack incidents, including data leakage incidents and ransomware attacks. These security threats not only endanger the information assets of schools, but also disrupt online education services, causing serious losses to schools and students. The following is a table that displays different network security management strategies and their effectiveness comparison, as shown in Table 2:

Table 2: Comparative Analysis of Network Security Enhancement Measures

Countermeasure	Initial increase in network security	Improvement after safety training	Increase in security policy after regular updates	Increase in cybersecurity resources after expenditure
Training plan	0%	25%	15%	10%
Safety training and awareness popularization	-	40%	30%	20%
Regularly update security policies	-	-	45%	35%
Invest network security resources	-	-	-	50%

This table clearly shows the comparison of the effectiveness of different network security management strategies. From training plans and security training to regularly updating security strategies and investing network security resources, each strategy has improved network security to varying degrees. These data results emphasize the importance of strengthening network security management to ensure the smooth digital transformation of English translation teaching in universities and protect information security^[6]. It is particularly noteworthy that the two strategies of regularly updating security strategies and investing network security resources have performed well, respectively improving the level of network security by 45% and 50%, providing clear guidance for universities to better ensure network security^[7].

4.3 Reasonable Planning of Digital Resource Construction

In order to address the challenges of digital transformation in the teaching mode of English translation majors in universities, especially the issue of imbalanced construction of digital teaching resources, universities need to formulate wise strategies, one of which is to plan the construction of digital resources reasonably. The latest data shows significant differences in the quality and quantity of digital teaching resources among different schools. In order to better meet the learning needs of students, universities need to ensure the balanced development of digital teaching resources^[8]. The following table shows the comparison of different digital resource construction strategies and their effects, as shown in Table 3:

Table 3: Comparative Analysis of Measures to Enhance Digital Education Resources

Countermeasure	Increase in initial resource quality	Increase in investment in digital education	Increase in teacher participation in resource development	Increase in student satisfaction
Increase the number of resources	0%	20%	10%	15%
Improve resource quality	-	30%	20%	25%
Teacher participation in resource development	-	-	35%	30%

This table clearly shows the comparison of the effectiveness of different digital resource construction strategies. From increasing the quantity and quality of resources to teacher participation in resource development, each strategy has to varying degrees improved the quality of digital education resources and student satisfaction. The data results highlight the importance of planning digital resource construction to ensure a more comprehensive and effective digital transformation of English translation teaching in universities^[9]. Of particular concern is the improvement of resource quality and teacher participation in resource development, which have respectively increased resource quality by 30% and student satisfaction by 35%. These measures will help universities better meet the needs of digital education, improve the quality of English translation education and student satisfaction^[10].

5 Conclusion

In the context of Internet plus education, it is an inevitable choice to promote the digital transformation of the teaching model of English translation majors in colleges and universities to adapt to the development of the digital era. By building a digital teaching resource library, implementing flipped classrooms, and creating a virtual simulation exercise platform, teaching quality and effectiveness can be improved, allowing students to have a richer learning experience. However, digital transformation also faces certain challenges, such as improving teachers' information technology application ability, cultivating students' self-learning ability, and paying attention to network security risks. To address these challenges, universities can adopt multiple strategies, such as strengthening teacher training, providing learning skills guidance, and investing in cybersecurity resources. Digital transformation requires the joint efforts of schools, teachers, and students to achieve maximum effectiveness.

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