

A learning project to improve Arts ability

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Abstract—This study applied the painting learning system combined with the modeling concept discussed in the social learning theory in painting courses. The findings indicate that the painting ability of the student participants had improved significantly when this system was applied with the social learning theory in painting courses. The implications of this study also suggest the benefits for both teachers and students when painting courses are carried out with the modeling concept discussed in the social learning theory.

Keyword—modeling, painting ability, painting skills, self-judgment, social learning theory

I. INTRODUCTION

Lowenfeld (1947) classified the painting development of children into 6 stages by their formal characteristics. According to his definition, children between 13-17 years old are in “the period of decision” in which children can express themselves consciously. Students are now critically aware of the immaturity of their paintings and often not satisfied with their works due to the increasing self-judgment. When it comes to the bottleneck of painting skills, most children might eventually lose their interest in painting. Therefore, the fine art training becomes crucial at this time. During this period, teachers not only have to continue and evoke the creativity of students but also need to teach them about painting skills such as colors, spaces, distances, perspectives in expressing an image in order to keep students’ interest in paintings.

There are plenty of teaching methods for teachers to continue and evoke students’ creativity. Modeling is a good teaching method for students to acquire painting skills fast and an important skill in Chinese painting courses (Jiao, 2010). Moreover, it is also a good way to understand the painting skills, the images, the compositions, the colors, the materials, and the expressions of certain artists’ works (Sung, 2009) and improve the painting ability. Modeling is a concept in the social learning theory which refers to the learning process of someone or some groups in the society (Chang, 1996). This study carried out children painting courses with the modeling concept in the social learning theory for student participants to acquire painting skills fast and keep being passion about painting.

II. PAINTING EXPRESSION ABILITY

When evaluating paintings, the creating process is more important than the end works. Children can develop their creativity during the creating process if they really concentrate on painting. Teachers may not be fond of their end works. However, the confidence and encouragement from teachers are necessary for children to keep creating. Therefore, painting works of children should be evaluated by individual value.

The timing of applying evaluation, classification and tests on the painting works of children depends on the teaching purposes of teachers. Eisner (1972) analyzed the painting works of students from three aspects. (1) The skill aspect. It includes material processing and controlling, invention forms, symbol crating, spaces and so on. (2) The aesthetic and expression aspect. It includes the aesthetic balance and expression, the form descriptions, the aesthetic compositions and so on. (3) The creative imagining aspect. It includes the result of wisdom expression. Shahn (1981) studied the guideline for evaluating painting works of children. He suggested five steps of painting evaluation. First, evaluators must check the materiality of works. Secondly, the details of works must be evaluated through colors, lines and shapes because these details can make the completeness and the content of paintings abundant. Third, topics, implications, sprits and feelings are also clues to evaluate paintings. Finally, by tracking the background materials evaluators are able to capture the metaphors in paintings. Yunghans (1981) indicated that the evaluation standard of paintings should be based on the pure and the openness of expressions, the manners of solving problems, the continuous time of focusing on creating, and the attention on the details of paintings. Lark-Horovitz et al (1973) suggested the evaluation standard of paintings should focus on personality, skills, knowledge, insistence of paintings, and every kind of students’ maturity in paintings such as concepts, forms, acknowledgement, skills and so on. Getzels (1976) discussed the attitude of evaluators. His evaluation standard focuses on “integrated beauty”, “skills” and “originality”. Getzels believes that evaluators should be people with the following 4 different identities: art critics, professional art teachers, mathematical doctors and graduate students who major in business management. The evaluation from mathematical doctors and graduate students is known as the “outsider evaluation”. The finding indicated that the less specialized evaluators are, the

more attention they put on skills. On the other side, art professionals tend to emphasis on the integrated beauty and the originality of paintings.

The evaluation of painting ability applied in this study took “The Evaluation Standard Table of Children Painting Ability” designed by Kuo (1994) as reference. The higher scores children obtain in the evaluation table, the greater painting ability they have, vice versa. The content of evaluation shows as follows:

A. *The image expression ability. It refers to the ability to express the integrity of object images, the accuracy of contour painting, and the precision of painting.*

B. *The color expression ability. It indicates the ability to express changes, blends, and tones in color.*

C. *The space expression ability. It suggests the ability of light and shade, distances, overlapping and stereopsis expression*

D. *The aesthetic expression ability. It is the ability to express the integrity and the balance between major and minor color tones.*

E. *The integrity expression ability. It is the ability to express the integrity and the personality in limited time.*

III. METHODOLOGY

A. Participants

121 students from 5 classes of a junior high school in north side of Taiwan were participated. Participants had to take the pre-test for evaluating their painting ability before the system was applied in class. The evaluation of painting ability applied in this study took “The Evaluation Standard Table of Children Painting Ability” designed by Kuo (1994) as reference. The higher scores children obtain in the evaluation table, the greater painting ability they have, vice versa. The mean score and the standard deviation were 58.2 and 20.71, respectively. According to the mean score, participants in the study met the criteria of applying the system for painting skill improvement.

B. System Development

This study took the self-developed system as the instrument for teachers and students to model every detail of paintings. The basic data format was XML, and the system development was based on the cloud computing and the Internet streaming technology. There are two interfaces in the system: the teacher interface and the student interface (Figure 1). The teacher interface allows teachers to decide the needed functions in every phase in the social learning process. The functions in the teacher interfaces include teachers’ recommendations, discussions and evaluations on certain paintings. Teachers are able to replay every step of students’ creation, tracking students’ learning processes. The student interface allows students to learn in accordance of the 4 phases in the social learning theory. Students are able to observe and model others’ paintings. They can also track their learning processes and discuss with teachers

and peers.

C. The Student Interface

The system was developed for students to improve their painting skills and keep being interest in paintings through the social learning theory and modeling. The system procedure shows as follows: (1) in the attentional phase, a creative topic given by teachers will be sent to students automatically by the system. While students are painting, the system will record the whole creating process. After student finish painting, teachers will select a good painting as the model painting and then send it to students by the system for students to take a close look on the model painting and acquire the advantages of the model painting to be theirs. The play function in the system allows students to know the painting process of the model painting. (2) In the retention phase, the online discussion board in the system allows the model students to describe their paintings. By discussing with the teacher and classmates, students can transform their observation into representative mental images. (3) In the reproduction phase, the online painting board as shown in Figure 1 allows students to express behaviors that they acquired from the model painting in their own ways. (4) In the motivational phase, students are able to express the acquired behaviors at the right time (e.g. encouragements from the teacher to comment in class).

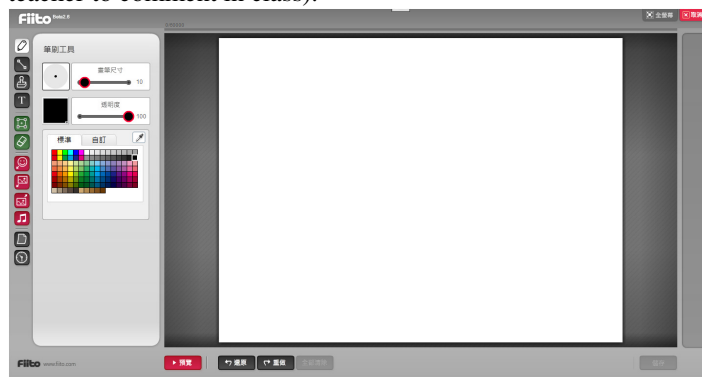


Fig 1. Online Painting Board

D. The Teacher Interface

As for the teacher interface, teachers can inform creative topics and the model paintings via emails after students finish painting. Also, teachers can teach in the attentional phase by letting students notice the model paintings. In the retention phase, the online discussion board allows teachers to know the descriptions about the model paintings from the creators. Students can then paint again in the reproduction phase. Finally, students are able to show their learning outcomes to everyone after being encouraged by teachers in the motivational phase. All creation and processes are saved in the system (Figure 2) during the 4 phases. Teachers can track students’ paintings by the painting process tracking system. The replay function allows teachers to understand the painting process and assist or instruct students at the right time.

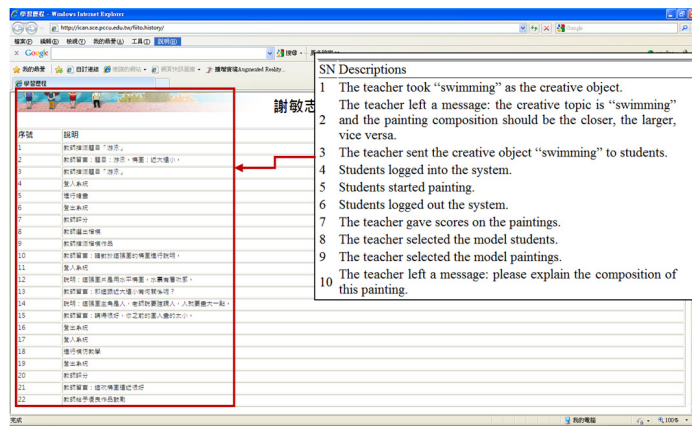


Fig 2. Learner's Learning History System

E. Procedure of data collection

This study applied the self-developed system in painting courses. The teaching activities were implemented 2 hour a week for 10 weeks. The image, color, space, aesthetic and the integrity expression abilities were the main subjects for the former 5 weeks. The painting learning system was applied with the 4 phases mentioned in the social learning theory for the latter 5 weeks.

First of all, students were required to finish their paintings in accordance to the creative subject given by the teacher. The teacher then selected and showed the appreciation and explanations of the model painting to evoke the modeling motivations of other students. Next, the creator of the model painting explained the painting in the online discussion board for classmates to model the model painting again in the reproduction phase. At last, the teacher observed the creative process of every painting and pointed out the good painting skills for encouraging students in the motivational phase.

The collected data in the study includes the pre-test, the operation process while students were painting, the post-test and the questionnaires. All records and process of students were used to assist teachers in guiding students with the modeling concept in the social learning theory. The post-test scores showed the improvement of students. The open-ended questionnaires were used to be the fully investigation on the effect of this system.

F. Procedure of data analysis

We analyzed the pre-test, the post-test, the operation process of students and the open-ended questionnaires. First, we implemented t-tests on the pre-test and the post-test for understanding the learning outcomes of students. Besides, the 4 phases in the social learning theory were implemented while students were learning with the system. All records were saved in the system for understanding the difficulties that students might encounter and the corresponding solutions. Finally, we implemented the content analysis on the questionnaires. The content analysis assisted researchers to understand the individuals, groups, institutions or the society better. The reliability of the questionnaires was 0.91. The analysis results were discussed further in the following section.

IV. RESULTS

The results of the study were as follows: (1) the explanation of the system learning process. Due to the number of the participated students, we were not able to explain the learning process of every student. Therefore, one student was selected randomly for explaining the learning process of this system. (2) We explained the difficulties that students met while learning and the corresponding solutions. (3) We explained the learning outcomes and the learning process analysis of students who applied this system for learning.

A. The learning process of students who applied this System for learning

One student was selected randomly for explain the learning process in the system. The teacher would first send the creative topic to students through the broadcast system. After students received the mail, they started painting in the painting system. The teacher would then select the model painting and then send it to every student for informing students about the advantages of the model painting. The model painting was used for evoking students' motivation in the attentional phase. Then teacher would then request the model student to describe the advantages and the skills of the model painting on the online discussion board. According to the descriptions of the model student, the teacher could make some complements or corrections. Students could then use the painting tool to model the model paintings in the reproduction phase. The results were scored and commented by the teacher for students to improve their paintings. The model paintings of other students would be commented and appreciated by the teacher or expressed themselves for better learning.

B. The difficulties that the students encountered in the learning process and the corresponding solutions

Except for tracking and analyzing the learning outcomes of the students who applied the painting learning system, we also analyzed the opinions of the students by the open-ended questionnaires. The analysis results showed that the teacher understood the students' problems and the solutions better when the students came up with the solutions themselves in the 4 phases of the social learning theory.

In the motivational phase, the biggest difficulty was the insufficient motivation caused by taking an excellent work as the model painting because the students may consider their ability to be worse than the model student. On the other side, if the model painting was not excellent enough, it may not evoke the students' motivation as well. Therefore, it was not easy for the teacher to find a proper model painting. When the situation happened, the students could discuss and pick up a new model painting together. The model painting selected by the students evoked their motivation more. The discussion in the phase could also help the students to correct some painting skills of the model painting.

In the retention phase, it was difficult for the model student to describe the skills and the content of the painting. The descriptions were rather short, and some of them were even not

meaningful. For solving this problem, the students could discuss together for proper descriptions. Some students could even point out the advantages of the painting skills. The descriptions could then be clearer after corrected by the teacher. The students could also memorize better in discussion.

In the reproduction phase, the students could hardly express the right painting skills. However, the replay function of this study could easily assist the students in understanding the painting process of every painting. The composition, the colors, the spaces, the beauty and the integrity could be seen in the replay of the painting process.

In the motivational phase, the students rarely encountered difficulties. Although some students commented that the appreciation from the teacher was not meaningful, even appreciation from the students could not motivate them to paint in the future, most of the students showed their improvement after they were appreciated by classmates and asked to be the models.

C. The improvement of the students' painting ability

Apart from recording the painting learning process, we implemented the post-test to evaluate the improving outcomes of the students. Most of the students believed they had improved in understanding the paintings after discussions with classmates and the teacher's lecture. In the retention phase, some of the students thought that they understood the paintings better by describing the paintings again. Almost all students believed that the learning outcomes after applied this system with the social learning theory were positive. Moreover, some of the students considered their paintings to be better after discussions with the classmates and the teacher.

In the painting teaching process, the post-test was implemented for evaluating the painting ability of the participants. The t-tests were for understanding the improvement of the students. The result showed that the difference ($t = -6.12, p < .05$) between the pre-test ($m = 58.2, sd = 20.71$) and the post-test ($m = 78.11, sd = 18.17$) was significant. It indicated that after the system was applied in class, the painting ability of the students was improved.

V. DISCUSSIONS

The findings indicated that the students and the teacher chose differently on the model painting. The model painting selected by the students met their needs of personalization. In some situations, the model paintings selected by the students enabled them to have better modeling outcomes and effects. It was accordance with the social learning theory that modeling the model painting proven by ourselves could have a better learning outcome than it was proven by others. In addition, the students believed that the discussion board was an effective tool for them to see the same problem differently. The discussion board could be used in clarifying and understanding problems and receiving feedbacks from the classmates and the teacher.

The research in the past seldom discussed the possibility for the students to discover and solve problems by their own in the painting process. There was hardly any data which explained

why the students were stopped, even stuck in certain phases. In the past, teachers hardly gave any comments and explanations in every phase, and the painting process could not be replayed. The data was rare, and not reported to the teachers or the students. The teachers could not understand the difficulties that the students encountered in the painting process. In this study, the process tracking system and the painting replay system were able to inform teachers about every piece of information during the students' learning process. The teachers could provide proper assistant according to the information. Moreover, the students could also adjust and correct their own paintings by the process tracking system in the future. Finally, the future research could carry out investigation on teachers by the open-ended questionnaires for understanding their needs and opinions better.

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