Application of Computer Multimedia Technology in English Teaching in Higher Vocational Colleges

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Abstract. The application of computer multimedia in English Language Teaching (ELT) in higher vocational colleges has greatly promoted its teaching reform and development. However, there are still many deficiencies and problems in the process of using multimedia technology in ELT in most vocational colleges, such as the lack of attention to multimedia tech, low cognitive level, and poor information literacy of teachers and so on. Based on this, this paper first analyzes the ELT model of computer multimedia technology, then studies the construction of computer multimedia ELT system, and finally gives the application strategy of computer multimedia technology in Higher Vocational ELT.

Keywords: English Language Teaching, Higher Vocational, Multimedia, Computer

1. Introduction
With the rapid iterative development of information tech represented by computer multimedia, the current computer multimedia tech has been widely and deeply applied in many fields. The application of computer multimedia in higher vocational colleges greatly promotes its teaching reform and development, especially its application in English Language Teaching (ELT) has significantly improved the common phenomena of poor students' foundation, low interest in learning and poor learning effect. Computer multimedia tech fully integrates various technical means and methods as shown in Figure 1 below, so as to enhance the interaction of classroom, enhance the main position of students, and bring more intuitive sensory experience to students, thus significantly improving the teaching quality and learning efficiency of students.

However, there are still many deficiencies and problems in the process of using multimedia tech in ELT in most vocational colleges, which are embodied in the following aspects. First of all, as a relatively new teaching method, the role of computer multimedia has not been fully explored and utilized, which limits the full play of its due efficacy. Secondly, many higher vocational colleges still use traditional educational thinking as teaching guidance to carry out multimedia teaching. There are big integration differences and problems between the two, which greatly limits the application effect of multimedia tech. In addition, the evaluation of ELT is still based on the knowledge of the situation as a measure, the lack of comprehensive literacy of students, especially the information literacy of students, which limits the improvement and development of students' comprehensive literacy.
In addition, the application of computer multimedia tech in higher vocational ELT can greatly promote its teaching innovation and reform [1]. On the one hand, it can create a three-dimensional teaching environment, so that students can coordinate multiple senses to participate in English learning, mobilize enthusiasm, broaden the channels of information acquisition and transmission, and promote students' memory, understanding and application of knowledge; on the other hand, it can promote the transformation of students' English knowledge into English ability and improve their professional ability. It can be seen that the teaching system based on computer multimedia tech provides a broader teaching environment and platform for teachers and students.

In a word, the integration of computer multimedia into ELT has become an inevitable choice and an important technical guarantee for ELT reform in higher vocational colleges. As a highly practical course, ELT requires students to spend a lot of time and space outside the classroom to practice, so as to ensure the comprehensiveness and effectiveness of the learning process. The application of computer multimedia tech promotes the reform of curriculum teaching and improves the information literacy of English teachers. The reform of ELT in higher vocational colleges has promoted the development of ELT with the help of computer tech. Therefore, it is of great practical value to study the application of computer multimedia tech in ELT in higher vocational colleges.

2. ELT model of computer multimedia tech

2.1. The goal of ELT design of computer multimedia tech

The core goal of ELT design of computer multimedia tech is to promote students' English learning effect [2]. By using the method of system science, the principles of English learning theory and teaching theory are transformed into ELT objectives, contents, application strategies of multimedia teaching, teaching evaluation and other links, so as to create an effective teaching and learning system. In this process, mainly based on the theory of teaching, learning and communication, using the method of system science to analyze many teaching elements and teaching links, and make plans and specific implementation process.

2.2. The principles of multimedia design in ELT

In the ELT design of computer multimedia tech, at least text, image and video should be presented at the same time, not just words. Its application in Higher Vocational ELT should be based on the principles of proximity, channel, redundancy, consistency and personalization. In other words, the principle of simultaneous presentation of words and images on the screen, including the principle of simultaneous presentation of words and images on the screen, includes the principle of simultaneous presentation of words and images on the screen. Channel principle refers to the problem-solving transfer, through animation and interpretation of teaching effect is better. Redundancy principle means that in multimedia presentation, there is no need to add redundant screen text, that is to say, the teaching effect of learning materials with interpretation and images is better [3]. Consistency principle is to avoid irrelevant audio, image and audio frequency, so as to avoid the negative load on students' English cognition. The principle of individualization requires the use of conversational style, the use
of effective screen and visible author to carry out ELT, so as to improve the interactivity of ELT for students' personality.

2.3. ELT model of computer multimedia tech
The construction of ELT model based on computer multimedia tech needs to make clear that the materials of students' visual representation and auditory representation have separate information processing channels, and the information of different channels can process each other by changing the representation mode [4]. On the active processing level of teaching and learning materials, we should select relevant materials, organize selected materials, and integrate the selected materials with existing knowledge. Active learning can be regarded as the process of model construction. The cognitive theoretical model of multimedia learning is shown in Figure 2. In the ELT model of computer multimedia tech, only when students actively participate in thinking in each stage of cognitive processing, can the learning effect be significantly improved.

![Figure 2. The cognitive theoretical model of multimedia learning.](image)

3. Construction of computer multimedia ELT system

3.1. The structure of computer multimedia teaching system
The computer multimedia teaching system is an extension of the basic computer system's software and hardware functions [5]. The complete computer multimedia system includes multi-level structures such as multimedia tools and software, application program interface, operating system, communication software, input / output control card and interface, computer hardware and peripheral equipment. Among them, as the bottom structure of the system, the computer hardware system mainly realizes the comprehensive processing of image, video and audio, as well as the transmission of information. The software system mainly includes operating system, communication software and other parts, so as to realize real-time task scheduling, data conversion and synchronization control, device drive and control, interface management and other functions. The multimedia tool software uses graphic and image editing software to edit and make ELT materials, and integrates them into the software. The application system is connected to the user, so as to meet the various service requirements of the user.

3.2. Hardware of computer multimedia ELT system
Computer multimedia ELT system includes host system, audio and video acquisition system, disk storage system and display system, as shown in Figure 3. The above functions are integrated into the processor chip, which can process multimedia information in real time, compress, encode and decode the data [6]. The hardware of computer multimedia ELT system mainly includes digital signal processor, multimedia function microprocessor, media processor and various multimedia I / O devices.
3.3. **Software implementation of computer multimedia ELT system**

The information storage of computer multimedia ELT system is mainly through the use of various types of memory to store data or programs, as well as data exchange and temporary storage, or large capacity, fast response, high reliability storage. The operating system of computer multimedia ELT system not only has the basic management functions of storage, equipment, files, threads, but also adds multimedia functions and communication support functions. Graphical interface is used to realize human-computer interaction, such as multimedia data editing, combination with multimedia equipment, multimedia synchronization and network communication.

4. **The application of computer multimedia tech in vocational ELT**

4.1. **Strengthening the construction and management of computer multimedia infrastructure**

First of all, higher vocational colleges should increase investment, strengthen the construction of computer multimedia infrastructure, formulate scientific management system and upgrade management of facility configuration. Secondly, it is necessary to strengthen the construction and management of multimedia classrooms and build practical ELT infrastructure and environment. In addition, higher vocational colleges should improve the utilization rate of campus network and establish ELT resource database, so as to facilitate teachers and students to obtain network resources, enrich teaching content, ensure interactive network learning, and facilitate teachers to accumulate rich knowledge and impart them to students.

4.2. **Create good atmosphere of computer multimedia tech**

First of all, in the ideological level, the management of higher vocational colleges fully understands and play the importance and functionality of computer multimedia tech, and promote the construction of hardware facilities and software resources. Secondly, teachers should change their thinking and application of computer tech in ELT. In addition, at the level of students' learning concept change, it should strengthen students' learning of information literacy knowledge, enhance their information thinking ability, and mobilize their initiative and enthusiasm.
4.3. Improving the evaluation mechanism and means of ELT

First of all, it should give full play to the advantages of computer multimedia tech and promote the coordination and complementarity of English classroom evaluation. First of all, carefully review the evaluation records; observe the trend of data changes and qualitative analysis of ELT effect. Secondly, it is necessary to use a variety of inspection methods, such as testing, mutual evaluation and display of ELT results, to promote the mutual communication and interaction between teachers and strengthen the ELT achievements. In addition, according to the characteristics of ELT in higher vocational colleges, the effectiveness of computer multimedia tech should be brought into play to avoid limitations, so as to effectively guarantee the implementation of ELT reform in higher vocational colleges.

5. Conclusion

In summary, the application of computer multimedia tech in higher vocational ELT can greatly promote its teaching innovation and reform, enable students to coordinate multiple senses to participate in English learning, mobilize their enthusiasm, broaden the channels of information acquisition and transmission, and promote students' memory, understanding and application of knowledge. It provides a wider teaching environment for teachers and students based on multimedia tech. Based on the study of the ELT model of computer multimedia tech, this paper analyzes the goal and principle of its design and the construction process of the model. Based on the analysis of the construction of computer multimedia ELT system, the structure of computer multimedia teaching system, the realization of software and hardware are studied. Based on the research of the application strategy of computer multimedia tech in higher vocational ELT, this paper analyzes the strategies and suggestions for the construction and management of multimedia tech.

References

[1] Guo Huiying. On the advantages of multimedia teaching [J]. Journal of Shanxi University of Finance and economics, 2018, (3): 28-29.

[2] He Gaoda. Multimedia tech: the revolution of cross cultural communication, Journal of Sichuan University of foreign languages [J]. 2010.2.25-26.

[3] Liu Zhen, development prospect of broadcasting in multimedia era [J]. Modern Audio-Visual 2019, (1): 53-57.

[4] Yue Qiong. Analysis of the advantages and disadvantages of Multimedia ELT in Colleges and universities [J]. Neijiang science and tech. 2016, (4) : 38-42.

[5] Zhao Ke. The change of teachers' teaching concept under the network environment [J] Shaanxi Education: Higher Education Press, 2017, (5): 4-6.

[6] Zhu Linggao. The training letter of modern educational tech for teachers in normal colleges needs to be strengthened [J]. Intelligence, 2018 (3): 22-25.