Emergence of control in artistic expressions and the process of expertise

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Abstract

The creation of a work of art has been indicated to result from 'expressive awareness', achieved as the artist matches images and methods. This study examines how novices, who tend to express reproductively, acquire such expressive awareness over several weeks of practice of photography. We conducted case studies with two conditions: 1) one participant reflected only her own creative activities, and 2) one participant imitated eminent works of creative expression in the domain. As a result, the participants acquired expressive awareness in both conditions, though the contents of the expressive awareness were different. The imitation participant started to practice creative expressions and tried to control her creation consciously, while the reflection participant started to focus on precision of methods of expression. The findings of this study are useful for developing educational practice in art schools.

Keywords: artistic creativity; expertise; imitation; reflection; artistic expression

Introduction

Artistic creation has been one of the most significant activities of human beings. Recent psychological studies have focused on the process of artistic creation. Such studies provide useful insights for understanding creative cognition and have implications for creativity education. Previous studies on the cognitive processes of artistic creation have indicated that artistic creation consists of processes for generating ideas or concepts, and processes for externalizing them into artwork (e.g., Mace & Ward, 2002; Yokochi & Okada, 2005). These studies have also suggested that coordination of these two processes is important. In other words, when creating artworks, artists pay attention to whether or not their artwork matches with their art concepts, and whether or not the strategies that they choose are effective in actualizing their ideas as a form of art. The process of coordinating their intentions and actions to achieve artistic expressions is a type of monitoring process, i.e. a metacognitive process (Flavell, 1976). Though it is known that these processes feature in artistic creation by experts, they have rarely been seen in creation by novices (Fayena-Tawil, Kozbelt & Sitaras; 2011).

This sense of matching of images (hereafter *expression contents*) and methods (hereafter *expression methods*) to externalize them, referred to in this paper as *expressive awareness*, plays an important role in artists' creation (c.f. Gantner, 1979). However, no empirical research has been done to examine how novices acquire this expressive awareness in the process of achieving artistic expertise. This study focuses on such an acquisition process of expressive awareness as an initial form of monitoring ones' own creative process. The findings from this study offer new insight for the development of education programs for art schools.

When we examine the process of artistic expertise, we first need to explain what artistic expression is. Before the modern era, expression meant giving a plausible impression of motifs relating to religion or history (Diderot, 1980). In contrast, after the modern era, the concept of artistic expression came to mean turning the creators' experiences, emotions and subconscious experiences into an entity with reality and impact (Croce, 1902; 1990). Nowadays both views of expression exist in society. This diversity of views of expression may affect the process of artistic expression itself. Therefore, in this study, we classify artistic expressions as *reproductive expression*, the contents of which are intended to represent real entities such as landscapes or still lifes, and *creative expression*, the contents of which are intended to represent the creators' ideas or emotions.

Novices who have no knowledge of artistic creation generally prefer realistic works (Cupchik & Gebotys, 1988; Kozbelt, 2006). Also, Ishibashi & Okada (2009; 2010) reported that novice subjects drew realistic drawings when they were asked to draw original works with natural materials as motifs. According to these findings, art novices tend to appreciate and create reproductive expressions.

What are the important factors affecting novices' acquisition of expressive awareness? One of the candidate factors is continuing participation in expressive activities. People use *self-explanation* (Chi et al., 1989) and *reflection* (Schön, 1983) on their own artwork and on their process of creation during such expressive activities. These processes can lead to the acquisition of expressive awareness. Therefore, it is assumed that novices are able to acquire expressive awareness if they have continuing opportunities to create artworks and reflect on their own creations.

However, in order to become expert in a domain, such an action-reflection cycle may not be enough. Csikszentmihalyi (1999) suggested that creativity is dependent not only on the creators' activities, but also relates to domain rules, representations and methods in the field of expertise. Hence, it might be assumed that profound encounters with existing artwork in an artistic domain play an extremely significant role in the acquisition of expressive awareness in addition to

reflection on the artist's own creations. In fact, it has for a long time been considered that copying masterpieces (i.e. a profound type of encounter with masterpieces) is a very efficient way to learn drawing techniques and the painters' intentions represented in masterpieces.

Ishibashi & Okada (2009; 2010) empirically examined the effects of imitation on artistic creation. They conducted psychological experiments that entailed novices copying unfamiliar abstract drawings. While copying, they speculated on the intentions and processes behind the drawings and acquired new perspectives for drawing. As a result, using new representations, participants who copied abstract drawings drew more creative pictures than those who did not. Though their study produced pioneering work that empirically examined the effect of a profound encounter with the artwork of others on creative drawing, they did not focus on the issue of expressive awareness described above.

Therefore, we decided to conduct empirical case studies focusing on the question of how profound experiences (such as imitation) of existing artworks affect novices' acquisition of expressive awareness. To elucidate this question rigorously, it would have been better for us to conduct experiments with a greater number of participants, as done by Ishibashi & Okada (2010). However, conducting experiments with many participants to observe such a long-term cognitive change would be extremely time-consuming. Finding at least twenty participants who were willing to spend seven weeks on this experiment was practically impossible for us. Since our main goal is to investigate how expressive awareness is acquired during a fairly long-term process of the mastery of art, we decided to conduct exploratory case studies analyzing the data in detail from various aspects. Such a case study method with a long-term span has been used to examine the process of acquisition of knowledge or strategies in cognitive psychology (e.g., Siegler & Jenkins, 1989).

We used artistic photography as the target domain for research to answer our question, because photography is one of the most familiar genres of artistic expression in our ordinary lives. Photography also has a very distinctive feature that people can take photographs in a very short time span; a photo is usually taken in less than a second. These features of photography enabled us to study the early process of artistic expertise easily, because novices have a low barrier to participation in this artistic activity.

It is important to note that photographs can express the creator's intentions or ideas even if the photographs realistically represent the motifs. For example, a famous photographer, Henri Cartier-Bresson introduced the concept of *'The Decisive Moment*' by creating artwork matching with a theme. Hence, it is possible for us to understand photographers' intentions deeply through viewing their photographs.

Although novices in photography may usually tend to appreciate or create reproductive expressions, they acquire expressive awareness through the process of repeated practice of photography. Specifically, novices gradually acquire creative expressive awareness and try to control relationships between expression contents and methods consciously if they imitate photographs with creative expression. In contrast, they acquire reproductive expressive awareness if they only repeat photo taking and reflection. They pay more attention to expression methods to express precisely the reproductive contents, because they have less necessity to develop expression contents than in the case of the creative expression style. These considerations lead to the following two hypotheses. The first hypothesis: Novices in the domain of artistic photography acquire expressive awareness, through just repeating photo taking and reflection or by imitating eminent artistic photographs of creative expression. However, the former acquire reproductive expressive awareness and the latter acquire creative expressive awareness. The second hypothesis: Novices with creative expressive awareness try to control relationships between expression contents and methods consciously in the following creations. In contrast, those with reproductive expressive awareness emphasize the importance of expression methods.

Method

In this study, we conducted two case studies that examine the changes in artistic creation over a period of several weeks. Each case study included four tests [a pre-test and post-tests 1-3] and three interventions [interventions 1-3]. The tests and interventions were repeated alternately.

Participants and the period of observation Two female students at the University of Tokyo volunteered for this study. One participant was 23 years old and an undergraduate student in science, and was assigned to the imitation condition. The other participant was 24 years old and a graduate student in pharmacology, and was assigned to the reflection condition. The length of the case study period of the former was 86 days from 28 October 2010 to 21 January 2011, and that of the latter was 46 days from 30 September to 14 November 2011. The reason why the participant in the imitation condition spent a longer time than the other one was because the Christmas holidays fell within the case study period and she stopped her photography for a while.

Both of the participants showed an interest in artistic photography before participation in this study, and the imitation participant visited an exhibition including photographic works just before participating in the study. However, they had never had any professional training in artistic photography. They took photographs mainly when they travelled or attended special events, and were not in the habit of visiting photo galleries or exhibitions to see collections of photographs.

Also they had never used a single-lens reflex camera. Therefore, the first author taught them the basic method of use of a digital single-lens reflex camera, such as the mechanism of the camera and how to use the diaphragm,

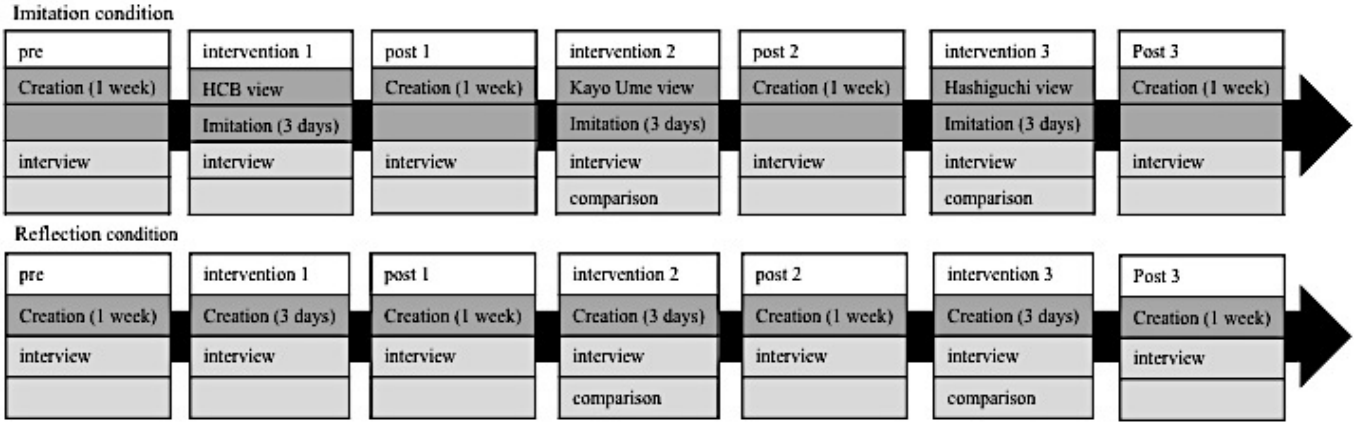


Figure 1 Procedure of case studies in each condition

shutter speed and exposure. They then practiced taking photographs with the first author.

Procedure The participants were required to take at least 40 artistic photographs per week during their own free time in each of the four test sessions: the pre-test and the post-tests 1-3. The three interventions were different in the two conditions. In each intervention session of the imitation condition, the participant first saw a collection of artworks by a proficient photographer, selected the one photograph that she liked the most, and then was given the following instructions, "Think about what the photographer pays attention to when taking this photograph and try to take the same style of pictures yourself." The participant in the reflection condition continued to create artistic photographs of her own in the intervention sessions. Both of them took at least 20 photos in each intervention session (see Figure 1).

All of the photographs were taken with a digital single-lens reflex camera (Canon EOS KissX3 / EF-S18-55mm F3.5-5.6IS). The participants were directed to use only three modes of exposure that enable the user to control expression to a large extent: Manual Mode, Shutter Priority AE and Aperture Priority AE. They were not allowed to use Program Mode, since not much room is left for users to control the photographic expression if they use such an automated mode. All of the photographs taken were preserved for analyses.

After each session in the two conditions, the first author interviewed the participants. The interviews for the imitation condition took about 1 hour, and for the reflection condition took about half an hour. They were recorded by IC recorders and a video camera. In the interviews, the participants selected the ten best photographs in the session after each test, and the five best photographs in the session after each intervention. If there were any other photographs that the participants selected, they also reported on these. In addition, we interviewed them about their views on photography in each session. The participants were directed to reflect on their photographs in the session by comparing them with photographs taken in previous sessions.

Imitation tasks The photographs used for the imitation tasks were of styles different from those about which the imitation participant had prior knowledge, as indicated in the interview after the pre-test. This was because it has been shown by Ishibashi & Okada (2009; 2010) that the copying of unfamiliar pictures stimulates the production of creative artwork. In order to identify styles of expression unfamiliar to the participant, the first author interviewed her about her favourite photographs, favourite photographers, and her own photographs taken in the pre-test. Her favourite photographer was Mika Ninagawa and her favourite photograph was one from 'SHADOWS: Works from the National Museums of Art'. As their characteristics, she mentioned 'colours' and 'shadows'. In addition, there were no photographs in which people were the main motif in pre-test sessions in either of the conditions. Therefore, photographs that depicted people as the main motifs and were not characterized by 'colours' or 'shadows' were selected for the imitation sessions.

Data The main data are protocols in interviews.

First, we checked in the interview data whether or not the imitation participant actually practiced imitation. Second, in order to examine the first and second hypotheses, we checked whether expressive awareness was observed and if so, how this awareness developed in the answers to the questions about the participants' views of photography and the interviews about each photograph taken by them.

Expressive awareness and the process of expertise To examine the first hypothesis, with the interview protocols on views of photography and of each photograph taken by the participants, we checked whether expressive awareness was acquired by the participants.

In the verification of the second hypothesis, we also checked whether the features of the process of expertise appear in the interview protocols on the views of photography and of each of the photographs taken by the participants. In addition, we also investigated the changes in expression methods, expression contents, and matching of them in chronological order in each condition.

The changes in the participants' views of photography The interviewer asked the participants, 'What do you think is good photography?' and 'What should we do to take good photographs?', in order to investigate their views on

photography in each session. In this protocol, we checked whether they mentioned 'Expression contents', 'Expression methods' and 'Matching between the expression contents and methods'. 'Expression contents' are further divided into 'Reproductive expression' and 'Creative expression'.

In this analysis, 'Matching of expression contents and methods' indicates expressive awareness. If the 'Expression contents' were 'Reproductive expression contents', we regarded the expressive awareness as '*Reproductive expressive awareness*'. Also, if the 'Expression contents' were '*Creative expression contents*', we regarded the expressive awareness as 'Creative expressive awareness'.

The changes in expressive awareness in the interview protocols for each photograph The data are interview protocols about the 10 best photographs of their choice (in total 40 photographs) taken by the participant in pre-test and post-tests 1, 2, 3, in both conditions. We identified the interview protocols about matching of expression contents and methods as expressive awareness. Then we examined how each protocol changed in chronological order in each condition.

Results

We first checked whether imitation was actually practiced. The results showed that in the imitation participant's reflection on her own photographs taken in the interventions, characteristics of imitation tasks appeared. We do not explain this result in detail in this paper due to limitations of space. (The detailed results are reported in Ishiguro, Okada & Ishibashi, 2011.)

For testing the first and second hypotheses, we checked interview protocols about views of photography and about reflection on each photograph. As a result, statements about expressive awareness appeared after intervention 1 in both conditions. The reflection participant mentioned reproductive expressive awareness and the imitation participant mentioned creative expressive awareness (supporting the first hypothesis). However, the reflection participant occasionally stopped mentioning this in the interview on her view of photography, and statements about the matching of expression contents and methods were less frequent in her reflection on each photograph than that of the imitation participant.

The process of expertise of expression differed in the two conditions. The imitation participant always paid attention to expression contents, methods and matching of them after the acquisition of expressive awareness. In contrast, the reflection participant sometimes reported no matching of expression contents and methods after the acquisition of expressive awareness, and emphasized the importance of expression methods (supporting the second hypothesis). The specific results are the following.

The views of photography Both the participants mentioned expressive awareness after intervention 1 (see Table 1, 2). Additionally, the imitation participant, who experienced imitation of multiple varying artworks, showed a stronger interest in creative expression contents and mentioned the matching of expression contents and methods after intervention 2. In contrast, the reflection participant, who repeated only photo taking and reflection, emphasized reproductive expression contents from the pre-test, and acquired reproductive expressive awareness in intervention 1. However, she had a tendency to pay attention to precision of expression methods after post-test 2.

Table 1 The view of photography in the imitation condition

The imitation participant

		pre	intervention1	post1	intervention2	post2	interventions3	post3
Expression contents	Reproductive contents	○						
	Creative contents		○	○	○	○	○	○
Expression methods			○	○	○	○	○	○
Matching of expression contents and methods (Expression awareness)	Reproductive expression awareness							
	Creative expression awareness					○	○	○

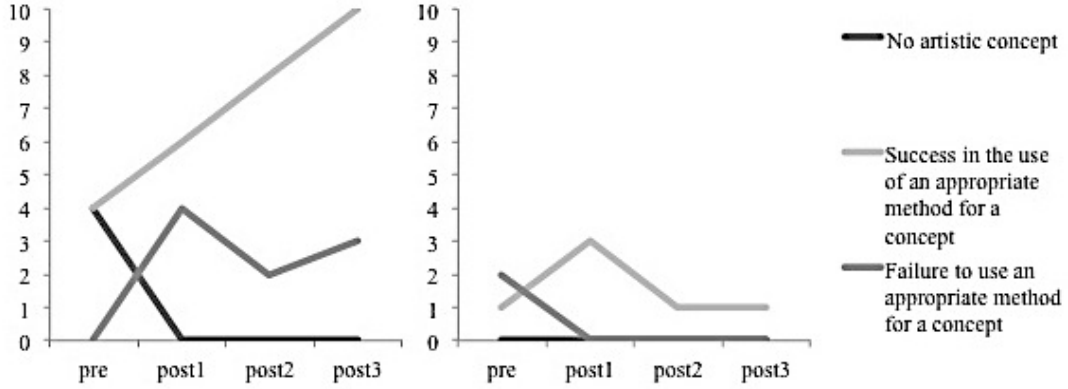
Note. ○ *open circles mean that participants mentioned about each item*

Table 2 The view of photography in the reflection condition

The reflection participant

		pre	intervention1	post1	intervention2	post2	interventions3	post3
Expression contents	Reproductive contents	○	○	○	○			○
	Creative contents							
Expression methods			○	○	○	○	○	○
Matching of expression contents and methods (Expression awareness)	Reproductive expression awareness		○	○	○			○
	Creative expression awareness							

Note. ○ *open circles mean that participants mentioned about each item*



NB: The two graphs show the number of photographs mentioned in connection with each of the items on the vertical axis and sessions on the horizontal axis.

Figure 2 Expression awareness in the imitation condition

Figure 3 Expression awareness in the reflection condition

Protocols for each photograph We examined the interview protocols for each photograph from the aspect of 'matching of expression contents and methods' in order to check whether or not expressive awareness was actually utilized in each photograph (see Figure 2, 3). The results indicated that 'matching of expression contents and methods' was focused on more strongly in the imitation condition than in the reflection condition. The imitation participant seemed to be interested in creative expression because from the pre-test to post-test 1, she mentioned *'No artistic concept*', which is defined as a statement indicating a lack of the concepts necessary for artistic photographs. However, she increasingly mentioned *'Failure to use an appropriate method for a concept*', which means failure to take photos using appropriate methods despite having a certain expression content, and *'Success in the use of an appropriate method for a concept*', which means success in taking photos using appropriate methods for a certain expression content. These results imply that the imitation participant had creative expressive awareness when taking each photograph, and such awareness became higher in the subsequent sessions. By contrast, in the reflection condition, statements about 'Success in the use of an appropriate method for a concept' increased in post-test 1, in which expressive awareness appeared for the first time in interview protocols about the views of photography. However, the number of the statements about the matching of expression contents and methods in this condition was less than in the imitation condition. Also, it was implied that she had less interest in creative expression contents, because there were no statements about 'No artistic concept'.

Discussion

Through two case studies, we have examined how novices acquire expressive awareness that controls expression contents and methods in a creation process when they continue to participate in artistic expression for a number of weeks. We have also investigated whether there are differences in expressive awareness and the process of expertise between those who employ reproductive expression, repeating photo taking and reflection, and those who practice photography based on imitations of eminent works of creative expression.

Expressive awareness was acquired in both conditions after interventions. Creative expressive awareness was acquired in the condition of imitating eminent artworks, and reproductive expressive awareness was acquired in the condition of reflection (supporting the first hypothesis). Additionally, the result that in the reflection condition there were fewer statements about reproductive expressive awareness indicates that reproductive expression was not as consciously achieved as creative expression.

The two conditions differed in the process of expertise. The imitation participant paid attention to the matching between expression contents and methods after the acquisition of expressive awareness. By contrast, the reflection participant paid attention to expression methods very precisely (supporting the second hypothesis).

Given these results, it is suggested that novices are able to acquire reproductive expressive awareness by only repeating creation and reflection. However, through imitating eminent works of creative expression, their expression style changes to creative expressions and they become conscious of the matching of creative expression contents and methods.

In this study, we provide new findings in the study of expertise as follows. Previous studies of expertise have indicated that experts have structured domain specific knowledge and utilize their metacognition (Glaser & Chi, 1988), such as self-monitoring skills (Ericsson et al, 1993) or reflection in action (Schön, 1983) in various expert practices. Such knowledge and cognitive processes are acquired in the long-term processes of expertise.

This study defines expressive awareness as indicating the emergence of control of ones' own creative process, and examines how this occurs. The results indicate that expressive awareness is acquired after continuous participation in creation. However, it is important not only

to repeat creation and reflection but also to have profound encounters (like imitation) with eminent creative expression works in the domain so that creators can utilize these actively. These findings support the claim that creators have to learn domain specific knowledge in order to create original works (Csikszentmihalyi, 1999).

Limitations of this study and future work We were not able to conduct experiments with a large number of participants. Therefore, we have to be careful in generalizing our findings. Also, for various practical reasons, this study failed to control differences in the academic backgrounds and photographic experience of the two participants. Therefore, the possibility that differences in critical thinking or motivation for photo taking between them affected the results of this study still remains. However, each of them was intelligent enough to secure a place at a highly prestigious university in Japan, and they both told us that they were highly motivated to take pictures. Future studies are required to exclude such confounding variables more carefully, by increasing the sample size of both the imitation and reflection condition and controlling variables that might affect differences in the conditions.

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