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Study on Instructional Design in Artistic Design Education in Colleges and Universities

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***Abstract*—Instructional design is a methodology in the field of educational science. From the point of teaching practice of artistic design in colleges and universities, it is the best means to realize effective teaching. From the perspective of the knowledge characteristics of art, procedural and strategic knowledge constitute the main part of art knowledge, which belongs to the domains of ill-structured knowledge. There is a certain difficulty in its cognition, so scientific instructional design is needed in the process of teaching.**

Keywords—instructional design; art knowledge; knowledge of ill-structured domains; effective teaching

I. INTRODUCTION

Instructional Design is a systematic process to plan detailed teaching steps specifically with the ultimate goal promoting effective learning for learners. It applies learning theory, instructional theory and psychology and other related theories and techniques to integrate instructional objectives, content, methods, strategies, evaluation into each teaching activity. [1] Instructional design, as a hot topic in the current basic education reform and one of the most concerned of primary and secondary school educators, is a methodological subject in the field of educational science. However, instructional design is seldom mentioned and applied in Art education of colleges and universities in China. Is it a fact that artistic design education in colleges does not need instructional design? In order to learn its actual situation, the author has made some investigations on teaching practice cases and knowledge attribute of art knowledge.

II. INSTRUCTIONAL DESIGN MAKING CLASSROOM LEARNING EFFECTIVE

In the author's previous teaching on artistic design, in spite of careful preparation and great efforts on lecturing, a certain gap exists in the final effects and expected results. The reason behind it is that the author only focuses the instruction of professional knowledge and ignores the "instructional design". For example, some students are still not aware of what problems the course will solve and what they can learn at the end of the course. Their learning goal is not clear, so they can't achieve progress in line with the teaching plans and many students can't hand in their homework on time. Some students even forget the knowledge they have acquired in their freshman and sophomore studies, leading to unnecessary mistakes in later learning activities. In order to overcome this problem, the author decides to use the concept of instructional design to carry out a new teaching practice.

When lecturing on the course of "Architectural Perspective and Cartography" to one class of grade 2014, the author adopted the strategy of instructional design to prepare classes beforehand. Firstly, some basic survey of the students in this class is conducted, so the following improvements are made accordingly to its teaching arrangement such as clearly informing its teaching objectives and achieved learning goals to the students, and requiring them to achieve the goal at the end of this course. Such improvements are obtained based on the following basic understanding of students. Students in this class generally only learned sketching and watery painting before entering Xijing University, so few or none of them are exposed to experience of artistic design and professional background knowledge. When attending unfamiliar basic or professional classes of artistic design, they generally can't carry out effective autonomous learning. There are 30 students in this class, all of whom are average high-school graduates, who are used to conducting learning activities under the specific instructions of teachers. Therefore, they must be clearly informed of their achievement goals, otherwise they will not be able to obtain the intended teaching results. At the same time, informing the teaching goals clearly can induce students to promote motivation and enthusiasm for learning. When selecting depicted perspective objects, students are required to choose actual buildings they are familiar with as much as possible in order to enhance the authenticity of teaching situation and stimulate students' enthusiasm for learning. In order to create a good environment for knowledge construction, the author has drawn nearly 30 geometric painting drawings as auxiliary learning materials to help students master the perspective of relevant graphics. Since some students are accustomed to defaulting on their homework, the author formulated the weekly learning progress system based on teaching schedules, clearly stipulated the specific tasks of each teaching week, and viewed the completion of the weekly tasks as one of the scoring bases of their regular grades. Finally, in the teaching evaluation, the author adopts the evaluation method including the students' mutual evaluation, the teacher's comments, and finally the teacher's comprehensive opinions to score their homework. The

mutual evaluation of students is to enable students to fully participate in the whole process from the beginning of learning to the evaluation of final results, enhance students' awareness of independent learning and collaborative learning, and improve students' oral performance through the form of mutual evaluation.

Through such pre-class "instructional designs", the teaching effect has been greatly improved. Because of a clear goal of achievement, students have produced a strong desire to learn and also reduction of learning blindness. The object depicted for their homework is a certain architectural space they are familiar with, so students has always been interested in the learning process. The adoption of the weekly learning progress system leads to less homework default. In particular, the system enhances mutual understanding between students in final mutual evaluation, promotes a good ethos of collaborative learning, and improves their ability to speak before the class. These teaching results make the author believe that whether they are students in primary and secondary schools or colleges and as long as there are teaching activities, instructional design is the teacher's compulsory homework, because instructional design can indeed bring effective teaching.

III. PROCEDURAL KNOWLEDGE AND INSTRUCTIONAL DESIGN

The author makes some shallow investigation on the characteristics of art knowledge from the relationship between knowledge and teaching.

Some scholars at home and abroad believe that the definition and classification of knowledge by modern cognitive theories such as information processing psychology is more suitable for pedagogy research. The author agrees with this view, so he adopts the relevant viewpoints of modern cognitive theory such as information processing psychology and makes some investigations on the knowledge attributes of art knowledge. Information processing psychology examines the knowledge in the individual mind from the cognitive point of view and holds that knowledge can be roughly divided into three categories: declarative knowledge, procedural knowledge and strategic knowledge. The so-called declarative knowledge refers to the fact that the individual has the conscious extraction clue, which can be directly recall the knowledge, such as "three primary color" in the color science, and knowledge about "hue, purity, brightness". As long as the students recall the knowledge in the form of original presentation, it belongs to the declarative knowledge. Procedural knowledge generally refers to the knowledge of skills in a subject, such as skills of oil painting, Chinese painting, and sculpture and so on in the subject of fine arts. Strategic knowledge is a subcategory of procedural knowledge, which is "procedural knowledge used to regulate one's own cognitive process". [2] Compared with general procedural knowledge, strategic knowledge is different in that it has great complexity and uncertainty in concrete operation, and it is necessary for operators to employ relevant knowledge and rules to continuously control and regulate their own cognitive processes in order to enhance the effectiveness of operation. The creation of knowledge such as the design courses of artistic design and domestic and foreign design competitions belong to strategic knowledge. In carrying out this kind of subject design, learners need to ponder and grasp the intention of its sponsors, grasp the basic nature of the subject, design its strategic direction, use the direction as the goal to choose different design strategies, mobilize all kinds of necessary design resources, and put forward the most popular expression forms of teachers or reviewers. In the process of this research, once there is a link falling short, all links will be lost. Examine the syllabus of art and design and you can easily find these three types of knowledge. Knowledge of Aesthetics, Art History, Design Introduction and other courses belong to the declarative knowledge. Knowledge of Watery Painting, Graphic Creativity, Engineering Drawing, Architectural Roaming and other courses is procedural knowledge. Knowledge of Poster Design, Interior and Landscape Design, Design Competitions falls within the category of strategic knowledge. In addition, it can be also noticed that the course of Art Design, which belongs to the narrative knowledge, is not as large as the procedural knowledge courses and strategic knowledge courses on the number of subjects and teaching time, which shows that the knowledge of artistic design discipline is the subject knowledge system with procedural knowledge and strategic knowledge as its main part. According to this classification, oil painting, Chinese painting, engraving, carving, music, sports and other courses are known as "technical" subject knowledge.

Acquiring procedural knowledge is more complicated than declarative knowledge. Mastering procedural knowledge (skills) generally begins with acquiring declarative knowledge, and one must present the basic knowledge of the skill and its learning methods in oral or written forms. From the learner's standpoint, there is a process of translating declarative knowledge into procedural knowledge. Also, from the beginning of obtaining a certain skill to the basic mastery of the skill, this requires learners to spend a certain amount of time and need persistent repeated practice, which can be proved from the mastery of the following 2 knowledge points. First of all, look at an example of obtaining declarative knowledge. In the course of Chinese Art History, when it comes to the painting Han Xizai Night Banquet, if students can remember the name of its painter Gu Hong and can retell its idea and the relevant background story, it can be said that the student has grasped the knowledge point. Take a look at another example of acquiring procedural knowledge in the realistic sketch portrait course: After the teacher explains the human anatomy structure, three aspects of the five tones, making outlines accurately, the method of shading and so on, the students must have practiced repeatedly before they can master the sketch skills to a certain extent. That is to say just understanding the teacher's lecture is not equal to learning how to sketch. In fact, the best way to obtain procedural knowledge (skills) is the traditional way of a master with a small number of apprentices. Since skilled knowledge is often unspeakable, so the most effective way of learning lies in long-term close contact between masters and apprentices,

countless silent observation and practice to understand and practice tacitly [3].

IV. Analysis of Arts Teaching from the Perspective of "Cognitive Flexibility Theory" in Constructivism

Constructivism's Cognitive Flexibility theory, according to the complexity of knowledge and the degree of variability of its application, divides knowledge into well-structured domains and ill-structured domains. [4] Well-structured knowledge refers to some knowledge that can be repeated and simply reasoned after memory and understanding, such as declarative knowledge in art knowledge, while ill-structured knowledge is usually not simply to apply rules or laws to solve the problems in learning, since it has cognitive difficulties that doesn't exist in the realm of well-structured knowledge. The first one is the complexity of the concept such as sketch portrait in the "character" performance. For a sketch beginner, he is often not sure what expression is to grasp on the characteristics of the character. In fact, catching the personality characteristics of the person is not equal to the faithful record of the character's moment expression. It can be obtained after only getting along with the depicted object, talking with and gaining a deep understanding of the painted object. However, this complex process cannot be fully expressed by the concepts in words. The beginners can slowly master the skill through the continuous actual depiction and reflection process. The second is the difference between cases. For example, in the actual art design project, the content of each project and its implementation site, party A's value orientation, functional requirements and investment funds are always different. A successful experience can't be fully applied to another project. The designers must adopt different strategies in line with different objects in order to be effective. The above two reasons explain the fact that the users of ill-structured knowledge cannot simply apply their own knowledge, and they need to observe the analyzed object and adopt different combination and application strategies for different objects. In fact, most skills in fine arts belong to this type of knowledge, showing that the principal part of art knowledge (knowledge of art skills, creation and design creation) is a kind of ill-structured knowledge.

As a strategy of acquiring knowledge in ill-structured domains, Constructivism theory divides learning into "primary learning" and "advanced learning", in which the former focuses on well-structured knowledge, while the latter ill-structured knowledge. At the stage of advanced learning, Constructivism puts forward the Random Access Instruction, which not only requires acquiring the same learning content repeatedly at different times but also the learning purposes and learning situations are different every time, so as to help learners to strengthen understanding of learned objects in multiple perspectives and levels. In addition, Chinese scholars Chen Qi and others also put forward learning strategies to promote consolidation and proficiency of knowledge through the resolution of relevant problems, promote the integration of knowledge experience and construction of related new knowledge. [5]

From the above review of art knowledge, it can be seen that its principal part is procedural knowledge (including strategic knowledge), which needs a long period of repeated practice to master. Meanwhile, since art knowledge belongs to the ill-structured domains, when compared with the teaching of narrative knowledge in well-structured domains, there is a certain degree of difficulty to realize effective teaching. From the point of view of effective teaching, the teaching of art knowledge and skills needs pre-class instructional design.

V. Conclusion

To sum up, whether from the perspective of teaching practice of art education in colleges and universities or the knowledge characteristics of art knowledge, there is no doubt about the necessity of instructional design in artistic design education. In addition, instructional design is different from the traditional preparation of lessons. In instructional design, teachers must understand targeted students, and attach importance to the design of teaching content and adoption of teaching strategies and evaluation methods. Instructional design is a kind of student-oriented teaching methodology in which teachers helps learners grasp the significance of knowledge to obtain effective learning. Therefore, it is justified to believe the necessity of promoting instructional design in the teaching of artistic design in colleges and universities.

With development and progress of our society, firstly, a new round of quality education curriculum reform has been carried out in depth throughout the country, which is bound to bring great changes in basic quality of college students, which is undoubtedly a new challenge to the art education in colleges and universities. Secondly, with the passage of time, the relationship between the supply and demand in higher education institutions and enrolled students in China will be completely transformed, from the current difficult entrance to colleges to a shortage of students. Then it is bound to cause shutdown of some low-quality schools, in which some teachers with lower teaching performance will face the risk of unemployment. In order not to fall behind or be eliminated in the change of the times, art teachers in colleges and universities should pay close attention to some important research results of contemporary education and psychology, and actively incorporate these research results into their own teaching practice. In this sense, the introduction of the concept and method of instructional design into our classroom will be an important step in realizing the professional growth of teachers and pursuing the value of teachers' own existence currently.

References

[1] Pi Liansheng. A New Perspective on Knowledge [J]. Hunan Education 1995, 1.

[2] Pi Liansheng. On the View of Knowledge of Intelligence [J]. Journal of East China Normal University (Education Science), 1997, 3.

[3] Zhao Yun'an, Sun Xiaoming, Ma Lijuan, Shaoyuan, He Chunling, Reng Xiaohong, Wang Lei. Research and Instructional design of Fine

Arts Textbooks in Middle School [M]. Xi'an: Shaanxi Normal University Press, 2011,2.

[4] Micheal Polanyi, translated by Xu Zemin. Personal knowledge-Towards Post-critical Philosophy [M]. Guizhou People's publishing House, Guizhou, 2000.

[5] Pi Liansheng, Wang Xiaoming, Pang Guowei, Lin Ying. Educational Psychology [M]. Shanghai: Shanghai Education Publishing House, 2004.

[6] Chen Qi, Liu Rude, Zhang Jianwei. Educational Psychology [M]. Beijing: Higher Education Press, 2001, 6.