The Influence of Story Creating Activities while Appreciating Abstract Artworks

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In this paper, the authors will introduce our experiment to determine the influence of story creation on the appreciation of abstract artworks. From previous researches, it was known that novice viewers tend to dislike abstract artworks than representative artworks because abstract artworks lack the forms. The authors tried to relax this trend by creating a story about the artwork while appreciating. To answer our research question which is "will individual viewers create similar stories for artworks?", the authors conducted the experiment. The participants answer the worksheet while appreciating abstract artworks and representational artworks. As results, we found out that individual viewers create the similar story to the same artwork from the corresponding analysis and bold lines on the artworks was the important factor to imagine a story. Our result can suggest the possible advantages and disadvantages of using similar activities and how to create effective captions for the artworks.

1. Introduction

1.1 Abstract and Representational Paintings

The mechanism of art appreciation has been a major issue for years. Schmidt et al. (1989) focused on a novice who never thought art appreciation (visual analysis) nor creation as a professional artist and monitored their verbal protocols during the art appreciation. Using these data, Schmidt et al. (1989) tried to clarify the novice strategies for understanding paintings to build a computer-based education program. Based on these researches, they showed that novices tend to use the semantic features or contents (e.g. theme, symbolism) than formal elements (e.g. lines, shape, colour) when appreciating representational paintings. However, when they are appreciating abstract paintings, the result was completely opposite which means novices more frequently use the formal elements than semantic features. Since instructors in schools and museums tend to use formal elements when they teach visual analysis to novices, this result suggested that art education might be unsuitable for a novice. In addition, O'hare (1976) pointed out that novices tend to dislike abstract artworks.

Okada and Inoue (1991) described that these differences in art appreciation occur because abstract paintings lack the specific form. They conducted an experiment to determine how novice will evaluate abstract and representational artworks. They concluded that the artistic evaluation of abstract artworks is highly affected by the tenderness and the taste whereas the artistic evaluation of representational artworks is highly affected by the strangeness and the impact of the artwork.

Ishibashi and Okada (2010) call this phenomenon the reality constraint and pointed out that nowadays art education (usually in elementary and secondary school) tend to focus on representational artworks, not abstract paintings. Ishibashi and Okada (2010) showed that the reality constraint can be relaxed by copying the artwork by experiment. From this result, they suggested by copying the artwork, novice played the artist's role and acquired the artist's point of view.

Tanaka and Matsumoto (2013) tried to relax the reality constraint by using a commentary which is a short text explaining the artwork. The result suggested that reading a commentary with technical information (style, colour, technique and various technical aspects of the artwork) relaxed the reality constraint. The participant's descriptions about the artwork showed that when reading these commentaries, novice tried to understand beyond what was drawn on the painting.

1.2 Creating story about abstract paintings

There are two possible solutions to relax the reality constraint. Two research groups (Ishibashi Okada, 2010) (Tanaka Matsumoto, 2013) tried to relax the reality constraint by obtaining the artist's point of view. Viewers in their experiment playing a role (copying the work) and knowing how they created the artwork technically. However, they never tried to overcome the lack of forms.

In this paper, we discuss whether novice can overcome the lack of forms by creating a story about abstract artworks. When creating a story, we need a character, stage, situation and many other elements. When we trying to create a story form an abstract artwork which lacks a specific form, we need to imagine the form. In other words, a viewer may create their own imaginal forms in abstract artworks.

In art museums, we can find several kinds of tools and activities which aim to make visitors create a story about artworks. In this section, we will introduce tools and activities in museums.

The most typical tools are worksheets. When we visit art museums, we obtain information from captions displayed next to the artwork. However, since the amount of information which can installed on captions are very limited, art museums usually provide a tool to help visitor's understanding. The most popular

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type of tools is worksheets with a short question (e.g. "What is this girl on the artwork doing?") and empty space to write in the answer to the question.

The Metropolitan Museum of Art (2005)'s family guide "Shall We Dance?", they focused on three artworks related to dancing and provided detailed facts and activities to help visitors understanding. The work-sheet instructed to create own story and suggested to eight sample sentences such as "Once upon a time there was a young girl and boy. Their names were...and...", "They went to a costume party to celebrate the..." or "The party was held at...". This worksheet can be downloaded from The Metropolitan Museum's website.

The National Museum of Modern Art, Tokyo (MOMAT)'s MOMAT Collection Children's Self Guide also have questions to encourage visitors to create a story. On one Ryusei Kishida's artwork, there is a brown-coloured road crossing the canvas bottom to up. On background, we can see blue sky with white clouds. The question on the sheet is "if you walk up the road, what will you see?" and the smaller text on the same page says "You are climbing up the hill road step by step. You can see blue sky in front of you.". There is a blank box below the text to answer the question.

In addition, art museums in Japan usually provide activities such as a guided tour and a workshop. Many of the tour and worksheets are based on the idea of Visual Thinking Strategies (VTS) (Visual Thinking Strategies Site by Joel Smith Media, 2018). In Japan, this methodology is widely accepted in art museums. VTS is a methodology of art appreciation which focus on explaining and sharing viewers' impression between viewers. The first question in VTS workshop is "what is going on in this picture?". Viewers answer, explain and share what they saw in the artwork.

1.3 Explaining abstract paintings

Our research question is that will individual viewers create similar stories for artworks? In this article, the authors will introduce the result correspond to the research question and discuss the outcomes of the experiment overall.

We should note that the experiment in this paper was conducted in Japanese. All stimuli used in the experiment was written in Japanese. Therefore, this research procedures and results of this paper may improve art museums in Japan. However, it might not fit non-Japanese museums or visitors.

2. Materials and Methods

2.1 Participants

Participants were 29 adults including university students and teachers. All the participants are asked to answer about their art education background. Based on that answer sheet, we chose participants who never educated or had experienced to create their own artworks as a professional artist so that we could regard them as novices.

2.2 Stimuli

The experiment was conducted in a room in Chiba University on 23rd December 2017.

We used 18 artworks created in from 1947 to 2017 as stimuli. Six of them were representational paintings and others were abstract paintings. Each artwork had numbers to distinguish them.

All artworks were displayed with simple captions and labels. Information included in captions were chosen based on Tanaka and Matsumoto (2013)'s experiment.

All participants answer the worksheet and questionnaire during appreciating the artwork. The questionnaire included questions asked about participants' experience of art education and creation. We made two types of worksheets to apply to them according conditions. The first type of worksheet is a worksheet with two questions which are Q1) Write about your impression about the artwork and Q2) Mark the point which fits best to your impression on the following list. Q2 was based on a semantic differential technique (SD) used in Okada and Inoue (1991)'s experiment. The second type of worksheet includes additional question between Q1 and Q2. Questions in the worksheets were Q1) Write about your impression about the artwork, Q2) Create a story from the artwork and Q3) Mark the point which fits best to your impression on the following list.

2.3 Conditions

We used three conditions for each participant (within-subject factor). As they enter the room, they saw six abstract paintings without creating a story (abstract condition), six representational paintings without creating a story (representational condition) and six abstract paintings using a worksheet to create a story (story condition). All participants followed this order.

If the story creating worksheet helped to image a form on the painting, in other words, if the hypothesis was true, the result from story condition will have a similar trend comparing to the representational condition and different trend comparing to the abstract condition.

2.4 Hypothesis

The hypothesis is that stories created for an artwork are different from stories created for other artworks. In other words, all viewers create similar stories for the same artwork.

3. Results and Discussion

3.1 Similar stories for an artwork

Our hypothesis was "Stories created for an artwork is different from stories created for other artworks". We used the data from story condition in this analysis. The result in Fig.2 showed that there are three groups in stories and each group are isolated from other groups by correspondence analysis. We used KH coder (Higuchi, 2016) (Higuchi, 2017) which is a free software for text mining and analysis. Since answers from participants were all written in Japanese, the result on Fig.3 is plotted with English labels translated by the authors.

First, we focused on the words which participants frequently used. Numbers in square shape such as "C13" are an artwork number which means C13 corresponding to No.13. there are three groups on the top left (No.15), bottom left (No.16, No.17, No.18) and bottom right (No.13, No.14).

In the dimension 2 (y-axis in Fig.3), words such as "gingko tree (イチョウ)", "modern (現代)", "art (芸術)", "window (窓)"



whereas words such as "space (宇宙)", "ancient (大昔)", "god (神)", "native peoples (先住民)", "palace (王宮)" and "ruin (荒廃)" concentrate on negative side. We can estimate dimension 2 (y-axis) as a time axis.

In the dimension 1 (x-axis in Fig.3), words such as "think (思 う)", "village (村)", "Italy (イタリア)" concentrated on the positive side of x-axis whereas words such as "star (星)", "accessory (アクセサリー)", "school (学校)", "mountain (山)" and "future (未来)" concentrate on negative side. In the middle, there are words such as "moon (月)", "Egypt (エジプト)" and "water (木)". From this result, we could not estimate what this axis indicates.

However, when looking at artworks, No.16, No.17 and No.18' have strong and bold lines in common. Of course, since these artworks are abstract paintings, we could not identify what is drawn. No.15 on the positive side of x-axis was an artwork painted with strong colours and its compositions. This result suggests the importance of strong lines to show the object's form. Okada and Inoue (1991) suggested that abstract paintings are difficult to appreciate for a novice because they lack forms. Our result can add to Okada and Inoue (1991)'s suggestion that strong lines are the important factor to decide the presence of forms.

This result showed that there are three patterns of stories created for abstract artworks in this experiment. And when comparing the groups of stories, we suggested strong and bold line is the reason for these groups. This result means the bold lines are the important factor in appreciation, however, this result will not mean that the appreciation is easier in some artworks.

3.2 Settings: place

In this section, we focused on settings of the viewers' story. We assumed that stories have more detailed and familiar when the appreciation is easier.

The stories include information about the place where the story took place. For example, viewers wrote "under the water (水中)", "near the sun (太陽の近く)" and "a village in Europe $(\exists - \Box_{\mathcal{Y}})^{\circ}$ のある村)" in their stories about artworks.

We picked up the word about the place and added labels to each story based on their stories setting place. For each answer, a label chosen from three types which are "common noun", "mixed" and "proper noun". Label "mixed" is for the word with common noun qualified by the phrase include proper nouns such as "huge wasteland like we see in the USA or Australia (アメリカ やオーストラリアのような広大な荒野)". We chose these three labels because we tend to use proper nouns when talking about the familiar or specific places.

Fig.3 is the result of each artwork. There are significant differences between No.15 - No.13 (p= 0.003) and No.15 - No.17 (p= 0.034) by Tukey's HSD test when converting labels into scores. There is a more proper noun used to explain No.15 than No.13 and No.17. This result has a similar pattern with the result from correspondence analysis shown on Fig.2.



Fig. 2 Artworks and noun types in story

There is a place impossible to reach such as "another planet (異星)" and easy to reach such as "school (学校)". We added three labels which are "went", "possible" and "impossible". The place which considered viewer have visited such as school and their laboratory is labelled as "went". The result was shown in Fig.4. However, there is no significant difference found by Tukey's HSD test when converting labels into scores.



Fig. 3 Artworks and possibility to reach there

3.3 Settings: time

There is also information about the time when the story happens such as "yesterday (昨日)" and "raining night (雨の降 3夜)".

We picked up the word about the time and added labels. For each answer, a label chosen from six types which are not-limited (eg. "future (未来)"), period (eg. "medieval (中世)"), year (eg. "1970"), season (eg. "before harvesting wheat (麦の収穫前)"), day (eg. "December 20th 2015"), hour (eg. "evening (夕方)"). Fig.5 is showing the result plotted for each artwork. There are significant differences between No.15 - No.13 (p=0.038) and No.13 - No.17 (p=0.038) by Tukey's HSD test when converting labels into scores. This result also had a similar pattern with the analysis shown in Fig.2 and Fig.3 which means the three groups found in Fig.2 were isolated from each other.



Fig. 4 Artworks and setting of the story

4. Results and Discussion

We conducted the experiment to test the hypothesis whether stories created for an artwork is different from stories created for other artworks.

We found out that individual viewers create a similar story to the same artwork from corresponding analysis. In addition, our result suggested some patterns exists when creating stories about artworks. The important suggestion from these results is that story creating activity is effective for some kinds of artworks but not for other kinds of artworks. We could not decide features of these artworks at this point. Correspondence analysis's result suggests artworks with clear bold lines (No.16, 17, 18) are effective where analysis about settings suggest artwork with colour composition (No.15) is effective.

Since museums are the facility with the educational and conservational aim, museums must appeal the importance of conservation of cultural and natural heritage through their exhibitions and educational programs. This research aimed to help art museums to create the effective activities (educational programs) for visitors who are mainly novices. Therefore, we tried to relax the feelings of "dislike" to abstract artworks by converting abstract artworks to representational artworks in viewers' mind by creating a story.

However, we could not assume that the feeling of "like" is the main aim of art appreciation. Some artworks even tried to raise an issue by inducing the negative feeling. We need further research and discussion about what is exactly the art appreciation is and what is exactly the "fun" art appreciation is. This point will not affect the outcomes of our experiment discussed above, however, we must continue discussing these topics when we are trying to somehow evaluate or verbalise the other people's art appreciation experience.

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