



Application of Digital Media Technology in Teaching Chinese as a Foreign Language Culture

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Abstract. The background of this paper is that as more and more people from different countries like to learn Chinese, teaching Chinese as a foreign language has become a very popular field of education in the world, and at the same time, digital media technology in the field of science and technology is becoming more and more mature, which also provides effective help and improvement for the Chinese teaching industry, and will describe the combination and application of digital media technology in culture teaching of Chinese as a foreign language. The objective of this study is to introduce and analyze what digital media technology is, and to explain the operating principles of mainstream and common tools in the field of digital media technology, and on the other hand, to focus on and study the application of cultural factors teaching, cultural knowledge teaching, and the mutual penetration of Chinese cultural factors teaching and cultural knowledge teaching in the field of Chinese culture teaching and digital media technology. At the same time, this paper will expound the role of digital media in teaching Chinese as a foreign language to promote students' language ability and cultural understanding, and summarize the practical application and development trend of digital media in teaching Chinese as a foreign language, so as to provide a reference for the combination of Chinese culture teaching as a foreign language and digital media technology.

Keywords: Teaching Chinese as a Foreign Language; Education; Digital Media; Teaching of Cultural Factors; Teaching of Cultural Knowledge.

1 Introduction

Teaching Chinese as a foreign language refers to the process of teaching Chinese as a second language for learners from non-Chinese backgrounds. With the rise of the global Chinese language craze, teaching Chinese as a foreign language has become an important field of education [1]. In the traditional teaching of Chinese as a foreign language, teachers mainly rely on textbooks and blackboards for teaching, and students learn Chinese through listening, memorizing words, and doing exercises. However, there are some problems with this traditional teaching method, such as single teaching content, poor versatility, and low interest in learning. In order to improve the effectiveness of teaching Chinese as a foreign language and the interest of learners, researchers

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have begun to explore new teaching methods and methods. As a new teaching method, digital media technology has attracted extensive attention and research in the field of teaching Chinese as a foreign language [2]. This article will introduce the application of digital media technology in the teaching of Chinese culture as a foreign language.

2 About digital media technology

2.1 The concept of digital media technology in the field of teaching Chinese as a foreign language

Digital media technology, also known as multimedia technology, is a technology that processes and disseminates media elements such as text, images, sounds, and videos in digital form. Using digital media technology, teachers can present teaching content in a variety of media formats, and students can learn through the use of computers, smartphones, tablets, and other devices [3]. The application of digital media technology can enrich the resources of teaching Chinese as a foreign language, improve the flexibility and interactivity of teaching [4], and enhance the motivation and participation of learners.

2.2 Introduction to the common software and operating principles of common technologies in digital media technology

2.2.1 About Adobe Premiere Pro software.

Adobe Premiere Pro, abbreviated as PR, is a non-linear editing software developed by Adobe, which is widely used in the field of digital video editing and multimedia production. It offers a powerful toolset for tasks such as editing, transitions, audio processing, color correction, and output, making it one of the go-to tools for professional video producers and film enthusiasts.

Adobe Premiere Pro meets the wide needs of different users with its innovative interface and high-end tools. It provides efficient production capacity and flexibility to make video editing more efficient. Premiere Pro allows users to create in a non-linear editing environment at a lower cost, and its versatility and compatibility make it the standard on a variety of platforms.

Adobe Premiere Pro, as a core component of the Adobe Video Suite, integrates seamlessly with other Adobe tools such as Adobe Photoshop¹, Adobe After Effects², and more. This makes it easier for creative designers to work with a variety of tools throughout the production process.

¹ Adobe Photoshop: Adobe Photoshop, abbreviated as "PS", is an image processing software developed and published by Adobe Systems. It is mainly used for processing digital images made of pixels, and for image editing using its many editing and drawing tools.

² Adobe After Effects: Adobe After Effects (AE) is a graphics and video processing software developed by Adobe Inc., which is suitable for organizations engaged in design and video special effects, including television stations, animation production companies, individual post-production studios, and multimedia studios.

2.2.2 Principle of operation from Adobe Premiere Pro.

The principle of operation of Adobe Premiere Pro can be divided into the following parts:

(1) Create a sequence

After you import your footage, you need to create a sequence to edit your work. A sequence is a timeline that organizes and edits footage. Click "File" in the menu and select the "New" and "Sequence" options. Set the parameters of the sequence, such as resolution, frame rate, etc., as needed.

(2) Import footage

First, you need to import the video, audio, image, and other footage you want to edit into Premiere Pro. You can browse and select the footage files you want to import by clicking on "File" in the menu and then selecting the "Import" option. It is also possible to directly drag and drop the files onto the software interface. Adobe Premiere Pro supports a wide range of common file formats such as MP4, AVI, MOV, and more.

(3) Editing technology

Premiere Pro allows users to make precise video clips. You can combine video clips into the order you want by cutting, deleting, and more. This is based on the concept of the timeline, where you can adjust the position of the footage by dragging and dropping it on the timeline.

(4) Transitions

To make transitions between video clips smoother, Premiere Pro offers a variety of transitions. These effects can be added between two or more footage to achieve a natural transition. All you have to do is select the appropriate effect from the library of preset transitions and apply it between the clips you want.

Audio processing: For the audio part of the video, Premiere Pro also provides powerful processing tools. You can trim the length of the audio by dragging the audio ripples, or use features like noise cancellation, equalizer, and more to improve the sound quality.

(5) Color Correction

For picture color, Premiere Pro provides a color correction tool. You can adjust the color temperature, hue, brightness and other parameters to color correct the picture to achieve the desired visual effect.

(6) Export & Export

When you're done with all your edits, you can export your project to various formats such as video, audio, images, and more. Just select the "Export" option in the "File" menu and choose the format and quality you want.

Adobe Premiere Pro works on the principle of timeline, which enables high-quality video production by importing footage, creating sequences, precise editing, adding transitions, processing audio, color correction, and exporting.

2.2.3 The concept and operating principle of Motion Graphics.

Motion Graphics animation technology is a time-based visual design art, which creates animation effects with strong visual impact by combining graphic design elements with dynamic images, text, graphics, etc.

For Motion Graphics, commonly used creation tools include Adobe Photoshop in the creation software, Adobe After effects and Apple Motion in the Adobe Illustrator composite animation production tool, and Maxon Cinema 4D, Autodesk Maya, and Autodesk 3D Studio in the 3D production tool Max, as well as Realflo and Houdini among the special effects production tools.

Its operating principle mainly involves the following aspects:

(1)New Project

A new project is an important feature in Motion Graphics animation technology that allows you to create a new composition or folder to start a new animation, video, or other visual effects project.

(2)Timeline editing

The core of Motion Graphics' animation technology lies in the editing of the timeline. The Timeline is a tool used to organize and manage the arrangement and movement of animated elements over time. By adding keyframes on the timeline, you can define the starting position, motion trajectory, motion time and other parameters of each animation element, so that each element can be dynamically deduced according to the preset time sequence.

(3)Graphic Design

Graphic design in Motion Graphics animation technology is the key to animation expression. Designers utilize a variety of design software tools to create creative and aesthetic graphics, patterns, text, and other elements, and adjust attributes such as color, shape, size, etc., as needed to achieve a unique visual effect.

(4)Dynamic Interpretation

Dynamic Interpretation refers to the dynamic change of each graphic element according to the preset movement trajectory and time under the control of the timeline. This can be achieved by setting keyframes, which define the state of an element at a specific point in time, and the software will automatically populate the transition frames between the keyframes, making the movement of the element smooth and natural.

(5)Compositing and Adjustment

In Motion Graphics animation, compositing is the process of combining individual animation elements together. Create an overall strong animation by adding different graphic elements to the same scene and adjusting their position, size, transparency, and other properties to harmonize them. At the same time, it is also necessary to adjust the details as needed, such as trimming the edges of the animation elements, adjusting the colors, etc., to achieve the perfect visual effect.

(6)Output and Publishing

When the animation is completed, you need to choose the appropriate output format and quality according to different needs. The output format can include videos, picture sequences, etc., while the quality is based on factors such as resolution, frame rate, etc. Finally, publish the finished animation to the corresponding platform or media for the audience to enjoy and disseminate.

In summary, the operating principles of Motion Graphics animation technology involve many aspects such as creating new projects, timeline editing, graphic design, dynamic interpretation, compositing and adjustment, and output and publishing. Through the combined application of these principles, Motion Graphics animation technology

can create unique visual effects, which are widely used in film, television, advertising, multimedia and other fields.

3 The combination and application of Chinese culture teaching as a foreign language and digital media technology

3.1 Introduction to the teaching of Chinese culture as a foreign language

Teaching Chinese as a Foreign Language is a part of teaching Chinese as a foreign language, which mainly focuses on teaching Chinese language and culture, including traditional language knowledge, literary works, and customs and habits of Chinese society [5]. In addition, it includes the teaching of Chinese cultural philosophies, such as Taoism, Confucianism, Chinese art, traditional handicrafts, tea ceremony art, and more. The goal of these teaching contents is to help students understand Chinese culture and language [6], and to better promote cultural exchange and understanding. Teaching Chinese as a foreign language not only helps to improve students' language proficiency, but also helps to enhance their cross-cultural communication skills. However, in the teaching of Chinese culture as a foreign language, we will pay attention to the application of digital media technology in the teaching of cultural factors, the teaching of cultural knowledge, and the mutual penetration of the teaching of Chinese cultural factors and the teaching of cultural knowledge.

3.2 Teaching of cultural factors

In the teaching of Chinese as a foreign language, the teaching of cultural factors is a very important part. By teaching the cultural background and habits of the Chinese language, students can better understand and use the Chinese language [7]. In the application of digital media, the teaching of cultural factors can be presented to students more intuitively.

Digital media can introduce traditional cultural factors to students through the display of multimedia content. For example, through pictures, videos, audios and other forms, traditional Chinese festivals, customs, architecture and other cultural elements can be displayed [8], so that students can understand Chinese culture more intuitively. This teaching method can stimulate students' interest in learning and make them more willing to understand and learn Chinese culture.

Digital media can also allow students to better experience Chinese culture by simulating scenarios. Through virtual reality technology or simulation software, students can participate in traditional Chinese activities, such as participating in tea ceremony performances and making traditional Chinese food. This interactive way can make students feel the Chinese culture more immersively [9], and enhance their cognition and understanding of the Chinese culture.

Digital media can also provide culturally relevant and interactive learning resources. Students can choose from a variety of Chinese culture learning resources through the online platform or mobile app. These resources can include an introduction to cultural

knowledge, an analysis of cultural differences, and cases of cultural exchange. Through multimedia, students can flexibly choose the content of their studies and study anytime and anywhere, so as to improve their understanding and application of Chinese culture.

The application of digital media can provide a better platform for the teaching of cultural factors in the teaching of Chinese as a foreign language. With the help of digital media, students can know and understand Chinese culture more intuitively [10], so as to improve their interest in learning Chinese and the learning effect. In the future, the application of digital media in teaching Chinese as a foreign language can be further developed, providing more forms of cultural factor teaching resources, providing students with more diversified learning experience, and promoting the integration of teaching and culture of Chinese as a foreign language.

3.3 Teaching of cultural knowledge

The teaching of cultural knowledge refers to the teaching and cultivation of knowledge about Chinese culture to learners through the application of digital media technology in the process of teaching Chinese as a foreign language. In this teaching session, digital media technology can provide a variety of teaching resources, including pictures, videos, audio, etc., to help learners have a deeper understanding and experience of China's history, art, traditional customs and other cultural content.

On the one hand, digital media technology can help learners intuitively understand the characteristics and connotations of Chinese culture by displaying representative cultural scenes and activities. For example, by showing videos about traditional Chinese festival celebrations, learners can feel the uniqueness of traditional Chinese culture and enhance their interest and understanding of Chinese culture [11].

On the other hand, digital media technology can also provide a wealth of cultural knowledge and background information, helping learners to have a more comprehensive understanding of China's cultural background and characteristics. Learners can learn about traditional Chinese art, literature, philosophy and other aspects by watching cultural explanation videos and browsing cultural pictures, and have an in-depth understanding of the historical origin and development of Chinese culture.

At the same time, digital media technology can also provide language and cultural integration teaching resources, helping learners to understand the relevant cultural context while learning the language. Through digital media technology, it is possible to show the use of language in different scenarios, and learners can watch and participate in it, and understand more deeply the use and meaning of language in Chinese culture.

In general, digital media technology plays an important role in the teaching of cultural knowledge in the teaching of Chinese as a foreign language. Through the application of digital media technology, learners can acquire richer and more intuitive cultural knowledge, and enhance their perception and cognition of Chinese culture. This will not only improve the learner's language skills, but also promote the learner's understanding and respect for Chinese culture, so that they can better adapt and integrate into Chinese society. In the future, with the continuous development and application of digital media technology, the teaching of cultural knowledge in teaching Chinese as a foreign language will continue to usher in new opportunities and challenges, and we need

to continue to explore and innovate teaching methods, improve teaching effectiveness, and cultivate more talents who know and understand Chinese culture [12].

3.4 The mutual penetration of the teaching of Chinese cultural factors and the teaching of cultural knowledge

In the process of teaching Chinese as a foreign language, the teaching of Chinese cultural factors and the teaching of cultural knowledge are two aspects that penetrate each other. The teaching of Chinese cultural factors emphasizes the conveyance of the Han people's way of thinking, values and codes of conduct, as well as related social customs and etiquette norms through linguistic learning. The teaching of cultural knowledge focuses on imparting knowledge about Chinese history, geography, customs, literature and art, etc. [13], to help students better understand Chinese culture and communication with Chinese.

In actual teaching, the teaching of Chinese cultural factors and the teaching of cultural knowledge are not isolated, but penetrate and support each other. In the teaching process, teachers can use multimedia technology to present relevant cultural elements and knowledge to students, and intuitively display Chinese traditional festivals, scenic spots, food culture, opera art, etc. through images, audio, video and other forms. The application of this multimedia technology can stimulate students' interest and enhance their cognition and understanding of Chinese culture [14].

At the same time, students can further improve their understanding and use of the language by learning Chinese cultural factors. For example, when learning a vocabulary, the teacher can explain the relevant traditions and practices and how the vocabulary is used in a particular context, taking into account the cultural context of the teacher [15]. In this way, students not only learn the meaning and usage of the word, but also understand the close connection between the word and Chinese culture, making the linguistic practice more meaningful and contextual.

At the same time, the interpenetration of Chinese cultural factors and cultural knowledge teaching also provides students with a broader learning space. Students can independently explore and understand various aspects of China, such as history, art, music, etc., through multimedia technology. This can not only increase students' knowledge, but also cultivate their comprehensive ability and innovative thinking.

In the interpenetration of Chinese cultural factors and cultural knowledge teaching in the field of digital media technology, Lingo Ace uses MG (Motion Graphics) animation technology and video post-editing software (Adobe Premiere Pro) to create some Chinese as a foreign language teaching resource. The following is a demonstration and analysis of some of the teaching works created by Lingo Ace as a foreign language teaching platform with the theme of the Dragon Boat Festival, a traditional Chinese festival:



Fig. 1. Lingo Ace's demonstration of the interpenetration of Chinese cultural factors and cultural knowledge teaching

First of all, in Fig 1, the case begins with the phrase "This festival is delicious" to generate and promote students' curiosity and interest.



Fig. 2. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace



Fig. 3. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace

Secondly, using MG animation technology to create a picture of the traditional Chinese festival Dragon Boat Festival, this method can allow students to further understand

and learn the knowledge of Chinese traditional culture and the thinking of Chinese Chinese, and deepen the memory and consolidate the students' Chinese vocabulary of traditional Chinese culture, as shown in Fig 2 and Fig 3.



Fig. 4. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace



Fig. 5. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace



Fig. 6. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace



Fig. 7. Demonstration of the interpenetration of Chinese cultural factors and knowledge teaching by Lingo Ace

After that, through the combination of MG animation technology and traditional Chinese culture, the story of the Dragon Boat Festival of traditional Chinese culture was interpreted in an animated way, so that students could understand Chinese culture more intuitively and improve their comprehension of Chinese thinking, as shown in Fig 4, Fig 5, Fig 6 and Fig 7.



Fig. 8. Lingo Ace's demonstration of the interpenetration of Chinese cultural factors and cultural knowledge teaching

Finally, as shown in Fig 8, the Lingo Ace platform left another question for the students who watched it, so that the students had the consciousness of thinking after class and consciously digested the knowledge points learned in this class.

In general, the interpenetration of Chinese cultural factors and cultural knowledge teaching is of great significance in the teaching of Chinese as a foreign language. The application of multimedia technology can effectively promote linguistic learning and cultural inheritance [16]. Therefore, in teaching Chinese as a foreign language, teachers should make full use of the advantages of digital media, integrate cultural factors and knowledge into the whole teaching process, improve students' language ability and cultural literacy, and meet the personalized learning needs of different students. At the same time, we will continue to explore and innovate the application of digital media technology in teaching Chinese as a foreign language, and promote the further development of teaching Chinese as a foreign language and digital media technology.

4 Conclusion

With the rapid development of technology, digital media technology has become an indispensable part of our lives and work. In the teaching of Chinese culture as a foreign language, digital media technology has also shown its unique advantages and value. Through the rational use of digital media technology, it can enhance students' perception and experience of Chinese culture, enrich teaching methods and resources, promote cross-cultural communication and interaction, enhance students' motivation and interest in learning, effectively disseminate Chinese cultural values, cultivate global vision and intercultural competence, and innovate teaching models and strategies. Therefore, we should further explore the potential and possibility of digital media technology in the teaching of Chinese as a foreign language, so as to promote the further development of teaching Chinese as a foreign language.

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