

On Effective Ways of Further Integration of Information Technology and Traditional Teaching

Xiaohui Wang*

School of Foreign Languages
Northeast Electric Power University
JiLin, China

*Corresponding author

Huimin Zhang

School of Foreign Languages
Northeast Electric Power University
JiLin, China

Jianming Dong

School of Foreign Languages
Northeast Electric Power University
JiLin, China

Abstract— In this paper, our team is trying to find effective ways of further integration of information technology and traditional teaching. First, we discuss the definition of traditional teaching. After that, the features of further integration of information technology and traditional teaching should be defined. At last, based on previous scholars' ideas we presented the approaches of realizing the deeper integration of information technology and traditional teaching. How to realize the further integration of information technology and traditional classroom? There are two ways we propose. In the macro aspect, the implementation of hierarchical adaptive teaching, providing rich teaching resources and embedding information technology in each teaching procedure would stimulate students' interest in learning, and ultimately promote students' self-directed learning. In the micro aspect, the employment of structured and semi-structured flipped classroom teaching method can be an effective way for the deeper integration of information technology and traditional classroom.

Keywords—*Information; technology; traditional classroom; integration; flipped classroom*

I. INTRODUCTION

The traditional subject teaching is a kind of teaching method with traditional teaching tools like a factory. With the continuous updating of information technology, the call for personalized teaching with information technology is growing. In recent years, more and more teachers have been employing some kind of information technology in their teaching process. However, it can't change its educational nature that is traditional teaching. With new information technology, many scholars propose a brand new teaching method that grows out of the virtual environment. We are trying to explore this topic.

This paper is the stage research achievement of the 2018 Jilin higher education teaching research project "the reform and practice of the deeper integration of information technology and traditional teaching -- Taking College English teaching as an example", which is also the stage fruits of the 2017 northeast electric power university teaching reform research project "the research and Practice of College English flipped classroom teaching in the context of informatization".

II. RESEARCH BACKGROUND

A. *The Definition of Traditional Teaching*

What is traditional teaching? Maybe you are familiar with this concept, but it is not easy to explain it exactly. Xie Zhijun (2016) could not define what traditional teaching is, instead he described it in the following aspects.[1] In terms of educational sense, in the traditional classroom, the main body of teaching activities is the teacher, so the teaching staff is in the absolute dominant position in the whole teaching activities, and the students only participate in the teaching activities passively according to the requirements of the lecturer. In the aspect of teaching mode, the traditional instructor explains knowledge in class, while the internalization of knowledge is put out of class. Students absorb knowledge through review and homework. As for teaching design, the traditional classroom teaching mainly focuses on the process of "in class" stage, while the teaching activities before and after class are not emphasized; at most, students are required to preview before class and finish the assignments appointed by teachers after class. In terms of teaching methods and teaching means, the traditional teaching approaches are mainly lecturing, demonstrating and practicing. As for teaching evaluation, in the traditional mode, although the factors of comprehensive quality are taken into account in the assessment of learning results. The final grades in a particular subject are still the most important tools to evaluate students' academic performance. In a word, the traditional teaching lies mainly in teachers' speaking and recording, blackboard writing, PPT demonstration and content teaching materials. According to Yang Zongkai, Yang Hao and Wu Di (2014), the traditional teaching method focuses on teachers and focuses on their traditional teaching.[2] The knowledge dissemination process followed is mainly a one-way transmission process-- from teachers to students, and students are passive receivers. In terms of methods, it is group-oriented standard teaching, which adopts a "one size fits all" and "one-step" progress control mode. Students' unique learning style, interest, ability, innovative thinking and other personality differences are largely ignored. Based on the above discussion

of experts and scholars, we are convinced that the basic elements of the traditional classroom are teachers, students, teaching places and teaching tools. Its basic mode is that teachers tend to occupy the central position of the classroom; the teaching sings high praise for the cramming method and the teaching evaluation adopts the factory type batch teaching method of "one examination at the end of the term determines the universe".

B. The Concept and Characteristics of Deeper Integration of Information Technology and Traditional Classroom

First, let's discuss a term called "fusion". According to the interpretation of modern Chinese dictionaries, fusion refers to integration. There are significant differences between fusion and combination. Combination, as the name implies, is the connection of two objects to one another, and attention is the connection of the surface; fusion is the state in which different substances enter into each other and form a body that can't be separated, and attention is paid to the fact that two objects have entered into each other as "fragments", and there are two kinds of substances everywhere, forming a new object. He Kekang (2017) believed that: an information-based teaching environment should be created to achieve new teaching and learning methods and to change the traditional classroom teaching structure.[5] Only by grasping these three basic attributes can we correctly understand the exact connotation of the further integration of information technology and traditional teaching, and truly grasp the essence of "deeper integration" of information technology and traditional teaching. Looking back on the history of information technology development, at the beginning of its origin, it had a deeper or shallower relationship with the traditional classroom. Information technology can only partially replace some teaching tools in a traditional classroom, such as a computer instead of the abacus. After that, in the first 10 years of the 21st century, information technology gradually combined with the traditional classroom, information technology began to be widely used to assist teaching. At this stage, information technology is still in the secondary position, still used as a more complex teaching tool. With the advent of the Web 2.0 era, the speed of information networks has been greatly improved. Computers are increasingly used as a learning platform for students. More and more educators pay attention to the information network environment. Now, Web 3.0 has been launched, which has solved the transient requirements of big data input and output on the technical level. The network virtual environment is getting better and better, and the time for deeper integration of information technology and traditional classroom is coming. The typical feature of the deeper integration of information technology and traditional teaching is educational informatization. Its main performance is that the traditional classroom teaching resources have been far from meeting the needs of contemporary teaching. Through information technology, it can easily search and select teaching materials from the world, to obtain the most suitable and latest relevant resources. The traditional classroom teaching materials will also be changed from paper-based to multimedia-based. Due to the reasons of layout and printing, the paper-based teaching materials have been updated slowly and are not suitable for the current fast-paced progress. The teaching environment has changed from the original classroom-based to

the virtual platform-based. The virtual platform won't be affected by time, space and other factors, and can achieve the functions that the traditional classroom cannot match. In the aspect of teaching management, the monitoring of teachers' teaching approaches, examination, marking and teaching process will be full of automatic features. Teachers can easily obtain teaching data by using big data and cloud monitoring, to better evaluate and improve teaching. In terms of teaching methods, the characteristic of deep integration is the individualization of teaching. Traditional teaching can not effectively implement one-to-one guidance. While supplemented by information technology, one-to-one personalized teaching can be carried out as much as possible. The learning style of students has changed from teachers-centered, fixed homework-based learning to independent learning. What's more, the way of knowledge acquisition will be changed from teachers' teaching to students' independent learning. The consolidation and improvement of knowledge will go a different way, which is from a traditional classroom-based way to group and activity-based learning. Nobody can deny that the learning effect of students will be more dependent on the level of cooperation ability of students.

III. AN EFFECTIVE WAY OF DEEPER INTEGRATION OF INFORMATION TECHNOLOGY AND TRADITIONAL CLASSROOM: A CASE STUDY OF COLLEGE ENGLISH TEACHING

How to realize the deeper integration of information technology and traditional teaching? At present, this issue has been concerned and discussed in academic circles. Yang Zongkai (2014) believed that to promote the deeper integration of information technology and contemporary education, we should speed up the process of China's education modernization by emancipating the educators' and the learners' mind, innovating our educational system, opening up to the outside world and creating a collaborative innovation center.[2] Wang Yan'e (2017) proposed to update the classroom teaching mode of contemporary education, improve the quality of teaching resources of contemporary education, strengthen the construction of contemporary education information team, and optimize the current information educational environment of our contemporary system to promote the deeper integration of information technology and traditional teaching. [3] Lu Lei (2017) believed that the government should increase the efforts to promote educational informatization, carry out efficient planning in combination with the actual situation, and at the same time, strengthen the infrastructure construction, to make the range of beneficiaries of educational informatization wider.[4] According to he Kekang (2017), the way to realize the deeper integration (deep integration) of information technology and subject teaching involves the following three aspects: first, we need to deeply understand the specific content of the reform of classroom teaching structure; second, we need to implement the innovative "teaching mode" that can effectively change the classroom teaching structure; third, we need to develop the rich learning resources of related subjects to be formed as students' cognitive exploration tools, collaborative communication tools and emotional experience and internalization tools.[5] Xiong Suquan argued that the application of information technology in traditional teaching

can largely promote the efficiency of the whole teaching process. [6] Although the above-mentioned experts and scholars have made beneficial explorations from the macro-level of the ideological system and micro level of teaching procedures, they are scattered here and there and have not formed a complete system. From the perspective of teaching, we assume that the effective way of deeper integration of information technology and traditional teaching is a smart teaching system. Smart intelligent teaching system includes five teaching elements: self-directed learning method; motivated learning interest; adaptive learning and teaching method; resource enriched teaching resource; and information technologies embedded teaching method. To explain this system specifically, let's take college English teaching as an example. The specific implementation process is as follows: first of all, in the freshman enrollment stage, the students' English level is tested, and the students with a similar level are assigned to the same classroom by the computer automatically. Since the students' English level is stratified, educators can select the better teaching means to educate them, which is conducive to the teachers' implementation of smart teaching according to the actual basic knowledge of the students at the same level. Secondly, through the electronic education technology mastered by teachers, using the teaching platforms such as Chinese college students' MOOC alliance, Love Course, Rain Class, Dingding, Tencent Conference, Live Cloud, etc., to provide students with rich free teaching resources, which can be easily obtained anytime and anywhere by the students in any particular class. Thirdly, through the provision of rich teaching resources, teachers can stimulate students' interest in learning. As is well known, if different materials are explaining the same topic, the same issue from different cultures, different regions and different races, students' thinking patterns and horizons can be broadened a lot, which can maximize the students' desire for knowledge and further exploration. Finally, the main body of learning is students and the teacher only acts as a helper. Therefore, students learning status is improved a lot and they are content to explore and think deeply in the whole teaching process. Also, students can choose the part of the learning materials they are willing to devote all of their energy. The learning effect will be at a stone's throw. More importantly, students will be better aware of their interests and hobbies, and self-guidance. In terms of specific implementation path, we can adopt structural and semi-structural flipped classroom teaching methods according to specific requirements from different levels of students. For the students whose English level has reached CET-4, they can use the structural flipped classroom teaching method. The teachers provide rich and free teaching resources. The students can take the initiative to learn and cooperate in groups with the aid of the resources provided by the teachers, and consolidate or correct their learning results by the way of individual or group-oriented report in the classroom. When the task of in-class is completed, students can think over the deeper questions that are assigned by the teachers. Finally, through the way of practice or thinking after class arranged by the teacher, students expand and sublimate the knowledge they should master. For students whose English level is lower than CET-4, we can adopt the semi-structured flipped classroom teaching method. Before class, students should preview the learning materials by themselves. During class, teachers should

explain the key English knowledge step by step, and students remember and understand the most important knowledge points in-class. For difficult knowledge points, students can form a group and discuss it in class or after class. Only a small number of students can independently complete the content of flipped classroom teaching, so teachers can send some videos or teaching materials to them and require them to make a good preparation in advance. More chances should be offered to them to make a report about their study or discussion results. The advantage of this teaching method is that it can help students with general learning basis to master the key points of knowledge quickly, at the same time, it can stimulate students' initiative and creativity within the scope of their ability, and achieve the best learning effect. Although this method is an effective way to realize further fusion between traditional teaching and information technology, teachers play a major role in this process. To make this teaching process go smoothly, teachers should not only master a wider range of knowledge, but they also need to be gifted in information technology, motivating methods, collaborative skills and respecting others. In the whole process, as a helper, teachers must find relevant teaching materials accurately, monitor the group work on time and sacrifice individual spare time in proportion.

IV. CONCLUSION

The deeper integration between information technology and traditional teaching is not a simple combination or fit, it requires educators to deeply embed the concept of information technology in their teaching process. The teaching platform not only includes the traditional chalk, blackboard, PPT and other general teaching tools, but also requires the combination of the real teaching environment and the virtual teaching context to extract the strength of the infinite extension of the virtual teaching environment and the efficient communication and exchange of the real teaching context. Using a smart teaching system, we can give full play to the advantages of structural and semi-structural flipped classroom teaching, and realize the further integration of information technology and traditional teaching.

ACKNOWLEDGMENT

This paper is finished after two years of teaching and research. Thank my team members for their hard work and thank our university for its sponsorship and support.

REFERENCES

- [1] Xie Zhijun, "a comparative study of flipped classroom and traditional classroom," J. Education Modernization, 2016, Vol. 34, p. 07(In Chinese)
- [2] Yang Zongkai, Yang Hao, Wu Di, "on the deep integration of information technology and contemporary education," J. Education Research, 2014, Vol. 03, p. 91(In Chinese)
- [3] Wang yan, "on the deep integration of information technology and contemporary education," J. Science and Technology Innovation Guide, 2017, Vol. 27, p. 211(In Chinese)
- [4] Lu Lei, "on the deep integration of information technology and contemporary education," J. Education and Teaching Informatization, 2014, Vol. 19, p. 219(In Chinese)
- [5] He Kekang, "how to realize the "deep integration" of information technology and subject teaching," J. Education Research, 2017, Vol. 10, pp. 89-90(In Chinese)

- [6] Xiong Suquan, “the influence of modern information technology on traditional teaching,” J. Classroom Teaching, 2018, Vol. 020, p. 67. (In Chinese)