

# Development of Three-dimensional Teaching System Construction

Zhu Tian-yu, Tian Hai-lei & Liu Yun

*Wuhan Mechanical Technology College, Wuhan, Hubei Province, China*

**ABSTRACT:** The three-dimensional textbook construction work is a new form and a new phase of NCO school professional teaching building. This paper discusses the necessity of three-dimensional meaning and construction materials, analyzes the basic characteristics of three-dimensional materials, instructional design framework proposed three-dimensional materials, which has practical significance to promote the construction of three-dimensional materials.

**KEYWORD:** Three-dimensional materials; Teaching and Research; Professional teaching system

## 1 NECESSITY OF THREE-DIMENSIONAL CONSTRUCTION MATERIALS

The idea is the construction of three-dimensional materials made in the late 20th century. Especially after China's accession to the WTO, with the rapid development of science and technology, economic development by leaps and bounds, to train specialized personnel raised higher and higher requirements. Required for training to adapt to the modernization of talent, an urgent need to reform the traditional teaching model of higher education, teaching philosophy, teaching evaluation and teaching methods, to reform the existing teaching materials, the latest scientific knowledge organized into teaching programs, in order to cultivate keep up with the requirements of the development of talent; reform the traditional teaching methods, get rid of limited classroom teaching methods, learning to play autonomy, creating a creative learning conditions in order to cultivate creative talents; reforms in the past books dominate the situation, from the monotony of text, pictures, turning sound, shadow, light three-dimensional display, from a form of paper-steering diverse manifestations of different media to meet the flexible, independent learning needs.

## 2 MEANING THREE-DIMENSIONAL MATERIALS

For the three-dimensional materials, it is often easy to understand as the original books and supplementary handouts accompanied by CD-ROM

or other tools for teachers in classroom use. In fact, there is just borrowed "three-dimensional" image of the word to be a metaphor. The true meaning of three-dimensional textbook refers to the computer and network support platform, relying on experienced teachers teaching, teaching resources rich collection of colleges and universities, using a variety of new teaching tools, according to the integration of advanced design ideas suitable for diversified teaching new teaching program applications.

Three-dimensional materials are no longer confined to classroom teaching and extracurricular self-service. Cross-regional functions using modern computers and networks developed, it will be teaching content, teaching methods, teaching emphasis and teaching effectiveness are gathered them. In particular, it can make use of various forms of resources, such as textbooks, teaching reference books, student guide books, lesson plans, courseware, test database, case base and practical guide books, etc., and in paper, electronic media and the Internet and other forms show, which provides a total solution teaching resources, can satisfy the needs of teaching and the education market demand, a more powerful teaching ability, greatly facilitate the teaching reform.

## 3 THE BASIC CHARACTERISTIC THREE-DIMENSIONAL MATERIALS

Chinese traditional paper-based materials is mainly based on the development of information technology

is making textbooks dramatic change in form and content, has grown from a single book, the development of three-dimensional state of a variety of media forms. The concept of comprehensive, three-dimensional materials with the following basic features.

### 3.1 Three-dimensional materials have diverse manifestations

Traditional materials including textbooks rendered content to help teachers analyze reference textbooks, and assist students to understand the learning guide book of knowledge, most of them are paper printed form, unable to express an intuitive content, sound effects, and demonstrate things change process and so on. Three-dimensional materials to fill this deficiency, in order to diversify the forms of media resources to provide teaching content. Presentation from the content perspective, three-dimensional materials can be through text, illustrations and other static forms of media performance, but also through animation, sound, video, network streaming media and other forms of media presentation of digital resources; Manifestation from the product, you can have printed materials, audio and video products, electronic publications, online publications, etc., specifically including the textbooks, teaching aids, electronic lesson plans, student assistant courseware, material library, online courses, test database, tools, software, teaching support environment. Look from the storage and transmission media, mainly printing paper, video tapes, audio tapes, CD / VCD, DVD, U disk, hard disk, network servers.

### 3.2 Three-dimensional materials for teaching and learning in an overall solution

People think that there are both paper-disc or network in the form of three-dimensional teaching materials is, in fact, such an understanding is not complete, the media is just external manifestations of diverse forms of teaching, which is the inherent nature of the content layout with the presentation of three-dimensional design, mainly refers to the teaching theory of modern education, especially constructivist theory as a guide to networking, multimedia and other IT-based, providing a complete set of teaching and learning can best meet the needs of the overall solution, its purpose is to update the teaching ideas and teaching model to improve teaching quality and efficiency.

### 3.3 The body of materials to provide a variety of methods and approaches for teaching and learning

Development of information technology for curriculum content selection, teaching activities of

the organization, the way information is presented to provide a strong support, three-dimensional morphology of materials not only to expand teaching resources, while also expanding the space-time structure and activities of teaching and learning methods. Different forms of media materials having different characteristics and teaching capabilities to provide a broad space for the use of a variety of teaching and learning methods. Meanwhile, also according to the learner's cognitive features provide different levels of learning content and objectives and requirements, as far as possible to adapt to students' personality and learning style differences, provide the most suitable learning materials for each student to build the most appropriate media resources and the environment penetration optimization of learning.

## 4 MEANING THREE-DIMENSIONAL MATERIALS

General instructional design model includes four basic elements: the learner, goals, strategies, evaluation. In this paper, "Smith Reagan" model based on this model, proposed instructional design framework shown in three-dimensional materials shown in Fig.1

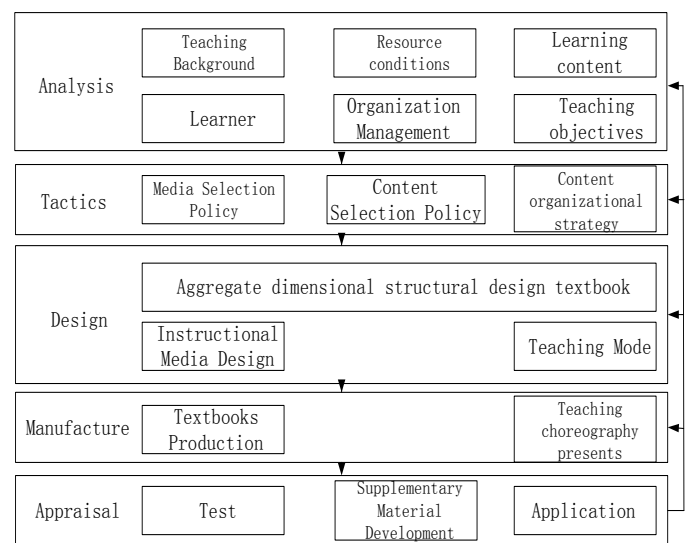


Fig.1 Instructional design framework for three-dimensional materials

This design framework, including front-end analysis, strategy development, textbooks overall structural design, media selection and design, teaching model design, write teaching materials, textbooks choreography presented test trials, evaluation and modification of other sectors. The following focuses on two key areas of special significance for the development of three-dimensional materials: architecture media selection and design, materials.

## 5 CONCLUSIONS

Three-dimensional materials necessary to optimize the design and development of teaching effectiveness for the purpose of pursuing good effect, high efficiency, attractive. Specifically, from the needs, priorities clear objectives and problem solving; media forms is not possible, but to make the best use; to properly handle the relationship between the media, complementary advantages; to learner as the main focus on learning, learning contexts and learning helped design.

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