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On the Signature Pedagogy of Photography Courses

From the Perspective of Visual Communication Design

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As globalisation deepens and cultural exchange becomes more frequent, the image has become an important channel of international cultural exchange and communication. As a form of light and shadow of contemporary art, it has its own advantages compared with literal communication. The application of lens language in image art and the expression of colour and emotion can bring a strong visual impact and effectively arouse people's imagination and thoughts. Thus, the image has become a typical symbol of the arts in this era. How the courses of visual communication design adapt to the demands of this era is an important problem that design educators should think about. And the signature pedagogy provides the best solution to this problem.

Keywords: reform of design education; signature pedagogy; photography course design.

Introduction

The paper aims to contribute to the topic of the integration of research in design practice. Research and design practice have become entwined in new ways over the last decades, that can be characterised by "'permeability' of various practices within the 'continuum from creative practice to scientific research" (Dunin-Woyseth & Nilsson, 2014, p. 12). As universities strive to enhance the connection between research and teaching, forms of *learning by research* have become popular among university teachers, influencing both course and curriculum design. Learning by research denotes a broad field of related, yet diverse in formats of how to structure students' learning process. Briefly, they all imply that students engage with elements of a research process in an active way, i.e., working on a research question they themselves posed, using scientific methods and concepts, and assessing their course of action in a critical manner (Huber, 2013).

Theory of Cognition Apprentice and Theory Teaching Reform

The creation in any field depends on individuals' grasp of knowledge theories in relevant fields. Without the support of professional knowledge theories, it is impossible to create. How to rapidly and effectively teach the professional theory knowledge accumulated during the history of mankind is always a difficulty that confuses educational theory researchers and front-line education practitioners. Under the traditional teaching model, students' grasp of knowledge is excessively destitute, fragile, scattered and incomplete; the knowledge that they learned cannot come into play when necessary, let alone be migrated or applied in new situations (Gabrys, Weinrt, & Lesgold, 1993). In order to solve this problem, the emerging constructivism learning theory advocates student-centred teaching and emphasises on the students' initiative in exploration, discovery and construction of knowledge. The process of constructive teaching should have four basic elements: teaching situation, cooperation and sharing, dialogue communication, and significance construction. Based on this, the constructivism learning theory proposes many teaching models. In particular, the cognition apprentice has an important significance of enlightening for the teaching reform of photography courses.

The cognition apprentice system is proposed by Brown and other people. It advocates students to participate in a certain real activity under the guidance of the teacher to acquire the knowledge and skills related to this activity. The teaching process of the cognition apprentice system starts from asking the students to do some basic work. Gradually, they participate in higher-level tasks to acquire more advanced skills. They become

experts from beginners and enter the centre from the margin of a practice community for more central participation (Lave, &Wenger, 1991). Taking the teaching practice of Photographing of Imitated Classical Paintings as an example:

In the first step, the teacher arranges real tasks and asks the students to select the imitated paintings suitable for photographing and to familiarize themselves with the contents of the paintings before participating in the class discussion of imitation photography. After becoming familiar with the painting contents, they can conduct detailed material and data collection by searching literature or searching the internet for the time of works and the cultural environment at that time according to the background of the picture and the personal information of painters. When involving famous paintings and figures, the students should properly learn about the extended historical events and fully understand the environment and time of the works to avoid the restored creation from deviating from the actual environment at that time.

The second step is the process of contextualisation. Firstly, the students should fully understand the background knowledge related to the paintings and determine whether the work can be imitated. The paintings passed down to now are always rich in content. The creators provided a great deal of information when creating the works, and the students supplemented a lot of background information. After gathering the necessary materials, they should develop more than photography plans, starting with the works. Secondly, the students should make a photography plan with great realizability. They will make some hypotheses and search for the alternative still life in the painting that is available in the market. After the students have photographed some works, they need to present these works in a proper way, such as manuscript or video. There are no restrictions on the form, as long as it is convenient to state the photography viewpoints. It is also one of the skills for the students to communicate with others well.

In the third step, students analyse and discuss the imitation works in class. In this stage, the discussion should coexist with the argument. The teacher makes no response with obvious tendency and properly guides the students to have a better discussion. The purpose of the discussion is to expand the students' thinking and allow them to find the answer by themselves to improve their observation methods and thought processes. The teacher can also fully experience the benefits for both teachers and students during the discussion. New concepts and ideas are proposed during every discussion, which is good for the teachers to enrich their viewpoints and improve their understanding. After the discussion, real interactive cooperation is carried out. According to the principle of willingness, the students form a photography team to implement the photographing plan.

The fourth step is contextualisation evaluation. After the students complete the photographing task, they separately complete their work analysis report, especially analysing the theoretical knowledge used by the work, to strengthen the understanding and grasp of theoretical knowledge. After completing the task above, the teacher should guide the students to extract and summarise how to create by the theoretical knowledge used creatively and set up questions for the second-time creative photographing on this basis to cultivate the students' creative thinking.

Conclusion of teaching cases in class:

In the process of the cognition apprentice system and contextual teaching, attention should be paid to guide the students by summarizing the rules and internalise them. This process is the process of forming graphic image mental skills in essence in which three stages should be paid attention to. The first stage is grasping the prototype orienteering, i.e., grasping the practice pattern of mental activities, learn about "externalised" or "materialised" modes of mental activities or procedures of operant activities, and know about the activity structure of prototype (e.g., constituent elements of photography, the execution order of photography, and the execution requirements for photography), so as to allow the subject to know what actions should be taken and how to complete these actions, and define the orientation of activity. The stage of prototype orienteering is the stage where the subject grasps operational knowledge (i.e., procedural knowledge). The second is prototype operation, i.e., implementing the active program plan established by the subject in the brain in an explicit operation mode according to the practice pattern of mental skills. The third is prototype internalisation in due time, i.e., the process that the practice pattern of mental activity transforms to the interior of brain from the material, explicit and folded form to the conceptual, hidden, and simplified form. In the process of cultivating the students' graphic image mental skills, the teacher should pay attention to motivate and cultivate the students' positivity and initiative of learning photography, and pay attention to the completeness, independence, and inclusiveness of photography prototype.

Finally, attention should be paid that, in the whole teaching process; three insists should be kept in mind: insisting on placing teaching in real situations, insisting on the way of apprentice, and insisting on the principle of signature pedagogy. There are two principles of signature pedagogy: The first is that the students should

form their viewpoint on art in the study. In the process of classroom teaching, their pre-existing photographing angles and ways of watching photography works are changed by training so that they view and photograph under the creative thinking model. The second is that the students' completion of photography does not mean that the creation is completed. They should provide and accept judgment opinions in class. This peer evaluation urges the students to create their works and to have the ability to judge others' works. Firstly, this method can provide the students with several photographing modes that they may apply; secondly, this photographing model allows the students to realise that aesthetic criteria for distinguishing good and bad works, and the students can discuss each other's work through continuous discussion and reflection; thirdly, the students' wrong viewpoint that photography is created by momentary inspiration and consciousness can be eliminated. If the students treat the works from the aspect of viewer, they will gradually realise that photographing is not an individual behaviour but the art facing the public. The works photographed may confuse or guide the public in the wrong way.

It is particularly worth mentioning that, for design education, it is important to cultivate the students' ability to judge and innovate. The students treat the design works critically not to become critics, but to better appreciate the design achievements and innovation by critical and creative expression, and deeply understand the potential connotation in the design field.

Practice Apprentice Theory and Practical Teaching Application

The photography teaching of visual communication design is both theoretical and practical. Thus, on the basis of explaining relevant theories, the students' practical ability must be cultivated and improved. In the aspect of practice apprentice theory, the teaching of photography courses is studio-based teaching. This teaching method is the practical teaching of image and graph creative design by using the studio in conjunction with the photographic equipment and the propositional photography. Studio teaching is important for cultivating the photographing level and the image processing level of the students majoring in visual communication design. It is an important and regular way of teaching to complete the teaching tasks of the course, which is reflected in:

Firstly, studio shot assesses the students' theoretical knowledge and technical operation and combines the practice with theory for the vivid and in-depth teaching effect; secondly, by combining the actual situation analysis of photographing, discussing the works, examining the works, and the subsequent situation of photographing, it helps to improve the students' photographing level and quality; thirdly, studio shots can check the artistic style and morality of the quasi-photographers and the photography teachers, which is better for cultivating good style and establishing noble moral criteria; fourthly, studio shots can promote the students at different grades to strengthen the academic exchange and activate the academic atmosphere.

Take the practical teaching process of the project of 2019 China National Arts Fund Spring Family as an example for the discussion:

In the first step, before the creation, based on the design description of Spring Family, observe, and analyse the object of photography, produce the specific shooting plan and flow in combination with the subsequent image production and graphic representation, and cooperate with the deconstruction of image and other innovative techniques in the form of concept conclusion.

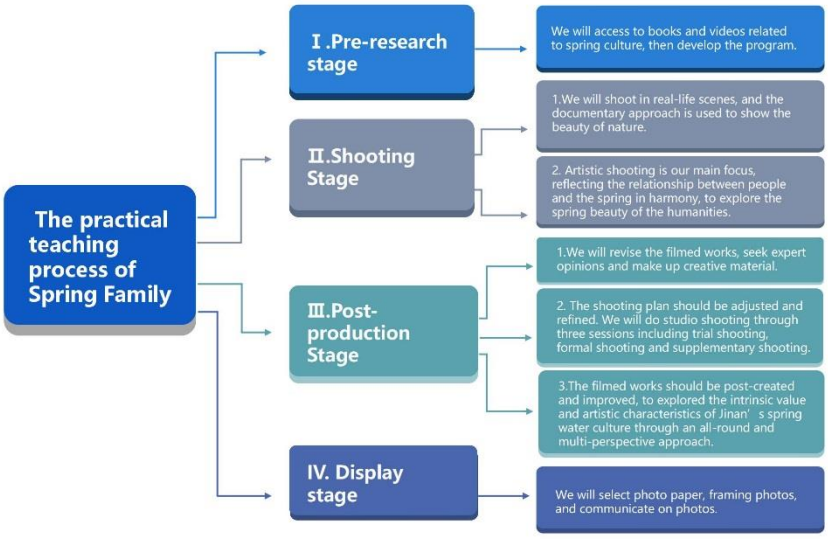

Figure 1. The practical teaching process of Spring Family

In the second step, prepare for the shooting according to the shooting plan consisting of article preparation and psychological preparation, which mainly prepares a large number of props reflecting the culture of Spring and the life elements of Spring Family for the environmental arrangement of studio shots.

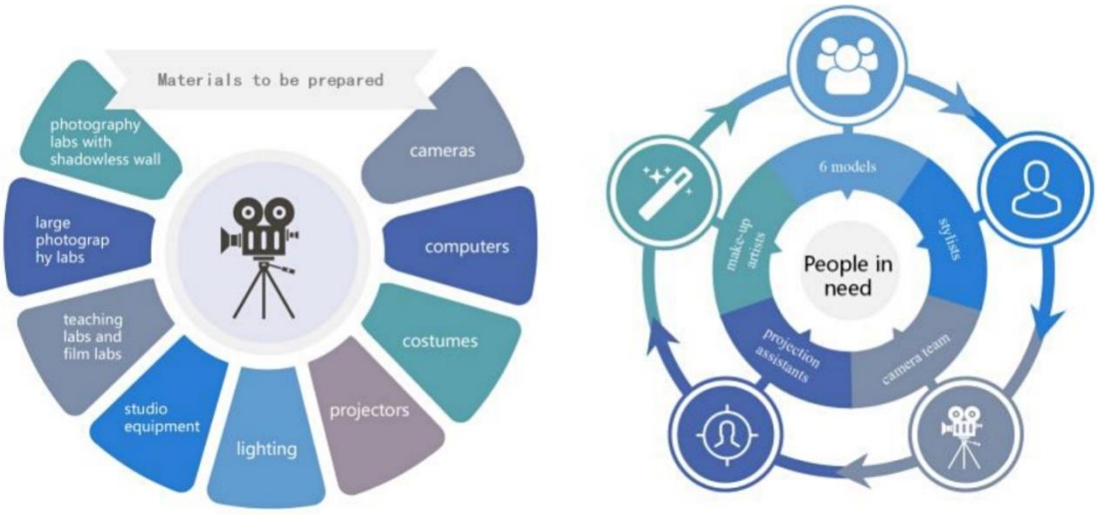

Figure 2. Materials to be prepared & people in need

In the third step, conduct the studio shot that defines whether the shooting methods and operation are standard and accurate focusing on the topic in the shooting process, and conduct the demonstrative guidance after getting familiar with the photography; strive to explore and present the intrinsic value and artistic characteristics of the spring culture of Jinan in all aspects from multiple perspectives.

Figure 3. Artistic shooting and studio shooting

In the fourth step, express the intention focusing on the topic, and conduct the subsequent second creation by image processing for the unification of ideology, art, and appreciation for the achievement of artistic design works with moral integrity and temperature.

Figure 4. The filmed works should be post-created and improved

Conclusion of teaching cases in class:

Firstly, in the process of theory instruction, the students should grasp the key points of studio shots with different themes to form the photographic orientation. In the teaching process, the teacher presents the key points and problems of the subject Spring Family that are worthy of attention to the students by using the frequent typical shooting cases during the shooting and some special photography cases with the significance of photographic teaching. In this process, the teacher should pay attention to the accurate demonstration and instruction, and the simple, summarised, and visualised language; the teacher should explain not only the structure of movement and the specific requirements but also the basic principles that the movements contain; the teacher should not only explain the physical characteristics of movement but also guide the students to notice and experience the kinaesthesia during the movement execution.

Secondly, based on the photographic orientation formed by the teacher's demonstration and explanation, single training and overall training of photography should be conducted focusing on the topic of Spring Family, such as the application of light, the figures' expression, the posture, and the composition of the picture. Aiming at the students' situation of photography, promptly provide proper, full, and effective feedback.

Finally, according to the topic of Spring Family, set up the shooting tasks with various themes in different situations, provide a lot of materials for the subsequent image processing and graph production, and integrate and coordinate the students' professional skills.

It has been found by psychological study that the formation of operant skills is generally divided into four stages, namely operation orienteering, operation imitation, operation integration, and operation proficiency. In order to cultivate the students' innovation ability and deepen the application of plane composition theory,

the practical course of blue printing is set up in combination with the classical technology of photography development in the course of Form Composition. The theoretical knowledge of the course is mainly guided by Photography and Expression: Contemporary Photography Practice and Theory (Zhong Jianming, Sam Wang, &Ying Aiping,2017). The main practice process of the course is as follows:

The first step is material preparation. Two raw materials are mainly used in the traditional blue printing technology: two kinds of chemical solution containing a certain percentage: 20% ammonium ferric citrate solution and 10% potassium ferricyanide solution (the green citrate crystal is not sensitive to light than the brown crystal), measuring glass, gloves, mask, negative (can be replaced by other objects or used in ink-jet printing).

The second step is the observation and analysis of practice objects. The students design the picture composition according to the principle of form of plane composition. In particular, some students use flowers, leaves, grain, and paper cutting to replace the contents of point, line, plane and body so that the students can observe the principle of form of plane composition in a more intuitive way.

Figure 5. Effect drawing of traditional blue printing technology

The third step is the practice process. Mix the solution in equal quantities and paint them on the paper evenly. Place the photographic paper in the dark for airing. It should be noted that ammonium ferric citrate has certain photonasty, and green powder is easy to go mouldy so the ammonium ferric citrate should not be exposed to moist air; potassium ferricyanide is red orange without obvious toxicity, but it will generate hydrogen cyanide gas once reacting with strong acid, so contact with acid should be avoided. Waste potassium ferricyanide should be disposed of in batches and only in small amounts, after being diluted in water, other than directly discarding the solid potassium ferricyanide. Non-metal vessels should be used during the preparation.

The fourth step is placing the photographic paper under the negative with strong contrast for contact and exposure. The image appears after about 15 minutes under the direct radiation of sunlight, and 30 minutes under the 275W sunlight lamp. The image must be overexposed, especially in the shadow, as the image will fade after washing. No development is required, and it is only required to wash the photograph for 5 to 10 minutes. At last, the blue tone can be deepened after the photograph is rinsed in a 1% hydrochloric acid or acetic acid solution. But it provides a better effect if 10% hydrogen peroxide (3% concentration) is added to the water, and the tone will keep for a longer time.

Figure 6. Implementation process of traditional blue printing technology

The fifth step is analysing whether the works produced by the students conform to the principle of form of plane composition, and whether the images from the blue printing technology conform to the requirements of black, white, and grey, and point, line, and plane. Generally, during the test, if affected by weather temperature or time, the image may be over or under exposed. The teacher should encourage the students to extend the ability of thinking by operation during the guidance and deepen the creative thinking of plane composition by analysing the image.

On the basis of teaching basic theories, practical teaching can assess the students' theoretical knowledge and technical operation and inspire the students' creative thinking. Meanwhile, the practical process is inseparable from the teacher's words and deeds. By correlating the theory with practice, it is good for establishing the designer's artistic ethics and practices.

Morality Apprentice Theory and Designer Emotion Cultivation

The period when the students accept higher education is the key period of forming their personality, world view and value view. The teachers in colleges and universities have a direct influence on the students' growth and progress. Their love for the students can stimulate the students' confidence and drive of progress, and creation is very important for the students' learning and living environment of morality and will.

The apprentice of morality emphasises the teachers' guidance and cultivation of the students' academic morality and professional norms in the teaching process. In design teaching, as future designers, the students undertake the important responsibility and mission of extending the fine tradition of the nation, safeguarding social equality, justice, and morality, and propagandising positive energy. In the teaching of advertisement design and advertising in movies and on TV, choose educational content with artistic and ideological values, so that students can implicitly feel the power and value of beauty in art appreciation, creation, and education and teaching, and shape a healthy and positive view of art and aesthetics. The students should be guided to deliver positive energy to society and guide the public to do good turns using their professional knowledge in the way of public service advertising.

In the process of moral education, the teacher should care for the students sincerely and guide the students whole-heartedly. They mustn't care for the students according to appearance and academic performance, and should care and love every student, respect, and understand the students based on the principle of people-oriented, and learn to be tolerant. Being strict is a kind of love, so is being tolerant. Tolerance is a kind of trust, incentive, and mercy. It can warm and nourish the students' hearts, inspire their minds, and provide them with comfort and power. The teacher should treat every student equally and pay attention to details at any time to show the awareness of justice.

Conclusion

The cognition apprentice, practice apprentice, and morality apprentice explored above are not separated in

the actual teaching process but integrated organically. As educators of design discipline, we should, first of all, regard education as an art, and devote our lives to research it. We also should adjust and update our own knowledge structure timely, establish the concept of lifelong learning, continuously enhance the practicability and effectiveness of the curriculum, to cultivate students' creative thinking. Secondly, the educators of design discipline should guide students to participate in professional competitions, academic exhibitions, and apply scientific research results to teaching in a timely manner to guide students to combine theory study with practice, apply learning to practice, and promote each other. Finally, the educators of design discipline should attract students to yearn for truth, goodness and beauty with their good moral character, temperament, and academic attainments, then realise the mutual benefit of teaching and learning and mutual promotion between teachers and students. The practice of teaching reform shows that the organic integration of signature pedagogy and the courses of visual communication design is good for realising the teaching objectives, teaching benefits teachers as well as students, and causes the reform of design educators, to promote the progress of education reform.

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