

# Analysis of the Application Value of Visual Communication in University Teaching Compared with Experience of Taiwan University Education

Bin LI<sup>1,a</sup>, Su HUO<sup>2,b</sup>

<sup>1</sup>Jilin Agricultural University, No.2888.Xincheng Street, Changchun, China, 130118

<sup>2</sup>Jilin University, No. 2699.Qianjin Street, Changchun, China, 130013

<sup>a</sup>105289129@qq.com, <sup>b</sup>280339877@qq.com

**Key words:** Visual Communication; Application Value; University Teaching

**Abstract.** With the rapid development of information age, the ways of knowledge presentation are closely related to data innovation. The university teaching philosophy, curriculum design, achievement has to adapt to the environment of strain inheritance and reform. The characteristic of visual communication is not only to guide the new direction of learning, but also to inspire the university education and to change the information demands of the subject education, We should practice and explore the development direction of university education from the rule of visual culture communication. Through the means of visual communication, Taiwan University aims to build up a culture belonging to the core of teaching idea, to promote the development of teaching practice and to open up a teaching mode which adapts to the students' learning rules, which is worth learning and reference.

## Introduction

There is the view that the coming of "image society" or "visual culture" has become a dominant and comprehensive cultural landscape in the academic research. It appears that there is such as to accelerate the pace of life for many reasons, and the rapid transmission of information make the demand trend of fragmentation and fast load, and data visualization technology trends to force more powerful. Knowledge visualization is a new research field of computing visualization, data visualization, information visualization based on science, it means to promote the dissemination and application of visual representation of group knowledge innovation, and the education system is facing the challenge and opportunity of visual communication. Martin J.Eppeler and Remo A.Burkhard co-wrote the document *Knowledge Visualization a New Discipline and its fields of Application*, which is a new research field of the formal knowledge visualization .

In the light of the knowledge learning research in the field of education, knowledge visualization is gradually defined as the existence value of the form of visual representation, which is the method of drawing knowledge. The visual representation of knowledge visualization is not an isolated unit, but a symbolic system. Visual form is divided into surface form and deep form, so we can see the formal features of visual representation of knowledge respectively, surface forms of visual representation of knowledge visualization are material factors such as color, line and size, deep form are linear structure, circular structure, circular structure and network structure and metaphorical form of spatial relation. In the form design of visual representation of knowledge visualization, it is necessary to construct the structure relation of visual representation and display the content elements; Application of line color and size and other materials, play a modified role; Text symbols combine with visual forms to clarify the content of the signified.

## Visual Communication in Teaching Application

Visualization refers to the presentation of knowledge and information in an image representation. In order to make it easier for people to transfer their visual potential and brain function, identify and deal with them, information visualization is the most basic aspect. It converts non-spatial data and information into visual expression, which makes abstract information easier to be observed and

understood by users; the visualization of knowledge (processed by cognitive processing) is the graphic representation of knowledge representation, construction, innovation and complex knowledge representation using visual representation. Combining the visual representation of symbolic system with the knowledge dissemination of university education, we can excavate the characteristics of students as recipients according to the types of knowledge dissemination, the objects of communication and the situation of communication. With the visual interpretation of the symbols, contemporary college students accept thinking preference, and they can construct the personality of knowledge learning subjective.

### **Inheritance of Educational Ideas**

A university from the early establishment of the concept promote the spirit of the University, for students to recognize. It is the cornerstone for universities to attract elite talents and pool talents in all fields to benefit society. The concise idea of running school and teaching idea is the testimony of every university's unremitting exploration experience and experience, it is necessary for every new knowledge group ,when they enter the university to be familiar with, and gradually form a sense of identity on this basis, so as to form a sense of belonging of individual social existence.

The core of the idea and teaching aim of Zhongyuan University in Taiwan private university is "holistic education". The interpretation of the concept of holistic education not only has special space publicity on the campus, but also in various departments of the school and student activities. You can see that the idea of running education affects the people of the university through various methods of visual communication from engraving texts on the wall, campus sculpture, various screen windows broadcast pictures and video, and the University logo design items, department of publicity films, etc. Each element is the visualization means in the construction of education ideas and inheritance atmosphere, so students, teachers and workers can have emotional attribution through the visual cultural landscape, and strengthen the awareness of educational ideas in the daily life.

### **Curriculum Teaching**

The curriculum form of new teaching mode has been gradually formed through visual communication in Taiwan, according to the differences of teaching in space-time, we can be divided into the following types: full time teaching, distance teaching, MOOCS class and practice combined course. From the dependence of visual means, distance teaching and MOOCS mode are optional, and the teaching can be realized by means of visual communication and editing; Full-time teaching methods are supplemented by electronic tutorials, visual cases, and the preparation of game courseware, it break through the lack of traditional indoctrination curriculum, to make learning resources and ways fit the characteristics of College Students' information acquisition; The practical combined curriculum refers to the training of engineering skills and designing abilities that can be realized in class, by means of visual process of skill demonstration, the course training of skill operation is realized by grouping task instruction.

In the design of teaching, visual knowledge representation plays a role in breaking through the shallow "reading drawings", and it is an attempt to use the tools of visualization, knowledge processing and knowledge construction to become the center of the transformation of teaching form. As a tool for thinking modeling, semantic schema can help build semantic relation among knowledge fragments, and help construct knowledge system based on semantic rules, in order to achieve meaningful visual knowledge learning. For example, film-television director and script creation in Zhongyuan University in Taiwan, the traditional teaching method of combining text with pictures is broken through. The teacher combines the micro film and the teaching content invested by a Youth Foundation in Taiwan and makes the original language decomposition action of the lens. It is not only students intuitively understand the meaning and the method of using the lens language from the visual experience, but from the perspective of the photographer (the professional students operating angle) degrees, from the technical, equipment, process preparation to do the content. The application of this visual communication method can help the author to explore the real learning demand motivation of the receiver, from the knowledge and ability of specialized courses.

Therefore, the effect of the application stimulates the learning motivation, master the main points of knowledge and improve the skill level in the light visual experience.

### **The Achievement of Teaching and Learning**

Graph as an external representation of cognitive processes or outcomes is an external form, but semantic icons follow schema expressions with meaning. Similarly, the same cognitive or intellectual meaning can be expressed in symbolic, graphic, mathematical, and linguistic forms. The visualization method and knowledge are effectively grafted, and an icon with cognitive optimization effect is designed, usually with knowledge theory, communication, cognitive psychology and other multi-disciplinary research results. Especially, it is important to study the relationship between multi-symbol representation and semantic generation in the field of visual cognition and understanding.

Teachers should follow the law of information dissemination and the cognitive rules of learners in the performance of teaching achievements. The mode of memory is a highly accepted way in the field of learning. By means of graphic and knowledge communication, the "field" environment of visual cognition is constructed, it contributes to the popularization and value realization of teachers' teaching achievements. Teacher's courseware, teaching plan, teaching material compiling, teaching research project and teaching reform practice, it is not just for the performance of teachers and evaluation of professional titles in the final analysis. The more important value should be embodied in the sharing of teaching resources in higher education, promoted university teaching innovation and development, and it is helpful for popularizing practice to have more value. From the aspects of teaching achievement, creation and sharing of Taiwan University teachers, we can integrate E-Learning resources of educational management systems in major institutions of higher learning. It can be transformed into a more graphic visual communication structure that can be shared with students and colleagues in registered courses, and you can share it with the industry and social needs through your personal homepage.

### **Realistic Cause of Visual Communication Boosting Teaching**

#### **Conforming to the Cognitive Characteristics of Learning Subject Knowledge**

A series of teaching reforms, such as "overturning class" and "subverting the teaching angle of view", are based on the premise that the subject of teaching changes. It is the first question of the new type of teaching reform, we should change the receiver of knowledge from passive position to initiative and respect students' interest and motivation. Psychology holds that human knowledge is stored in memory as icons, many icons are linked together to form a huge, networked, solid graphical framework. Graph, as the core concept in Piaget's cognitive development theory, refers to the structure or organization of actions movements or generalizations caused by repetition in the same action or environment. The information sharing environment brought by the network media makes the information contact mode of the individual in the communication space more and more influenced by the media, and has a broad and scattered way of using information. The group of college students born in the 90s of last century is a generation of media sharing data. The media dependence of information cognitive style is very strong, and has already influenced the daily demand of it, and visual information acquisition and sharing way are beyond the traditional knowledge of learning heat. Therefore, the key element of teaching reform is to understand the cognitive characteristics of the learning subject.

#### **Change of Traditional Teaching Control Situation**

In cognitive activity, schema is a more easily presented way of presenting information about human visual potential and brain function. Graph and schema involve two aspects of internal representation and external representation respectively, which reflect and reveal the mental graph of human beings respectively. Through the graphic symbol system of knowledge dissemination system, it need more powerful potential open space, and it can make the knowledge learners radiate their internal reserve

potential and form an individual diversification development situation. Compared with traditional education, port control based on visual means is more flexible. It is not because of the absolute control of one end of the teacher, students can learn from the individual, interest groups, media studies, community, etc., and their influence on teaching. In particular, when the network courses, counseling, interactive platforms and other teaching resources are gradually opened, students acquire a more flexible way of learning, because of the differences in the individual structure of students and learning, pay, and so on, to form a great difference in the students' learning. If teachers still follow the rigid teaching content, teaching inevitably leads to students in the classroom differences.

With the arrival of the big data era, the increasing demand for data and information, and the rise of image culture, the visualization research will be more and more thorough. The value and significance of knowledge visualization will become more and more important in the field of education. Especially the changes of education and learning pattern caused by mobile network and information technology, it is important to meet the needs of learners from various aspects to promote learning effectiveness.

### **Practice Transformation Requirements of Teaching**

The main examination direction of most college knowledge teaching is based on the credit system as the index. Through the test papers to obtain results, and therefore it becomes a process of teaching standards. As a matter of fact, the kind of teaching evaluation method is seriously derailed with the students' practice in specialized technology, and the teaching is moving away from practice. Higher education bears the dual mission of academic construction and professional education construction. However, there is a contradiction between the demand for real talents and the teaching of university. The professional adaptability of talents training has become the main pressure of feedback to school running, especially for colleges and universities of various specialties. The level of professional education delivered directly in teaching is to meet the needs of social services.

Therefore, the teaching evaluation should increase the index of the transformation of industrial resources. According to the discipline characteristics of professional personnel training, it can be promoted through industry, technical propaganda and other propaganda methods. Through the process of teaching, students should be updated by cognition and use practical steps such as practice to put their teaching into product presentation or visual simulation. Employ industry managers and management participation course visual teaching achievement evaluation, so that students clear job needs, knowledge learning will be targeted investment effort.

### **Acknowledgement**

The paper has been sponsored by Jilin province social science fund project: The new media of Jilin rural cultural communication mechanism in the perspective of empowerment (2016B270) and Jilin province education science planning office program : Research of training mode of communication practical cultivation of talents based on rural culture service (GH170263) .

### **References**

- [1]Peng Yafei. Picture Reading Times. Beijing, China Social Science Literature Press, 2011
- [2](Switzerland)Piaget. British Hilde. Child psychology. Commercial publishing house, 1981.