Potential of Objective Preference Evaluation in a Creative Process

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Abstract: Nowadays, many researches on the objective and logical evaluations of created objects are conducted in *Kansei* design field. However, there are not many studies on the relationship between creator's own creativity and the evaluation on their work in fine art field like glass art. Many students in the fine art field conduct creative work with their limited favorite styles although they have not developed their own expressive characteristics yet. It simply means they need to introspect and cultivate their own *Kansei*. With this background in mind, the purpose of this study is to provide students in the field of glass art with new perspectives so that they can introspect their own *Kansei* and develop characteristics of their creative work. Thus not only Kansei as a source of creativity but also *Kansei* as an evaluation on perceived stimulus from outside are addressed in this study. As a result, the relationship between student's preference in a creative work and others' *Kansei* evaluation on it was analyzed by multivariate analysis. All students were able to introspect their own *Kansei* as a source of creativity based on the others' objective evaluation. The result means each student can understand one's characteristics of creative work. That is instrumental in trying various expressions in their creative work. Moreover, they can convey their creative work to others objectively and logically by using the results of analysis.

Keywords: Creativity, Preference, Introspection, *Kansei* evaluation, Fine Art

1. INTRODUCTION

Nowadays, many researches on the objective and logical evaluations of created objects are conducted in *Kansei* design field. However, there are not many studies on the relationship between creator's own creativity and the introspection and evaluation on their own art work in fine art field like glass art. According to *Harada*'s research (Harada, 1998), *Kansei* is defined as "mental function creating images" and "beauty and comfort, ability of reacting and evaluating symbolically and intuitively". According to Lee's research (Lee, 1998), *Kansei* information such as 'Images'

helps the creative process. Creator's internal factor (=*Kansei*) and external factor such as information from an outside are involved with the process of creating a new idea (Kiyokawa, 2010). These results from previous researches mean a designer, a fine artist or a craftsman creates something using their own *Kansei*.

Many students in the fine art field conduct creative work with their limited favorite styles although they have not developed their own expressive characteristics yet. It means they have to develop their own expressive characteristics through generating trying new various ideas and trying to use unlimited expressive styles, and they have to refine one's expressive style continuously also. Moreover, they have to introspect and reflect one's expressive style based on others' opinion and evaluation on their style, and they have to convey the value of their creation works to others logically. Because, it is pointed out that almost artist cannot convey the value of their creation works logically to others although they created the great works. If that is the case, how can the students in art school have the experience to introspect their own creation style in art works, and to convey the value of their creation works more logically to others?

There is Evaluation Grid Method to construct one's evaluation structure of an object (Morita and Kanade, 2005). In general, we evaluate an object generally using sensitive understanding (Middle layer in Fig.1). The sensitive understanding needs some objective reasons (Bottom layer in Fig.1). And the abstractive judgment value is extracted based on the sensitive understand (Upper layer in Fig.1). The Evaluation Grid Method helps to convey some information logically using the visualized evaluation structure. It means the Evaluation Grid Method may help to convey the value of their creation works more logically to others.
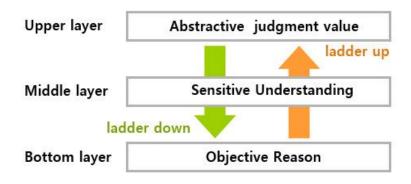

Figure 1: The concept of Evaluation Grid Method

With these backgrounds, the purpose of this study is to provide a special experience to students in a glass art field with new perspectives based on the viewpoints of *Kansei* Science research field so that they can introspect their own *Kansei* and develop characteristics of their creative work. Moreover, to suggest a new experience which they can convey the value of one's creation work to others logically using the results of objective analysis is the purpose of this research also. Thus not only *Kansei* as a source of creativity but also *Kansei* as an evaluation on perceived stimulus from outside are addressed in this study.

2. METHOD

2.1. Workshop "Beyond Creativity"

As the previous descriptions, the purpose of this study is to provide a special experience that students in the glass art field with new perspectives so that they can introspect their own *Kansei* and develop characteristics of their creative work. Therefore, the workshop, named "Beyond Creativity", was conducted with 14 students in glass art (glass art) course in Southern Illinois University (SIU) on 18th Feb. and 20th Feb. 2013. Especially, the educating position of glass art course in SIU is nearer to fine an art field than a craft or a design field. In fine art, a value of aesthetic is highly estimated. On the contrary to this, the value of function is more estimated in design or craft field than fine art field. Therefore, the purpose of this workshop "Beyond Creativity" is to help the students of glass art to introspect their own *Kansei* and convey the value of their own creation work logically to others.

Figure 2: The participants of workshop "Beyond Creativity"

2.2. Method

This workshop "Beyond Creativity" was composed with the following four steps:

1) As a warming-up process, the each participant brings a preference item in daily, and they conduct presentation freely why they selected the item.

2) The each participant selects a preference glass art work (glass work) from the magazine named "Glass Quarterly", and constructs each one's evaluation structure using adjectives with Evaluation Grid method (Left in Fig.2).

3) The each participant is separated with five groups, and the each participant constructs the others' (in same group) evaluation structure using adjectives with Evaluation Grid method. After that, all participants conduct interim presentation why they selected the glass work as a favorite art work using the results of Evaluation Grid Method (Right in Fig.2).

4) All participants evaluate all of the selected each one's art work by using SD method. In that time, the cited adjectives in step 3 are used. (The results of SD method were analyzed with Factor analysis).

Figure 3: The scenes of second and third step

3. RESULTS

3.1. Results of Evaluation Method

The first, they conducted a presentation why they selected the preference item in daily. In that time, almost participants presented using shot sentences with some common key works such as "cool" and "easy to use". The almost of all presentations had finished for about only1-2 minutes.

In the next step, each Participant selected a glass work freely based on each one's preference from the magazine named "Glass Quarterly". Figure 4 shows the results. Each participant evaluated some glass works as each stimulus and selected their own favorite glass work using each one's *Kansei*. That is why the selected glass works are different with individual.
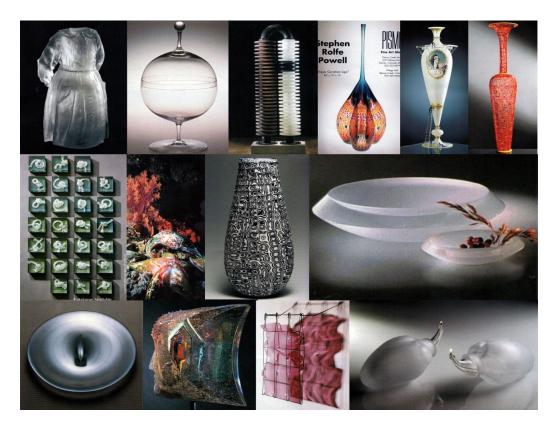

Figure 4: The selected art glass works

In the third step, the other participant in the same group added the adjective words and the definite reasons to the each one's selected glass work on other's sheet of Evaluation Grid Method. The Figure 5 illustrates the results a sample of a participant's evaluation construction with Evaluation Method. The black words in the figure means the extracted each participant own adjective words and definite reasons to the one's selected glass work, the red words means the extracted other participants' adjective words and definite reasons to the same glass work. In this step, each participant was needed to extract adjective words as a middle layer as many as possible. In this step, 57 adjective (Ave. 4.75 per person) words and 195 definite reasons (Ave. 16.25 per person) were extracted in Evaluation Grid Method.
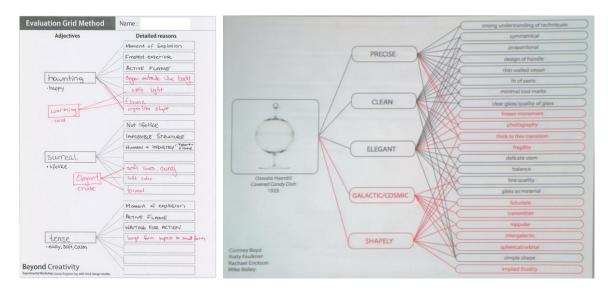

Figure 5: Examples of the constructed evaluation of the selected art glass work

Through these second and third steps, each participant could get the visualized evaluation construction using Evaluation Grid Method with the causal-and-effect relations. From the visualized structure, they could realize not only the each one's evaluation construction of the selected favorite glass work logically but also the others' evaluation construction of the selected one. This result conflicts with the result of warming-up task in first step. Using Evaluation Method in this step, participants could obtain more various and objective information why they selected the glass work as a favorite one than in the first step.

3.2. Results of SD method and Factor analysis

From the second and the third steps, total 57 adjective words were extracted from all participants. The 57 adjective words were arranged to 27 adjective words for SD Method with 3 persons including a Native American.

In the final step, 10 participants had evaluated the selected each 10 glass works with the 27 adjective words as the standard of SD method (Fig.6). (Only 10 participants attended in the final step.) The Factor Analysis was conducted with the all results of SD Method. The table 1 shows the results of Factor Analysis.

Figure 6: The scene of fourth stept

Table 1: Results of Factor Analysis

		Factor		
		1	2	3
Boring	Interesting	−0.767	−0.267	−0.160
Haunting	Forgettable	0.699	0.047	0.092
Static	Dynamic	−0.683	0.103	−0.003
Expressive	Impassive	0.641	−0.055	0.130
Complex	Simple	0.600	−0.042	−0.191
Unexpected	Predictable	0.587	0.049	0.292
Strong	Weark	0.510	0.086	−0.102
Monochromatic	Colorful	−0.492	0.311	−0.050
Dull	Bright	−0.486	0.028	−0.150
Textual	Flat	0.473	−0.286	−0.101
Uninformative	Informative	−0.467	−0.073	0.108
Tense	Calm	0.445	−0.396	−0.094
Fitting	Contrasting	−0.409	0.224	0.017
Elegant	Messy	0.049	0.846	0.091
Clean	Dirty	0.008	0.748	0.020
Smooth	Rough	−0.291	0.605	0.333
Clumsy	Skillful	−0.348	−0.550	0.225
Useful	Useless	−0.026	0.513	−0.110
Vague	Precise	−0.221	−0.451	0.415
Surreal	Realistic	0.359	−0.399	0.378
Sensual	Chaste	0.129	0.250	0.675
Fluid	Solid	0.048	0.104	0.459

From Factor Analysis, the following three principal factors were interpreted: 1) Originality of expression of glass work, 2) Abstractness of expression of glass work, and 3) Conservativeness of expression in glass work.

Table 2: Result of the Interpreted three principal Factor

Adjective word	Elgenvalue	Factor interpretation
Boring, Forgettable, Static, Impassive, Simple, Predictable, Weark, Monochromative, Dull, Flat, Uniformative, Calm, Fitting	4.695	**Originality of expression** （Conventional−Original）
Messy, Dirty, Rough, Clumsy, Useless, Vague, Surreal	3.332	**Abstractness of expression** （Abstractive−Objective）
Chaste, Solid	1.731	**Conservativeness of expression** （Conservative−Raunchy）

The following Figure 7 shows the position of the selected each glass work based on the extracted 3 factor.
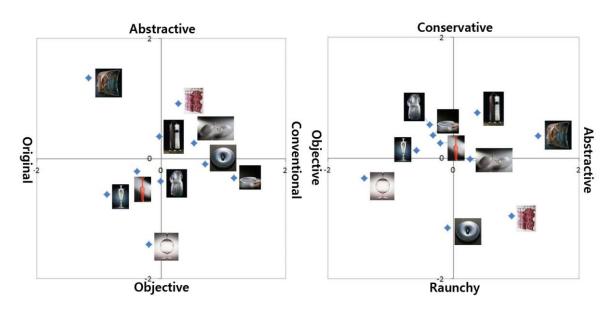

Figure 7: The position of each selected art glass work with three Factors

From the results, it was revealed that "Originality factor", "Abstractness factor", and "Conservativeness factor" were used to evaluate the favorite glass work of glass course in SIU. Each participant could identify the selected glass work based on their own preference. From the result, each participant could introspect their own preference in creative glass work from the visualized the figure. Moreover, each participant could verify each other's preference from the figure also. This result means that we can grasp a position and a situation of preference in a creative process and an evaluation process of various fields by using this method.

3.3. Creating a drinking vessel for other student as a clinet

Each participant could understand not only one's preference in creative work process but also the other's preference. Each participant created a drinking vessel for the other participant as a client based on the understanding not only one's situation preference in creative process but also the other's preference. Figure 8 shows the some idea results from the final step.

Figure 8: The examples of created water base bottle

4. CONCLUTION

The purpose of this study is to provide students in the field of glass art with new perspectives so that they can introspect their own *Kansei* and develop characteristics of their creative work. Thus not only *Kansei* as a source of creativity but also *Kansei* as an evaluation on perceived stimulus from outside are addressed in this study. Therefore, the workshop "Beyond Creativity" was conducted with the students of glass course in SIU.

As a result, the relationship between student's preferences in a creative work was visualized, and not only each one's evaluation but also others' evaluation on the preferences in the creative work were analyzed by Evaluated Grid Method and Factor Analysis. From the results, all students were able to introspect their own *Kansei* as a source of creativity based on the others' objective evaluation. The result means each student can understand one's characteristics of creative work. That is instrumental in trying various expressions in their creative work. And, they could convey a value of creative work to others more objectively and logically by using the results of these analyses. Moreover, they could understand the position of their favorite glass work more objectively using the result of these analyses. These processes helped each participant introspect their own *Kansei* and develop characteristics of their creative work.

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BIOGRAPHY

Kang had studied a product design at Hong-ik Univ. of South Korea. And Kang had completed his Ph.D. in *Kansei* Science at Tsukuba Univ. of Japan. Now, Kang is associate professor at Future University Hakodate of Japan.