

Application of Psychology Theory in Multimedia Courseware

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Abstract

With the technology of multimedia widely used in the classroom, the requirements of multimedia courseware are increasingly high. In this paper, the concept of multimedia teaching, necessity, problems and the application of psychological theory have been discussed. We try to introduce psychology theory into multimedia courseware to improve the instruction effect of multimedia courseware.

Keywords: Multimedia courseware, Problems, Psychology theory

1. The Concept of Multimedia Teaching

The rise of multimedia teaching is in the 1980s and people have their own views with it. As the development of teaching theory and multimedia technology, multimedia teaching content is also constantly evolving.

The media derives from the Latin word “medium”, “media”. In the field of mass communication, the media often refers to a kind of intermediary public institutions where communication activities take place, and it is used to expand communication channels, the scope or increase transmission speed.

Multimedia is the compound word of “Multiple” and “Media”. That is a kind of technology that collects access, pack-unpack, edit, store the information of audio, video, graphics, images, animations and other multimedia, and then express the information by a single media or combination of media.

Multimedia teaching mentioned in this paper is specific to the teaching activities carried out by using multimedia computers and pre-produced multimedia software.

2. The Necessity to Study Multimedia Courseware

In the teaching process, the multimedia courseware plays a role in teaching information's loading and delivering. Multimedia courseware communicates the teaching and the learning just as bridge and link. And as the development of technology, a variety of advanced technology and equipment have been used in teaching. To carry out the multimedia courseware is social development's inevitable outcome. Compared to traditional teaching, multimedia teaching changed in many aspects, for example, multimedia teaching requires teachers to have a higher quality. This is also the needs of the times.

Multimedia teaching makes a bold innovation based on the traditional teaching model. The role of teachers and students has changed, and it can play the subjectivity of students and dominance of teachers fully. Students are actively learning in multimedia teaching rather than being inculcated. Teachers are organizers, researchers, administrators in the teaching, and are guiders, monitors, evaluators for the students' self-learning. Multimedia teaching enhances students' interest greatly in learning and has promoted students' learning method and life development. But playing the advantages of multimedia teaching requires teachers to be able to apply the theory of rational psychology to design and implement teaching activities, and to produce high-quality multimedia courseware.

3. Problems in Multimedia Courseware

With the technology of multimedia widely used in the classroom, the teaching method has had the radical changed. And like anything else, along with the raise of teaching level, multimedia teaching also shows its advantages and disadvantages. This paper discusses the problems of multimedia courseware.

3.1 Memory Burden Caused by Massive Information

Conducting multimedia teaching, courseware is completed before classes. The lectures can be completed simply by clicking the mouse, which eliminates the writing time. Therefore teacher's explanation can be compact and fast. Although the increasing amount of information can enrich the resource and enhance the integrity of consciousness, it simultaneously also has brought the memory burden. Because the students need to consume the cognition resources in the study, while the amount of resource in control of various brain-involved activities is limited. The multimedia technologies are used more and more frequently due to its' big capacity, the quick speed,

high simulation and so on. Therefore, the occupied cognitive resources will become more and more. Reasonable distributing and using the limited resources can maximize the cognition efficiency. If the teacher does not try to slowdown the explanation speed, stress and explain the main point in time, which will result in the phenomenon that the students take notes constantly while listening and then forget soon. In addition, teachers should also try to keep certain time before the end of each lesson, in order to carry on the systematic recollection and the first review to strengthen the student's memory.

3.2 Hinders the Cultivation of Student's Imagination and Thinking

Usually people often need for a conscious re-imagination in the study process and form the new images in the brains through the language description and the pattern hint, which process takes some time. But the time of re-imagination is deprived due to demonstrating pages and constant graphic changing.

It is important for students to think in their learning process, which will take some time to carry out. The multimedia teaching displays text and symbols, etc in teaching materials with pictures, animation, audio, video, visual image through multimedia-rich technology. The content of these shows supposed to be obtained by students through representation, thinking and imagination. Non-stop multimedia courseware will block the cognitive link between the sense of perception and memory, image, thought, imagination. Students are busy with receiving information, although it is benefit to image-based thinking, simultaneously resulted in the lack of abstract thinking.

3.3 Hinder Emotion Exchange between Teachers and Students

The relevant laws display that the important aspects of emotional communication are the correct understanding of facial expressions and gestures expression. Since the multimedia courseware is designed pre-class, the rhythm and content of teaching are carried out in accordance with courseware. Most teachers have been fixed on the podium by courseware programs for mechanical explanations, and they are unable to observe the students because of their focus on the screen. The classroom atmosphere is not active, and as the same time the communications between teachers and students become less. There have been the situation of the teachers mechanically speaking with the students passively listening, which seriously hinder the thought collision between students and teachers, so teaching effectiveness is not good. Furthermore, the process of using multimedia courseware often needs to pull together all the curtains in order to highlight the screen. The darkness leads to students sleeping during lectures, and it also influences facial communication and emotional exchanges between teachers and students.

4. The Application of Psychological Theory in the Multimedia Courseware

4.1 Rational Utilization of Perception

Perception is a whole understanding produced in the minds towards objective things, when they happen directly to the senses. According to the selectivity of perception, there are two conditions to select a perceptual object from the background: First, the difference between the object and background. The greater the difference is, the easier to distinguish objects from the background. Second, the choice of attention makes a thing become an object of perception. When the attention points to a thing, the thing becomes an object of perception, while other things will become the background of perception.

Practically, the teacher should arrange relations between content information and background in the design of multimedia courseware. Generally, teachers use the lighter background color. Thinking of the progressive and back nature of color, they use blue, black and warm colors in order to narrow the distance between the screen and the students, so that more attention will be paid to relevant information. That is to say, it is easy to distinguish from the background and thus achieve the purpose of improving teaching effectiveness.

4.2 Rational Utilization of Memory

Memory is divided into sensory memory, short-term memory and long-term memory. They are interrelated in order to make information eventually become the accumulation of knowledge in the brain through the registration, processing, storage. Using the rule of memory to design multimedia courseware rule, we can convert some boring, meaningless materials into specific, meaningful materials. So the students can code easily.

Short-term memory is characterized by the limited nature of its capacity. The normal short-term memory capacity of adults fluctuated between 5-7, an average of 7. Miller raised short-term memory capacity of 7 ± 2 . Therefore, a study project should be limited to 7 ± 2 . Then, the types and numbers of fonts, colors, sounds and other elements within a multi-media courseware should not be too much. Chunking can increase memory capacity and efficiency. If the contents are presented too much, we can change the form of the chunking to make

the problem easier.

4.3 Rational Utilization of Emotion

In the process of multimedia courseware production, attention should be paid to set the screen to stimulate students empathy. We can make use of pictures, animation, language inserted to arouse students' emotional experience. And in the use of multimedia courseware for teaching, teachers should make comprehensive use of a variety of speech to communicate and exchange with students and make full use of the advantages of multimedia to create a learning environment, regulate the state of consciousness of students so that students can be relaxed to concentrate on classroom learning. In short, the multimedia courseware is just a kind of tool for teaching. We use tool for teaching, not teach for using tool at all times. Therefore, the number and timing of courseware presentation should depend on classroom needs.

To sum up, multimedia teaching is the result of the rapid development of information technology. As other new things, it has advantages, and there are some disadvantages at the same time. So for the teachers, how to use psychological knowledge effectively to optimize the multimedia classroom teaching resources is the key to multimedia teaching.

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