What Kind of Sociality Do Pre-service Teachers Discover Through Photograph Taking and Dialogue?

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Abstract

The research examined what kind of knowledge on "sociality" pre-service teachers find through the process of a workshop conducted using photographs and dialogue. Twenty-seven pre-service teachers participated in a workshop, took photographs of events or phenomena they thought had sociality, sent the photographs via email to a professor with comments and explanations, and then discussed the photographs with other participants. They discovered various aspects of sociality: (1) types of sociality, (2) social function, (3) social existence, (4) social feeling, (5) metaphorical recognition of sociality, (6) associative development of thinking of sociality, (7) media regarding sociality, (8) symbolic and metaphorical development of sociality, and (9) provocative action for or against sociality. Furthermore, based on a questionnaire analysis, the pre-service teachers were able to understand the possibility of dialogue with visual methodologies using photographs. These methodologies and practices can enhance learners' views, perceptions, and recognition of their environment and world.

Keywords

Photo-Based Educational Research, Photograph, Art-Based Inquiry, Dialogue.

Introduction

In recent years, as artificial intelligence and international economic competition have intensified, the competencies and skills required by workers have been diversifying and advancing (Trilling & Fadel, 2009), and educational policy has shifted to competency-based education. Art education can employ various media and devices for visual expression and communication. The action of taking photographs using digital devices has become ordinary today. By using photography as a visual art-based inquiry of our life and environment, we can develop a sensibility and awareness of life. These common digital devices can be used in class activities and teacher training as well. Using such technology and devices might help learners effectively generate a new knowledge individually and collaboratively in teacher training.

As Marín and Roldán (2010) mentioned, "photographs are being used extensively in visual arts-based educational research; however, explanations of the methodological criteria for their use are rare" (p.8). Leavy (2015) stated that the power and role of the image cannot be underestimated, and visual imagery can create perspective and develop context. Today, students can take photographs using their cell phones easily. We need to rethink the power of images as a tool of visual research methodology in education for not only self-expression but also knowledge generation.

Using photographs for arts-based inquiry to expand students' perspectives

Photography is a powerful means of arts-based research (Leavy, 2017), and the practice of taking photographs with cell phones can be said to almost be looking through the eyes of today's

youth. However, this practice does not necessarily mean that the youth can see the world more carefully and critically. Marín and Roldán (2010) asserted that "the images are the most important and decisive element of the investigation" (p.8) in photo-based educational research. This may be because the inquirer not only takes photographs but also "define[s] the problem, describe[s] the context, provide[s] and interpret[s] the data, argue[s] a case for the findings, and reveal[s] conclusions (p.8). Similarly, art-based inquiry is different from just arts, natural science, and social science. It intuitively grasps things and phenomena in an environment using the senses and reflects on what was sensed, thus obtaining deep insights into it. Conducting arts-based inquiry through photograph taking and reflection can enable students to see and imagine what is hidden within the environment and the world.

Finley (2008) shed light on the possibility of creating a deep understanding of problem recognition through art expression from the viewpoint of social justice in art-based inquiry. Using aesthetic and reflective inquiry may help learners develop a deeper awareness and heuristic knowledge production. According to Grisoni (2012), the practice of art-based inquiry creates the opportunity to become aware of how we are living in organized framework unconsciously and subconsciously. Developing an effective use of photographs may create powerful practices and strategies for pre-service teachers. Furthermore, photograph taking may help enhance their outlook, thinking, and engagement with the world. Therefore, this research demonstrates the possibility of photo-based educational research.

Objectives and research design

In this research, a workshop on photograph use was conducted with pre-service teachers of art education. The purpose was to clarify the following:

1. What kind of sociality do pre-service teachers find?

2. What kind of knowledge and understanding were created through the workshop?

This workshop encouraged the teachers to explore hidden phenomena and relationships among themselves and others and among themselves and society by using photographs and dialogue within their close environments and circumstances.

Outline of workshop:

• Date: December 19, 2017, 16:10–17:40

• Venue: Department of Art Education at Tokyo Gakugei University.

• Participants: Twenty-seven pre-service teachers (undergraduate students)

Procedure of workshop:

1. Instruction

2. Fieldwork: Taking photographs and sending comments by email

3. Presentation and discussion

4. Questionnaire survey

Data collection:

1. Photographs

2. Comments by email

3. Observation of dialogue/discussion

4. Questionnaire survey

Data analysis

First, all photographs and their corresponding comments were discussed. Next, codes were generated as short descriptions representing the sociality that the photographs captured and offered. Subsequently, the questionnaire responses were reviewed and considered with the data materials. Last, the conclusions were determined based on the purpose, results of this workshop, and discussion.

Results of the photographs

Twenty-seven students took photographs and commented on them. These short descriptions were coded, and the kinds of sociality the pre-service teacher were discussed. The following section shows the kind of sociality that were found.

Messages to those who are not present

The following three photographs captured facilities and functions for social actions and behaviors.



Figure 1: An emergency exit

It is designed to be understood by anyone, whether they are visiting the place for the first time or whether they are illiterate.

a) Announcement and message to someone who is not present



Figure 2: A notice

"After using the classroom, turn off the lights and close the windows." Multiple societies convey messages urging precaution in this way.

a) Announcement and message to someone who is not present



"Please help yourself." The person who wrote the message does not know who will take the items.

- a) Announcement and message to someone who is not present
- c) Non-face-to-face communication

Figure 3: Please help yourself



The writer created a title that conveys the necessary information to readers at a glance.

a) Announcement and message to someone who is not present

Figure 4: Notices



"Beware of suspicious persons." This is a public location, and there may be many dangerous items and people around.

a) Announcement and message to someone who is not present

Figure 5: Beware of suspicious persons



Figure 6: Notice of a meeting for a graduation exhibition

"Notice of a meeting for a graduation exhibition." People need to communicate information. The sign was placed on the bulletin board in a way that made it stand out. Even though you cannot talk directly to the sign, the way it is displayed shows the thought and sociality of those who want to communicate information regardless of their current location.

- a) Announcement and message to someone who is not present
- b) Instructions to someone who is not present

These six photographs focused on messages to others who were not present. They had the following features:

- a) Announcement and message to someone who is not present
- b) Instructions to someone who is not present
- c) Non-face-to-face communications

These signs and notes guide, request, and caution people; convey information; and provide information on schedules. These are social functions and do not require face-to-face meetings. The students who took these photographs made the features of sociality hidden within signs, environments, and public spaces visible. Furthermore, they understood the possibility of utilizing these features within their works.

Facilities and functions for social activities

The following three photographs captured facilities and functions for social activities.



Figure 7: Lockers

- "Lockers used by individuals as well as groups."
- d) Facilities and functions used by people
- e) Functions as a way to help others adapt
- f) Metaphor of the collective



Figure 8: Clock

People mostly act by looking at the "clock," and they move at the same time according to the clock. Thinking objectively, this is known as moving collectively.

- d) Facilities and functions used by people
- e) Functions as a way to help others adapt



Figure 9: Bulletin board

"A place where a vast amount of information is provided." For others to view the information with ease, the items are displayed neatly side by side. This may be considered sociality through the sharing of information and utilization of public places.

- d) Facilities and functions used by people
- e) Functions as a way to help others adapt

These three photographs focused on "facilities and functions for social activities." They have the following features:

- d) Facilities and functions used by people
- e) Function as a way to help others adapt
- f) Metaphor of the collective

These facilities are utilized by numerous individuals for their convenience and adaption to their schedules. Additionally, "lockers" are regarded as a representation of collectiveness because they have a collective form. The photographers highlighted the social functions of the facilities, and the function of the facilities that are used to control and affect others. Students views these functions and forms metaphorically.

Mixed things and circumstances

The following two photographs focused on mixed things and circumstances.



a) Mixed things

inside a heterogeneous society.

g) Mixed things

Figure 10: A large painting



The members of the Creative Auditory Culture Study Group (CACSG) and the Manga Study Group (MSG) are using a kotatsu, a Japanese foot warmer. The students are playing mah-jongg and communicating while in the kotatsu. They will also hold meetings and read manga while under the kotatsu. Although this space belongs to the CACSG, the members of the MSG are included in it.

"A large painting in a university." It is set in a location

h) Mixed circumstances

Figure 11: Playing students

These photographs had the following features:

- g) Mixed things
- h) Mixed circumstances

These photographs highlighted mixed things and circumstances. The large painting within the university attracted the attention of various onlookers. The people in the painting were surrounded and situated within mixed things (Figure 10). This photograph thus highlighted the multiplicity in the environment.

The next photograph (Figure 11) chose a circumstance in which people belonged to different groups. A Japanese foot warmer called a kotatsu was located in the space of the Creative Auditory Culture Study Group (CACSG), close to the space of the Manga Study Group (MSG). This photo focused on in-between spaces where people can come together and communicate in a re-

laxed atmosphere. The photograph depicted the multiplicity of mixed things and circumstances within close environments.

Ambivalent feelings of sociality within ordinary actions

The following three photographs focused on sociality within unconscious ordinary action.



Even when not instructed to do so, everyone sorts discarding garbage into the designated trashcans.

- i) Sociality that appears in ordinary action
- j) Indication/representation of Japanese sociality

Figure 12: Trashcans



Figure 13: The arranged bicycles

The arranged bicycles represent the sociality of contemporary Japan. The arranged bicycles seems rigid, as indicated by the matching direction and spacing, as well as the efficiency and formalization. Although it was mentioned earlier that "society communicates," that claim does not refer to this photograph.

- i) Sociality that appears in ordinary action
- j) Indication/representation of Japanese sociality
- k) Cooperation or rigidness



Figure 14: Different books

Even though we do not need to choose different items, it is because of this framework of sociality that we try not to choose the same things as much as possible.

- i) Sociality that appears in ordinary action
- k) Cooperation orrigidness
- l) Contradictory feelings of disliking being compared to those with the same view and having synchronicity and a cooperative mind-set

These photographs highlighted an "ambivalent feeling of sociality within ordinary actions."

They had the following features:

- i) Sociality that appears in ordinary actions
- j) Indication/representation of Japanese sociality
- k) Cooperation or rigidness
- Contradictory feelings of disliking being compared to those with the same view and having synchronicity and a cooperative mind-set

As stated above, we place waste in designated trashcans without direct instruction and conform to social manners (Figure 12). This is an aspect of sociality in our ordinary and unconscious actions. When we arrange bicycles "beautifully," we conform to manners and unconscious sociality as well (Figure 13). Students may think this is autonomous cooperation, but it is rigid as well. It is a formality that binds people at an unconscious level. Students bring books to class. They are not concerned with indicating their uniqueness by choosing different books. At the same time, they unconsciously choose books that are different from the ones others have (Figure 14). They have ambivalent feelings and perform ambivalent actions unconsciously.

Sociality as a metaphor for non-human animals and plants

The following three photographs express sociality metaphorically using non-human animals and plants.



Figure 15: Networked things

"Networked things." The tree diagrams associate the shape of the trees with network as sociality.



It is in the nature of birds to excrete waste in a fixed place as a group. They are not usually conscious of doing so.

Figure 16: Excrement

The tree diagram is associated with the network as sociality (Figure 15). Meanwhile, the photo of bird excrement makes students think it was intentional because it was concentrated in a small area (Figure 16). As we saw in the photograph of the arranged bicycles (Figure 13), students metaphorically associated this collective behavior with social action.

Associated sociality related to people's existence and relationships

The following three photographs represent sociality related to the existence and relationships of people.



"A class"

Figure 17: A class



I thought that people's relationships are a form of sociality.

Figure 18: Friends

"Lights illuminating locations with sociality."



Figure 19: Lights

The photograph of the class shows a professor in a classroom through a window (Figure 17). A class is a social space and activity. The photograph focuses on a person through a window. The classroom and the professor are restricted from view by the window frame, indicating the various kinds of sociality behind the window. The next photograph shows three students (Figure 18) who are the photographer's friends. The photograph of the building lights highlight the activities of the people in the building (Figure 19). The lights symbolize human activities. All three photographs indicate the social nature of meetings conducted by people in class, in campus, or in a building. The photographs show an associated sociality related to the existence and relationships of people within a place where they meet and conduct activities. The photographs thus have the following feature:

m) They capture the social nature of a place where people meet and conduct activities.

Information and communication media and equipment

The following two photographs convey information using communication media and equipment.

The photograph of the "Twitter" logo from a student's cell phone is a symbol of "social media," which closely represents today's youth (Figure 20). This is thus the new media of sociality. Further, another student took a photograph of a television as a symbol of sociality (Figure 21). These photographs focused on sociality as information and communication mediated by new



"Social media." I believe Twitter acts as a social element.

Figure 20: Twitter



"Television."

Figure 21: Television

and old media and equipment. Both of the old and new media and equipment are symbols of sociality.

Symbolic and metaphorical development of the thought of sociality

The following four photographs developed the thought of sociality based on things in the environment.



Figure 22: Tactile tiles

My idea of the thought of sociality is that all people living in this world should help and support each other to live. I think it is very important for society to care for things other than itself and to think about the many problems in society.



"Sociality" for me means "crowded." Chairs of the same type represent people who share the same time in the same space. In other words, people belonging to the same society are similar. The edges of the chairs are peeling off, indicating that humans who are worn out. I thought of the sociality of humans who are crowded was represented by these chairs, so I took this photograph.

Figure 23: Twitter



"A sign of cooperative closure." We emphasize meaning by gathering a lot. In the same way, people can gather and cooperate to become stronger.

Figure 24: Signs



ety seems to have only two sexes, either male or female. The colors of many toilets are blue for men and red for women. Did we unconsciously decide on these colors?

I found something symbolizing the problem that soci-

Figure 25: The colors of the toilet

The photograph of the tactile tiles led to the student's thoughts on sociality (Figure 22). The student not only found these forms or representations of sociality but also developed her thinking based on the intended use of the tiles. In the next photograph of the chairs, the student associated an image of sociality with the crowded collectiveness and identical formalism of the chairs (Figure 23). She thought the crowded chairs represented people belonging to the same society. The peeling fabric of the chairs reminded the student of people who are worn out. "A sign of cooperative closure" is a unique title (Figure 24). This student noticed that the collection

of signs indicated power and sent a stronger message of prohibition. He then developed his thoughts on the similarity between signs and humans. There is strength in numbers. This is a humorous viewpoint as well. Finally, the colored signs used by toilets inspired another student's thoughts on sexuality (Figure 25). The blue and red colors simplify sexuality. In the space between the red and blue, there are a variety of colors. Perceiving and searching for this physical in-between space can stimulate the development of thinking.

Based on things in the environment, all these students developed their thinking about sociality as follows: a more inclusive life, metaphorical representations of humans in contemporary society, strength in numbers, and the diversity of sexuality. If there was a follow-up workshop, the students could develop their thoughts further and generate further artistic action.

Provocative actions to make unconscious sociality visible

The following two photographs revealed the unconscious sociality within our typical actions. They did this in a unique way, indicating that provocative actions make unconscious sociality visible. Walking on the right side is something Japanese people do unconsciously every day. It is a part of the social nature of Japanese people (Figure 26). They go up the stairs on the right side and go down from the left side. This student took a photograph of someone going up a flight of stairs from the middle. This was a provocative action. It was a small action, but the student resisted the ordinary actions, rules, and homeostasis of everyday life.



The practice of walking on the right side is unconsciously dictated by the social nature of the Japanese.

Figure 26: Walk on the middle



We wear clothes as a form of sociality. Even if we do not wear clothes at home, we wear clothes outside because we care about others' perceptions. I think that paying attention to other people's eyes is one aspect of sociality.

Figure 27: To take off clothes

The next photograph is also a provocative work that views wearing clothes as an aspect of sociality (Figure 27). When we put on clothes, we are conscious of other people's eyes on us. To indicate this, the student took off her clothes and placed them on the floor to create a human figure. She thus left the sociality of clothes on the floor Every day, we put on layers sociality, and the student attempted to escape them by taking off her clothes. She conveyed this idea in a provocative way in the photograph. These viewpoints and ways of provocative presentation are quite artistic.

The twenty-seven photographs and comments shown above depict the invisible and unconscious sociality within our ordinary lives and environments.

Results of the questionnaire

In this section, I will discuss the questionnaire results. Twenty-two out of twenty-seven participants completed the questionnaire form. The results from the data were as follows. It can be said that this workshop generated

- Multiple meanings and possibilities of interpreting sociality
- Efficacy of the use of visual methods of photographs and generative dialogue along with visual images.
- Awareness of commonality and differences of self/others' viewpoints.
- Possibility of using art as a research tool via concrete examples for teacher training.

The details of the questionnaire are provided below (Table 1).

Question-1: How was workshop today?

Students thought this was a very interesting way to approach sociality, which is difficult to see and think about in everyday life. They noticed the diversity of the viewpoints of others and understood that they could sense and find invisible kinds of sociality in our usual environments. The following comments show their opinions (refer to Table 1):

I was able to look back on my daily life from various perspectives and to hear the opinions of others. (6)

I thought it was a very difficult theme, but when I actually looked at the photographs, I realized that there are various types of sociality around us. (17)

However, there was room for improvement. For example, there was insufficient time to discuss and think about the works and ideas. Many students appreciated the workshop's theme

Table 1: Details of the questionnaire

	1. How was werkshop today?	What did you feel through this workshop on "sociality that is not conscious to you in ordinary life?"	3. What about understanding social aspects through photos and visualization?	What is brought on by dialogue about a photograph?	5. Other
1	N/R	I thought that there was semething born by seeing sociality in various		I thought that I will notice it easier even if I do not	N/R
2	It was an apportunity to think about "sociality"	ways. I felt that the surroundings were not seen well. I listened to others'	Understanding is degenered by visualizing via photographs	usually notice it. It is easier to discuss based on photographs in	I will not make it if I do not start normarine &
2	which exists around me. I wanted more time to	presentations and realized sociality from various perspectives.	what cannot be fully expressed with only the word "sociality." At the same time, by visualizing, I felt	which images are embodied than words only	presentation next time. I do not have as much time as
	think carefully about society and more time for taking pictures.		"sociality." At the same time, by visualizing, I felt interested that others realized something other than what I	information. It was not a form of dialogue with everyone, but this time I felt the function of the	expected. If I have something I do not understand can inlease ask for consultation?
			had aimed at.	photo was great.	
3	I was able to be active and I enjoyed taking	People imagine different feelings and ways of thinking from considering the same word "sociality." Where you take pictures and	It was very good. I think that taking a picture of sociality is	Just by looking at the photograph, the ideas of	It was a fun workshop! I think that it will be interesting
	different ideas and views on one common topic. It	what you mean will change from person to person. In the first place,	everyone was thinking in various ways about how to	look at one photograph and guess what kind of	By doing activities for children, I have learned a lot, and
	was very good to comment at the end and meet	taking pictures of things to express with words makes it difficult to express the meaning, but I learned a lot. Many familiar things have	express sociality. When viewing the presentations, there	sociality others are trying to make, it was actually different from the idea the others had. Even if we	could grasp new perspectives. I think that was wenderfu
	outside in winter. It was somewhat difficult	something that can be expressed as sociality. Everyone did not take	were several points that made me think 1 see.	look at the photograph, we never see the whole	
	because the time was limited.	the same photograph. I thought they were different.		idea of the photographer. But that is fun, and when we listen to the stories of others', we discover,	
				"Well, there is such an idea!"	
4	The coments were interesting, but the time was	I feel like I hear the word sociality often, but when I was asked what sociality is, I noticed that there was a broader meaning to explain.	At the beginning, when the professor raised the question "What is sociality?" opinions such as "cooperation,"	At the beginning, when the professor asked "What is sociality?" opinions such as "cooperate,"	N/R
	somewhat disappointed in the last activity and	sociality is, a noticed that there was a broader meaning to explain.	"communication" and "rule" came up from students.	"communication" and "rule" came up. However, I	
	there was another person who went home because of business.		However, I thought that by taking a photograph, I could	thought that by taking pictures, I could tell others	
	of business.		explain to others the vague parts that I could not express with words alone. Everyone seems to have found a various	the vague parts I could not express by words alone. Everyone seems to have a broad	
			meanings of sociality by different pictures; surely it cannot	understanding of sociality, and various ideas of	
			be expressed with only words.	socialities surely will not come up with only words.	
5	I had a good time thinking, but the time was short.	There were pictures of excretion of birds and pictures to avoid the left	I think it is very good.	I was able to express the parts not being	I want a little more time each lesson.
		and right of the stairs. I think that sociality is a mindset to consider others.		transmitted by words alone.	
6	I was able to look back on my daily life from	Personally I sympathized with the opinion that "clothing is not	It was quite a new attempt and it was fun.	There were many scenes from which I was able to	It was fun.
	various perspectives and to hear the opinions of others.	conscious sociality* and I was surprised.		understand the opinions of other people, and I felt relieved.	
7	I was able to see "sociality" interpreted by many	I also felt that sociality is something done unconsciously and obeying	Very easy to understand.	It was easier to imagine and understand by having	N/R
8	people. I got an opportunity to think about sociality.	the commonplace even for what I usually use casually. While living, most things are part of sociality	It can be seen with an objective eye.	photographs as well as words. I did not reach a dialogue with sociality.	The time was too short to think about sociality and to tal
					about the photographs.
9	N/R	We found that our daily lives are connected with many socialities.	I think that it is good to think about what view of sociality is given in a photograph.	You can know sociality from various viewpoints, and the viewpoints can be very different.	N/R
10	It was fun to listen to the thoughts of various	Even in things that are everywhere, I felt that I could not find sociality	I felt that everyone thought of difficult things. I cannot	I felt like I could see what kind of perspectives	There is a story that you can spend time relaxing wi
	people.	unless I looked carefully.	think that hard, so it is easier to understand in pictures.	another person has.	people you do not know if you surround the fire. Kotate has such a feeling.
11	I felt the content was very interesting, but it is	I thought there were social constraints in my life. I felt that I have	I'd like to listen to the commentary on each picture and to	Since we had less dialogue this time, I would like	N/R
12	regrettable that the activity time was short. By discussing opinions with a lot of students and	been living without noticing that. It was interesting that viewpoints differed little by little for people.	do a question-and-answer session. Even though there was no clear answer, I could deepen my	an opportunity to discuss things more. When I heard "sociality." I was able to learn what	Knowing the ideas of other students not only widens the
14	those with no definite answers, I could recognize	and an internal and in people	understanding by using photographic media.	other students thought and what was important to	point of view but also allows us to review our own idea
	different ideas from myself, which led to an understanding of the workshop.			them by their photographs.	objectively. The workshop this time was very interesting.
13	I was able to know the opinions and ways of	I had never thought about such a thing, so it was a very fresh and	With words alone I can not concentrate and it does no	Some people made unique pictures and meanings	It was fun! The class that actually moves the body i
	thinking of other people and it became a practice to expand my thinking in a short time.	interesting experience. I have a negative image against "sociality," while others have a positive image such as "cooperation." Knowing	come to my mind. I was able to activate my mind through taking photographs. It was very fun because other people's	that cannot be expressed by words alone; others	obviously more efficient than studying at the desk, an
	expending masking in a short time.	that, my viewpoint was expanded.	"sociality" was also quickly caught as a visual image.	easier to understand how to take pictures and the	I wish that all the classes of the world would be like th
14		I thought that the sociality of birds and the unconscious sociality of	By making it easier to understand, things that we do not	viewpoints of others'.	workshop. I am also looking forward to other workshops!
14	and you can choose things with higher sociality	people are new perspectives. I felt that a lot of involvement was born	usually notice consciously, emerge. Indeed it seems that	place, I can tell from other people's photos what	NA.
	from among the pictures.	around me. For better or worse, something that is born via involvement is sociality.	there might have been good communication and various things appear interesting. It was good to be able to think	other people thought, and it seems interesting	
		involvement is sociality.	about that theme by making it a picture.	express our thoughts.	
15	It is interesting to approach the big theme of	The sociality that I am unconscious of is peobably hard to see. It is naturally difficult to visualize it with photographs. So it is sociality	As mentioned above, it is difficult to visualize something	I found interesting thoughts about sociality that I	N/R
	there was limited space inside the university, if we	that is unconscious. There were many cases in which the intention of	that is difficult to see. I thought that the intention of the photographs that succeeded in expressing the message at a	question if there was more time.	
	could expand the area a bit more I think that a	the photograph was not transmitted to other people without an	glance was clear. To that end, we need to digest the word		
	different sociality could have been found.	explanation. I thought it was harder than I had imagined, telling people what I wanted to express with just one photograph.	sociality as a solid theme.		
16	I learned my friend's thinking of sociality. It was fun to be able to learn ideas which I do not have.	Looking back at what we normally feel is commonplace, such as tactiles, bulletin boards, wearing clothes, I felt there are many things	I thought it was easy to express my idea and imagine the	I could not know what other people thought about my opinion, so I wish I could have more time.	N/R
	fun to be able to learn ideas which I do not have.	tactiles, bulletin boards, wearing clothes, I felt there are many things created by sociality.	ideas of other people.	my opinion, so I wish I could have more time.	
17	I thought it was a very difficult theme to listen, but when I actually looked at the photographs, I	I felt that I could notice anything as long as I tried to find sociality. I	It was very good because it becomes easier to understand by visualization. It seems to be difficult to explain with		It was fun and it became a good study experience, so would like to do other workshops.
	realized that there are various types of sociality	seeing the pictures of others. I was able to recognize that "this is also	words alone because the meaning of the word "sociality"		would like to do other workshops.
	around us.	could only think of sociality as a connection with people, but by seeing the pictures of others, I was able to recognize that 'this is also sociality." There were cases in which sociality could be imagined from	is difficult, but using my photographs makes my opinion clear to others and to myself.		
		related, but even those that seemed irrelevant. I felt it was really full			
	N. D.	of sociality.	N. D.	It is easy to understand by using photos. By seeing	
18	N/R	Even in the scenes beyond the ordinary in my daily life, I felt that there was a lot of proof that people coexist in society.	NOR	While going out and taking some photographs, I chose a photograph that everyone might not think	I could not do such an activity in a short time. I felt it was a very fulfilling time. Although it may be difficult for
				this is sociality in the same way. However, by	primary school students, I thought it was a method that
				listening to the ideas of a friend, I was able to notice that there are diverse ways to see sociality	could be applied if I did it with different contents and secured enough time. I want to make use of it when I
				differently in a photograph of the same scene.	become a teacher.
19	The contents made me think. However, it became a	Since the world in which we live is already a society, I felt that sociality exists everywhere, even if I am not conscious of it. I do not	I feel sociality is a human-like concept. Therefore sociality is easily visualized by artificial objects and things made by	First of all, I think that it is easy to understand. It is transmitted to everyone. The effect of charges	N/R
	to discuss it	think about sociality in everyday life unless I go through these	human beings. The photograph of the tree diagram is	one image by everyone is great.	
		workshops. It was a good opportunity to hear the thoughts of others,	interesting. Tree diagrams are commonly used in human society. They apply natural trees to society. However, this		
			photograph returned to nature as a contrary way to express		
			sociality. It was so difficult that I could not understand it well while I was writing.		
20	The workshop was interesting. However, time was	First of all I thought about the meaning of "sociality" and interpreted	It is difficult to visualize vague words concretely. I	I was surprised that the answer is so different from	The workshop was very interesting. I look forward ever
-	short, and there was trouble with e-mail that could not be sent out.	my own opinion. I noticed that I was acting without being aware of	wondered how I could express sociality with photographs.	the same task. There was a part that was	workshop. Thank you for considering various materials.
	not be sem eut.	"sociality" usually and I was surprised that "sociality" applies to almost all of what I have done.	However, I thought there was a scene that would help me see it because I could visualize it.	convincing to each explanation and it was fun.	
21	Everyone was able to participate using the camera function of a cell phone.	We are not conscious of "sociality," but it is common around us. I felt	It is very good to know another person's sensitivity and a	I received a reaction about my point of view. Via	It was a pleasurable workshop in which all of the
	runction of a cell phone.	that various people understand it in many ways.	new perspective.	understanding by others, and understanding others' opinions, mutual respect was born.	participants were able to participate, it was good!
22	N/R	Through common things and sharing, I thought that people would	I think that it is good, but I thought that there were times	I think that I can realize how close sociality is.	N/R
		have something to do with each other.	when I could not understand without words as a supplement.		

of visualizing and thinking about invisible sociality, and the deep dialogue made them more conscious of social existence and relationships.

Question-2: What did this workshop teach you about "sociality that is not conscious to you in ordinary life?"

The students had the opportunity to think about what sociality is and what preconceived ideas other students have. By viewing the environment more carefully, they found something different from the usual things they are conscious of. They took photographs and discussed them, leading to the understanding that sociality has multiple and diverse meanings and viewpoints. The following comment indicates this:

I had never thought about such a thing, so it was a very fresh and interesting experience. I have a negative image against "sociality," while others have a positive image such as "cooperation." Knowing that, my viewpoint was expanded. (13)

In addition to the possibility of visualization and generation of knowledge, another comment showed the restrictive mindset regarding using words and discussion:

The sociality that I am unconscious of is probably hard to see. It is naturally difficult to visualize it with photographs. So it is sociality that is unconscious. There were many cases in which the intention of the photograph was not transmitted to other people without an explanation. I thought it was harder than I had imagined, telling people what I wanted to express with just one photograph. (15)

In general, we tend to think that visual art should work without verbal explanations, and that an aesthetic experience cannot be fully verbalized. However, within the contemporary context of visual art and inquiry-based art education, using words together with art is useful and effective to conduct an inquiry and to expand the possibilities of art itself. Students' desire to

transmit meaning rigidly might have made them think that taking "just one photograph" was insufficient. However, such "insufficiency" simultaneously opens room for dialogue and collaborative knowledge generation, leading to change, expansion, and transformation. As another student said,

Since the world in which we live is already a society, I felt that sociality exists everywhere, even if I am not conscious of it. I do not think about sociality in everyday life unless I go through such workshops. It was a good opportunity to hear the thoughts of others. (19)

Students believed that this workshop led to change, expansion, and transformation of their preconscious and the possibility of new interpretations of sociality. They expanded their understanding that an idea, a concept, and a phenomenon can have multiple or ambivalent and ambiguous meanings from different angles and contexts.

Question-3: What understanding did you gain of social aspects through photographs and visualization?

Contradicting the "insufficiency" of the meaning transmission in the responses to previous question, for this question, students described their further thoughts on the features of the workshop as follows:

At the beginning, when the professor raised the question "What is sociality?" opinions such as "cooperation," "communication," and "rule" were put forward by students. However, I thought that by taking a photograph, I could explain to others the vague parts that I could not express with words alone. Everyone seems to have found various meanings of sociality using different pictures; surely it cannot be expressed with only words. (4)

Even though there was no clear answer, I could deepen my understanding by using photographic media. (12)

These comments indicated the usefulness and possibilities of using photographs to express what only words cannot convey. The method enabled students to deal with the issue in an artistic way using inquiry. Engaging with things that have "no clear answer" is important for art-based methodologies:

It was very good because it became easier to understand sociality by visualization. It seems to be difficult to explain with words alone because the meaning of the word "sociality" is difficult to understand, but using photographs made my opinion clear to others and to myself as well. (17)

It is difficult to visualize vague words concretely. I wondered how I could express sociality with photographs. However, I thought there was a scene that would help me to see it because I could visualize it. (20)

Question-4: What is the role of dialogue in a photograph?

This question focused on dialogue. The problem with this workshop was there was insufficient time to talk to others. This was indicated by the comments "I could not know what other people thought about my opinion, so I wish I could have had more time" (16) and "I did not reach a dialogue with sociality" (8). The students wanted to know what other students thought about their photographs and ideas. Regarding the relationship between visuals and words, the comments "I was able to express the parts not being transmitted by words alone" (5) and "It was easier to imagine and understand by having photographs as well as words" (7) showed that using photographs and words together is helpful for students to express, discuss, and think about indescribable and invisible things.

As mentioned previously, students want to express the uniqueness in their subconscious. However, through the process of dialogue and collaborative inquiry, they understood that capturing the same scenes or photographs is not problematic because the considerations and criticisms of the same scenes or photographs can lead to meaningful, diverse, and rich interpretations through dialogue with other students. The next comment indicated this:

While going out and taking some photographs, I chose a photograph so that everyone can find a sociality in different way. However, by listening to the ideas of a friend, I was able to notice that there are diverse ways to see sociality differently in a photograph of the same scene. (18)

These comments illustrated the efficacy of the workshop and encouraged students' consciousness of sociality. According to one comment, "I think that I can realize how close sociality is" (22).

Question-5: Other

It was a fun workshop! I think that it will be interesting if we target junior high school students or adults next time. By doing activities for children, I learned a lot, and I could grasp new perspectives. I think that was wonderful. (3)

I could not do such an activity in a short time. It was a very fulfilling activity. Although it may be difficult for primary school students, I thought it was a method that could be applied if I did it with different contents and secured enough time. I want to make use of it when I become a teacher. (18)

To sum up the results of the questionnaire, it is clear that this workshop needs to give more time and ways of dialogue to enable students to conduct sufficient discussion to generate deeper understandings and expansion of their knowledge. On the other hand, students felt that the

workshop gave them a new perspective on sociality and an awareness of their own viewpoints, as well as recognition of the possibility of photo-based visual inquiry and meaning-making generative dialogue.

Discussion

What knowledge did students obtain and generate from the workshop? The analysis of the twenty-seven photographs and categorizations generated nine points and some sub-features:

- (1) Messages to others not present
- (2) Facilities and functions for social activities
- (3) Mixed things and circumstances
- (4) Ambivalent feelings of sociality within ordinary actions
- (5) Sociality as a metaphor for non-human animals and plants
- (6) Sociality related to the existence and relationships of people
- (7) Information and communication media and equipment
- (8) Symbolic and metaphorical development of the thought of sociality
- (9) Provocative action to make unconscious sociality visible

These categories show the meanings and aspects of sociality in relation to (1) types of sociality, (2) social function, (3) social existence, (4) social feeling, (5) metaphorical recognition of sociality, (6) associative development of thinking of sociality, (7) media regarding sociality, (8) symbolic and metaphorical development of sociality, and (9) provocative action for or

against sociality. These results will help learners find and engage in social aspects among themselves and others in everyday life, the environment, and the world. If they attempt to conduct an artistic and educational inquiry, these results will be useful and helpful and will work as functions and methodologies. These results also provide conclusions to the question: "1) What sociality did the students find?" These sociality are situated in the context of this practice. The knowledge in this practice has a locality. However, the purpose of this workshop was to enhance students' learning and promote their sensibility and awareness of the world, and to develop their artistic and educational inquiries. The understanding these approaches and diverse viewpoints of sociality collaboratively generated has important meanings.

Next, regarding the results of the questionnaire analysis, the students understood the usefulness of using photographs as/within visual inquiry methods. They found that dialogue and discussion facilitate mutual understanding, and they shared what they had not been able to in ordinary life. We can see this within the photographs and comments, and in the responses to the questionnaires as well. The students acknowledged that they have ambivalent and ambiguous feelings towards each other regarding the in-between of commonality and individuality. It is not easy to communicate a core part of themselves in an ordinary situation. It might be difficult for them to express the core directly using words either. Therefore "sociality" was a difficult word and concept for them to engage in because they knew that their differences would be disclosed in the workshop. It is necessary to conduct workshops using careful and sophisticated methods given the amount of peer pressure in Japan. Students tend to avoid expressing themselves to avoid actualizing their differences. Grisoni (2012) stated, "arts-based inquiry enables us to explore the hidden and beneath-the-surface meanings and understandings of organization life." If we try to see the background of our society using photographs and imagery methodologies, we can be changed the "organization life". If we cannot see what is in the background of our society, we may think that there is no other way besides accepting an invisible sociality filled with peer pressure and pretending not to notice it. This will preserve and reinforce invisible sociality. Sociality has an ambivalent meaning and function for students. As Leavy (2015) stated, visual imagery can create a perspective and provide a context to think of sociality. Students can become aware of such a possibility of visual methodologies for inquiry using photographs, comments and discussions, and reflection on questionnaires. This will enhance their views, perceptions, and recognition of their environment and world.

Conclusions

Photographs stimulate the vague sense of difference in an ordinary life filled with rules and peer pressure. That is how we live. However, through this workshop, students could approach, find, and think about "sociality" via photographs and dialogue, and they found and recognized the possibility of strategies using photographs and dialogue for invisible things. This will enrich their methodologies and help them engage in the environment and world visually as pre-service teachers of art education. In the next practice, it will be necessary to give them more time to work and develop their thoughts and to extend their inquiries individually and collaboratively.

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