

# On the Application of Computer Network Information Technology in Educational Reform

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**Abstract:** Information technology has developed rapidly and integrated into people's daily life. The traditional education method can not meet the needs of students. Therefore, we need to combine information technology with education, so that information technology can be applied in the field of education. The purpose of this paper is to complete the teaching of students with the help of information technology. Based on a comparative survey of 60 English Majors in Normal University, this paper selects two as the objects of investigation, which are computer network teaching class ( $n = 30$ ) and traditional teaching class ( $n = 30$ ). The computer network teaching class adopts the combination of network teaching and face-to-face teaching, while the traditional teaching class only adopts face-to-face teaching method. At the end of the experiment, the two classes' concentration and knowledge mastery were investigated and analyzed. The experimental results show that the concentration and knowledge mastery of computer network teaching class is above average, higher than that of traditional teaching class. We can see the importance of computer network information technology in education reform.

## 1. Introduction

It is the progress of information technology that plays a decisive role in the development and progress of human civilization. At the same time, major technological progress will always bring about subversive changes to human civilization, and also have a profound impact on the development of education. It is not only the increase of educational content, but also the advancement of educational ideas, means and methods. Finally, it leads to the mutual promotion and common development of material civilization and spiritual civilization.

In recent years, the development of information technology is closely related to our daily life. Information technology has developed not only in economy and technology, but also in education. 30 years ago, the impact of information technology on education was only the investment of hardware and the construction of infrastructure. It belongs to the application of information technology in the field of Education [1-2]. 20 years ago, information technology was gradually applied to different departments of the University, such as educational administration management, scientific research management, cognition management, logistics management, etc., and developed into campus card, and only information technology was applied to service [3]. Today, our principals, teachers and students require a unified platform, but because of the interests of various departments, it is difficult to unify. And now the rapid development of MOOC network, so that many students benefit, students can not go to the classroom can learn knowledge, this is a convenient and practical thing. The development of MOOC network promotes the development of information technology in educational reform.

In order to study the teaching method of combining network teaching with traditional teaching, this paper adopts comparative analysis method, questionnaire method and literature research method, selects two classes and 60 students of Normal University as the research object, and analyzes and discusses the teaching method of combining network teaching with traditional teaching through questionnaire.

## **2. Methods**

### **2.1 Information Technology Teaching**

With the advent of the era of knowledge economy and the rapid development of information industry, we have entered a diversified society. The most prominent phenomenon of social economy is the wide application of information technology. Informatization has become the global trend of this century, and accelerating the promotion of informatization is the focus of attention of all countries in the world. Setting up information technology course can make students adapt to the needs of social development, improve their future knowledge level, improve their skills, and play a positive role in promoting their overall quality development. In this era of knowledge explosion and information explosion, the amount of knowledge stored by students is not important, but how to acquire knowledge is more meaningful. Therefore, at present, students can obtain the required knowledge from B station, Baidu Library, MOOC network and other platforms. This is the impact of information technology on education and help [6].

MOOC has brought about some significant changes. It makes people who can't go to university because of various reasons also get the influence of knowledge and learn what they want to learn. This is an open university. For the teacher, the teacher's science course from a single person to a team. In order to improve the teaching effect significantly, there is also the post of teacher director [7]. Many professors and scholars may have a high level of mathematics, but they can't tell, so they can write a script, and then ask the host and actors to speak, which will greatly improve the quality of the course.

### **2.2 Education Reform**

At the beginning of the century, the guiding ideology of the new curriculum reform is to "return to life", change the "difficult, complicated, partial and old" curriculum content and the current situation of overemphasizing book knowledge, strengthen the connection between the modern society of course content and students' life and the development of Science and technology, and pay attention to students' interest and experience in learning. " Under the guidance of the concept of "return to life", as a result of paying attention to the connection with students' life experience and social practice, and reviewing the textbooks after the new century, a strong "life" sentiment has been sent out [8]. This is a great progress in the history of curriculum reform in New China. In the past, the implementation of empirical teaching in school education and teaching activities was limited by the level of technology. In teaching and activities, it is necessary to collect and deal with students' big data comparison, which is a very difficult thing to deal with. Therefore, the teaching process is inseparable from the support of certain modern educational technology.

Modern educational technology is the application of teaching media. The rational use of various teaching media is conducive to mobilizing students' perception of knowledge from multiple senses, realizing multi-channel information transmission, so as to strengthen students' perception of knowledge, improve students' absorption rate of knowledge, and promote the transformation from knowledge to ability [9]. When using multimedia teaching, only appropriate teaching multimedia can be used in the appropriate teaching content. It should be carried out in an orderly and rhythmic manner to avoid disorder and no rules to follow. Nowadays, with the popularity of mobile terminals in the whole society, the development of cloud computing services and the breakthrough of big data analysis technology, the student behavior teaching based on big data analysis has gradually become a reality [10].

## **3. Experiment**

### **3.1 Research Object**

In order to better display the experimental results, this paper conducts a comparative survey on the teaching of 60 English Majors in Normal University, and selects two as the survey objects, namely, the computer network teaching class ( $n = 30$ ) and the traditional teaching class ( $n = 30$ ). By

observing their focus on learning for a quarter and the knowledge test after learning, we can further improve the teaching mode of combining computer network with traditional teaching, understand the current situation of computer network in teaching and education, and solve the problems existing in the combination of network teaching and traditional teaching. This research is aimed at the senior students of Normal University.

### 3.2 experimental steps

In this study, two classes of Normal University were trained and studied. After the training, the mastery test was carried out. The mastery of practical knowledge of the two classes was compared, and the variance analysis was conducted. Then, through observing the students' concentration in class and Issuing the "questionnaire on the effect of practical teaching" to the students, this survey focused on the practical teaching curriculum setting and other links A total of 60 questionnaires were distributed and 56 valid questionnaires were collected, with a recovery rate of 93.33%.

Data analysis and word processing were carried out according to the questionnaire. Although the questionnaire can understand a lot of information, but there are also incomplete information or not specific, in-depth situation. Therefore, on the basis of the questionnaire survey, the researchers also use the literature research method, through the domestic and foreign scholars on the development of computer network, the current stage of education reform literature for reference, the purpose is to more comprehensively and accurately understand the university teachers and students on the combination of network teaching and traditional teaching and existing problems. The analysis of the following data will organically unify the results of the questionnaire and literature research, and analyze and discuss the current situation and problems of practical teaching in the experimental college.

## 4. Discussion

### 4.1 The Difference of Practical Knowledge between Computer Network Teaching Class and Traditional Teaching Class

The paper compares the divergent thinking of the students in the computer network teaching class and the traditional teaching class by using the independent sample t-test method. It can be found that the situation of the two schools is similar: there is a significant difference in the divergent thinking between the computer network teaching class and the traditional teaching class ( $P < 0.5$ ), and the standard deviation of the computer network teaching class and the contrast class are both It is very high, which shows that the individual differences of students' divergent thinking level are very large. The specific results are shown in Table 1. The results show that the effect of the computer network teaching class and the traditional teaching class in divergent thinking is 0.44, which is positive and moderate.

Table 1. T-test results of the difference of students' mastery of practical knowledge between computer network teaching class and traditional teaching class in Normal University

Class Type	Number of People(N)	Average(Mean)	Standard Deviation(S)	T	P value
computer network teaching class	27	26.03	18.95	3.075	0.002
raditional teaching class	29	20.01	14.10		

From the statistical results, it is found that although the students in normal university are different in the classification of entrance scores, their performance in divergent thinking is similar: there is a significant difference in divergent thinking between the computer network teaching class and the control class ( $P < 0.05$ ), and the internal standard deviation of the computer network teaching class and the control class is very high, indicating that the students' divergent thinking level is individual There is a big difference. The effect of normal university is 0.44, which shows

that the use of network classroom teaching for students to master practical knowledge has a medium level, positive and significant effect, the computer network teaching class students' practical knowledge level is better than the control class. We infer that the reason for this phenomenon is: the computer network teaching class students are more exposed to rich resources, and can consolidate and review through network video teaching after class, and when they encounter the knowledge that they are confused and do not understand, they can access the Internet to understand the information, not only broaden their horizons, but also let students know how to find problems and solve problems, which improves students' self-study Ability.

#### 4.2 Investigation and Analysis of Students' Concentration in Class of Computer Network Teaching

For a long time, colleges and universities in our country pay too much attention to traditional teaching and ignore network teaching, which makes students do not know how to consult information and solve problems when they are confused, and they only wait for the teacher to explain. According to relevant data, the self-study ability of college graduates in China has reached 84.3%, and some of them are not strong enough. Therefore, we study the self-learning ability of college students, and the results are shown in Figure 1.

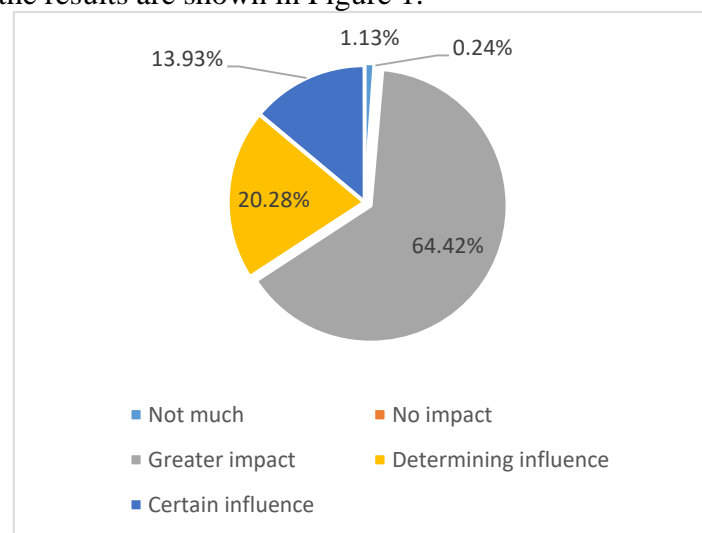


Figure 1

It can be seen from Figure 1 that the majority of students think that self-study ability has a great impact on future employment from the perspective of students' subjective will. 64.42% of the college students think that their practical ability has a great impact on their future employment, 20.28% of the students think that their practical ability has a decisive impact on the future employment, only 1.13% of the students think that the impact is not big, only 0.24% of the students think that their practical ability has no impact on the future employment.

As shown in Figure 2, from the school level, the combination of network teaching and traditional teaching is an important way to improve the self-learning ability of college students. At the same time, other hardware facilities and management system provided by the school are the important guarantee for the cultivation of students' self-learning ability. Therefore, the survey on the school level of innovative ability training of sample schools is mainly analyzed from the aspect of network teaching. Network teaching and traditional teaching are the main ways for students to learn, and also an important part of improving students' self-learning ability. In terms of course content, comparing the selection results of "traditional classroom plus online classroom" and "only traditional classroom", the proportion of "relatively satisfied" and "extraordinary" in the former item is 6.74% higher than that in the latter item, indicating that most students think that the combination of traditional classroom and online classroom is necessary. Further understanding of college students "did not choose online courses", the reasons for the proportion from more to less were "no clear provisions", "no optional courses", and sufficient classroom knowledge. In the "other

reasons", some college students filled in "no consideration" and "no time".

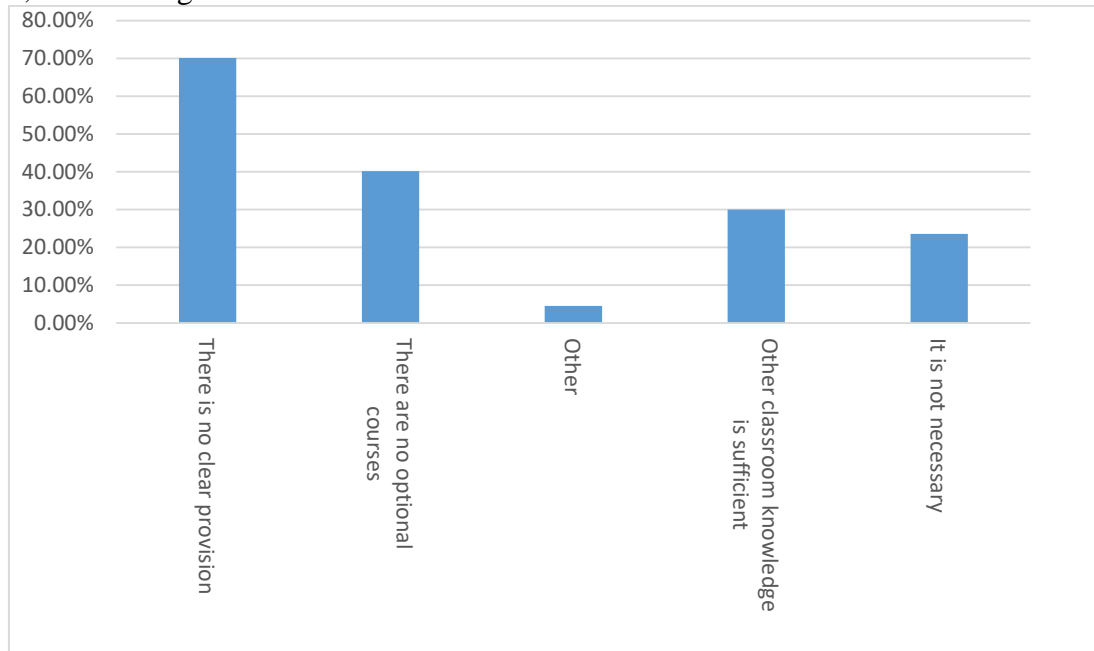


Figure 2. Distribution of reasons for not taking Internet courses

## 5. Conclusions

With the continuous reform of information technology, the traditional teaching mode can not meet the needs of the information age. The new teaching mode needs to gradually change the situation of Teacher centered, classroom centered and Book centered, advocate and develop a variety of students' learning methods, and pay more attention to students' autonomy. At the same time, based on the environment of the new technology era, the integration of technology and curriculum resources has become an important issue in the current education field. The network teaching system has replaced the traditional teacher teaching and become the mainstream, that is, through the combination of network teaching and traditional teaching, a fragmented and socialized learning environment platform with autonomous learning as the core is created, so that students can become the masters of learning, cultivate their subjective consciousness, develop their initiative and creativity, and cultivate their self-study awareness and practical ability. The combination of network teaching and traditional teaching requires teachers to make proper use of network teaching resources, which can not only improve students' self-learning ability, but also enable them to consolidate and review after class, so as to further deepen their understanding of knowledge. Good use of network resources can bring great changes to the lives of students and teachers. Students' learning ability is strong, and teachers' work is relatively relaxed. When the information technology is so developed, students should make good use of the material resources around them. Therefore, teachers should pay attention to let students find and solve problems by themselves, make good use of online learning resources, and help improve students' ability to master knowledge and creativity.

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