

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(22), 2014 [13827-13832]

Research on design of network multimedia courseware of the art design teaching

Zhiyan Su

AnQing Normal University, Anqing, (PEOPLE'S REPUBLIC OF CHINA)

ABSTRACT

With the rapid development of computer media and network technology, Network Multimedia Teaching has become the most popular and advanced teaching method among various teaching models at present. The development of Network Multimedia Teaching not only promotes students' learning interest and quality, but also brings a qualitative leap on educational business. What's more, the integrated teaching approach which combined Network Multimedia Teaching with Art Design Teaching has aroused wide concern within educational circles. However, due to the characteristics of Network Multimedia technology and Art Design themselves, and the immature development of Network Multimedia Technology, the Art Design Teaching resource is in short supply. Thus, it is particularly important to judge whether the design of the Network Multimedia Courseware of the Art Design Teaching is reasonable and with high quality. This Paper discusses the basic principles of designing the Network Multimedia Courseware of the Art Design Teaching, so as to research the methods of designing Network Multimedia Courseware of Art Design Teaching.

KEYWORDS

Art design teaching; Network multimedia courseware; Courseware design.



INTRODUCTION

Currently, Network Multimedia Technology has been widely applied in education; especially, the combination of Network Multimedia Technology and Art Design Teaching has further deepened educational reform. It is well known that the plausibility and quality of Network Courseware design has great influence on Art Design Teaching level and quality. However, most of current art academies just started researching the design of Network Multimedia Courseware of the Art Design Teaching, and they are not so unacquainted with how to design the Network Multimedia Courseware of the Art Design Teaching. Therefore, the Author shall research and discuss the design of Network Multimedia Courseware of the Art Design Teaching through its acknowledge learned and experience accumulated for many years, so as to make people know more about the design of Network Multimedia Courseware of the Art Design Teaching.

BASIC PRINCIPLES OF DESIGNING NETWORK MULTIMEDIA COURSEWARE OF ART DESIGN TEACHING

People have countless thoughts and theories in all ages and different countries. Theory is the basis of learning and thinking for human beings. Because the current Network Multimedia Technology, which has been widely applied in China and replaced the traditional educational pattern gradually, is mainly formed under the influence and impact of the Western, therefore, the basic principles of designing Network Multimedia Courseware also derived from Constructivism of the Western. Piaget, a psychologist in Switzerland, is the representative figure of Constructivism, and his core point is that students' learning should be obtained by their own thinking and research under certain culture background, accompanied by teachers' guidance and consulting relevant learning materials. Constructivism mainly emphasizes that students should be the principal part of learning, the four principal elements of "Context", "Cooperation", "Dialogue", and "Meaning Construction". The so-called "Context" refers to the cultural background of students learning; the "Cooperation" means that students should learn from and help each other by forming a group, as well by the guidance of teachers in the process of learning; the "Dialogue" means that students should discuss problems within the group, and reach same conclusion from coordinating and discussing different opinions within the group; the so-called "Meaning Construction" means to summarize and analyze the essence and inner link of acknowledge grasped, and then gain a further understanding of the acknowledge. In general, Constructivism focuses more on students' self-regulation of learning. The design of Network Multimedia Courseware of Art Design Teaching takes this as the basic principles, shown as TABLE 1.

TABLE 1: Four elements of constructivism for design of network multimedia courseware of art design teaching

	Context	Cultural background of students' learning.
Four elements of Constructivism	Cooperation	Learn from and help each other within a group, accompanied by teachers' guidance.
	Dialogue	Reach agreement on the conclusion by communicating with each other within a group.
	Meaning Construction	Summarize the currently grasped acknowledge

BASIC APPROACHES FOR DESIGNING NETWORK MULTIMEDIA COURSEWARE OF ART DESIGN TEACHING

With the introduction and application of Network Multimedia technology, Chinese educational business has had a more rapid development, while the application of Network Multimedia Technology on Art Design Teaching has made greater breakthrough in educational business. However, due to the immature development of Network Multimedia Technology in China, as well as the characteristics of Art Design Teaching itself, there exist a lot of problems in the important element of design of Network Multimedia Courseware of Art Design Teaching, and one of the major problems is lack of understanding of basic methods. The disorder of design methods and structure of Network Courseware has made students confused in the process of learning, thus created bigger obstacle for the development of the integrated teaching model. Therefore, it is a great challenge for how to grasp the basic approaches for design of Network Multimedia Courseware of Art Design Teaching. Only by grasping the basic design approaches, can we better promote Chinese educational business. Here, the Author has made following researches on design approaches for Network Multimedia Courseware of Art Design Teaching, shown as TABLE 2.

Design of courseware teaching

What is Network Courseware? In general, it is a kind of instructional software with certain teaching function, designed and made on basis of HTML, accompanied by popular techniques of JavaScript, Flash, etc., and the function of implementing relatively complete teaching in terms of one or multiple knowledge points. Its advantages of vitality, abundant contents and strong interactivity have been gradually acknowledged by learners. Compared with traditional blackboard-writing teaching type, the application of Network Courseware teaching can make students grasp abundant acknowledge, in addition, it is beneficial for them to obtain more skills, practice and experience. While the teaching design of Network

Courseware reflects teachers’ research and reform thoughts on teaching model and teaching methods and it is one of the major link of making the courseware. Courseware teaching design mainly includes analyzing students’ characteristics, confirming teaching objectives, establishing knowledge structure, selecting and designing the media, diagnosis and evaluation of design, and forming manuscript in written. Design of Art Teaching Courseware should take Constructivism as design principle, and adhere to its design philosophy and methods.

TABLE 2 : Design approaches for network multimedia courseware of art design teaching

	Analyze students’ characteristics
Courseware teaching design	Confirm teaching objectives
	Establish knowledge structure
	Select and design media
	diagnosis and evaluation of design
	Manuscript in written
Courseware system design	Design of hypermedia (HM) structure
	Design of onscreen interface
	Design of navigation strategy
	Design of information presentation
Formation of shooting board	
End	

Design the teaching objectives

The western scholar, Bloom, categorized teaching objectives into three areas: cognition, emotion and action performed under the guidance of emotion. The so-called “teaching objectives” refers to the direction and expected result of teaching implementation; it is the first and ultimate step of teaching activities; it is associated with educational purpose and training objectives, but it has difference with the two aspects. To guarantee the achievement of reasonable and effective teaching objectives design, students should perform a series of learning activities by focusing on teaching objectives. Only in this way, can the teaching objectives be achieved successfully, shown as Figure 1.

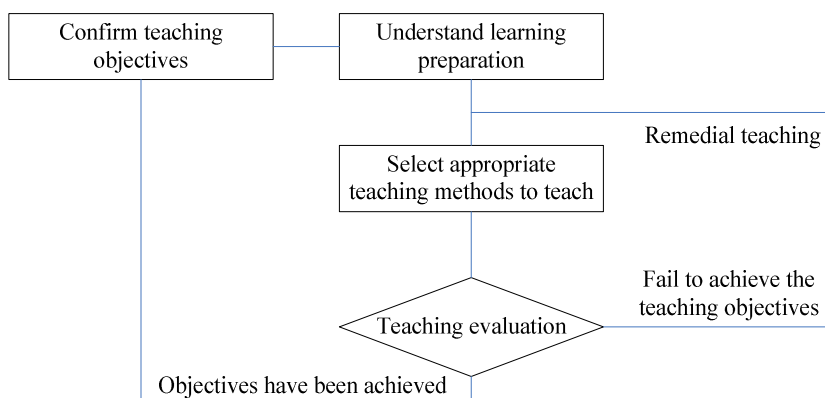


Figure 1: Flow chart of teaching objectives design

Teaching objectives within cognitive domain

In 1956, Bloom, a famous professor in University of Chicago, pointed out the famous theory of “Education Target Classification”, in which he graded teaching objectives within cognitive domain into six levels: memorization, understanding, application, analysis, integration and evaluation, shown as TABLE 3.

TABLE 3: Six levels of teaching objectives classification within cognitive domain graded by bloom

1	Memorization	Memorize the content of previous learning materials
2	Understanding	Explain or understand the meaning of learning materials
3	Application	Apply the learning materials in new and concrete context
4	Analysis	Decompose learning materials into different parts
5	Integration	Integrate all the learning material portion together
6	Evaluation	Evaluate the value of learning materials or research object

Teaching objectives within emotion domain

The teaching objectives within emotion domain can be classified into five types: acceptance or attention, reaction, evaluation, organization, and characterization of value and value system.

Acceptance or attention means that learners intend to pay attention to some certain phenomenon or stimulation. The learning outcome includes consciousness change from simple attention to selective attention on certain object, and it is on a lower value internalization level.

Reaction means that learners take active part in learning, make active responding, and show high interests on learning. Learning outcome includes tacitly approve, original reaction and satisfying reaction. This kind of objective is similar to "Interest" mentioned by teachers, which emphasizes on the selection and satisfaction on certain activities.

Evaluation means that learners apply certain value standard to judge a certain phenomenon, action or matter. It includes accepting or showing preference on a certain value standard, or making contribution to certain value standard.

Organization means to organize values into a system in a complicated situation where there are different kinds of values, then make comparison among these values to confirm their mutual relation and relative importance. After that, learners can accept value that they think it is import to form their own value system.

Characterization of value and value system means that learners can shape their own moral character by organizing value system. All the values are placed in an inherently harmonious framework, and formed into a certain system. Private statements and actions are influenced by this value system, also integrated with concept, faith and attitude, and finally represented as the formation of private world outlook. Private actions are consistent and divivable once reaching this phase.

All of above is the explanation and description to all levels of teaching objectives classification within emotion domain

Teaching objectives within motor skill domain

Bloom categorized the teaching objectives within motor skill domain into five types, and they are imitation, understanding on imitated actions, action coordination, action assessment and creation of new actions. Refer to following Figure for the concrete contents shown as TABLE 4.

TABLE 4 : Classification of motor skill domain

Learning level	Concrete contents
Imitation	1. Imitate demonstration and actions, and use instrument and device. 2. Transfer descriptive language into practical action.
Understanding on imitated actions	1. Explain the principles of device structure 2. Explain the function of action 3. Explain and summarize action outcomes
Action coordination	1. Realization of decomposition and coordination of action 2. Design and plan action combination 3. Explain and summarize experimental result, and prepare lab report
Action assessment	1. Evaluate the function of action 2. Design and plan the composite action or a certain device 3. Explain, deduce and evaluate outcomes
New action	1. Design and implementation of new actions under new situation 2. Interpretation and regulation of outcomes under new situation

Design of teaching contents

Teaching contents refers to the main information that should be deliberately transmitted in the process of learning and teaching, and it originated from the comprehensive process of course contents, textbook contents and teaching practice. Whether the design structure of Network Courseware is distinct is critical to whether learners have a recapitulative understanding on acknowledge, and it is of great importance to the formation of knowledge hierarchy. Thus, the teaching contents of Network Multimedia Courseware must be reasonable and distinct, and planned according to certain levels and chapters. Teaching objectives are the premise of teaching contents; the structure of teaching contents should be planned as per the teaching objectives, which that the teaching contents must include acknowledge and skills that learners should grasp and understand. What's more, the design of teaching contents should adhere to features of fundamentality, contemporaneity, openness, variability and practice, shown as Figure 2.

Analysis on art design students

Art design students have their unique features and personalities. Thus, teachers shall carry out serious research and analysis to develop individualized teaching methods, so that every student is able to give full play to his/her potential and strength to the maximum extent. Compared with students of other majors, art students have more aesthetic tastes and concepts. Their reception to beauty is divergent to others, because they are not only sentimental, poetic but also romantic and elegant. Art isn't a cognitive science in need of strong logicity. Therefore, art students don't need to have powerful logical minds; instead, what they need is associative and imaginative mind and a pair of eyes to distinguish beauty in life.

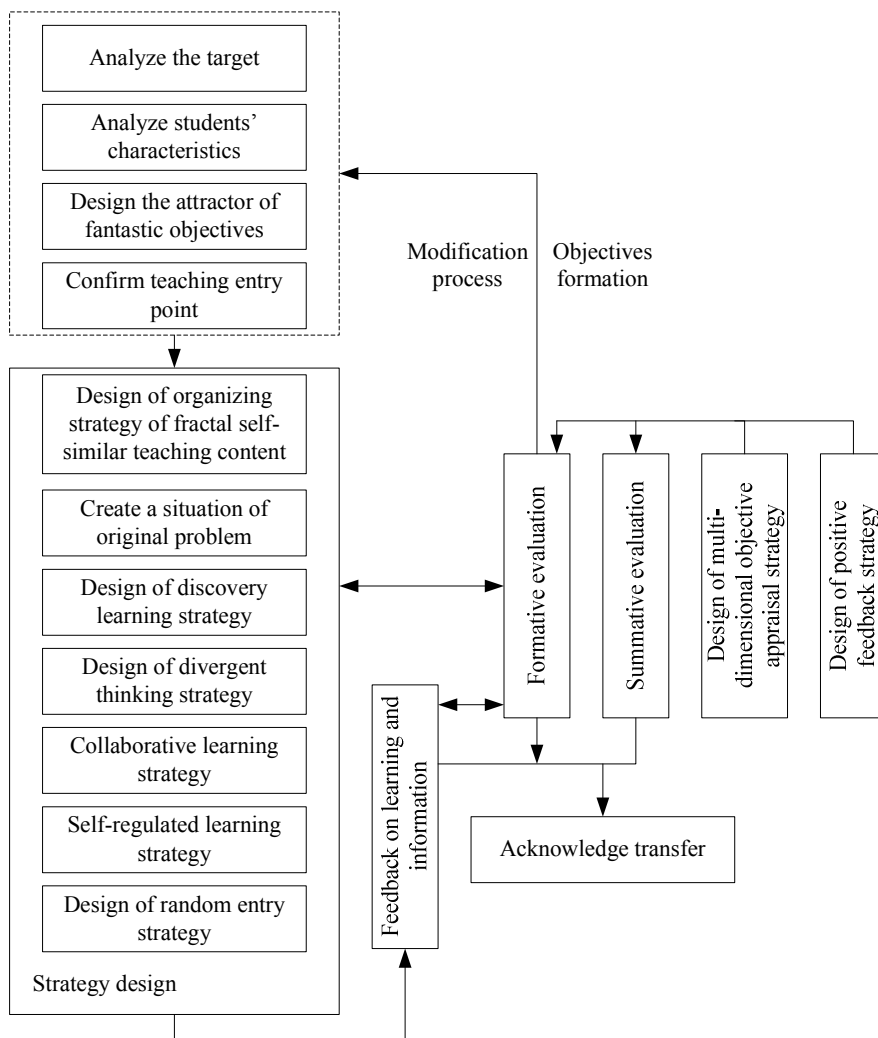


Figure 2 : Flow chart of teaching contents design

Systematic design of courseware

The design of courseware system includes media structure design, screen interface design and navigation strategy design. A detailed narration will be made in the following session.

Hypermedia structure design

The “hypermedia” is short for hyper media technology, which is adopting nonlinear mesh structure to organize and manage massive multimedia information. It is more a commercial mind than a technological word. It has three main components, namely editor, navigational tool and hypermedia language, shown as TABLE 5.

TABLE 5 : Components of hypermedia structure

Components	Function
Editor	Help uses build, modify the nodes and chains of information network.
Navigational tool	The hypermedia system supports two ways of query: 1 Query based on conditions similar to data base 2Interactive query along the chain
Hypermedia language	Describe the structure, nodes and other features in a programming way.

The above all are components Hypermedia Structure. Thus, the design of hypermedia structure must meet these three aspects.

Screen interface design

The screen interface design contains layout design, color design, etc. therefore, the designer is required to acquire skillful and comprehensive technology. Courseware with bright color and clear layout can not only trigger students’ interest but also help students to understand and memorize.

Quality evaluation after design ends

Teacher can start to make after the design of network multimedia courseware of the art design teaching ends. But before that assessment and analysis are required for the designed network course, shown as TABLE 9.

TABLE 9 : The quality assessment system structure of network course

		Scientificity of course content
Quality of network courses	Content design	Elaboration of knowledge
		Normativity of the content
		Rich learning resources
		Interface design
	Structure Design	Clear learning objectives
		Learning navigation and positioning
		Learning records
		Homework, exercise, practice
		Learning assessment
	Procedure Control	Interactive teaching
		Discuss and collaborate
		Reliability
	Technical Support	Compatibility
		Security

CONCLUSION

In conclusion, this paper, which has combined author's knowledge and experience accumulated in years, has summarized author's research on design of network multimedia courseware of the art design teaching. Currently, due to the immature development of network multimedia technology, and the features and characteristic of art design teaching and network multimedia technology, it's difficult to widely apply this integrated teaching mode in future's education field. But as long as acquired the design of network multimedia courseware in art design teaching, the art design and network multimedia technology will have profound development.

REFERENCE

- [1] Yuxia Liu; Computer art design teaching in computer specialty of secondary vocational school, *Occupation*, **8**, (2012).
- [2] Na Lee; Network application in art design teaching, *Management and Technology of Small and Medium-sized Enterprise*, **1**, (2012).
- [3] Yuwei Zhang; Innovative exploration on high school are design teaching mode-based on internet culture, *Theory Research*, **8**, (2014).
- [4] Cong He, Yong Zhang; The significance of network platform education in art design teaching, *Beauty and Times: Volume One*, **12**, (2012).