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The application of image art in computer aided system

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ABSTRACT

Computer aided system and image art are belonging to two different scientific fields. However, as for image art, these two subjects have close connection. This paper conducted further analysis and discussion mainly from the influence of image art on computer aided instruction, the change of instruction concept, the extension of instruction pattern, the again exploration of the nature of instruction, etc. It has revealed the application of image art in computer aided system.

KEYWORDS

Image art; Digital technology; Computer aided instruction (CAD).



INTRODUCTION

Computer Aided Instruction (CAI) refers to conduct various instruction activities under the case of computer assistance. It can provide various personalized instruction for students, such as comprehensive multimedia, network communication, knowledge base, intelligent instruction, etc, thus to realize the optimization of instruction process. Computer aided instruction is generally made up of three parts: computer hardware, system software and course software, as shown in Figure1. The common scope of computer aided instruction includes school teaching, individualized teaching, coordinated study, etc.

Image is one of the important functions of human beings. Through the coordination of the image mechanism and brain of human body, people can understand and analyze the surrounding environment and make corresponding judgment and response, which is also a process for human to obtain useful information through image. Image art and image culture are two important elements in computer aided instruction. This paper conducted further discussion and analysis of the specific functions of image art and image culture in computer aided instruction. The full text structure was as follows: the relevant concepts of computer aided instruction, image art and image culture were summarized; then the application of image art and image culture were discussed from school teaching, individualized teaching and coordinated learning of computer aided instruction, of which class teaching, network teaching software and virtual class were selected for research; and image art and image culture were analyzed from the main tendency of computer aided instruction.

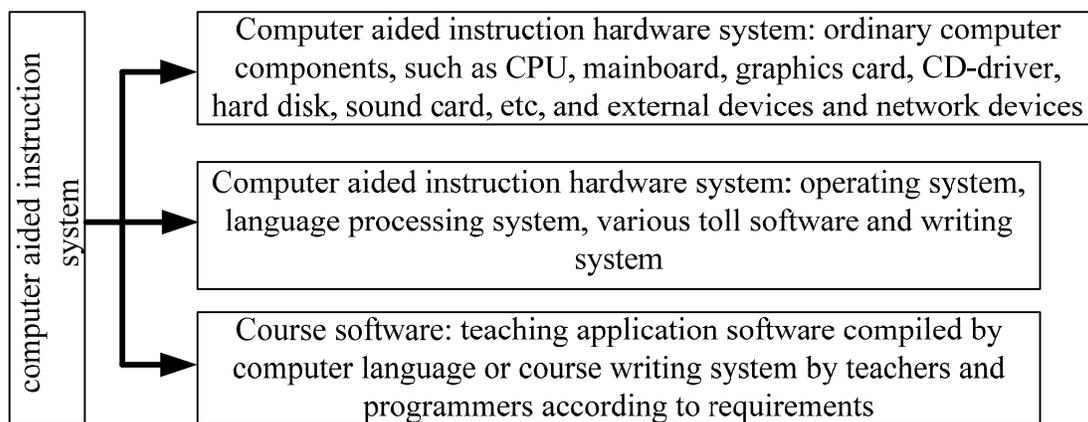


Figure 1 : Computer aided instruction system

IMAGE ART AND IMAGE CULTURE

Image art belongs to the category of art, which refers to the modeling art of art image that is shaped by certain materials and can be visualized directly. There are two dimensional and three dimensional plane of art image that are shown up, and the scope of its function includes film and television, painting, sculpture, building, etc. The use of image art aims to use different signs, elements and languages to represent the author's thought and views, and to obtain wide range of approval. Image culture is different from image art, for which is not aimed at conducting research from resources like film and television, painting, sculpture, etc, but to promote the research subject to beyond all of image resources and to extract their common features. Therefore the image sign is considered as the constitute elements, and the cultures of the style that can be perceived by vision are all called image culture^[1]. Nicholas Mirzoeff once said: "the most apparent feature of image culture is to visualize the non-image things and to stress the experience expressed by image form". The external presentation form of knowledge has an important effect on the cognition, understanding and transmission of internal content of knowledge, which determines the survival quality and development direction of the internal content

of knowledge^[2]. Education has gradually changed from single teaching pattern to multielement, of which mainly to conduct visualize presentation of knowledge. The presentation of visualization of knowledge is to apply image characterization means to promote the creation and transmission of group knowledge^[4], and its development is built on the visualization of scientific computer, the visualization of data and the visualization of information. School education is not only to convey knowledge, but also hope to establish student's outlooks of life, value, esthetic, etc through education. By image reading, expression and communication, students are hoped to have image art education^[5]. Students are led to think and understand various images and to establish correct image culture value. The application of image art in teaching needs not only the support of various teaching theory, but also the combination of various aspects, such as education psychology, aesthetics, art, color psychology, etc. Thus students can feel the image shock during learning, the art atmosphere and the existence of beauty. With the development of image education, the traditional teaching pattern has greatly changed, which has integrated the image art and image culture into education.

THE APPLICATION OF IMAGE ART AND IMAGE CULTURE IN COMPUTER AIDED INSTRUCTION

In the modern times of rapid development of computer technology and network technology, people's learning resources also become diversified with the arrival of digital era, and of which the learning resources of image occupies comparatively higher proportion. Students are not only to express the knowledge they have learned, but also to bring out the best combination of knowledge, art and esthetic, thus to meet people's demand in image and stimulate people's desire for knowledge. It is the relatively higher demand for digital resource maker. The application scope of computer aided instruction is wide, and this paper conducted comparison mainly from school teaching, individualized teaching and cooperation learning three aspects. When computer aided instruction is used by many schools, their teaching courseware can relatively integrate image element thus to present image art and image culture. In the process of giving lessons, the application of computer to play good image courseware can better attract students' attention. In the process of individualized teaching with the support of computer aided instruction, some of teaching software is mainly used to have students conduct autonomic learning. The way of art presentation is used to make teaching software and to show knowledge they have learned, which can better attract students learning interest. When computer is used for cooperation learning, good image effect can be shown in learning environment. Although students learn by computer and network, they can also feel the process of teacher and students learning together. The patterns and features of using scope of school teaching, individualized teaching and collaborative learning under the support of computer aided instruction were compared in the aspect of image art and image culture, as shown in Figure 1. Aimed at the using scope of these three types of computer aided instruction, researchers selected school teaching, network teaching software and virtual class these three specific aspects in the following chapters and sections to study image art and image culture.

The application of image art and image culture in classroom teaching

In computer aided instruction, school teaching under the support of computer is most widely used. School teaching usually conducts classroom teaching in the unit of class and grade. In order to show the image art and image culture, image information must be showed in various aspects of classroom teaching by ways of beauty, such as in aspects of classroom teaching environment, guidance before giving lessons, display of teaching content, etc. In short, in the whole process of instruction, the sensory stimulation of image was used to leave deep impression to students. As for classroom teaching environment, the ordinary teaching should select classroom with multimedia computer. As for those classes that need to practice, such as information technology course, they can have classes in the multimedia machine room which is made up of teacher-machine and many student-machines. Computers in classroom need to be equipped with multimedia software, such as image browsing software, video player software, etc. Then before class, images or videos of related teaching content can

be displayed to students. For example, this lecture is to teach the outline of famous books Journey to the West in the eighth grade, part two of the junior middle school Chinese textbook, and then the fragment of teleplay Journey to the West can be firstly played to students. It attracts student’s attention in image and then the teaching content is presented.

TABLE 1 : Comparison of three kinds of ways of CAI

Name	School teaching under the support of computer aided instruction	Individualized instruction under the support of computer aided instruction	Collaborative study under the support of computer aided instruction
Pattern and characteristics of instruction or learning	①To use computer to conduct instruction. ①Students conduct hand practice according to teacher’s explanations. ①The instruction pattern and the speed are of the same to students who have class together, they are all under teacher’s control. ①Students can communicate face to face with their teachers and partners ①To prepare courseware that integrate with image art and image culture, and to use multimedia computer to display courseware for conducting lecture.	①If study by means of computer software, then network can be connected. ①Mainly in student’s autonomous learning, which also can be without teachers and partners. ①To learn according to instruction pattern provided by instruction software, the learning methods and progress of each student will be different.	①To conduct with many computer software, and networking or within a local area network (LAN). ①To learn together with the company of teacher and partners. ①There is generally no limitation in time, space and place.
Presentation aspects of image art and image culture	①Machine room should be equipped with many computers, and there should be equipped with image processing or play software element within computer.	①It has good image effect on the preparation of instruction software and presentation of its knowledge content.	①The use of collaborative learning software has a good image. ①It has better image effect on the presentation of collaborative learning environment

Finally, in the presentation of teaching content, the preparation of courseware is commonly used in computer aided instruction. Three points are very important in the process of preparation of courseware: first is to conduct research on teaching object before the designation of courseware and to study student’s characteristics, learning style, image psychology, etc. Video media teaching style is created according to the characteristics of students, thus to obtain the effect of yielding twice the result with half the effort of the whole teaching; second is to carefully analyze the teaching content and teaching goal, and Proper sensory effect is needed in courseware design. For example, the design of theme and background of the course should be with clear priorities, and the subject cannot upside down with the object. It is not necessary to list out all the added teaching content in designing courseware, and the details and the omissions should be proper. Some of images can be displayed by adding pictures, dynamic effect or animation; to pay attention to color matching and to coordinate the atmosphere of teaching content. Therefore students can feel the learning atmosphere at first time and have deep impression on it.

The application of image art and image culture in network teaching software

At present, network teaching has gradually become an important way in teaching, and various network teaching software are emerged. The current popular network classroom teaching is the micro teaching unit that is mainly made up of multimedia elements^[6]. The individualized teaching in computer aided instruction refers to students learn by themselves under the assistance of computer. Compared

with traditional teaching, there is often not having real teacher and other study partner when using teaching software. Students learn without constraint, and then their learning will be blocked for their poor self control. Therefore, network teaching needs to more highlight and embody the integration of visual art and image culture, thus to attract student's attention and enhance their learning interest. If image art and image culture are to embody in teaching software design, then the following several points need to be considered: course design should be comply with principles like scientific, veracity, completeness, etc. Image theory, image process and image psychology are used for further guidance, and it should pay attention to interfacial design and teaching content design. The friendliness of interface should be paid attention to in the design of teaching software interface. Interface should be with good color matching and be direct in the embodiment of image elements in the settings like navigation bar, window, button, dialog box, etc. That is to be as much concise and clear as possible in interface settings, for example, the icon of "horn" is used for phonic control, logo of "book" is used for electronic books, and sign of "magnifying glass" is used in the side of inquiry box. Marked "help" or "illustration" should be put in the place that is uneasy to understand. When using means of artistic expression to describe knowledge, they should pay attention to its matching degree with expressive learning content. The presented learning content should be with proper details and omissions, and easy to understand and humorous. Figures, animation or video can be used to shown knowledge points and their relationships, which can make students, not only look at the text, but also mobilize their image and hearing sensory to coordinate with our brain to remember knowledge.

The application of image art and image culture in virtual classroom

Virtual classroom teaching is not only one of the current research hotspots of computer aided instruction, but also one way for conducting collaborative learning. The so called virtual classroom teaching refers to transfer the teaching of certain subject that originally in real word to the teaching that is conducted in virtual world with the assistance of computer network. The ways to integrate image art and image culture into the design of virtual classroom include: to use virtual reality technology in virtual classroom teaching. The so called virtual realty refers to use computer system to simulate the real environment in the real world, and to have users in virtual world obtain the image feel as if they are personally on the scene of the real world. The features of virtual reality are with more perceptibility, immersion, interaction and conception. Users can operate this environment as if they are in reality. Only the virtual classroom has vivid image effect, can students realize the learning feelings as if they are on the scene. For example, they can imitate micro classroom environment to conduct simulation in the designation of environment, which has teacher's podium, blackboard and students desks. Or they can imitate the environment in meeting room to set up the teaching scene. Read and study in virtual classroom has become new collaborative learning style. Read in virtual classroom adopts the presentation mode of electronic media and virtual books, which is equipped with fine pictures and presented the artistic conception that is shown by learning content. Emulational bedstand and experimental tools are shown to students when conducting chemical or physical experiments in virtual classroom, which can have students to experiment freely according to their own ideas and reduce risk. This kind of study presents students artistic and brand new aesthetic artistic conception, and embodies the beauty of languages. In addition, virtual classroom has good image interactivity. Students can participate in virtual learning community and take part in collaborative learning activity^[7] which is not limited by space and region. Differ from network teaching software, students can study online and timely communicate with teacher or partner during interaction.

CONCLUSION

The application of image art and image culture to computer aided instruction and their joint in teaching content and form has changed student's mind and soul and enhanced educational effect. The focus of future teaching task is to develop computer aided instruction in the direction of network, standard, virtualization, collaboration, etc, all of which cannot leave the support of image. The

exploration of better teaching products and the intensification of the construction of our national educational informationization have put forward higher requirement on the application of computer aided instruction in future.

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