Hindawi
Wireless Communications and Mobile Computing
Volume 2022, Article ID 1940432, 11 pages
https://doi.org/10.1155/2022/1940432

Research Article

Multimedia Wireless-Network-Based Model for Smart Interactive Translation Teaching

Fei Huang

School of Foreign Language, Jiaying University, Meizhou 514015, Guangdong, China

Correspondence should be addressed to Fei Huang; huangfei@jouredu.cn

Received 24 December 2021; Revised 7 February 2022; Accepted 8 February 2022; Published 9 March 2022

Academic Editor: Mohamed Elhoseny

With the acceleration of the internationalization process, the demand for English-speaking talents in all walks of life in China is also increasing. However, the current students' translation ability is weak and cannot meet the demand for talents. This article combines interactive translation teaching mode with multimedia teaching theory to provide an interactive translation teaching method for English translation teaching. This article studies the impact of multimedia-centered interactive translation teaching methods on college students' English learning ability from five dimensions: classroom interaction, learning motivation, learning autonomy, language skills application, and English performance. From the results of the previous test, the English translation ability of the students in the two classes is almost at the same level before the experiment. However, after adopting the interactive method based on multimedia wireless network in one semester, the English translation scores of the two classes differed greatly. Most students can actively practice English translation in their spare time. As a result of collecting information and reading materials on the Internet and preparing daily speeches in their spare time, students gradually accumulate enough written materials, which can alleviate the anxiety caused by insufficient content. In addition, students also actively communicate with their classmates after completing the translation to improve their composition level. Studies have shown that the number of students who complete translation tasks only after class has dropped from 75% to 31%.

1. Introduction

Owing to the widespread use of English, people from different countries tend to use English as a tool for communicating with each other. English plays an increasingly important role in the communication between domestic and foreign countries. At the same time, social development has also led to the increasing demand for international talents in various jobs, and the requirements for talents are also getting higher and higher. In the face of changes in the international society, how colleges and universities can train students who can communicate proficiently in English, and how to improve college students' English communication skills through English teaching practices have become the goals and motivations of colleges and universities.

Traditional English translation teaching focuses on translation technology or a combination of translation theory and translation technology, focusing on the teaching of knowledge, rather than training students' translation ability [1]. Qiang [2] explores the purpose and communicative and cross-cultural features of interactive translation teaching in English majors based on teleology and lays a solid foundation for their professional development [3, 4]. Knowles et al. [5] introduced the results of an empirical study on the translation efficiency of interactive translation prediction (ITP). Compared with postediting (PE), more than half of professional translators use a neural-based machine translation system (NITP) for faster translation [6]. Yang [7] and Andrabi and Wahid [8] used interactive reading theory as a teaching method to design the corresponding teaching process. The traditional teaching model is teacher-centered and mainly focuses on the transmission of basic translation knowledge and technology, which cannot meet the teaching needs, while scientific translation teaching requires new teaching methods to meet the needs of development [9, 10]. Deng [11] suggests to propose five dimensions in different directions to help students develop

translation skills. They are the dimensions of language, culture, literature, politics or thought, functionalism, and digitalization [12]. In the context of the current rapid and continuous development of global communications and professional discourse, it is necessary to design methods to ensure that high-quality professional translations and successful translation training become real challenges. Natalie et al. [13] introduced a translation teaching framework specifically designed for this type of environment. Margrethe [14] tried to test the quality of translation. In particular, the question to consider is whether it is possible to ensure quality of translation. If so, what are the implications of translation theory, translation practice, and translation education?

This article combines multimedia wireless network teaching method with interactive translation theory to provide an interactive translation teaching method for English translation teaching. This article also studies the impact of multimedia-centered interactive translation teaching methods on college students' English-learning ability from five dimensions: classroom interaction, learning motivation, learning autonomy, language skills, and English performance. From the results of the previous test, the English translation ability of the students in the two classes is almost at the same level before the experiment. However, after adopting the interactive method based on multimedia wireless network in one semester, the English translation scores of the two classes differed greatly. Research shows that most students can actively practice English translation in their spare time, reduce anxiety caused by insufficient content, and actively communicate with classmates after completing the translation.

2. Related Work

Wu et al. [15] proposed an interactive teaching system based on MOOC. Chang-Xian et al. [16] used interactive teaching methods to stimulate students' learning enthusiasm and improve the teaching effect of zoonotic diseases. The results show that the interactive teaching method is effective for the teaching of animal infectious diseases and can significantly improve the teaching quality of animal infectious diseases. Wadson [17] and Kim and Xing [18] studied the impact of an interactive teaching method on the learning performance and prevention, relief, preparation, and response abilities of nursing students. It is worth noting that theoretical teaching through comprehensive teaching methods can improve students' perception and motivation to learn disaster response measures. Cai et al. [19] took traditional Chinese clothing as an example and proposed a virtual reality interactive teaching mode for clothing design education. In medicine, interactive tutorials can provide students with the benefits of reading brain CT scans, while e-learning and interactive tutorials can also provide students with different learning advantages in radiology.

2.1. Interactive Translation Teaching Method Based on the Multimedia Wireless Network

2.1.1. Interactive Translation Teaching Theory Based on the Multimedia Wireless Network. Multimedia teaching platform is a kind of comprehensive processing of information and knowledge in the form of text, graphics, images, animation and sound to make courseware, and integrated control through software and hardware such as computers. A technical platform for a series of interactive operations. Compared with other theories in the field of second language acquisition, interactive teaching method is a new method of English teaching and a new research field. It is considered an indispensable part of the field of second language teaching, and its popularity is increasing. The interactive teaching method based on multimedia wireless network regards teaching activities as a multidimensional communication and dynamic interaction process in an information technology environment. In classroom teaching, there are a variety of interactive English translation teaching modes between teachers and students, students and students, and students and computers, as shown in Figure 1:

(1) Teachers, as the main body of teaching design, carry out task design and participate in student knowledge construction based on the analysis of students and teaching resources according to specific teaching goals. The so-called wireless network refers to the network that can realize the interconnection of various communication devices without wiring. Wireless networking technologies cover a wide range of global voice and data networks that allow users to establish wireless connections over long distances, to infrared and radio frequency technologies optimized for short-range wireless connections.

(2) Students interact with teachers, other students, and learning resources in a multidimensional environment such as classrooms, extracurricular activities, and multimedia. Teachers make necessary adjustments to the teaching design according to the actual situation of the activity.

(3) Students focus on the teacher's teaching design, teaching requirements, and teaching tasks and use English as a tool to achieve meaningful construction through personal efforts or group cooperation. Translate the acquired language knowledge into specific learning outcomes, such as improving English proficiency in English translation. Multimedia teaching means that in the teaching process, according to the characteristics of teaching objectives and teaching objects, through teaching design, rational selection, and use of modern teaching media, and organic combination with traditional teaching methods, to participate in the whole process of teaching together, with the role of a variety of media information. For students, form a reasonable teaching process structure to achieve the optimal teaching effect.

(4) Teachers, students, and other learning partners should evaluate the aforementioned learning achievements and tasks in a timely manner and give feedback to the aforementioned steps to improve teaching quality and prepare for a new round of teaching process. Its main operation is shown in Figure 2.

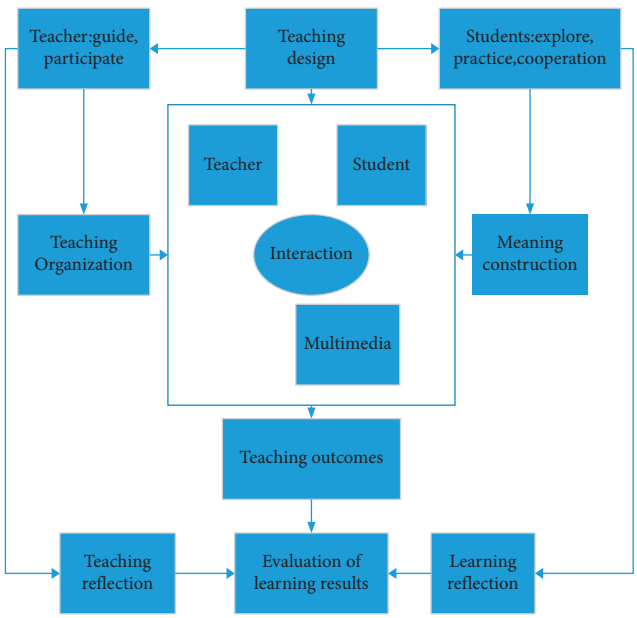

FIGURE 1: Interactive teaching mode based on multimedia of high school English.

2.1.2. Features of Interactive Translation Teaching Based on the Multimedia Wireless Network. The interactive teaching method based on multimedia is different from the traditional English teaching method. Generally speaking, there are two main functions: one is about changes in the teaching environment, and the other is about changes in the roles of teachers and students. The most important thing is to consider the individual differences of students. As we all know, there are individual differences in learners' personalities and learning methods. This difference is more prominent in foreign language learning. It uses computer technology, network technology, communication technology, and scientific and standardized management to integrate and fully digitize all information resources related to learning, teaching, scientific research, management, and life services to form unified user management and unified resources. Management and unified access control. It focuses on that students can access the campus network and the Internet through Wifi at any time, so that they can easily obtain learning resources. Teachers can use the wireless network to check students' learning status, complete lesson preparation and conduct scientific research anytime and anywhere. Its core lies in the implementation of paperless teaching and the extension of wireless network in campus. According to psychological findings, some people are good at logical thinking, while others are good at image thinking. Figure 3 is a schematic diagram of the multimedia network teaching system.

2.1.3. Wireless Network Technology. A wireless network refers to any type of radio computer network, which is generally combined with a telecommunication network and can be connected between nodes without cables. With the continuous advancement of science and technology, wireless network technology has also been developed. It can play different roles when combined with specific fields. Linear model is a general term for a class of statistical models. The production method is to use a certain process to connect various links, including linear regression models and variance analysis models, which are used in biology, medicine, economy, and management. The linear model is composed of multiple linear weights and is predictive. The specific function expression is as follows:

$$\begin{aligned} t(a) &= \alpha_1 q_1 + \alpha_2 q_2 + \cdots + \alpha_i q_i + k, \\ t(a) &= \alpha^y q + k, \end{aligned} \tag{1}$$

where q represents the attribute value, and the entire model can be determined only after the values of α and k are determined.

$$t(a_h) = \alpha_h q_h + k, \tag{2}$$

where $t(a_h)$ represents the linear regression equation, using this method can reduce the error.

$$\begin{aligned} (\alpha, k) &= \arg\min \sum_h^l \left(t(a_h) - g_h\right)^{5/3}, \\ (\alpha, k) &= \arg\min \sum_h^l \left(g_h - \alpha a_h - k\right)^{5/3}. \end{aligned} \tag{3}$$

The most simplified equation can be obtained by solving α and k.

$$W_{(\alpha,K)} = \sum_h^l \left(g_h - \alpha a_h - k\right)^{5/3}. \tag{4}$$

Derivation of the other program can get

$$\begin{aligned} \frac{\beta W_{(\alpha,k)}}{\beta\alpha} &= 0.5\left(\alpha \sum_h^l a_h^2 - \sum_h^l (g_h - k) a_h\right), \\ \frac{\beta W_{(\alpha,k)}}{\beta\alpha} &= 0.5\left(dk - \sum_h^l (g_h - \alpha a_h)\right). \end{aligned} \tag{5}$$

After we set formula (5) to zero, we can get the optimal solution:

$$\begin{aligned} \alpha &= \frac{\sum_h^l g_h (a_h - \overline{a})}{\sum_h^l a_h^2 - (3/d)\left(\sum_h^l a_h^2\right)^{5/3}}, \\ k &= \frac{3}{d} \sum_h^l (g_h - \alpha a_h). \end{aligned} \tag{6}$$

h is the corresponding coefficient. Where $\overline{a} = (3/d)\sum_h^l a_h^2$ represents the average value of a.

$$\widehat{\alpha} = \arg\min (g - A\widehat{\alpha})^q (g - A\widehat{\alpha}). \tag{7}$$

If you derive the formula, you can get

$$\frac{\beta W}{\beta\widehat{\alpha}} = 2A^q (A\widehat{\alpha} - g). \tag{8}$$

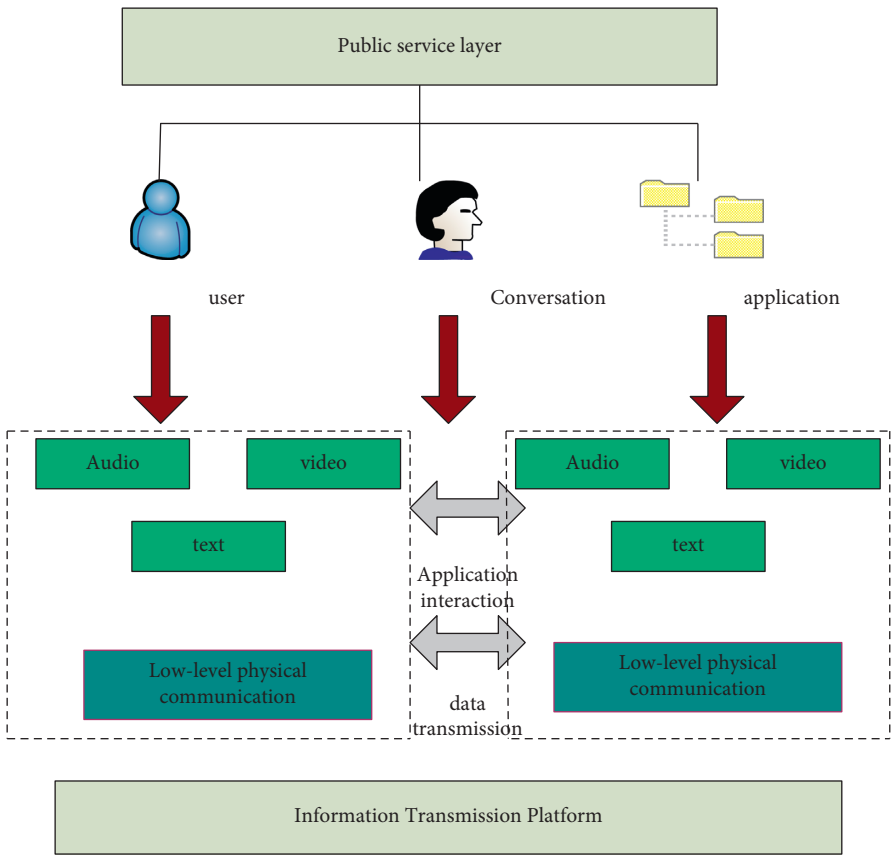

Figure 2: Interactive platform operating model.

If the value of the aforementioned formula is zero, then linear regression parameters can be obtained.

$$U(s) = \frac{3}{2}\sum_{h}^{l}\left(g(a_h, s) - f_h\right)^{(3/2)},$$
$$\overline{U}(S) = \frac{3}{2}\sum_{h}^{l}\left(g(a_h, s) - f_h\right)^{(3/2)} + \frac{\partial}{2}\|s\|^{(3/2)}, \tag{9}$$

where ∂ represents the importance of the error term.

$$Y_x(W) = \sum_{w}^{|w|} g_w j_w(W) + X|W|, \tag{10}$$

where $|W|$ represents the number of nodes and w is the node of W.

$$J_x(W) = -\sum_{D}\frac{g_{wd}}{g_w}\log\frac{g_{wd}}{g_w}, \tag{11}$$

where g_{wd} represents the number of samples in category k.

$$Y(X) = \sum_{x=1}^{|x|} g_w j_w(X) = -\sum_{x=1}^{|x|}\sum_{x=1}^{d} g_{wd}\log\frac{g_{wd}}{g_w}. \tag{12}$$

At this time,

$$Y(X) = Y_H(X) + \beta|X|, \tag{13}$$

where $|X|$ represents the complexity of the model.

$$g_s(a) = \sum_{h}^{l} F(a, \Theta_s), \tag{14}$$

where Θ_s represents the parameter and s represents the total quantity.

$$g_0(a) = \arg\min\sum_{j=1}^{j} S(b_j, m), \tag{15}$$

where $g_0(a)$ represents the initialization model.

$$h = -\left(\frac{\chi Q(d_j, g(a_j))}{\chi g(a_j)}\right), \tag{16}$$

where r represents the regression equation of the label $g(a)$ vector fitting.

$$d = \arg\min\sum_{r} Q(d_j, g(a_j) + l),$$
$$g(a) = g_i(a) + \sum_{s=1}^{s} \mathrm{d}T. \tag{17}$$

$g(a)$ tends for update model expression.

$$\widehat{g}(a) = g_i(a) = \sum_{s=1}^{s}\sum_{x=1}^{x} \mathrm{d}T, \tag{18}$$

where $\widehat{g}(a)$ represents the gradient boosting regression tree.

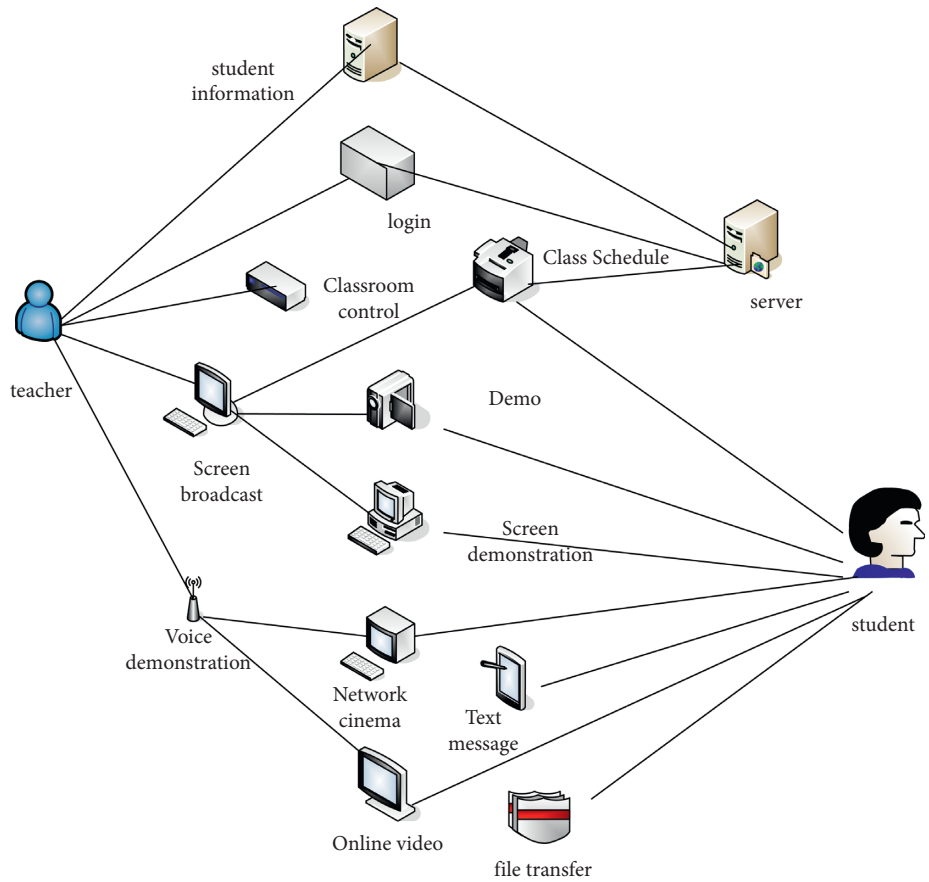

Figure 3: Multimedia network teaching system.

2.1.4. Wireless Network Multimedia Technology. The wireless network covers a very wide range, including wireless voice communication and can also provide users with communication system services. According to the different coverage, it can be divided into wireless personal area network, wireless wide area network, and so on. The main transmission is shown in Figure 4.

The combination of wireless network and multimedia will inject new vitality into the classroom, but to achieve this effect, the network condition must be stable. If the network is unstable, the effect may be somewhat different from the expected. Figure 5 shows the transmission diagram under different network conditions.

Based on the theoretical basis of multimedia wireless networks, we have the following.

(1) Multimedia Classroom Teaching Theory. The difference between traditional classroom and multimedia classroom is reflected in the status and role of students and teachers. Since the establishment of the school, the traditional classroom teaching of teacher teaching and student learning has been carried forward to the present. It has affected today's education to a certain extent, and stifled students' curiosity and thirst for knowledge. Students act as "listeners" in the classroom, and teachers act as "masters" in the classroom. As the masters in the classroom, students actively explore knowledge and communicate with their classmates and teachers. Teachers become student guides, facilitators of learning, help students complete learning tasks, and conduct summary evaluations. The multimedia classroom teaching mode is shown in Figure 6.

(2) Individualized Learning Theory. Personalized learning is mainly reflected in the following aspects. Learners learn through multimedia platforms. In the process of human-computer interaction, teachers can view the learning situation of learners through the background, track learners in real time, and provide personalized guidance. Learner autonomous learning is the main form of personalized learning. In the interactive test process, learners perform their own exercises according to their learning content, and the system will give corresponding scores to help students understand their own shortcomings more truly and make learning more targeted. The implementation process of personalized education is carried out from the stimulation of learning motivation (mindset, concept, and belief), the improvement of learning ability (thinking ability, learning ability, and innovation) to the mastery of knowledge and skills and the acquisition of experience. Education should focus on personality education first, ability education second, knowledge and skills education last, and individualized education is a truly human-oriented education. At the same time, individualized education is the education of balanced development of knowledge and skills education, comprehensive ability education and personality education.

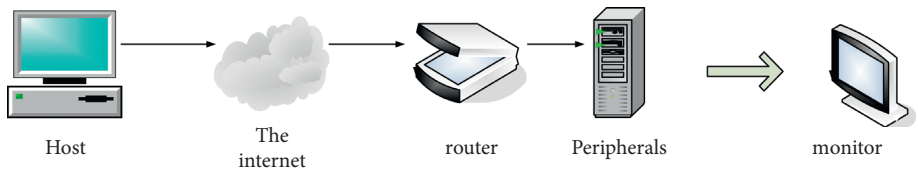

Figure 4: Transmission path.

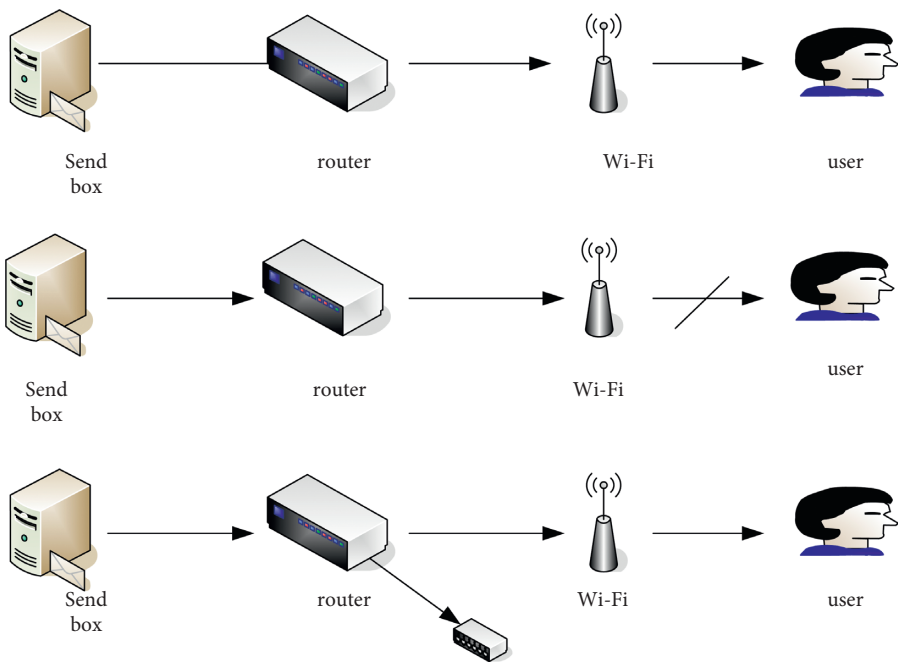

Figure 5: Transmission diagram under different network conditions.

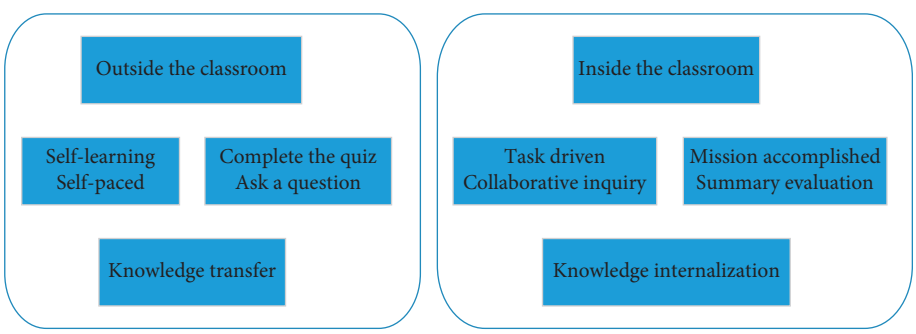

Figure 6: Multimedia classroom teaching mode.

(3) Ubiquitous Learning Theory. Ubiquitous learning refers to a learning method in which learners are not limited by location and time and focus their main energy on learning. In addition to using computers, ubiquitous learning uses wireless networks to connect to devices, which can be in schools, buses, libraries, and wherever you want to study. Ubiquitous learning mainly has the following characteristics: the demand for learning is ubiquitous, and the occurrence of learning is also ubiquitous. Learners can learn at anytime and anywhere according to their needs. Diversified communication methods and high-performance communication enable learners to find suitable learning methods and tools.

3. Design and Implementation of Survey Research Plan

3.1. Research Object. This article takes 86 freshmen, sophomores, and juniors from XX University in XX Province as the research objects. There are 45 students in 5 classes and 41

students in 6 classes. This article analyzes the entrance examination results of these two classes and finds that the average scores of these two classes are relatively close, and the average scores of English translation are also similar. In order to make the experiment more effective, this article immediately organized a comprehensive inspection at the beginning of the semester. After the test, this article collected the English translation results of the two classes. Through independent sample *T* test, it is found that the English translation level of the two classes is very similar. On this basis, the author can effectively compare multimedia-based interactive translation teaching methods with traditional methods. The researchers used 45 students in 5 classes as the control group (CC) and 41 students in 6 classes as the experimental group (EC).

3.2. Questionnaire Design. In this experiment, a questionnaire is issued after the teaching experiment. The questionnaire is divided into two parts, examining four dimensions in addition to English performance: classroom interaction, learning motivation, learning autonomy, and language skills application.

The first part of the questionnaire is an operability test of the teaching experiment from the perspective of classroom interaction. There are 5 questions in the questionnaire, including the main activities in the classroom, the form of activities, the time of group activities, the role of teachers, and the feelings of students. These 5 questions are used to verify the effectiveness of the experimental operation and ensure that there is a significant difference in the form of classroom interaction between the control group and the experimental group in experimental teaching. Tables 1 and 2 are the specific conditions of the experimental subjects.

The second part is about the scale design of students' learning status. The postexperiment scale has a total of 17 questions, which are composed of completely disagree, disagree, general, agree, and completely agree. The score is 1 to 5. A high score indicates a high degree of agreement on the question. Combined with the research purpose, the scale analyzes the students' English learning situation from the three dimensions of students' learning motivation, learning autonomy, and language skills.

The power consumption of the system during the experiment is represented by the current meter, and the specific conditions are shown in Table 3.

3.3. Interactive Translation Teaching Plan Based on the Multimedia Wireless Network. The interactive teaching method proposes that the ratio of teacher's speech time to effective multimedia activities is 3:7, that is, the teacher's speech time in the classroom is controlled within 30%, and the rest of the time is allocated to students for multimedia activities. However, in the actual teaching process, it is not easy to arrange teaching activities in accordance with the ratio of 30% and 70%. In the teaching method based on group interaction and cooperation implemented in this experiment, the 37 ratio is not a quantitative indicator, but a reference item for class time allocation. The implementation process of the activities based on the multimedia wireless network is shown in Figure 7.

Table 1: Gender situation.

Category		Number of people	Proportion (%)
Sex	Male	15	33.3
	Female	30	66.7
Total people		45	100

Table 2: Age situation.

		Number of people	Proportion (%)
Age	Less than 18	3	6
	18–28	20	44
	Greater than 28	22	50
Total people		45	100

Table 4 shows the performance of different genders in translation classes.

3.4. Reliability and Validity Testing. Before analyzing the results of the questionnaire, generally the reliability test and validity test of the sample data should be performed first to ensure the reliability of the questionnaire. Reliability testing refers to the degree of consistency of the results obtained using the same testing method to repeatedly measure the same test object. Cronbach's alpha reliability coefficient is currently the most common reliability coefficient.

The reliability analysis of the scale was carried out through SPSS21.0, as shown in Table 5. The reliability coefficient alpha = 0.850, which is greater than 0.8, which belongs to high reliability. It shows that the questionnaire has high reliability and meets the reliability requirements of the experiment.

Validity test is a test of the validity of the questionnaire. It is the degree to which the measurement tool can accurately reflect the required measurement purpose. In other words, whether the results of the survey can truly reflect the intent of the measurement. In this study, KMO and Bartlett sphericity test were used to test the validity of the questionnaire. Generally, KMO needs to be greater than 0.6, and the chi-square statistic of Bartlett sphere detection needs to be <0.001.

KMO sampling appropriateness test and Bartlett sphericity test were performed on the questionnaire, as shown in Table 6. The KMO in the article is greater than 0.6, and the chi-square statistic of Bartlett sphere detection also meets the requirements.

4. Results and Discussion

4.1. Analysis about Overall Scores of the Pretest in CC and EC. At the beginning of this semester, both CC and EC conducted pretests to ensure that the translation level of the two courses is the same before applying multimedia-based interactive translation teaching. This article uses SPSS19.0 data analysis software to conduct an independent sample *T* test on the overall test results of EC and CC. The specific experimental results before the experiment are shown in

Table 3: Network structure current meter.

Category	"Point-to-point" structure	"Star" structure	"Tree" structure
Node idle state	0.65	0.71	0.71
Intermediate node receiving	*	30	28
Intermediate node sends	*	23	23
End node receiving	31	30	30

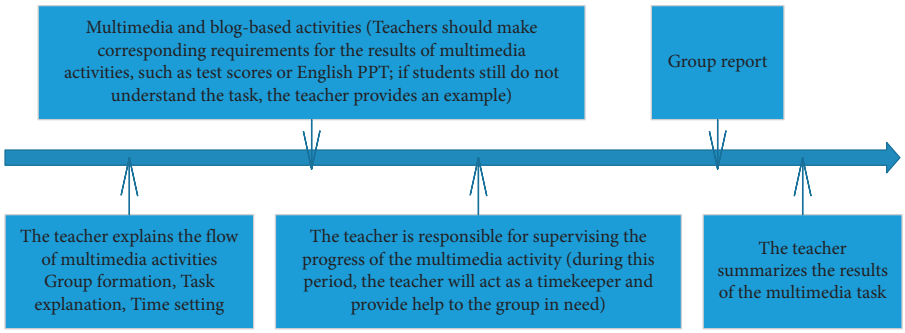

Figure 7: Implementation process of multimedia wireless network activities.

Table 4: Gender differences.

Category	P value	Boys' mean	Average girls
Cooperate	0	2.03	2.87
Access data	0	2.36	3.52
Revision	0	3	4.2

Table 5: Reliability test results.

Cronbach's alpha	Cronbach's alpha based on standardized terms	Number of items
0.850	0.859	18

Table 6: Validity test results.

Kaiser–Meyer–Olkin measure of sampling adequacy		0.913
Bartlett's sphericity test	Approximate chi-square	1964.342
	df	153
	Sig.	0.000

Figure 8. Table 7 and Figure 9 show the predictions of CC and EC. It can be seen from Table 7 that the CC deviation is 19 and the EC deviation is 21. The difference between the two in terms of error is 0.4. The parameters in Figure 9 decrease as a whole.

According to Figure 8, there is no significant difference between the average value of EC and the average value of EC. The average value of EC is 18.3659, while the average value of CC is 18.6444. These data show that the translation level of the first two categories of EC is equivalent this semester. Therefore, it can be concluded that the English translation performance of CC and EC students is roughly the same.

In addition, Table 8 shows that its significance is 0.699, which is higher than 0.05. Through Levene's test for equal variances, it can be seen that the variances of CC and EC are equal. The standard deviations of EC and CC are 1.54525 and 1.49477, respectively. In addition, Sig. (2-tailed) is $0.399 > 0.05$, which also shows that the English translation ability of EC and CC students is at the same level before the test. In addition, the upper and lower scores of the 95% confidence interval for the difference both contain zero. Therefore, it is scientific to choose these two categories as parallel categories in the research. From this, we can also speculate that if there is a significant difference in the English translation performance of the two classes after the experiment, it may be affected by different translation teaching methods.

4.2. Analysis about Overall Scores of the Posttest in CC and EC. In order to verify whether there is a difference in English translation performance between the experimental class and the control group after the experiment, after the end of the semester, the two classes were posttested. The specific experimental results are shown in Figure 5.

From Figure 10, it can be clearly seen that the average score of CC is 19.3556, the average score of EC is 20.4878, and the difference between the average score of EC and CC after the test is 1.1322. The results show that there is a big difference between EC and CC after the experiment, and the average score of EC students is significantly higher than that of CC.

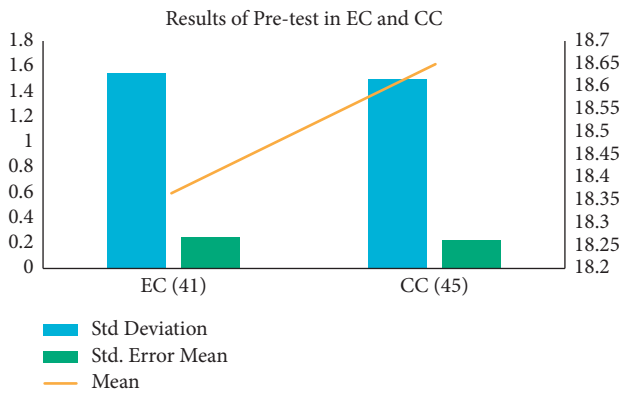

Figure 8: Results of pretest in EC and CC.

Table 7: Forecast data statistics set.

Statistics				
	Class	Deviation	Error	Standard
Predict	CC	19	3.3	55
	EC	21	2.9	54

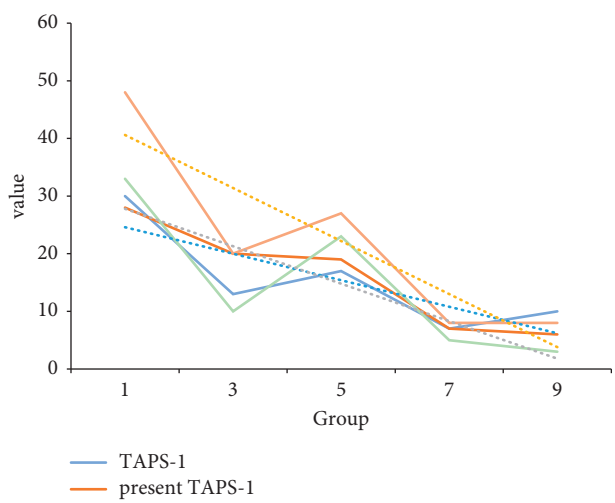

Figure 9: English-Chinese and Chinese-English translation.

According to Table 9, the value of sig is 0.042 lower than 0.05, which indicates that the two assumed variances are not equal. In addition, the data of Sig. (2-tailed) is $0.007 < 0.05$, so there is a huge difference between EC and CC. In other words, according to this method, EC has made greater progress than CC ($20.4878 > 19.3556$). In addition, in the 95% confidence interval of the difference, it is obvious that zero is not included in the upper and lower limits. Therefore, the average scores of these two categories differ greatly. As the English translation teaching methods of the two classes in the experiment are different, the improvement of students' English proficiency is more significant. It can be concluded that the interactive translation teaching method based on multimedia wireless network used in the experimental class is better than the traditional English translation teaching method.

4.3. Analysis about Overall Scores of the Pretest and Posttest in CC and EC. In order to further prove the impact of this new method on improving students' English translation performance, the researchers applied paired sample T-tests to compare and analyze the two tests in CC and EC.

In Figure 11, compared with the average score before the test of CC (18.6444), the improvement of the average score after the test of CC (19.3556) is not obvious. The average score of EC was 18.3659 before the test and 20.4878 after the test, but the result after the test was 2.1 higher than the previous result. At the same time, EC's Sig. (2-tailed) is $0.000 < 0.05$, and there is a big difference between before and after the exam, indicating that the students' translation level has been greatly improved. The Sig. (2-tailed) of CC is $0.187 > 0.05$, and there is no significant difference between the pretest and the posttest, which indicates that the translation performance of CC students has improved slightly. Based on the aforementioned data, we can conclude that EC students have made greater progress in translation performance than CC students. It clearly shows that the correlation coefficient is 0.820, that is, the Sig. value of CC is $0.032 < 0.05$. The data show that there is a relationship between these two variables, so a paired sample t-test can be performed in CC.

4.4. Analysis about Analytical Scores of the Pretest and Posttest in CC and EC. This article conducts a detailed study on the influence of the interactive translation teaching method of multimedia wireless network on students' translation accuracy. Including the use of vocabulary, grammar, sentence patterns, and coherence, this article uses this method to prove whether this method can improve the accuracy of EC class students' English translation. The pre- and post-CC test results are shown in Figure 12.

According to the data in Figure 12, the P value of the control group students in terms of translation vocabulary, grammar, sentence pattern, and coherence are all less than 0.05 ($0.008 < 0.05$, $0.013 < 0.05$, $0.015 < 0.05$, and $0.009 < 0.05$). This shows that the pretest and posttest scores of these four items are statistically significantly different. Through the mean difference, it is found that the average student's vocabulary usage increased by 0.29, grammar usage increased by 0.09, sentence pattern usage increased by 0.04, and coherence usage increased by 0.27. It can be clearly seen that the use of sentence patterns and coherence has been further improved in the control category, followed by grammar. The standard deviation of grammar decreased by 0.092, coherence decreased by 0.144, vocabulary usage increased by 0.31, and text structure increased by 0.008. All in all, the grammatical and coherence results of the control group continued to improve, and the internal gap was narrowing. Students' achievements in these two areas are more concentrated. However, although the scores for sentence patterns and vocabulary use have improved, the internal gap has increased.

Table 8: Independent samples test.

	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference
Equal variances assumed	0.699	−0.849	84	0.398	−0.27859	0.32796
Equal variances no assumed		−0.848	82.659	0.399	−0.27859	0.32847

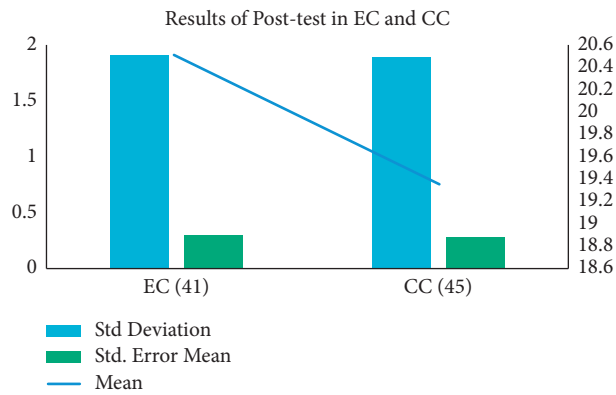

Figure 10: Results of posttest in EC and CC.

Table 9: Independent samples test.

	Sig.	t	df	Sig. (2-tailed)	Mean difference	Std. error difference
Equal variances assumed	0.042	2.772	84	0.007	1.13225	0.40839
Equal variances no assumed		2.772	83.140	0.007	1.13225	0.40835

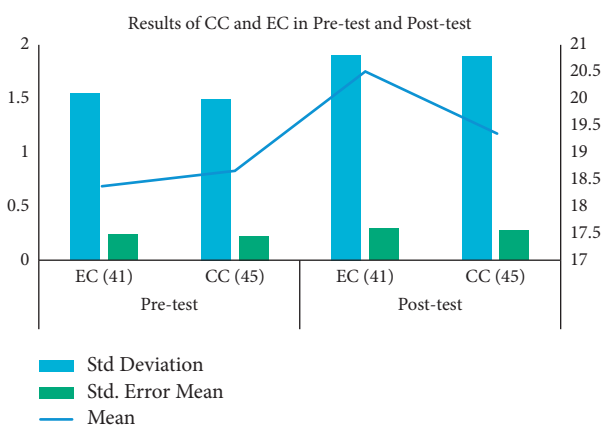

Figure 11: Results of CC and EC in pretest and posttest.

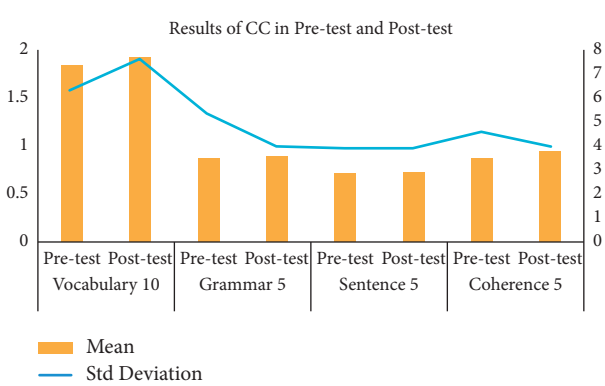

Figure 12: Results of CC in pretest and posttest.

5. Conclusion

After 4 months of experiments, based on the quantitative analysis of the pretest and posttest data, the English translation experimental class has significantly improved its performance. From the results of the pretest, the English translation ability of the students in the two classes is almost at the same level before the experiment. However, after applying the interactive method based on multimedia wireless network in one semester, the English translation scores of the two classes differed greatly.

The accuracy of English translation includes the application of vocabulary, correct grammar, sentence patterns, and coherence of text structure. After a semester of experiments, the students of the experimental class have made greater progress in improving the accuracy of translation than the control class. In terms of average performance, after using the interactive translation teaching method of multimedia wireless network in English translation, the accuracy of the experimental class has a greater improvement than the control group. As students have to edit in groups in translation classes, the application of vocabulary, grammar, and sentence patterns is becoming more and more accurate. Research shows that the number of students who complete translation tasks only after class has dropped from 75% to 31%. Most students can actively practice English translation in their spare time. Owing to the collection of information and reading materials on the Internet and preparation of daily presentations in their spare time, students gradually accumulate enough written materials, which can alleviate the anxiety of lack of content.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Z. Lin-Ying, "Training of students' translation ability under interactive translation teaching model," *Journal of North China University of Science and Technology (Social Science Edition)*, vol. 17, no. 1, pp. 114–118, 2017.

[2] D. Qiang, "Study on interactive translation teaching of English majors based on skopos theory in applied undergraduate universities," *Journal of Hlongjiang College of Education*, vol. 37, no. 7, pp. 133–135, 2018.

[3] W. Lin, "On the strategies of graduation thesis writing teaching of translation major undergraduates based on eco-translatology," *English Language Teaching*, vol. 10, no. 8, pp. 63–68, 2017.

[4] W. Lin, "On interactive teching model of translation course based on wechat," *English Language Teaching*, vol. 10, no. 3, pp. 21–25, 2017.

[5] R. Knowles, M. Sanchez-T, and P. Koehn, "A user study of neural interactive translation prediction," *Machine Translation*, vol. 33, no. 1-2, pp. 135–154, 2019.

[6] D. A. Russell, "Interactive (adjustable) plots and animations as teaching and learning tools," *Acoustical Society of America Journal*, vol. 33, no. 1, Article ID 025001, 2018.

[7] Y. Yang, "An English translation teaching model based on interactive reading theory," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 13, no. 08, pp. 146–158, 2018.

[8] S. A. B. Andrabi and A. Wahid, "Machine translation system using deep learning for English to Urdu," *Computational Intelligence and Neuroscience*, vol. 2022, Article ID 7873012, 11 pages, 2022.

[9] W. Yidan, X. Wentao, and J. I. Xue, "An empirical study of the translation workshop in sci-tech translation teaching," *Journal of Dongguan University of Technology*, vol. 24, no. 2, pp. 107–112, 2017.

[10] Y. Liu and L. Dong, "Research on English translation based on functional equivalence theory and genetic algorithm," *Wireless Communications and Mobile Computing*, vol. 2021, Article ID 6672773, 7 pages, 2021.

[11] W. Deng, "Teaching translation: a house with windows facing different directions," *Theory and Practice in Language Studies*, vol. 10, no. 1, p. 55, 2019.

[12] M. Alkhatnai, "Teaching translation using project-based-learning: saudi translation students perspectives," *Arab World English Journal For Translation and Literary Studies*, vol. 1, no. 4, pp. 83–94, 2017.

[13] K. Natalie, A. Mestivier, and M. Pecman, "Teaching specialised translation through corpus linguistics: translation quality assessment and methodology evaluation and enhancement by experimental approach," *Meta*, vol. 63, no. 3, p. 807, 2018.

[14] P. Margrethe, "Translation and quality management: some implications for the theory, practice and teaching of translation," *Philosophical Explorations*, vol. 9, no. 16, p. 201, 2017.

[15] Y. F. Wu, M. H. Yuan, and Z. C. Peng, "Research on the cultivation of students' autonomous learning ability based on mooc-based network interactive teaching," *International Journal of Continuing Engineering Education and Life-Long Learning*, vol. 29, no. 1/2, pp. 72–86, 2019.

[16] W. Chang-Xian, W. Yan, and Z. Da-Peng, "Exploration and practice of interactive teaching form in the course of evaluation on the soil plant and fertilizer," *Journal of Anhui Agricultural Sciences*, vol. 45, no. 13, pp. 248-249, 2017.

[17] K. Wadson, "Collaborative and interactive teaching approaches have a positive impact on information literacy instruction supporting evidence based practice in work placements," *Evidence Based Library and Information Practice*, vol. 14, no. 1, pp. 62–64, 2019.

[18] M. S. Kim and X. Xing, "Appropriation of affordances of multiliteracies for Chinese literacy teaching in Canada," *Research and Practice in Technology Enhanced Learning*, vol. 14, no. 1, p. 1, 2019.

[19] J.-Y. Cai, P.-P. Zhang, and X. Tan, "A novel physical education environment platform using Internet of things and multimedia technology," *International Journal of Electrical Engineering Education*, 2019.