A BALANCED CURRICULUM FOR STUDENT-ORIENTED LEARNING

IN ART + DESIGN EDUCATION: TOWARD COMMUNITY-BASED

PARTICIPATORY DESIGN RESEARCH

A DISSERTATION

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Abstract

This study started from my own experiences as a Korean international student living in a different culture and studying in a different higher education system within the U.S. Asking why my previous knowledge and learning of arts-based top-down design processes (ABTD) in South Korea are different from learning engineering-based bottom-up design processes (EBUD) in the U.S., guides this study of different cultural norms and educational systems in South Korea and the U.S. Through my own stories of art + design education in these different settings, I draw upon critical pedagogy (CP) (Freire, 2000; Kumashiro, 2004), culturally relevant pedagogy (CRP) (González, 2005), and Dewey's (1934, 1938) philosophy stressing the value of lived experiences, to research student-oriented creative learning in art + design.

My research addresses the clash of cultural and pedagogical issues in higher education design programs. Through a comparative accounting of different art + design education approaches in South Korea and the U.S., I explore what a balanced culturally relevant curriculum development process looks like if students' lived experiences are valued and critical pedagogy leads to reflexive and creative student-oriented learning in art + design education. My research questions ask: 1) How do international students from South Korea adapt to different teaching and learning approaches in a U.S. art + design education program? 2) How do lived experiences affect Korean students' response to U.S. art + design education practices? and 3) How would Korean students improve the educational environment for student-oriented learning in art + design education?

The study used arts-based research methodologies (ABR) including poetry to address and explore cultural issues in the emotional aspects of social life, lived

experiences, and identity work, within an autoethnography. My qualitative in-depth interview process also added autoethnography to support personal perspectives in art + design education. Through the multi-layered data collected from the study, I could generate three themes: 1) Students with diverse funds of knowledge and lived experiences are struggling with flatten curriculum and would like to learn diverse design approaches in studying art + design education. 2) Lived experiences inside and outside the classroom influence creative design thinking, learning and the teaching process in art + design education. And 3) Art + design educators play a role in encouraging students to learn about cultural differences inside and outside the classroom, and how creative design abilities contribute to our society and students from diverse communities. Based on these three themes, I confirmed the value of balancing curriculum for student-oriented learning toward community-based participatory design research (CBPR).

Through the iterative process of the research, I confirmed autoethnography, as ABR, can expand one's view of inquiry in art + design education and allow researchers to address diverse cultural issues, expressing emotional feeling and interweaving multi-layered data kinds. On the research, I could acknowledge how my teaching philosophy was improved through self-study, and how I could grow as an educator beyond being a good designer. I express my long journey becoming an art + design educator via several poems and conversational stories with my colleagues.

Key words: *arts-based research, art and design education, autoethnography, culturally relevant pedagogy, critical pedagogy, lived experiences, student-oriented learning, design process, community-based participatory design*

Table of Contents

List of Figure

List of Tables

CHAPTER ONE: INTRODUCTION

Background

What is our position and view of design education? Since the philosophy of the Bauhaus, "Art and Technology: A New Unity" was established in the 1920s, design has developed based on the balance of "art, science, and technology" (Findeli, 2001, p. 6). While the values of the three components in design have been evaluated differently over time, we aim for a harmonious balance of them in design education of the postmodern era. However, the reality seems divergent from theory. Students with diverse cultural backgrounds and different interests in design have struggled in adapting to the different approaches in the new environment of globalization. How can we harmonize them in teaching design for reflexive and creative student-oriented learning in higher education? This research topic is based on my experiences and observations; specifically, I found the design process and thinking in the U.S. to be different from the approach in South Korea.

When I started apparel design studies as an international Ph.D. student in the U.S., my previous knowledge and experiences designing in South Korea were ignored. I had developed, researched, and taught an arts-based top-down design process (ABTD) in South Korea focusing on recognizing phenomenon based on philosophical aesthetics and diverse issues through visual expression. However, the approach of designing in the U.S. was defined as a problem-solving process based on user-experiences and an engineering-based (or science-based) bottom-up design process (EBUD) focusing on participants' active engagement in design and analysing problems. Had I approached the study of design erroneously in Korea? Why was design defined only as a problem-solving process

in the U.S.? How could I apply philosophical aesthetics to elicit inspiration in the design process? Differences were not only apparent in the higher education system, but also in the overall culture. These differences have challenged me intellectually. However, I could not or did not ask why these differences existed for faculty members seriously; instead I merely tried to adapt to the new environment. I thought I was a powerless marginalized international student and employee in the new system.

After transferring to the curriculum and instruction program, however, I realized that accepting and generating "difference" within multiculturalism was my right and role as a learner and educator. Since I experienced a harsh time adjusting to different approaches in the design process within a new environment, I would like to integrate both ABTD and EBUD in developing an evolutionary curriculum for student-oriented creative learning in design. I learned about the role of the educator as a facilitator and the equitable relationship between students and teachers within critical pedagogy (CP) (Freire, 2000; Kumashiro, 2002). New pedagogical approaches and diverse standpoints within different educational systems allowed me to theoretically expand my views of learning and teaching beyond designing. Based on these experiences, and a newfound understanding of the value of community-based participatory research (CBPR) and arts-based research (ABR) methods, I hope to challenge several issues in art + design education. Thus, the purpose of the dissertation is to address cultural issues in higher education environments through a comparison of different art + design education approaches in South Korea and the United States. To that end I explore a balanced curriculum development process based on critical pedagogy, culturally relevant pedagogy, and the value of lived experiences for reflexive and creative student-oriented

2

learning in art + design education. The complicated issues described above with arts-based research (ABR) methods. The following research questions address:

1) How do international students from Korea adapt to the different approaches to teaching and learning in U.S. art + design education programs?

2) How do lived experiences affect Korean students' response to U.S. art + design education practices?

3) How would Korean students improve the educational environment for student-oriented learning in art + design education?

At this time, I would like to tentatively explain several intermingled issues within art and design education. But before critically reviewing diverse approaches in design education, I would like to focus on the interrelationship between art and design. Historically, design education has been based on art, and has focused on formalistic and technical skill rather than aesthetic qualities (Efland, 1990). Contemporary art and design, however, go together within sociocultural and philosophical trends, and there is no clear distinction of the aesthetic value between art and design in the postmodern era. The problem and phenomenology of "postmodern" are hard to define clearly (Clark, 1996; Efland, 1996). The reason being postmodern art and design are based on "visual culture"[1] (popular culture), accepting multiculturalism as a given in a pluralistic society (Duncan,

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[1] "Visual culture is saturated with ideologies that reveal the hopes, fears, expectations, certainties, uncertainties, and ambiguities in our lives. By means of images we engage in widely shared social assumptions about the ways of the world: Who are we? What is good versus bad? How should we act and avoid acting? Images through TV dramas, advertisements, hyperlinked images, etc., offer any number of answers to each of these questions, as well as to many others" (Duncan, 2010, p.7).

2010; Loscialpo, 2011; Bjögvinsson, Ehn, & Hillgren, 2012). Thus, the subject and

mainstream of art and design have moved from professional artists, designers, and

teachers to the public and students within the meaning-making process (Clark, 1996).

And as a result of these changes the working process also has changed from a top-down

process to a bottom-up process to reflect a diverse public's voice in creating. This has

resulted in a paradigm shift in art and design education (Efland, 1996; Freedman & Stuhr,

2004; Sanders & Stappers, 2008; Winter, 2011). Thus, contemporary art and design has

blurred the boundaries, and artists and designers have conducted collaborative work with

one another. Designers can get inspiration from fine arts, visual culture, and philosophy,

and can grant meaning to work through their cumulative knowledge and creativity.

According to Loscialpo (2011), "Fashion design, art, and a critical reflection on popular

culture are strictly intertwined in their *oeuvres*, which question our attitude towards time

as well as the contemporary view of fashion, marked by a vivid tension between

transitoriness and persistence" (p.8). Art educators also apply problem-solving design

processes to art classes based on the visual culture to solve problems in our society

(Bequette & Bequette, 2012; Vande Zande et al, 2014). Both artists and designers use

mixed media in their works, and they recognize that creative ideas and collaborative

works are much more valuable than technical skills to improve our lives. Gee (2007) also

sees art and design as a tool to create a better life: "We must attend to the

interconnectedness of art and design with daily life and other domains of learning. We

must do this because the connections between art and life are genuine and because both

art and life are made richer through the recognition and celebration of these connections"

(p.10).

4

Ultimately, learning art and design allows us to understand cultural diversity based on history, enrich our whole lives, and think creatively. We, as art and design educators, should keep in mind the intrinsic and extrinsic value of art and design in our lives so that we can proudly teach them to students. Therefore, in this paper, I will use the combined meaning of art and design together to support the research purpose throughout the whole process.

Glossary

Abbreviations: the following terminology will be used in this study.

ABTD: Art-Based Top-Down Design process

EBUD: Engineering-Based Bottom-Up Design process *(It could also be described as a Science-Based Bottom-Up Design process, but I will use EBUD in this research.)*

CRP: Culturally Relevant Pedagogy

CP: Critical Pedagogy

ABR: Arts-Based Research

CBPR: Community-Based Participatory Research

Research structure

Chapter 1: Introduction

In this chapter, I outline the flow of the research, providing an overview of the study and an introduction of my research topic and research questions within supportive theories.

Chapter 2: Research design

My research design, objectives, process framework, including explanation of ABR approaches from autoethnography to creating poetry are included here.

Chapter 3: Methodology

Herein I explain why I selected ABR for this dissertation, the multi-layered data collecting procedures it supported, including qualitative in-depth interviews, and detail step by step how that data was analyzed.

Chapter 4: Autoethnography: My journey becoming an art + design educator

This chapter is presented as a process and product at the same time. This part consists of comprehensive narratives based on my stories and "Their voices." There are five parts with chronological story mapping based on generated themes. Furthermore, interviewees' qualitative in-depth interview data were added to support my stories as "Their voices." Within the whole storytelling, a review of literature with theoretical grounding and memoing intermingled with visual vignettes.

Chapter 5. Concluding Thoughts

This part presents the major outcome of the research through a research overview. It includes three themes that I generated through comprehensive narratives having metaphors, along with my suggestions toward CBPR for a balanced curriculum for student-oriented learning in art + design education.

CHAPTER TWO: RESEARCH DESIGN

I was a fashion designer and a researcher in clothing design; now I am researching the design process, along with a balanced curriculum in art + design education with critical pedagogy (CP) and culturally relevant pedagogy (CRP) based on the value of lived experiences. To explore my research questions, I used autoethnography with poetry within arts-based research (ABR) (Leavy, 2009; Saldaña, 2005; Sullivan & Gu, 2017).

What is arts-based research (ABR)?

According to Leavy (2009), ABR can approach human beings' emotional aspects of social life, lived experiences, and identity work, such as difference, diversity, prejudice, etc. through a congruence between subject matter and methods, so it can capture the process of mirroring the unfolding nature of life. The key point of ABR is the meaning-making process ("knowing" – "doing" – "making") through interrelating concepts and testing hypotheses, finding patterns, and generating theory as an interactive process. For the process, researchers have to "conduct various steps for data collection: observation, analyzing, storytelling proficiency, thinking conceptuality, symbolizing, metaphorical process with creativity, flexibility, and intuition" (Leavy, 2009, p.11). Supportive stories from colleagues and related people through qualitative in-depth interviews and observations can be great resources to generate valuable meaning of autoethnography within ABR for communicational information (Leavy, 2013; Van Mannen, 2011). Further, Leavy (2009) also suggests several strategies for overcoming struggles with validity in the methodology: aesthetic evaluation, interdisciplinary collaboration and reflection, subject-object matter, theory, and literature review, analysis

cycle, and ethics. The analysis process of ABR is similar to the grounded theory process in qualitative methodology. The key of the grounded theory approach is that the development of framework is grounded in the data from participants who have experienced a particular process. It is defined as a complex and iterative process that does not have an emancipated point of ending. In the grounded theory approach, the researcher does not start with a theory and test it; instead, the researcher starts with research questions in mind, collects data through interviews and analyzes them simultaneously as he/she develops the concepts, categories and propositions. The results emerge from three levels of open, axial, and selective coding of interview transcripts, and interpretation and reflection on the data are conducted by memoing[2] or journaling parallel to data collection and coding (Corbin & Strauss, 2008; Miles, Huberman, & Saldaña, 2014). Therefore, the process and approach are similar to ABR. ABR, however, is focused on ways of self-expression with metaphor. In other words, multiple layered data in ABR should be put together through an iterative process (not a linear one) and expressed in creative art works as part of the research process and findings. Alternative data representation in ABR such as poetry, narrative film, visual works, or dance can be translated into research findings to multiple audiences (Eisner, 1997; Woo, 2008). After "creative active viewer participation can lead to more immersive experiences and self-authorship providing unique opportunities for teaching and learning experiences and embodied knowledge" (Rolling, 2013, p.110). Therefore, I combined my coding scheme and data analysis

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[2] Memos are the theorizing writing up of ideas about sustentative codes and their theoretically coded relationships as they emerge. It is much more complex and analytical than any remarks on field notes through asking questions, making comparisons, throwing out ideas, and brainstorming (Corbin & Strauss, 2008).

procedure following the recommendation of Saldaña (2008), Leavy (2009) and using grounded theory (Cobin & Strauss, 2008) within autoethnography. The research process framework is shown in Figure 1.
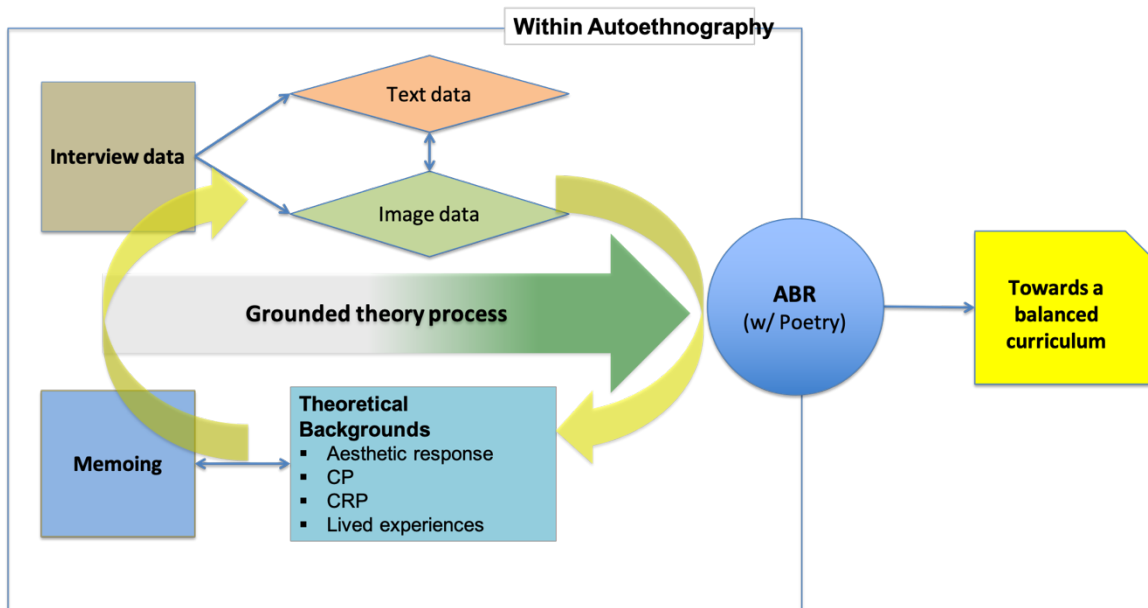
Figure 1. Research process framework.

Research procedures

My research procedure consisted of four parts as follows: literature review, autoethnography, qualitative in-depth interviews, and an interweaving process for generating themes via creating poetry to determine suggestions and discussions.

Literature review

I utilized UMN library resources to search the MNCAT database using the following keywords: "arts-based research," "art and design education," "autoethnography," "critical pedagogy," "culturally relevant pedagogy," "curriculum development," "aesthetics in

design," "lived experiences," "creativity in art and design," "student-oriented learning," and "community-based participatory research" to identify relevant journal articles, research papers, and books. Furthermore, some periodical journals such as *Time* and *National Geographic* were reviewed.

Autoethnography

As shown in the research process framework, I used an autoethnography for generating my research topic. I collected multiple data from retrospective memories, digital photos on my smartphone, journaling with digital photos on social networking services, digital portfolios of design works, and my curriculum vitae, focusing on the lens of design educator. I usually take photos by using my smartphone to record my everyday activities or feeling whenever I feel happy or sad if I have some stories. The everyday habit and activities were valuable data to write my autoethnography. With the multi-layered data including theoretical literature reviews, I started initial writing of the autoethnography chronologically, and I generated several themes. Based on these themes, I rewrote my autoethnography and created poetry based on the coding scheme and bricolage method.

Institutional Review Board approval

I prepared the social behavioural study protocol to get Institutional Review Board (IRB) approval at the University of Minnesota in order to interview the participants. Since this research was based on an autoethnography, including qualitative in-depth interview, it was necessary for the IRB to review the contents and process of the research in order to protect the participants' right and to maintain research ethics. Based on the direction of

social behavioural study, I attached a consent form (Appendix A) and recruitment form (Appendix B) with basic information about the research. The IRB categorized my research as an "exemption" category because it only included interactions involving educational tests, survey procedures, interview procedures, or observations of public behaviour. Upon IRB approval, I started recruiting participants to conduct the qualitative in-depth interviews.

Qualitative in-depth interviews

Drawing on Leavy (2013) and Van Mannen (2011), I added supportive stories from my colleagues in the College of Design at the University of Minnesota through qualitative in-depth interviews and observations with images of their design works. Their stories supported my autoethnography as an art + design educator and served as great resources to generate valuable meanings in my autoethnography within ABR. The qualitative in-depth interview data, including images and field notes, were analyzed based on grounded theory (open-axial-selective coding process), and were then intermingled with memoing and theoretical backdrops within the autoethnography. The interview data were also used as a conversation-like stories, between my own stories.

Creating poetry

The analyzed, intermingled, multilayered data from the qualitative in-depth interviews were used to create poetry based on the themes within the autoethnography. The poetry denoted participants' emotive voice as Korean international students in the U.S. and

supported my stories. Poetry from qualitative in-depth interview data was categorized by the themes that came up in my autoethnography. I then inserted these themes after my own stories in each part as "Their voices." Therefore, creating poetry was used as both process and product in this research. Meaning the poetry shows the process of analyzing data, and at the same time, the result of analyzing data as a product. Through this multi-layered process, I suggest what we, as art + design educators, should do for student-oriented learning in art + design education including why we should use balanced curriculum for community-based participatory research (CBPR) for solving diverse problems in our society. My whole process was iterative instead of linear, and a bricolage process that interwove multiple layers of data and reviewed literature into one topic.

CHAPTER THREE: METHODOLOGY

My research topic started from my stories of how I had struggled with different cultures and education systems between South Korea and the U.S. My own experiences and feelings were the basis of problem generation in design education. My diverse experiences in different education systems and cultures enabled me to research this topic. Therefore, the purpose of this dissertation is to address cultural issues and social issues of the educational environment through a comparison of different art + design education approaches in higher education programs in South Korea and the U.S., and to explore a balanced curriculum development process based on critical pedagogy, culturally relevant pedagogy, and the value of lived experiences for reflexive and creative student-oriented learning in art + design education.

For these reasons, I conducted autoethnography within arts-based research (ABR). ABR has allowed me to interconnect different approaches in design education and to interweave theories, my stories, and socio-cultural issues into one topic. Within autoethnography, I added my colleague's perspectives as Korean international students in the U.S., using qualitative in-depth interviews to support my stories and to create additional poetry and conversational narratives. As a process of developing balanced curriculum for reflexive and creative student-oriented learning in art + design, I addressed several issues in the research questions below.

1) How do international students from Korea adapt to the different approaches to teaching and learning in U.S. art + design education programs?

2) How do lived experiences affect Korean students' response to U.S. art + design education practices?

3) How would Korean student improve the educational environment for student-oriented learning in art + design education?

My data analysis approach followed grounded theory and ABR *bricolage*, using an inductive coding scheme (Corbin & Strauss, 2008; Miles, Huberman, & Saldana, 2014; Leavy, 2009; Saldana, 2008). Initially I chronologically wrote autoethnographic stories based on my multilayered data, and categorized themes with an art + design educator's lens. After that, I selected valuable theme-based words and sentences to create poetry. Based on themes in the autoethnography, I started analyzing qualitative interview data using grounded theory and ABR bricolage. For data sources and data analysis approaches see Table 1.

Table 1. Data sources and analysis approach.

Data sources	Data analysis approach
- Qualitative in-depth interview - Audio-recording - Field notes - Photographs - My retrospective memories from photos, journaling, SNS, CV - Literature review-theoretical backgrounds	**Grounded theory + ABR (Bricolage)** Inductive coding scheme (Corbin & Strauss, 2008; Miles, Huberman, & Saldana, 2014; Leavy, 2009; Saldana, 2008)

Data collection

First phase: Internal empirical data

I collected multiple data from internal empirical materials: my retrospective memories, digital photos on my smartphone for analyzing vignettes/portraits, journaling with digital photos on social networking services like Facebook, digital portfolios of design works, and *curricular vitae*. Based on these data sources, I started writing my self-story draft. Then I began mind-mapping to categorize the factors that had affected my teaching philosophy (See Figure 2). Subsequently, I selected valuable digital photos to analyze vignettes and narratives. I tried to substantiate my memories based on data, rewriting my story chronologically. Finally, I selected valuable texts to code a scheme for creating poetry in each part (Leavy 2009; Saldaña, 2005). My data analysis process was multidimensional (not linear) like a *bricolage*, weaving together styles, methodologies and techniques, significant moments and memories, and emotions, etc. (Patton, 2002; Rollings, 2013).
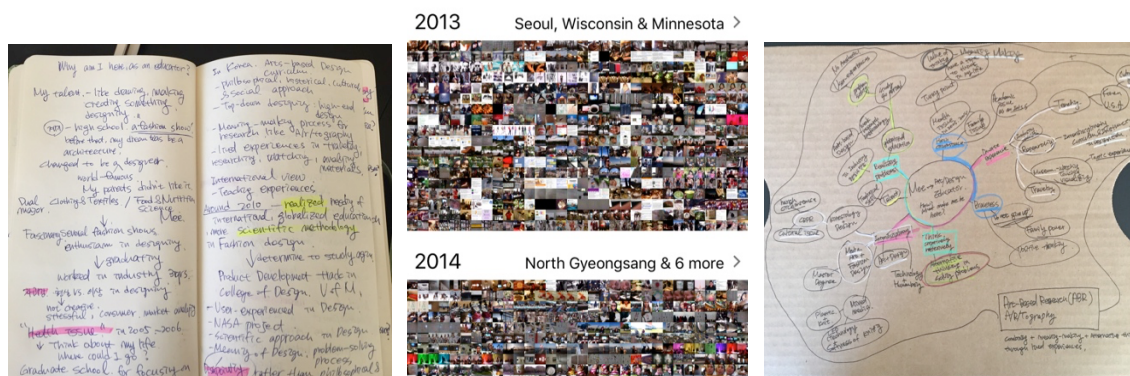
Figure 1. Data collection and analysis process for autoethnography

Second phase: Qualitative in-depth interview data

      Through interweaving my stories and in-depth qualitative interview data based on CRP, CP and the value of lived experiences, I explored how other Korean international design students responded to the different culture and design approaches, and how we, as art + design educators, through lived experiences, could develop balanced curriculum in art + design education. To capture "Their voices," I conducted qualitative in-depth interviews with eight participants. These semi-structured interviews reflected on my research questions focused on four categories; 1) General questions for background checks, 2) Adaptation to new environment, 3) Perceptions of design, and 4) Future direction as an art + design educator (See Appendix C).

The criteria for participants and the interview process follow.

Participants

      Interviewees were selected because of who they are, and what they have experienced, a purposeful sampling, rather than random sampling among Korean international students in the U.S. (Minnesota) who have experienced different design approaches and processes in graduate school. Eight participants were selected. All had associated with me as Korean international graduate students in the College of Design at the University of Minnesota. All had learned design based on ABTD in bachelor's degree and/or master's degree programs in South Korea. To understand the broad meaning of design education, in the College of Design participants who had majors such as interior design and graphic design were selected. Further, students who had studied design in South Korea and were in either of the three Apparel Studies programs at the University of Minnesota, subcategorized as 1) Dress, History, and Culture, 2) Product Development,

and 3) Retail Merchandising and Consumer Studies were also selected. All had learned

ABTD in South Korea, and experienced different approaches based on EBUD in the U.S.

The exclusion criteria for other potential participants who were Korean international

students in the College of Design at University was not learning design while in South

Korea. For information of participants for qualitative interviews see Table 2.

All participants were given pseudonyms to maintain their privacy. Their

information includes gender, educational background from bachelor's degree to doctoral

degree, their experience teaching and extra-curricular activities focusing on work

experiences and studying abroad. Their teaching experience period in the table is based

on the date of their interviews in 2019. Some participants are already faculty members in

another state in the U.S., and others are making progress on doctoral degrees, finishing

coursework and finalizing thesis to be future educators in design domains.

Table 2. Information of Participants for qualitative interview

Name	Gender	Bachelor's	Master's	Doctoral	Teaching Experience	Notes
Nelly P 1	F	B.A. (Mongolia) Fashion Design	M.S. (Korea) Clothing & Textiles	Ph.D. (U.S.) Apparel studies / Dress, History & Culture	1yr (Graduate instructor)	Study abroad to China
Jessica P 2	F	B.S. (Korea) Clothing & Textiles	M.S. (Korea) Clothing & Textiles	Ph.D. (U.S.) Apparel studies / Product Development	2yrs (Teaching assistant)	Working exp in Korea & the U.S.
Jasmin P 3	F	B.F.A. (Korea) Graphic Design	M.F.A (Italy & U.S.) Product Design	Ph.D. (U.S.) Graphic Design	3yrs (Graduate instructor) 1yr (Faculty)	Working exp in Korea & Italy
Sally P 4	F	B.S. (Korea) Clothing & Textiles	M.S. (Korea) Clothing & Textiles	Ph.D. (U.S.) Apparel Studies / Dress, History & Culture	1yr (Teaching assistant) 3yrs (faculty)	N/A

Monika P 5	F	B.S. (Korea) Clothing & Textiles	M.S. (Korea) Clothing & Textiles	Ph.D. (U.S.) Apparel Studies/ Product Development	3yrs (Instructor)	Working exp in Korea Study abroad exp to Italy
Shirly P 6	F	B.S. (Korea) Clothing & Textiles	M.S. (Korea) Retail Merchandising	Ph.D. (U.S.) Apparel Studies / Retail Merchandising & Consumer Studies	3yrs (Graduate Instructor)	Study abroad to the Nether-lands
Holy P 7	F	B.A. (Korea) Interior Design	M.A. (USA) Interior Design	Ph.D. (U.S.) Interior Design	3yrs (Teaching assistant & graduate instructor)	Study abroad to U.S.
Cristin P 8	F	B.A. (Korea) Fashion Design	M.S.(Korea) Clothing & Textiles	Ph.D. (U.S.) Apparel Studies / Product Development	1yr (Teaching assistant) 2yrs (Faculty)	N/A

Recruiting process

Since the participants were my colleagues of the researcher during coursework, I already knew their email addresses and phone numbers. Therefore, email was used to recruit participants upon receiving University of Minnesota Institutional Review Board (IRB) approval. After checking their eligibility based on criteria for participation, I checked whether they voluntarily agreed to a face-to-face interview, explaining: 1) the researcher's identity and background; 2) the purpose of the study; 3) the reasons for selecting the study sample; 4) the duration of the study; 5) the researcher's plan for utilization of the findings; and 6) the confidentiality and protection of human subjects (Corbin & Strauss, 2008). If participants accepted, I contacted her/him by email or phone

18

to set up an appropriate location and time for a comfortable meeting. (See Appendix B recruitment form.)

Interview procedure

Upon receiving IRB approval, and after writing and analyzing the autoethnography data, I conducted one-on-one interviews with eight participants. For the interview, I contacted each participant and made an appointment to set up a face-to-face interview (my priority), or an internet-based Skype or Zoom interview was available if participants wanted. Each interview took approximately 45-60 minutes and was audio-recorded. A consent form for each participant was gotten before the interview process started. (See Appendix A.) The in-depth qualitative interview questions were semi-structured and focused on participant's 1) own experiences adapting to new environments in Minnesota, 2) perception of design, and 3) future direction as an art + design educator in higher education (based on basic demographic information). The semi-structured interview questionnaire are as follows.

Interview questionnaire (semi-structured questions)

1. **General questions for background check**

1-1.   Where did you study for design education?

1-2.   Why did you select this domain of design education?

1-3.   What kinds of experiences have you done for your study in design area?

2. **Adaptation to new environment**

2-1. Did you feel valued when you took classes in your U.S. design program?

2-2. What kind of differences did you experience when learning U.S. design approaches?

2-3. If there were differences, did you overcome them? If so, how?

2-4. How do lived experiences in different cultures affect your design practices and research?

3. Perception of design

3-1. Has your perception of design approaches changed? If so, how?

3-2. How have you recognized perception of aesthetics in design?

4. Future direction as an art + design educator

4-1. How will you improve learning and teaching in art + design education? What is your role as an art + design educator?

4-2. How do you respond to your students with different backgrounds and different approaches in art + design?

The interview process was flexible, and I helped participants feel it was a conversation rather than a research interview. The friendly atmosphere during the interview revealed participants' feelings and emotions in detail. During the interview, I asked them to show their own art + design work if willing. Four participants (50%) agreed to show their design works and confirmed my using them in the research. During the in-depth semi-structured interviews, participants at times expressed discomfort when retrospectively revealing personal memories. In these cases, I stopped talking and asked my question another way that felt more comfortable.

Reflexive field notes

During interviews with my participants I wrote field notes, also recording their emotional expression, feeling tone, voice tenor, and perceived attitude. This reflexive field work was intermingled with a theoretical review of CRP, CP, and Dewey's philosophy on the value of lived experience. After gathering information from the above-

mentioned sources, I started another memoing process where I journaled about wonderings, feelings, questions, insights, perceptions, and reflections related to art + design education. These data when analyzed were used for creating poetry and conversational stories from autoethnography.

Data analysis

The interview data, including transcribed text and image data, were obtained from participants directly. The image data was taken photos with participants' permission. The audio-recorded interview data (text data) was transcribed and analyzed with open coding as the first stage. As the next step, I conducted axial and selective coding to categorize sub-themes and themes. These initial themes are rearranged based on my autoethnography themes to support my stories (Figure 3). These themes were used as the title of each part with metaphor after my stories. In-between the text data analyzing process, image data and memoing were intermingled to support themes and narratives. To sum up, the text and image data from qualitative in-depth interviews were analyzed based on grounded theory with research questions. I simultaneously developed the concepts, categories, and propositions through three levels of open, axial, and selective coding of interview transcripts, and interpretation and reflection on the data conducted, memoing parallel to data collection and coding (Corbin & Strauss, 2008; Miles, Huberman, & Saldaña, 2014).

CODE	CATEGORY	SUB-THEMES	THEMES
		Social change	
		Reduce stereotypes /prejudice	
DP	Design process	Arts-based design top-down process	Theme 5. perception of design process
		Science-based bottom-up process	
		Wide scope of design process-depends on purpose of design	
		Ideation from inspiration to design concept is design research process	
		Problem-solving process	
		Understanding/ analyzing target audience/consumer	
		Storytelling process based on audience's needs and designers' sense	
		Evidence-based design process	
SANE	Struggling with adopting to the new environment	Fear on the new school system/learning & teaching environment	Theme 6. Educators need to consider international students' situation and to improve curriculum and instruction
		Struggling with discussion time	
		Feel as a fool in classroom	
		Different expressional attitude	
		Different design approach	
		Different relationship between faculty and students	
		Different terminology in the same object	
		Social/cultural tension	
		Feeling as minority	
OD	Overcoming the	Having relationship with friends with different	

Figure 2. Sample of code book for analyzing qualitative interview data

Based on the extracted themes, I shaped the data again in the form of narrative reflection. The reflection used both monologue and dialogue with participants (Saldaña, 2014). The created narrative is based on actual conversation and observation made during the interview; however, it was fictionalized in weaving those moments together. And the next level was creating poetry based on my reconstructed narratives, observation, and selective words and sentences that supported the themes. As the first phase of data analysis, I created my autoethnography as a chronological story based on internal empirical data, as shown in Figure 4. The second phase was analyzing qualitative interview data to generate themes based on research questioners and my own stories, and that was added after my stories (as blue texts) on each part as shown in Figure 5. The title of each part represents initial themes with metaphor.

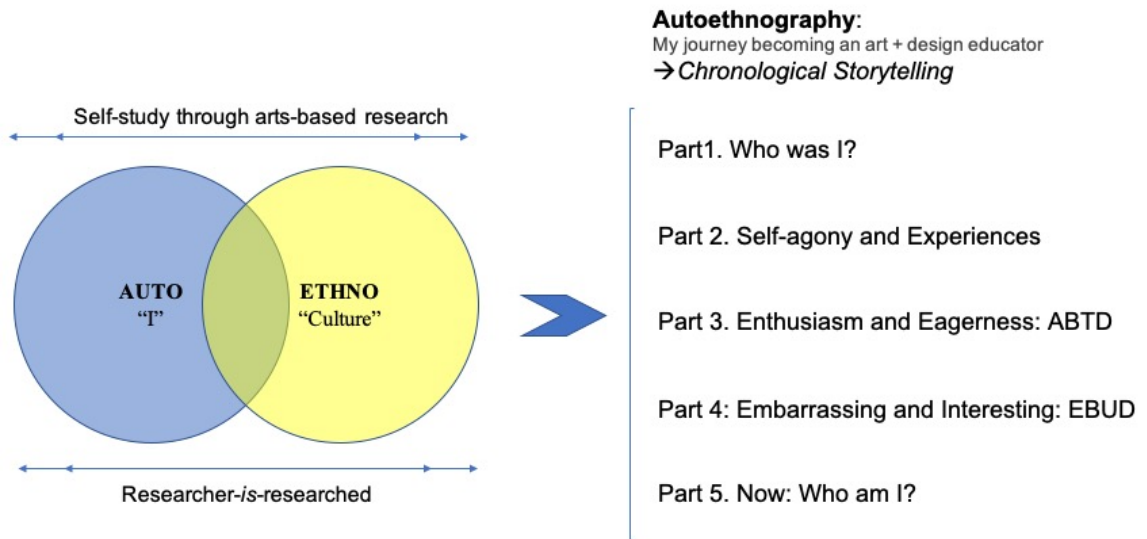Figure 3. Data analysis process of autoethnography with my own stories (first phase)
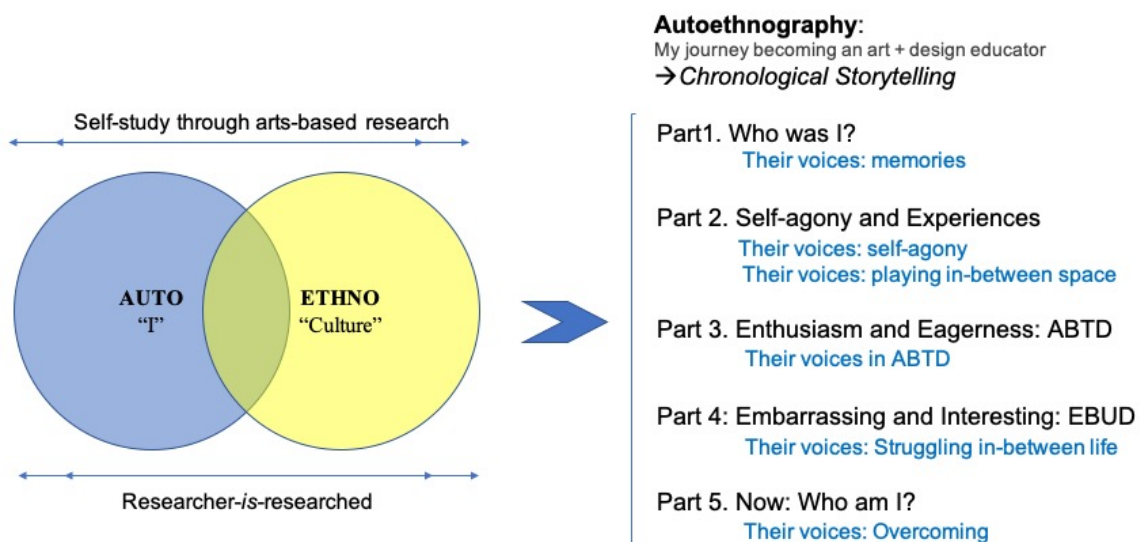
Figure 4. Data analysis process to add qualitative interview data (second phase)

Based on the five metaphorical themes, I could finalize three "big" themes as shown as Figure 6. My holistic analysis process from my stories to qualitative in-depth interviews was going to shape one part of the autoethnography. Finally, multi-layered

analysis was interwoven and inserted into each part my autoethnography with metaphor under the same themes.
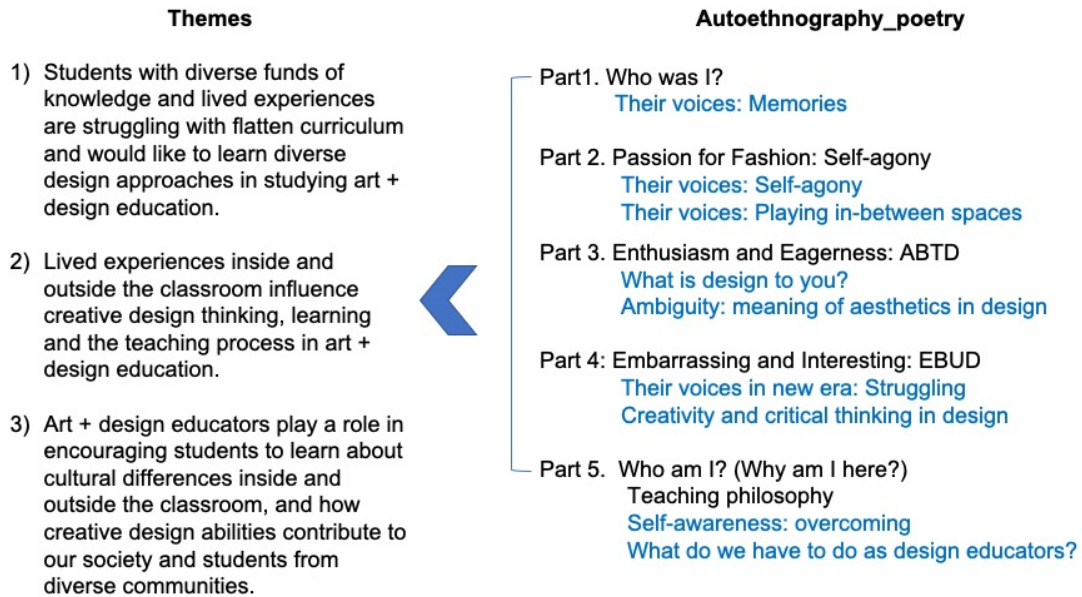
Figure 6. Process of generating three themes within autoethnography.

ABR is focused on ways of self-expression in various forms. In other words, multiple layered data in ABR can be connected through an iterative process (not a linear one) and expressed as creative art works as part of the research process and findings. As Eisner (1997) and Woo (2008) note, alternative data representation in ABR, for example narrative, poetry, visual arts, ethnodrama and other aesthetic forms can make research findings assessable to a broader audience than more academic literature. "Creative active viewer participation can lead to more immersive experiences and self-authorship providing unique opportunities for teaching and learning experiences and embodied knowledge" (Rolling, 2013, p.110).

CHAPTER FOUR: AUTOETHNOGRAPHY

My journey becoming an art + design educator

Prologue

"One day my friend asked me
If you could go back to the schooling time in 2004
What would you do?
After closing your eyes
I wake up on the bus
Up to 2014, exactly 10 years later memories in your head,
In the hallway of the school
What do you want to say to me first?
I say, you just have to do as you believe me
It's shit but gotta keep going…"
….
(Time Travel, Beenzino, 2016)

While listening to Korean hip-hop musician Beenzino's rap, "*Time Travel,*" my husband asked me.

Husband: This song looks cool, especially for the lyrics. What would you do if you could go back 10 years ago?

I: Hmm…10 years… ago? well….

For a time, many thoughts struck me. I asked myself the same question again, and thought: *'Do I regret my life now… or am I still satisfied with my life journey?'*

My husband may have asked me that question because I felt exhausted with my new life in the U.S. living in another country created a great deal of trouble for me as an international student. Despite having an easier path to success in South Korea as a design educator, I chose this way as a result of my own decision. Why? It was because I was

eager to learn new things and new approaches in design with passion. I believed in

myself. I did not know how hard it would be to follow a thorny path.

When I hesitated to answer his question, he asked me again.

Husband: Do you want to go back and change something, if possible?

I: …And I thought for a while…but my answer was, *Nope*.

Husband: Why?...

Even though I am struggling with differences in the U.S. and had to experience failure

and frustration for a long time, everything resulted from my own decisions, and I am still

pursuing my goals with a passion for education. Also, I could learn and experience many

things from failure and challenges. I wanted to think back to my life from childhood, and

to express it as a self-portrait.

Part 1. Who was I?

My aunt sometimes made my clothing by herself because she was a fashion

designer for a while. She was very good at it, and so was my grandmother. My genetic,

creative or artistic sensibility could have come from my family, especially my aunt and

grandmother. This artistic sensibility is often referred to as 'gift-talent' in South Korea,

but I will use the term "artistic sensibility' in this text because globally everyone has

diverse talents. I liked creating something, and sometimes I asked my parents

unpredictable questions. They sometimes could not answer me directly, but, instead, my

mother let me think creatively and differently. I remembered my mom said, "You were

different from your older sister. You didn't like me interfering in your work or studies, so

I just let you learn by yourself even though it took more time than if I had taught you

directly." I thought that these factors drove me to create something new and to like

designing. I have clear memories from childhood when my family and I lived in Saudi

Arabia for three years. Everything was different from Korea; everything was larger,

wider, and hotter. While living in Saudi Arabia, our family travelled to Europe and Africa

and experienced many different things. At that time, it was not normal for Koreans to

travel outside the country freely. I was a lucky person. I had to appreciate to my parents.

Thus, when foreigners started traveling and living in Korea after the 2000s, many Korean

people regarded them curiously. Since Koreans had lived within a homogeneous culture,

it was an unusual situation to see foreigners in our space. However, I was very familiar

with them because of my memories and experiences living in another country with

diverse people. At that time, I did not know how I could be affected from these diverse

memories and experiences in my life as a design educator. These memories could be a

great source of my creative design works and understanding of diverse standpoints.

Ultimately, all experiences including traveling and activities across different cultures

could be my "funds of knowledge[3]" (Gonzalez, 2005; Moll & Gonzalez, 2004). As

Gonzalez (2005) said, "…daily activities are a manifestation of particular historically

accumulated funds of knowledge that households possess. Instead of individual

---

[3] The 'funds of knowledge' are defined as the bodies of knowledge, including information, skills, and strategies, which underlie household functioning, development, and well-being. These may incorporate information, ways of thinking and learning, approaches to learning, and practical skills. Therefore, when we understand human being's different culture and their fundamental knowledge, we should understand them not on the basis of our stereotyped perceptions, but on their unique cultures through funds of knowledge. Ultimately, culture cannot be bonded and is able to be hybridized in the postmodern era (Gonzalez, 2005; Moll, & Gonzalez, 2004).

representations of an essentialized group, household practices are viewed as dynamic, emergent, and interactional" (p. 41).

Culturally Relevant Pedagogy (CRP) is a pedagogical approach focusing on understanding the fluidity of students' identity and cultural backgrounds as funds of knowledge (Gonzalez, 2005; Gay, 2013; Ladson-Billings, 1995; Moll & Gonzalez, 2004). Since there are a lot of immigrant students and students with diverse backgrounds as a result of globalization, teachers in K-12 needed to understand "fluidity" and "diversity" to care for students and develop curriculum in K-12. Especially, Gonzalez (2005) and Moll & Gonzalez (2004) have addressed the hybridity of funds of knowledge. Gonzalez describes hybrid and dynamic culture as:

"Increasingly, the boundedness of cultures gave away to an idea of the interculturality and hybridity of cultural practices. Often these concepts were predicated on examining borderlands, which are often riddled with emergent practices and mixed conventions that do not conform to normativity. Borderlands came to be a fertile metaphor for observing flux and fluidity, literally and metaphorically. (p.29)."

As this notion of interculturality, I also have fluid identity and culture now because I lived in Saudi Arabia for three years when I was young, and I have lived in the United States since 2012. How could I define my cultural norm and social norm? What is my identity? When I visited to South Korea two years ago, I realized that I did not have a Korean-oriented attitude anymore. My diverse experiences in the United States over five years, suggest I am also unconsciously influenced by western culture. My cumulative experiences in between Korea and the United States make me react and think differently

based on memories of Saudi Arabia. Thus, funds of knowledge including household

activities are a key value in understanding students' attitudes, cultural norms, and

experiences. Further, every lived experience can affect one's personal ideology and

behavior, and as so many researchers point out, educators should understand students'

actions based on their funds of knowledge and should become familiar with

multiculturalism through hybrid culture (Barton, & Tan, 2009; Gonzalez, 2005;

Gutierrez, Rymes, & Larson, 1995; Hedges, Cullen, & Jordan, 2011; Moje,

Ciechanowski, Kramer, Ellis, Carrillo, & Collazo, 2004; Moll, & Gonzalez, 2004).

Who was I?

I liked drawing, creating
Rather than reading, writing
I understood the content
as a picture like a pdf filing
My being neat-handed
came from
my aunt and grandmother

Teachers liked me
for having a gentle personality
for having artistic sensibility in creating
for having a great school record
I was…
pretty well…
following them obediently

While living in Saudi Arabia for 3 years,
I saw camels in the desert
It was too hot to play outside
My mother had to wear a black hijab
My sister and I played in a pool under the sun
Saudi Arabians had no idea well
where Korea was

In Europe traveling with my family
I saw scenes which I had seen in books

I remember
Hippies and gentlemen in England
Windmills and tulips in the Netherlands
A horse-drawn carriage in Italy
I was 8 years old

My dream was to be an architect, originally
However,
A fashion show changed my dream
It was impressive
It made me excited
My dream in high school was
"To be a famous fashion designer internationally recognized"
I had a fantasy in designing

My memories could be unique as a Korean student. I was privileged, a creative person with artistic sensibilities in the design field. Other students in design, however, were less privileged and less artistic persons. In that case, what happed in their lives as design educators? I heard about memories from their childhood before getting into the design world. In my study 50% of the participants responded positively about memories related to becoming a design educator, and among them, only 25% regarded themselves as having artistic sensibilities in design and a positive mindset when creating something. Nonetheless, 87.5% of the participants' perceived design-oriented thinking was influenced consciously or unconsciously by their funds of knowledge. They did not know about the concept "funds of knowledge" or that it was a term from CRP, but I introduced it and then asked about their memories as an art + design educator. When they thought retrospectively, this memory was beautiful and joyful, and convinced me the value of funds of knowledge in art + design work.

Their voices: Memories

Monika had studied Clothing and Textiles in South Korea and Italy before coming to Minnesota as a Ph.D. student. She finished her degree in Apparel Studies (Product Development track) in the College of Design and is applying for design educator jobs. She had joyful memories of her childhood, enjoying design activities, being a person with artistic sensibilities. She smiled remembering her self-confidence to develop creative ideas.

I: Monika, can you share memories of your family or childhood activities?

Monika: Umm…sure. I just liked making and drawing from childhood on. Just like hand-crafted things. There was no stress. Just enjoyment. My mother sometimes made a hand-knitted sweater or scarf for me. To me, it was very comfortable and usual to wear and use hand-crafted work from mother. So, I naturally had enjoyed that with mother. I mean…I have a positive mindset creating and making things. You know, but, making and creating something was not important in Korean educational environment (laughing).

I: (Laughter) Yes, I know…then, did your mother teach you this?

Monika: No. She naturally let me play in nature…she just encouraged me to try something new without limitations or restriction. So, I used to try something new without fear or concern. I actively learned art and design works, and even let others know in my childhood.

I: Then, do you think experience was useful to generating your creative ideas?

Monika: I have never thought about that before. But when I look back on my childhood based on your questions, it seemed to be. When I was young, I lived in a wide house

around mountains and water. Numerous flowers and other natural resources could be my materials to make something new. Without any limitation, and having my mother's encouragement, I was very openminded. I always tried something new without any stress. It was joyful. It could have affected my creativity in design.

I: I think of it as a learning process from your childhood. It's like a research process in design education. I think creative design cannot be created, inspired suddenly, but many laypeople misunderstand design to be like that. So, I value lived experiences as cumulative knowledge for conducting the design research process. I mean, in practical design research.

Monika: Right, I absolutely agree with your opinion. Every moment in my life could be interconnected when creating something new. I should be able to interweave them for each new design topic. You're right.

Monika had not recognized the value of her funds of knowledge in the design process. When I invited her to connect memories with her design work and the process of generating creative ideas, she realized her memories were part of that learning process. And it was a process that interconnected funds of knowledge into learning in art + design education.

***

How were Jasmin's memories connected to design? Jasmin had abundant remembrances of her life experiences. She told me about beautiful memories of childhood in nature with her grandmother. Her college major was both graphic design and product design and she had lived experiences in Europe and Italy as well. She

originally had studied graphic design under ABTD in South Korea and wanted to study product design abroad in Italy. Her domain was different from apparel and fashion design, but I found the fundamental design approach to be similar to my own. Especially the inspiration process.

Jasmin: I want to let my kids play outside like I did, instead of playing with a smartphone. When I was young, I played outside, and lived with my grandmother. She cooked for me traditionally and gave me homemade cookies as well. These memories made me happy and allowed me to create something new. I would like to let my two kids experience life this same way.

I: Did you always live with your grandmother? Can you tell me more about that?

Jasmin: I originally did not live with grandmother. Rather, I loved her very much and liked playing with her and visiting her house during my vacation. Her house was made in traditional Korean style, Han-ok (Korean traditional architecture made with sustainable natural materials). So, I usually can get inspiration from Han-ok as a design motif. When I visited South Korea last summer with my family, the traditional house still remains with window paper, woods, and tiled roof, Kiwa, (Korean traditional roof with curved shape). Every moment there evoked memories, and these memories became a great resource to for developing creative design. These memories provide inspiration for my design work.

'Memory', Jasmin   *'I love my grandma's backyard', Jasmin*

Figure 5. Jasmin's artworks from memories with grandmother.

From http://jchoi.net
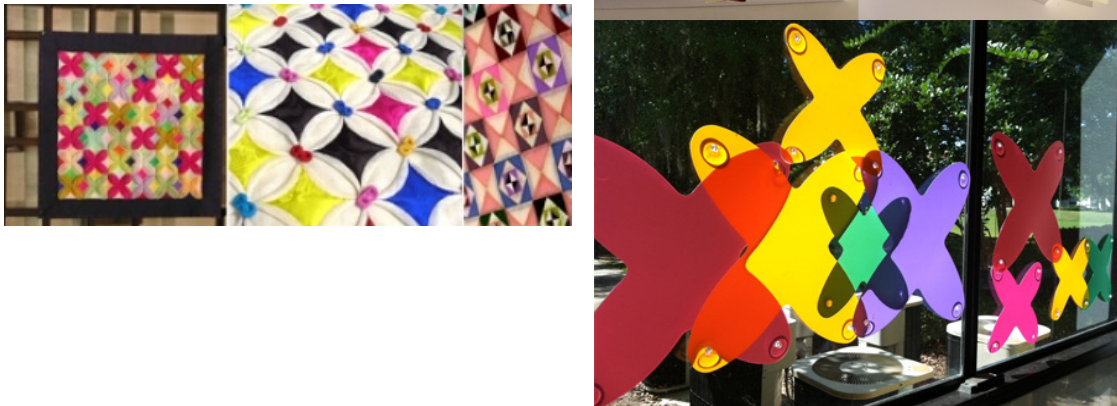
Figure 6. Jasmin's design work: Pattern + Light + Shadow 2

from http://jchoi.net

My childhood in South Korea was filled with nature. I can still recall how fragrant trees in the backyard mingled with the smells of delicious food in the kitchen, such as my favorite vegetable pancake that my grandmother prepared with vegetables grown in her garden. Many Korean mothers like me remain fascinated by playing with nature. When we were growing up, we didn't have many toys, so we had to use our imagination and

find toys in nature. Then it was only natural that children, thought creatively and would play with solely their imagination.

(Jasmin's narratives from her digital portfolio)

As seen in Figure 7, Pattern + Light + Shadow 2 is interactive and playful window shades inspired by Korean traditional patterns from 'patchwork'. The left-side photos show inspirational design images. And the right-side photos show how the designs work in our everyday lives. Jasmin's art and design works are based on her memories in childhood and interaction with her two kids. She also did not know of the funds of knowledge concept in a culturally relevant pedagogical approach to art + design education, but she has valued lived experiences in developing creative ideas and design research. Interestingly, Monika and Jasmin have self-confidence as creators of art + design work and enjoyed developing creative ideas based on their everyday life. They agreed on the value of lived experiences in art + design education. Lived experiences given Dewey's notion of "art as experience" suggest that cumulative knowledge through art and design work can become resources for creating new knowledge in the future. In Jasmin and Monika's practice they have developed new ideas based on their own lived experience creating art and design works since childhood. Other participants in my study had different memories in their childhood that help explain why they started to study in art and design domains.

***

Shirly, who had studied Clothing & Textiles in South Korea and had earned a Ph.D. degree in Retail Merchandising and Consumer Studies in Minnesota, also shared her memories. When working on a bachelor's degree, she decided to study abroad in the

Netherlands for one year to broaden her visual awareness. Shirly thought she lacked artistic sensibility in design, but her story was interested in understanding how her background shaped her education.

I: You said, you aren't an artistic sensitive person, and weren't drawn to design…then how did you choose this educational path? Can you tell me about your memories or experiences?

Shirly: Well, I could have been influenced by my parents. My mother's major was graphic design, and she still teaches in higher education, and my father's major was business. So the path I choose is retail merchandising. My parents' interest and educational backgrounds could affect who I am today. I remember when I was young, my mother frequently brought me to lots of museums such as art, design, and history museums in South Korea and other countries when we were traveling. So, it seemed that I naturally was open to art and design works. So, when I got stressed during my Ph.D. process, I would usually visit museums such as Walker Art Center or the Weisman museum in Minnesota. It was helpful to calm down my stress. (Laughing)…But since I do not own a car, it was not easy to access them frequently in the U.S.

I considered Shirly a brave person even though she did not regard herself as having artistic sensibilities in design. She lacked enthusiasm for design, but she did pursue a Ph.D. degree in retailing, merchandising and consumer studies in the U.S. I sensed and then confirm that her childhood memories and activities with her family had influenced her path to becoming an educator in design-based retailing. She had a job offer in academia in California area when we talked.

Shirly: I am so happy to be able to see the diverse cultural aspects of California, and I can visit a lot of different art and design museum in this area. It is a great opportunity for me to look at more art and design works, relieve stress and feel good, absolutely.

Since she thought she was not good at to expressing her ideas visually or effectively in design, Shirly detoured to become an educator in a domain that is heavily influenced by the design industry and consumer research. Her memories from childhood visits to museums and her parents' jobs in design and business affected her funds of knowledge and ultimately her educational and career decision.

<center>***</center>

Another colleague, Cristin, also mentioned her memories of household activities growing up in a Skype interview. I started my Ph.D. program in the College of Design with Cristin and at that time, I remembered us talking about our educational experiences in the U.S., especially in Minnesota, and how harsh they seemed. Now, it was our new memories in different areas that guided the conversation. Cristin started her story describing her currently position as an educator focusing on product development based on science-based design process in an apparel design program in a California university. I remembered that she had learned the design process through her household activities with her father.

I: Do you think your design approach could be influenced by your memories of household activities growing up or family-oriented learning earlier in your life?

Cristin: Yes, I think so. Can you remember my stories about my father? I loved to fix and decorate our house with my father when I was young. We lived in a big home

<center>37</center>

surrounded by flowers and mountains and my father always asked me how to solve

problems around the house. He just let me find out solution by myself without directing

me. Even with the interior design of our house when I was in high school. I guess these

experiences helped train me to solve problems.

I: Then, do you think those interior design experiences are interrelated with apparel

design as well?

Cristin: Sure! The design process is similar. It's about problem-solving. I think it all part

of my design approach. Product development is all about a design process too.

While her loving memories of household activities in which her father allowed

her to problem solve probably did contribute to her becoming a design educator focused

on product development, she had no formal design experiences like study abroad or

working in the field before starting the Ph.D. program in Minnesota. So, her design

approach and stories at first seemed inflexible before learning the difference in

approaches like ABTD and EBUD in design education.

Their voices: Memories

My mother sometimes made
hand-knitted sweaters for me
My mother always let me play in nature
She encouraged me to try
something new
without limitation
without restriction
I used to try something new without fear or concern
It might have made me a very creative person

I have great memories of my grandmother
Her warmth within nature

within Korean traditional architecture, Han-Ok
with her Korean traditional foods
My design works embrace
my memories
my stories
I'd like to express my own spirit
in my design works
I'd like to nurture my children the way I grew up
within nature
with freedom

My mother is an educator in graphic design
My father is an educator in business
My major, retailing, seemed to be affected
by my parents' interest in education
I used to visit art, design and history museums
with parents when traveling
art and design works help reduce my stress living in the U.S.

I used to fix and decorate my house
with my father when I was young
If there were some problems,
my father always asked me
how to solve the problems
I was interested in the household activities
I might be trained to solve problems
It now touches my design works

Their thoughtful retrospective memories showed their backgrounds as design educators. Ultimately, diverse students' funds of knowledge are valuable in understanding how CRP can improve learning. Similarly, what educators have learned and experienced in their own lives and cultures could affect their design approach and nature of their design works. If art + design educators could recognize the value of students' funds of knowledge within CRP, they could better support ABTD design thinking in their classrooms that leads to CBPR.

Part 2. Self-agony and Experience

I started learning about Clothing and Textiles while earning a bachelor's degree at Hanyang University in South Korea. At the same time, I was also learning Food Science and Nutrition because of my parents' concern about me getting a stable job. Double majoring in different domains was a great experience, but I always felt fatigued. Even though I went to considerable trouble in doing them together, I got interconnected knowledge both scientific and humanistic approaches that were helpful in the future. When I had to do an experiment in Food Science and Nutrition, I could learn how to compare two factors with an intervention. At the same time, I could apply this scientific process in a textiles experiment or unique material development in design class in Clothing and Textiles. I realized that every learning process could be interconnected. Relationships with my friends on campus and extra-curricular activities also allowed me to have passion in designing all kinds of things. I joined a classic music circle, Goeum, and had sustainable relationships with diverse friends in various departments such as Engineering, Medical School, and the School of Music while earning my bachelor's degree. In addition, I did extracurricular activities in an advertisement circle and in a fashion design circle outside school. Varied experiences during this period gradually helped me expand my vision and views toward creating something new in my country. As Dewey (1934) said, "Experience is continuous movement in our life with adding imagination and finalize on the end as aesthetic quality. Variable experiences can be reflective in our life and we can realize them through our discourse, and it can be interpreted. All these processes are integrated in our experience and circulated" (p.37).

After graduation, I got a job in a fashion design company in South Korea. I learned product development processes, and how to understand consumer behavior based on trends in the company. My previous knowledge in school was helpful in understanding the process, but the reality of industry was different from experiences in the school. I had to deal with relationships between vendor workers in China and managers in the United Kingdom rather than creation. I had to focus on cost-effective materials for product develop. I had to understand real-world problems and was confused about what I was doing in industry. What about my dream to be a designer? Working in a design company in South Korea, helped me realize that I needed to learn more. Graduate school with a focus on design was necessary if I wanted to be an educator and better connect academia and industry. While having a dual major was a good experience, I realized I needed to learn more in design domains. In time I decided to enter graduate school to learn design in depth. But I also wanted to be a good educator. Now when I look back on that agonizing period when making a decision about my future was so painful, I realize it was the turning point for me becoming a design educator. I had sufficient time to think about my future and I appreciated my parents believing in me.

Passion for Fashion: Self-agony

I had played music as a D.J. in a classic music circle, Goeum
I had created continuity in an advertisement circle, Sensitive
I had created design works in a fashion circle, iFun
I had to select music
for fashion shows and advertisements
Everything was interesting
Absolutely enjoyed my campus life
with friends and with creating

Double majoring
in a department was exciting but
exhausting
I had to learn
technical skills in making
experimental knowledge in textiles and food science
scientific knowledge in construction
consumer behavior and aesthetics, as well

I got a job after graduation
I was proud of myself, but
there was no creating
there was only making
I had to deal with relationships
between the Chinese and the British.
Communication with others was
more important than
creation
Reality was different from an idealistic design in school

It was stressful
without creation
I needed to take time
What do I want really?
What was my dream?
Where was I?
Examined myself through meditation
Tried to do something different
The years went on
…
…
Determined to study design in depth
in graduate school

Their voices: Self-agony

How was your undergraduate experience as a student? What is your job

experience? I was wondering about my colleagues lived experiences when getting their

bachelor's degree and why they decided to become an educator. In interviews, my

colleagues looked back on their past. Only 25% of interviewees had chosen their major

based on their interest or creative abilities. Some interviewees selected their design major based on a fantasy of what designing is perpetuated by media exposure to TV shows or magazines. Others determined their major based on SAT scores or parents' decisions. Just like me, many of them also had a period of self-agony: That time in our lives when we struggled deciding our future direction in design. That time when we reconciled perceptions that actually designing in academia, or even in the design industry was different from our fantasy.

After a similar period of self-agony my colleagues (75% of interviewees) chose to leave South Korea and study aboard in Italy, Netherlands, China, or the U.S. Their time abroad was approximately 6 months to 2 years before they arrived in Minnesota where they started experiencing different culture, different design approaches, and a different school system as well. These experiences made them more open minded and widened their perspectives in design. Even though their creative talent varied, they could find their own design style in a different country. Holy, who majored in interior design, learned about evidence-based design approaches in Los Angeles, realizing she could study design in greater depth. Since she had recognized she lacked artistic sensibilities in design, she was disappointed in her major in South Korea. The design approach in South Korea was arts-based top-down design (ABTD), and only highly artistic students could get high scores and praise from professors (I will discuss the arts-based top-down design process in the Part 3). However, after Holy learned an evidence-based design approach, focusing on data analysis, and an engineering-based process, she found out she had scientific sensibilities analyzing problems in design.

<p style="text-align:center">***</p>

I: Can you tell me your stories of studying abroad in Los Angeles?

Holy: You know, in Korea, I felt I was not a very artistic person when doing interior design. Even though I tried to search out so many materials and resources during the design process, my final design work was not praised by professors. Only students with artistic sensibilities, you know, who did arts-based inspirational design works were praised. So, the so called 'talented' students seemed to not do research as much as me, but their final design work looked good, looked beautiful.

I: I also heard about this issue from my friends in Korea.

Holy: But then, in Los Angeles, students could develop evidence-based design, and explain the reasoning process behind their designing. Then the professor respected their reason, and it was accepted. At that time, it was cultural shock. Because I was less creative and found arts-based design difficult, the evidence-based design approach was very interesting, and I wanted to learn further.

I: So, did you want to keep studying after learning a different design process?

Holy: Yes, so, I extended the time for studying abroad to one year. And I associated more with diverse students as well. That was one of the best experiences in my life. Without the (California) experience, I could quit my major because I didn't have self-confidence in my field in Korea. I would say this was the turning point in my life.

I: Did the experiences affect your design works and teaching and researching today?

Holy: Absolutely, I think so.

<center>***</center>

Shirly, who was majoring in Retail Merchandising, also experienced totally different approaches to design and schooling in the Netherlands. She decided to go

abroad to learn about different cultures. At that time, she experienced cultural shock even beyond the language barrier. There was no specific curriculum in her classes, and students usually focused on self-directed learning based on a research process. Only some seminar classes offered opportunities for discussion among students and professors.

I: Why did you decide to go to the Netherlands? It seems really different from Korea.

Shirly: Right! At that time, my parents also said that. (Laughs)…but I wanted to learn a totally different culture without another's help. You know, many Korean students usually choose the U.S. for studying abroad, and my relatives are living in the U.S. So, if I had chosen the U.S. it would have been easier for me because I had lived there for one year when I was young. I wanted to test myself to find out my path by myself. At that time, I could not figure out what I really wanted to do in my life, especially in design. I wanted to know if this path was the right thing or not for the future.

I: You were very brave! Can you tell me more about your living experiences in the Netherlands?

Shirly: (Laughs)…right! I was brave at that time without any concern. I was too young at that time…

I: You are still young!

Shirly: (Laughs)… first of all, I remember I experienced culture shock there, especially in curriculum and attitudes and overall culture. It was a totally different curriculum from Korean education. As an international student, I could not understand and take part in the discussion, but I just tried to learn about the different culture and different approaches beyond the language barrier.

I: How was curriculum different from Korea? I mean what points?

Shirly: There was no fixed curriculum, and everything was students-directed learning. After reading and researching by myself about a specific topic, you know, it could be selected by students' own interests, I had to discuss it with other students and professors. And the topic of study varied by student, and professors brought in very unusual topics as well.

I: Can you give me an example, if possible?

Shirly: Umm…for example, a professor in liberal arts addressed a sexual issue and discussed it with students. He had researched a life of prostitution to interconnect it with social concerns and design. He even interviewed actual prostitutes. The contents were very impressive and real. Students just discussed the issue without any hesitation. But, you know, in South Korea, it is impossible to discuss this with students. Well, not impossible, it's very rare. This is our culture, you know.

I: Yes, yes…I understand…Then, could you follow the direction of curriculum?

Shirly: To be frank, I could not follow it well with the language barrier. (Laughs)…I just focused on learning diversity. I did not think about getting good grades, rather, I just tried to learn about how to associate with diverse students with different cultures there. I just enjoyed my life in the Netherlands. I wanted to experience diversity.

I: Then, do you think your experiences there now affect your life, teaching and researching in the U.S.?

Shirly: I think so. Especially opening my mind about learning and teaching. You know, the U.S. has diverse students with different backgrounds. So, I think I need to be more open minded in understanding diversity in learning and teaching because I will be a professor in the future.

Shirly seemed brave and had some new ideas about learning and teaching in dissimilar educational environments. And as she mentioned, her lived experiences in diverse location such as South Korea, U.S., and the Netherlands affected her hybrid identity, and viewpoints toward learning and teaching. Finally, she chose Retail Merchandising with design backgrounds, when she finalized her Ph.D. program. She still loves seeing art and design works in museums and would like to interweave them with retail merchandising programs.

<center>***</center>

When I asked Monika to set up an interview to talk about my topic, she was very flexible. At that time, she was visiting Minnesota for a conference. After having dinner together in my house, we had a conversation and discussed design education and our future. Monika also had experienced different design approaches in Milan, Italy after graduating with a bachelor's degree in Korea. She thought she had artistic sensibilities and wanted to learn about different cultures and different design approaches. She had fond memories of Italy and its abundant historical heritage and culture.

I: Why did you decide to go to Italy?

Monika: Well…I wanted to learn different design approaches in a different culture. So, I decided to study abroad in Milan, for three years. When I was in Korea, I just had designed with creative ideas. But in Italy I learned how external factors could work with my creative ideas to develop good design. It was kind of a training process to be able to design.

I: What did you see that was different in Italy?

Monika: First of all, the faculty members' backgrounds were different. Absolutely it depends on the school systems, but I would say the overall educational system was different. In Italy, practical designers are faculty members at the same time. They were working in very famous industries, so, I could figure out what real-world design created with diverse design processes actually looked like. Each faculty member brought in their own design process and shared them with students, so that was a great experience.

I: Yes, it sounds like you better understand the big gap between academia and industry.

Monika: Well, you know, students could learn design everywhere in Italy. Even a layperson in the street could be a great resource in styling. Every shop, cultural heritage, and even nature could be great sources of inspiration. I was envying their lifestyles. I also learned about various resources different design approaches for example inside the classroom and outside in everyday life. Design education in Italy was very systematic and practical. Associating with real designers in famous companies was impressive. The memories in there was also my root of teaching students.

I: Then, do you think the experiences have affected your design work and research?

Monika: Absolutely, yes! It opened my mind to diverse students and abundant ideas.

<p style="text-align:center">***</p>

Their voices: Self-agony

My colleagues who interviewed
had self-agony
to determine
their major
to draw
their future
There was no direct interaction
between K-12 and higher education
to share exact direction for their future
in South Korea

Only 25% of interviewees
had chosen their major
Based on
their own interests
their artistic sensibility
They had passion for learning design
However,
They also realized the limitation of
arts-based design in South Korea

40% of interviewees
chose their major
based on their SAT score
They had insufficient information
to determine their major
They had fantasy on learning design
based on
TV shows, TV drama
or Magazines
After getting to undergraduate school,
They realized
they lacked artistic sensibility for arts-based design

35% of interviewees
followed parents'
advise and suggestion
2 participants influenced by
parents' job
and their interests
they also struggled with the future
after getting to school

They all had self-agony
75% of participants determined
to study abroad
before arriving in Minnesota
They had experienced
different cultures
different school systems
different design approaches
…
…
They had self-confidence
to keep studying design
in depth

Their voices: Playing in-between spaces

My colleagues in the College of Design at the University of Minnesota recognize the value of experiences widening their perspectives in designing. Some colleagues easily draw from their cumulative experiences in their design works, but others use experiences far less effectively. Why is this? Is it from lack of talent, artistic sensibility, or creativity? I would say no. As Dewey (1934) said, experience has value in itself, but it should be cumulative, and one experience should be meaningfully interconnected with another through practice and training. If then, finally, it has aesthetic quality.

"Experience occurs continuously, because the interaction of live creature and environing conditions is involved in the very process of living. Under conditions of resistance and conflict, aspects and elements of the self and the world that are implicated in this interaction quality with emotions and ideas so that conscious intent emerges" (p. 36).

Dewey's (1934) notion in aesthetic quality shows the value of cumulative experiences in our everyday lives and its linkage through expression.

"...an experience of thinking has its own aesthetic quality. It differs from those experiences that are acknowledged to be aesthetic, but only in its materials. the material of the fine arts consists of qualities; that of experience having intellectual conclusion are signs or symbols having no intrinsic quality of their own but standing for things that may in another experience be qualitatively experienced." (p..39)

As my colleagues suggest, they have diverse design abilities, often beyond artistic sensibility. Lived experiences within diverse educational settings and understanding of different design approaches helped me figure out how others linked their lives to their design works. Some colleagues had a lot of experiences in their life especially in academia and industry, but not all could interweave those experiences to their design works. Jessica had a lot of different experiences in her life in industry and academia, but was struggling how she could interweave these experiences to design practice. Jessica had studied Clothing and Textiles in earning her bachelor's degree and master's degree in South Korea, and had worked as a technical designer in a design company in the U.S. She had no experiences studying abroad before arriving in Minnesota as a Ph.D. student, but she had diverse experiences in industry. Since she liked analyzing things and listening to music as well, she had tried to learn many things in her life. But she had trouble combining and interweaving them. She said, "I might not be trained to do that."

I: Jessica, you had a lot of experiences in industry. Why did you choose doing that?

Jessica: Well, I wanted to have a lot of experience in my 20s. I could not count it as money. I liked watching movies and listening to music, so I worked for a film studio. I worked as a technical designer in an apparel company in the U.S. as well, and I also worked on the publicity side. So, I had a lot of experiences over time. But I did not dig deep into anything.

I*: Do you think it was helpful for your design work, teaching or research today?

Jessica: Umm**,** yes. It was very helpful because I was going to teach later. It was nice for students to share my experiences developing design.

I*: How have you applied your experiences in your teaching?

Jessica*: I know it is helpful to think and share my story with students. But I don't know how to apply these diverse experiences to my design works. I think it is my problem (laughs).

<div align="center">***</div>

On the other side, Nelly, who had studied both in Mongolia and South Korea, had a lot of interesting experiences in between. She could interweave her experiences into her design works consciously and unconsciously.

I: I remember, you have been in Mongolia, right? Can you tell me stories from there?

Nelly: Sure…I was there because of my father's job when I was in middle school. And I remained there until I started my undergraduate program. So, when I had to choose my major, I just thought about what I could study for fun. I thought that fashion design would be fun. I did not know what fashion design was, but I liked clothes, and my parents also encouraged me, so I thought it would be fun. I applied for the fashion design major in Mongolia because I wanted to have fun for four years during my undergraduate school life. Yes, it was fun. But the reality was pretty different. Anyway…When I studied abroad to South Korea for one year, I realized that my identity was pretty different from students who originally were educated in Korea.

I: Then, do you think Mongolian culture influenced your design work or teaching?

Nelly: Well…some parts. It is a pretty long story and I need to tell you more. When I was in Mongolia because of my parent's job, I experienced a lot of different cultures. Because, you know, people usually think Mongolian people live a kind of natural life without artificial products… but it was totally different from that stereotype.

I: Interesting, I also can imagine Mongolia being more nature-based…it's because of media exposure, right?

Nelly: I think so…it could be…but, Mongolian culture is in-between eastern and western culture. Mongolians loved party culture with traditional and luxurious wear. The color variation, detail, and shape of their party wear was eastern-oriented design. But their party culture looked like western culture. It was interesting.

I: Very interesting!

Nelly: Further, they spent a lot of money on purchasing clothes and valued appearance. So, fashion design was a popular major there. I had a passion for designing in Mongolia. The atmosphere for learning and the school system was different from Korea. So, when I had designed a product based on "Korean spirit" design concept in Korea, my advisor and other friends said, it looked like Mongol style based on "Korean spirit." I don't know but I think I have a hybrid identity in designing. That hybrid identity is so confusing sometime…but it's me!

I: Wow…I cannot imagine… can you show me your design work?

Nelly: Sure, let's see.

Without any hesitation, she showed me her design work to explain her hybrid identity.

Figure 7. Nelly's illustration for practical apparel design.

Nelly: This is my illustration work to develop practical designs. You know, every design has a different motif and is based on personality. When I went to Seoul, Korea to study abroad from Mongolia, I felt the educational environment in learning and teaching was different. It seemed that Korean students' ability for expression was great but to me it lacked divergence. I mean, for example, illustration skills and poses were very similar for all the students. So, when I submitted this illustration work, many Korean students and professor said, "it's a unique pose, and looks active with being rhythmical."

I: I understand what you mean.

Nelly: And, to be frank, I did not intentionally choose an ethnic motif for the illustration, but many students in Korea asked me "did you get inspiration from Mongolian ethnic costume?" I didn't know why they said like that. Unconsciously, my everyday life in Mongolia could have influenced my design works.

Nelly showed me another design project to explain her hybrid design influence.
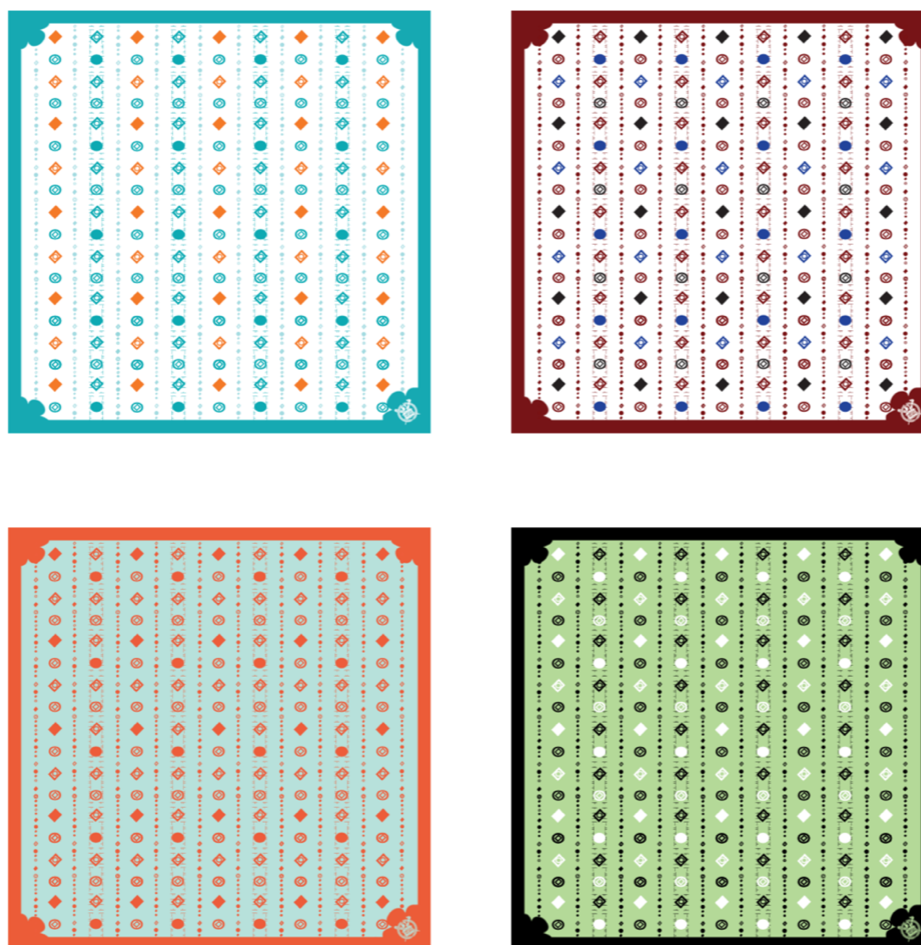
Figure 8. Nelly's Handkerchief design, inspiration from Hangeul (Korean alphabet).

Nelly: When I showed this design to my professor and other students, they all said, "it looks like Mongolian style."

I: Wow, I also thought that too because of the color combinations and overall atmosphere of your design. And I am not sure what Mongolian culture is exactly.

Nelly: Did you? Actually, these designs got inspiration from Hangeul (Korean alphabet)! You can see. It came from Korean vowels such as ㅏ, ㅑ, ㅜ,ㅠ, and Korean consonants such as ㅁ,ㅇ. I had combined them as design elements with color variation.

Interestingly, every Korean friend said "it looks like a Mongolian culture-inspired design!" I don't know, it could be my hybrid identity. Nowadays, I don't know what my identity is in the U.S. It is confusing to be myself, somehow. But my advisor recommends I develop my hybrid identity for practical design works or design research. You know, the U.S. is a nation of immigrants, and a lot of different people are living together. So, I think it's a good opportunity for my design to show my hybrid identity.

If I had studied in Korea without experiencing a minority's life in the U.S. I probably wouldn't understand Nelly's agony over having a hybrid identity in the U.S. I might even have envied her study abroad experience with diverse students in the U.S. However, now as a minority student, I can understand what my colleague's agony was while studying in western culture. We can live with a diverse population in the U.S. and understand diverse cultural aspects having had real life experiences here.

<center>***</center>

Jasmin, who had learned a diverse design approach within lived experiences, also agreed with me that we develop creative design based on cultural aspects.

> *"Designers should have their own stories based on memories and experiences, without that the product could not be a good design and could not appeal to customers and target audience. So, I always teach students to have their own stories in design."*

I: Hey, you said designer's lived experiences are important to developing ideas. How do you get inspiration, I mean, where could you get inspiration?

Jasmin: I usually get inspiration anytime and anywhere in my life. For example, from conversation with others, obviously it might be empty talk, but sometimes I get inspiration even from that. Or when I was reading a book for my kids or playing with them in nature. Because I am currently a mother of two children, and this situation makes me design something.

Jasmin showed me her design works to explain her design process and design philosophy. Her work reflects memories and her everyday life. As she mentioned, she gets inspiration from her children's activities. I could confirm that after looking at her digital portfolio, The "Play and learn with Nature" project was started from the needs of family activities.

"Mom, I found someone's house!"
Figure 9. This picture was taken by her 7-year-old daughter, Alicia.

By Jasmin *from* *http://jchoi.net*

Jasmin: I always take notes when I have ideas from everywhere. I think it is a kind of design research process. Then, I can face 'Ah-ha' moments. The 'Ah-ha' moment cannot be situated abruptly. Cumulative thought and ideas should be combined in our everyday life. This is my key point in teaching about creativity to students.

Jasmin is currently a faculty member in graphic design in South Dakota after graduating in 2018 with a Ph.D. from the University of Minnesota. Based on her diverse stories and experiences, I also could learn about her storytelling strategy in the design process. Figure 12 is one of Jasmin's creative research projects inspired by nature, her kids, and inspiration from her outside camping life with her family.

Plan for Nature Kids Cafe: "plant to eat" vegetables

Food container set: Blossom

Figure 10. Play and Learn with Nature, Creative research project by Jasmin

from http://jchoi.net

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Another colleague, Sally has worked as a design educator over three years after finishing her Ph.D. degree at the University of Minnesota. She had no work experiences or extra-curricular activities when finishing her bachelor's and master's degrees in South Korea. So, she could share more experiences about her real-world academic life as a faculty member rather than her pathway to becoming a design educator. Sally has always

valued lived experiences, traveling, and getting inspiration from diverse cultural aspects in different surroundings. She already knew that human beings could understand and express themselves based on what they have known and experienced. It means that the cumulative knowledge through lived experiences inside and outside classrooms could be good resources in art + design domains.

I: Sally, have you lived in other countries before arriving in Minnesota?

Sally: Well, I had never studied abroad before arriving in Minnesota, but had travelled to other countries. As I mentioned, I did not like my major a lot. So, I had trouble determining what I wanted to do in the future. After studying aesthetics for my master's degree in Korea, I started enjoying designing. I remember deciding to travel to other countries such as India and Japan to widen my perspectives.

I: Then, what did you see and how did you feel during the traveling?

Sally: After learning design, history, and especially more about aesthetics, I could see differently when traveling. I mean color variation and structures in architecture, clothing, and even in foods based on historical backgrounds. You know, people can see what they have known. Traveling to another country was very interesting. I didn't have any study abroad experiences, but traveling was a good resource to get inspiration in designing.

Their voices: Playing in-between spaces

62.5% of interviewees have
multicultural experiences
in Mongolia
in China
in Italy
in the Netherlands
in the U.S.

They all said,
It was hard playing and living
in between different cultures
But
They are invaluable and rich
experiences
that cannot be measured by money

They have experienced
different school systems
different design approaches
different cultures
in studying
in living
in traveling

However,
these lived experiences
allowed them
to widen their perspectives
to think about diversity
to break stereotypes
to learn different expressional attitudes
to develop creative ideas in design

Self-agony about their future course and problem recognition about design
education in Korea led my participants and colleagues to invaluable, life changing
experiences. Travel, study abroad, international internships, and working in-between
different cultures are lived experiences that opened doors to further study in design
education. Whether they were artistic or entrepreneurial the breadth of their experiences
led to creative work in industry and academia. If CRP, CP and Dewey's notion of
experience can improve teaching so too can better understanding of distinct design
processes. Then, how did my participants recognize the difference between Arts-based
top-down design process (ABTD) and Engineering-based bottom-up design process
(EBUD)? Could they realize the difference or have dichotomized ideas in design process?

Part 3. Enthusiasm and Eagerness: Arts-Based Top-Down design process (ABTD)

When I went to graduate school in Korea, I fell in love with learning Arts-based Top-Down Design process (ABTD) in depth through culture, philosophy, aesthetics, and expressing visually effectively ideas. My advisor let me think divergently with emotional expression and pleasurable design based on philosophical aesthetics. We analyzed social phenomenology, culture, and consumer behavior for designing. Personal emotional expression through diverse experiences was also valuable in ABTD. There was no limitation. My advisor's research background was from France, Japan, and South Korea, so she always asserted the value of experiences especially in pragmatic knowledge on research. Her research background and teaching philosophy would affect my learning process.
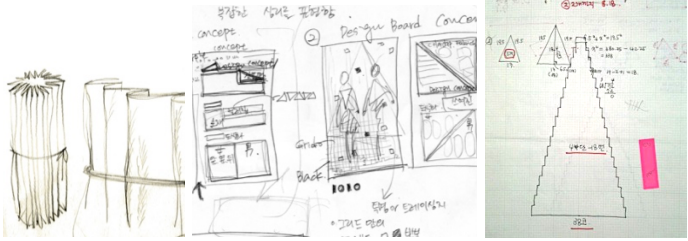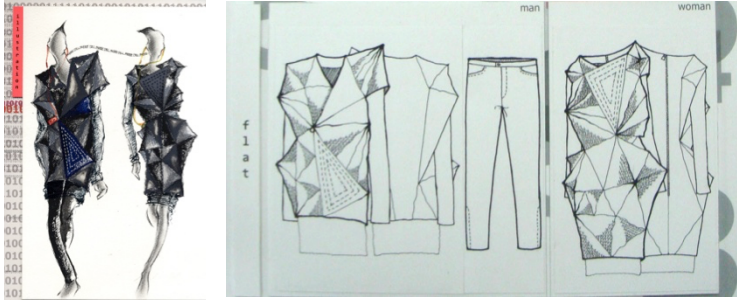
As Dewey (1934) said, experiences can be finalized when adding one's imagination on real practice and then, they should be able to be expressed through art works. Langer (1954) also describes art as "symbolizing things of inner life and an objective presentation of subjective reality" (p.9). She points out we can communicate by producing an array of audible or visible words in a pattern commonly known through interconnection. Through systematic reflection of artwork, we can communicate with each other. Langer sees art as "congruency between logical form and abstract concepts" (p.19). I totally agree with that discerning metaphor, in the sense that art is a process of expression. This concept is interconnected with Dewey's assertion in expressing experience as an aesthetic quality (Dewey, 1934). This process is also included in ABTD. In ABTD, design usually includes the following steps: getting inspiration, idea development based on concept, selecting media (materials), sketches, prototype

development, wearability test, and the final artwork by the designer (See Table 3). The process is not linear, and ideas come from the designers' philosophy, experiences, and cultural background. The problem-solving process occurs between media selection and the final design works. But the motivation for the design stems from desire based on experiences and cumulative knowledge. Even though phenomenology and sociocultural aspects are key factors of designing, the ABTD process is mainly lead by the professional designers' opinion.

I thought back to my latest design work, titled "Angle Connection" created from mixed media with various triangle shapes (LED lights could turn on when wearers touch or interconnect with each other). My previous knowledge was cumulatively applied to my work: interrelationship between media art (interactive art) and fashion design, the technical structure of mixed media (knitting structure + electronic materials), philosophical aesthetics, and phenomenology of the postmodern era. I intended to reflect all of my experiences in the design work within a digital era. At that time, several things affected my knowledge: the book, *Brave New World* by Aldous Huxley[4] (1932), sculpture by Xavier Veilhan, various knitting structures, and the positive aspects of interaction between technology and human beings in the digital era, etc.

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[4] Brave New World is a novel written by Aldous Huxley, set in London in the year AD 2540 ("After Ford" in the book). The novel presents a vision of an unequal, technological-advanced future where humans are genetically bred, socially indoctrinated, and pharmaceutically anesthetized to passively uphold an authoritarian ruling order-all at the cost of our freedom, full humanity, and perhaps also our souls.

Table 3. The process of designing for 'Angle Connection' (ABTD).

Process	Contents & Images	Note
Inspiration		Sculptures by Xavier Veilhan & knitting structure, and philosophical aesthetics
Idea development based on concept & researching		Idea sketch & calculation for triangle formation by knitting
Motif & Media		- Collaboration with media artist, 'Everywhere' -Using various media
Illustration & Flat Sketch		Design structure and visual illustration
Prototype of muslin		Wearability & functionality test with professional model

Final works		Fashion show & design contest

Perceiving through the five senses was combined with my experiences, and this contributed to my knowledge between media art and fashion design. Since I had researched the interconnection between media art and fashion design during my master's degree program (Jekal, & Lee, 2008; Jekal, Na, & Lee, 2008), my research interests were interconnected with art and design based on digital technology. As many arts-based researchers (ABR) have said, I conducted research to create a design work through the meaning-making process (Leavy, 2009; Irwin, 2008; Rolling, 2013). I got inspiration from cumulative diverse resources and tried to express them effectively in my visual work (Table 3). During the process, I faced several problems in interconnecting electronic multimedia to soft knit structures of clothing, and I tried to solve these problems with diverse approaches. The whole process had the value of design research within meaning-making process of ABR. However, if we consider it in the design research view in the U.S., it could not be 'research': as Bye (2010) pointed out, "artifact through the desire to express an idea reflects the culture and designer, but it is not considered research" in design scholarship (p.215). She defines design research as "accessible, systematic inquiry based on the practice of designing that uses analysis and synthesis to discover new knowledge" (p.206). Through the historical review of design research, she divided clothing and textiles design scholarship into three parts: problem-

based design research, research through practice, and creative practice based on precedent researches. She also desired to widen the research boundaries of design research by including creative design works, but there were still limitations to consider an arts-based design as a design research in the U.S.

Surely, the approaches depend on the purpose of the research, but we first need to extend our views of the meaning of design. Forsey (2013) also pointed out that design has been virtually ignored by philosophical aesthetics, which focus on the aesthetics of the everyday. It may represent a design research area in the U.S. culture. In Korea, however, I had learned that design incorporates metaphor and cultural issues, and social trends based on art. As many ABR researchers state, searching for metaphors through the meaning-making process is the process of expression and experience (Langer, 1957; Sullivan & Gu, 2017). For instance, Rei Kawakubo, Yohji Yamamoto, Issey Miyake, and Martin Margiela[5] reveal the meaning of contemporary fashion in the meaning-making process, and they analyze the philosophical value through diverse perspectives (Loscialpo, 2011). Loscialpo stated that "in fashion, a complexity of tensions and meanings, not only relative to the dimension of clothing, becomes manifest and accessible. At the center of this complexity, there is always the body in all the modalities of its being-in-the world, of its self-representing, of its disguising, of its measuring and conflicting with stereotypes and mythologies….by reversing the relation between body and clothes, and by playing with an idealized body, Margiela problematizes the traditional oppositions between 'subject' and 'object,' 'body' and 'garment'." (pp. 6-8).

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[5] Rei Kawakubo, Yohji Yamamoto, Issey Miyake are avant-garde fashion designers in Japan, and Martin Margiela is a Belgian avant-garde fashion designer.

Therefore, the design process of "angle connection," or any other design thinking process in ABTD could be applied to the expression of experience in art education rather than design education in the U.S. Under ABTD process, designers should think divergently to express ideas. (Brown, T. 2019). However, I think that fashion design is a communication tool as a medium, so it has a metaphor. At that time in Korea, I also had focused on McLuhan's (1994) "The medium is the message" in his book, "*Understanding Media*"[6] with respect to applying expressional characteristics of media art to the metaphor of fashion design. If a designer creates clothing with a metaphor through meaning-making, a wearer (viewer) can select it and create new meaning based on his or her own experience. In other words, different meanings could be layered through fashion design, and these things could create new metaphors such as Jean Baudrillard's 'Simulation'[7] (Baudrillard, 1994). This meaning-making process through practical design works was my design research process and method of clothing design in South Korea with a philosophical approach, and phenomenology in visual works. It was the process of accumulating knowledge and shaping my new experiences. Thus, it should be regarded as research based on Bauhaus's educational ideology, balancing among art, science, and technology,

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[6] Marshall McLuhan's *Understanding Media* made history with its radical view of the effects of electronic communications upon man and life in the twentieth century. Terms and phrases such as "the global village' and "the medium is the message" are now part of the lexicon, and McLuhan's theories continues to challenge our sensibilities and our assumptions about how and what we communicate.

[7] Jean Baudrillard (1929-2007) was a philosopher, sociologist, cultural critics, and a theorist of postmodernity who challenged all existing theories of contemporary society with humor and precision. In the Simulation, she said that the more impossible the illusion of reality becomes, the more impossible it is to separate truth from falsity and reality from its artificial resurrection, and the more panic–stricken the production of reality is. In effect, Baudrillard's essay (it quickly became a must to read both in the art world and in academia) upheld the only reality there was in a world that keeps hiding the fact that it has none.

in the postmodern era (Findeli, 2001; Moszkowicz, 2013). In the postmodern era, a fixed view cannot adequately explain phenomena in our world (Clack, 1996; Efland, 1996).

To understand the metaphor in design work, professional designers' backgrounds are essential in evaluating it in ABTD. As DeLong (2015) mentioned, the aesthetic responses of design evaluation are based on "form," "viewer," and "context." I will demonstrate them in-depth in Part 5 later, but in order to evaluate the value of design works in ABTD, professional designers' views are based on their experiences, knowledge, and context as core values. The reason is that designers "generate a rough, overall sketch of the product and its main components first and refines the sketch to a detailed level while considering the relevant requirements" in a top-down process (Mantyla, 1990, p.636). In other words, real users' opinions are not considered as an aesthetic response in this process. Even though the philosophy and the phenomenology of postmodernists are reflected in the design works in the meaning-making process, the physical engagement of participants is not reflected in the process.

Enthusiasm and Eagerness

My advisor's belief on my creating
made me grow
gradually
Everything that I saw and experienced
could be great resources of design

We, together
had coffee time,
went to museums,
traveled to Paris, Milan, Beijing, and Osaka
for getting pragmatic knowledge of design
for widening our perspectives

My design works came from
my emotional expression and
philosophical, historical
cultural knowledge within arts-based top-down design
Media art immersed myself in
interaction between technologies and human beings
It was a novel and up-to-date idea
at that time
Marshall McLuhan's "medium is message"
Jean Baudrillard's "Simulation,"
Hussein Chalayan's interactive design,
I was enthusiastic in philosophical aesthetic value

While teaching students,
Students grew more and more
I liked leading them to create something
Sometimes,
I admired their amazing creative ideas
Their growth allowed me
to feel true joy

However,
I realized to study more
for researching with different approach
How could I apply
aesthetic knowledge to scientific approach?
How could I do it within creative design works?
How do others think about 'design' and 'design process' differently?
Everything was ambiguous
Gradually,
I faced challenges

to widen my research views in Korea

International students started coming to Korea
I had to teach them in English
I wanted to study within international level
Needed to choose a new life in a new place
with my husband
My decision
was not easy

Their voices in ABTD

How did other colleagues conduct arts-based top-down design (ABTD)? I was

wondering whether other colleagues also realized the different design approaches in

between South Korea and the U.S. or not. I was wondering if they could critically

compare them or just adapt new design approach (EBUD) in the U.S. Some of them

(25% of participants) realized the differences, but just disregarded the previous

knowledge, ABTD, and accepted EBUD. On the other hand, others (75 % of participants)

agreed with my opinion to balance them between ABTD and EBUD for further design

education, even though they could not address this issue currently. My colleagues had

diverse experiences not only in South Korea but also in other countries such as Mongolia,

Italy, and Netherlands. I could hear diverse aspects of designing.

Nelly, who had studied design in Mongolia and Korea, told me that design approach was

different from in the U.S.

I: Nelly, can you tell me your design process? I mean…if you have your own design

process, please tell me.

Nelly: Well, you know, my design approach has changed in the U.S. First of all, when I

was in Mongolia and South Korea, I usually started researching design motif based on the

design concept. I started from the meaning and history of motif, or philosophical backgrounds. It could be cultural aspects, or personal memories. After my researching process, I started designing based on the meaning of concept.

I: Do you think this is a research process for practical design?

Nelly: Sure, I think so. During the process, I could find out the historical meaning and philosophical aesthetics from the process. For example, I usually, got inspiration from Korean spiritual and traditional patterns to develop the design. Because traditional patterns have specific meaning and cultural aspects. So, I could search out that historically, and apply it to my own design. And then, I started finding appropriate materials, color variation, and details to express the meaning effectively. And then, I solve the problems in-between the process for functioning and usability. It is not linear, but I can tell you simply like this.

I: So, did you see a different design process in the U.S.?

Nelly: Yes, I think so. But, somehow, it depends on the purpose of design. If I designed for a design competition or fashion show, I usually focus on the visual expression arts-based one, but if I designed for commercial wear or functional wear such as sportwear, I focus on the functionality. However, in that case, I also started from a design motif and meaning for the functional wear. I think the start point could be different.

I: I also think so.

Nelly also realized the different design process in the U.S., and she explained what she has done in arts-based top-down design process (ABTD). The start point was different,

and the purpose of design was different. Her point was helpful to categorize my design research work.

<div align="center">***</div>

Monika, who had studied in South Korea and Italy before studying in the U.S., explained her design process.

I: How do you start your design work when you have an opportunity? I mean the motivation or starting point of the design. Or how do you teach students to develop creative design?

Monika: I usually started from everything. You know, my creative ideas came from my experiences. So, I always point out the value of lived experiences to students, too. The ideas depend on your cultural background or your personal household background, so the direction or color variation could be different based on the backgrounds. So I always start with the background check when I start teaching a class. So, I give individual instruction in line with the student's point of view in a studio class.

I: Wow, you are teaching using culturally relevant pedagogy!

Monika: Really? I did not know that.

I: Can you tell me more about your design process?

Monika: Actually, I remember my experiences in Milan was great. As I told you, I studied and expressed my own ideas in design in Korea, but in Milan, I could study a systematic approach in design. So, I still follow the combined process. At the design research stage, students took the idea bank that they got through the research and brought materials in to class in Milan. Then, the teacher took a look at it, and asked the reason and meaning of the ideas, then it was arranged. This process was continuously repeated in

one project in a classroom. Students were going through the self-directed learning phase anyway. The teacher was keen to see how the students were moving in the process, letting other teachers explain it to the student and then fixing it again and again. I think it is a design research process.

I: Then, I thought the process depended on students' personality and cultural aspects. Right?

Monika: Yes. So, when I teach students, I respect students' ideas and aspects based on the design research process.

I: Then, can you see the cultural diversity in a classroom?

Monika: Sure! So, students could teach each other in a classroom. This diverse learning environment is helpful for students to develop creative ideas. I think.

I: Right! I also think so. Then, when you start designing, do you start from "desire" or "problem"?

Monika: I think "want to design or desire" is a kind of "problem." Because the "desire" of designing starts from recognizing a problem such as social or environmental issues or historical review. Even though you get inspiration from nature, you need to tell a story to your audience or professor, or consumers about why you choose this ideas and design motif through the design research process.

I: Wow, that's interesting. "Desire" is a kind of the problem definition.

I have thought about this issue. when I summarize other colleagues' process based on ABTD, the process is shown as follows (Figure 13).
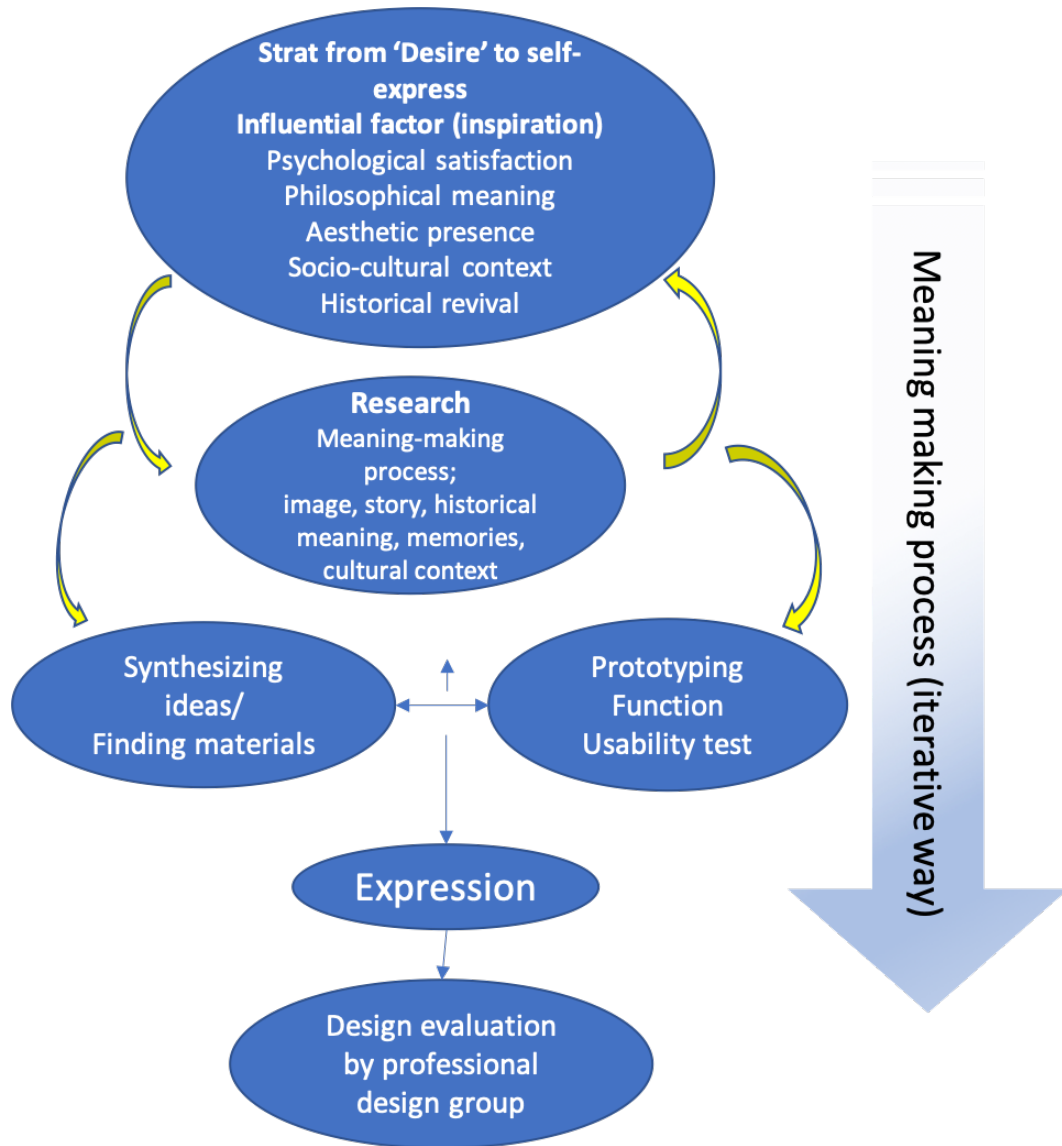
Figure 11. Meaning-making process based on ABTD in Korea.

I thought the meaning-making process is more suitable to explain ABTD that I studied in South Korea. It was different from a problem-solving process because the starting point was different. But Monika's opinion was reliable if we think art is a tool for expressing social and critical issues in contemporary society. When I discussed this at the beginning, I would like to show the relationship between art and design in contemporary society as a tool for improving our lives. As Gee (2007) said, contemporary art and design are tools

for making our lives better. Also, contemporary art and design are more concerned with the present culture than a past or future one, placing art into specific contexts, accepts multiculturalism as a given in a pluralistic society (Efland et al, 1996). Then, the meaning of art and design in contemporary society can be explained in the relationship between the two, and the meaning of ABTD in a problem-solving process as well. If I can recognize "desire" as a problem definition because of diverse issues such as social, cultural, and environmental issues, then the final "expression" can be a solving process. In this case, the "expression" is not just for self-emotional expression, but for expression through a design research process recognizing diverse issues. So, designers can communicate with others through the expression as a problem-solving tool in ABTD. The final design works should be understandable as metaphor.

However, only 33.3% of my colleagues advocated for ABTD, and others were struggling with expressive design works under ABTD. Nonetheless, they all agreed there is a need for the arts-based approach when balancing curriculum in design education. I will address this issue in-depth in part 4 and 5 that follow. They said, "Arts-based design is so subjective to me!" and "ABTD is only suited for artistic sensible persons, and I am not!" My other colleague, Sally, who already has a job in academia, also said even though she recognizes the difference in design approaches between South Korea and the U.S., she disregarded the ABTD in design research. However, when I asked about the starting point of design, she could explain the meaning of "desire" in ABTD like Monika.

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I: Sally, you said design should start from the "problem" definition. Do you ever develop a design when you feel "desire"?

Sally: Well, it's difficult for me. Actually, I never thought about the starting point of designing. I just have learned the design process is a problem-solving process in the U.S. and recognized it as the right way.

I: Yes, I understand. But, can you understand what I mean?

Sally: But feeling "desire" to design is like the problem. As you said, arts-based design. But I also have done arts-based design work in South Korea and the U.S. I've been collaborating with a friend who majors in art. She said art is not just about what I want to do, but art is about how I can express social, cultural and political issues and how to express my thoughts well. It's not good art to express only yourself in contemporary art. For an artwork, artists should have a research process through a meaning-making process and several executions. So it has meaning as an artwork. In terms of design, if you think of wearable art, you really have to study a lot, and do lots of research and design in a big context. And you just have to go through the problem- solving process from a design perspective. Actually, I think both of them are difficult. Frankly, I think art is more difficult as it is more subjective to me.

<p style="text-align:center">***</p>

What is design to you?

The perception of design had transformed
from ABTD (Arts-based Top down design)
to EBUD (Engineering- or Science-based Bottom up design)
They also addressed the issue of different design approaches

In South Korea
Arts-based design was main
from getting inspiration

to design concepts
Dealing with
more subjective matter
Only artistic sensible person
could be praised

But,
In the U.S.
Specifically, in Minnesota,
Engineering- (science) based design process was main
from defining problems
to solving process
Evidence-based design
User-centered design
dealing with
more objective matter

Both in ABTD and EBUD
They all conducted design 'research' process
Ideation from getting inspiration
to develop prototypes is
design research process
Understanding and analyzing target audience/consumer,
storytelling process based on audience's needs
and designer's sense
are all design research process
It is valuable beyond paperwork
as a research process
But,
the approach should be different
depends on the purpose of design

However,
33.3% of participants
prefer ABTD
44.5% of participants
prefer EBUD
22.2% of participants
Chose retail merchandising

Design has wide scope
It depends on
the purpose of design
students' interest
students' future goal
Design educator should keep in mind this

for student-oriented learning

How do students
balance subjective matter and
objective matter in design education?

<center>***</center>

When we were talking about ABTD, my colleagues all pointed out the visual aspects and aesthetics. Because we have learned ABTD in South Korea, the visual aspects and metaphor are more important than functionality in design. Ironically, 33.3% of colleagues preferred ABTD and 44.5% of colleagues preferred EBUD, and 22.2% of colleagues chose retailing merchandising, but all agree about the value of aesthetics in design. They also said, aesthetics is still ambiguous and has broad meaning in design. I have heard interesting aspects of aesthetics from colleagues.

<center>***</center>

Jasmin, who majored in graphic design, disliked philosophical aesthetics. She thought aesthetic is only about 'beauty' in our everyday lives.

I: Can you define what aesthetics means in design? Or what is the role of aesthetics in design?

Jasmin: Well, (laughs)...it's too broad.

I: I know, but I would like to listen your thoughts regarding aesthetics.

Jasmin: Aesthetics cannot be determined as one thing, but as the various foundations summed up. For example, when you cook, you have a lot of ingredients. Vegetables, meat, etc ... Then there must be a recipe, and the recipe says how to mix the ingredients

<center>78</center>

and how much it should make. When it comes out it's a delicious whole. Aesthetics in design can be said to be beautiful when the most appropriate design elements (color, function, shape, detail), or the right graphical elements are merged most accurately and appropriately it's beautiful. It should be combined well, then it is a good design, a beautiful design with appropriate purpose.

I: It's an interesting viewpoint. Then, do you think aesthetics depends on personal backgrounds?

Jasmin: Exactly. I didn't mind what philosophical one, rather, I would like to focus on aesthetics in personal everyday life. For example, I am teaching now in South Dakota. There are a lot of students who did not experience diverse cultures. Then, they only have experiences in South Dakota. They don't know what Tofu is, for example. When I asked them to do something new (such as trying to eat something new) to develop creative ideas, then they usually try something very neutral. It's not creative! But several students who have diverse experiences bring creative ideas with an open mind. Then, their design result look good aesthetically.

I: Then, do you mean everyday experiences with diverse viewpoints are important to develop creative ideas and design?

Jasmin: Sure. I mean diverse experiences affect design works. Without diverse experiences, there are no good designs, I think.

Jasmin addressed the value of everyday aesthetics, rather than philosophical aesthetics. She usually got inspiration from nature, and her everyday activities through funds of knowledge, and encourages students to develop ideas based on everyday

aesthetics. According to Saito (2015), everyday aesthetics "means stimulus sensory or feelings of message" we have received every day, and it is "a meaningful and satisfying experiences" (p.4). This notion is interrelated with valuing lived experiences in art and design works based on Dewey's notion, "Art as Experience" (1934). I totally agree with that. For obtaining creative ideas to develop art + design works, designers should learn and recognize everyday aesthetics based on problems in our everyday life, emotional feeling. By doing so, we can expand our view of ambiguous aesthetics in design education, interconnect contemporary art and design, and solve problems in our everyday diverse communities. Since contemporary art and design are regarded as a tool for changing society for the better, understanding visual culture critically is important to expanding understanding of aesthetics from philosophical aesthetics to everyday aesthetics.

<p align="center">***</p>

Jessica: As I told you, I wanted to have a lot of experience in my 20s. I could not afford to pay for it. I liked movies and music, so I have a lot of experience all the time in a film studio and a design company in the U.S. But if I did not learn the philosophy in school, I might not understand the meaning of music, film, art and design works. You know, learning philosophy and discussing it is only available in college life. It is impossible to learn it in the real world, I mean in industry.

I: Then, do you think it is necessary to learn philosophical aspect of aesthetic?

Jessica: I think so. even though we cannot discuss philosophical aspect in an apparel design company, but the cumulative knowledge can be shown unconsciously. It could be expressed later.

I: That's good point.

Jessica: Yes…I know it theoretically…but it is still hard for me to express something visually effectively. So, I usually focus on product development, and analysing something (laughs).

I understood what Jessica said. Learning philosophical aesthetics is meaningful in art + design education, and it could expand our view in designing. But it is not easy to learn these things and apply them to industrial design. I have thought about how we teach students everyday aesthetics and philosophical aesthetics effectively, and how to encourage students to express them actively. Some students like the philosophical approach, and others like everyday aesthetics. It depends on students' interests and ability based on their lived experiences and funds of knowledge. I would like to encourage students to learn and understand to solve diverse problems in our daily life and in our society. I think it is our role as design educators.

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Even though Sally was struggling with expressing her ideas based on ABTD, she still valued learning philosophical aesthetics, ironically. She thought the teaching and learning approach in South Korea was wrong when she never learned different design approaches taught in the U.S. Because evidence-based design and engineering-based design are reasonable systemically, she said she has never thought about balancing ABTD and EBUD before. Her viewpoint of art and design seemed to be somewhat dichotomized at the beginning of our conversation, but ironically, she advocates for the

value of philosophical aesthetics in design. When I asked her to tell me the meaning of aesthetics in design, she said it was important.

> *"After learning aesthetics philosophy, I could better understand the high-end fashion design of Chanel, Comme des Garson, and the like and it felt joyful to learn design. Fashion design is not just clothing, but the expression of social, cultural meaning. So, I felt to keep studying in Korea. But, in reality in academia, it is not easy for students to learn aesthetics. We don't have enough time, enough money to handle it. You should recognize the reality in the real world."*

Sally has taught students as an assistant professor for over three years, so her story seemed genuine. Then, how do we teach students aesthetics in design?

Ambiguity: Meaning of aesthetics in design

Aesthetics…
.
.
.
.
.
.
It's hard to define
Hmm
I think aesthetic is
all process and product of combining design elements
appropriately
just like a cooking process

It is about studying of beauty
It is subjective
It depends on
cultural aspect
time
environmental condition
and

personal performance
purpose of design
But,
It's the key feature
in decision of good design
in purchasing product

It is visually beautiful thing
to be satisfied with human beings'
five senses
so,
aesthetics in design
includes functional and usable aspect
visually beautiful thing in design
to express function and usability
visually effective and appropriately

Aesthetics embody and embrace
personal story
everyday aesthetics
philosophical meaning
people could understand
the meaning of aesthetics
as much as they know

So,
it should be learned in academia
it's hard to learn in industry
it should be trained to
express visually effectively
Ultimately,
If a product is not beautiful visually
consumers would pay no attention to the product

Part 4. Embarrassing and Interesting: Engineering-Based Bottom-Up Design Process (EBUD)

In 2012, my new life started in Minnesota with my husband. My decision was not easy, married life and studying abroad in another country, but I had self-confidence. I always challenged new things without fear in South Korea, and I also had a lot of diverse experiences in other cultures. I learned new design approaches, engineering-based design process focusing on problem-solving process in the U.S. The concept of designing was different from what I had learned in Korea. I learned to define and analyze problems first, and I tried to solve them throughout the process. I also learned user-centered design and affordance. The process and contexts were very systematic and analytic. In the U.S., designing meant the process of finding out the solution for the defined problem. It was the design process for developing functional clothing based on an engineering-based problem-solving process (LaBat & Sokoloski, 1999; Lamb & Kallal, 1992). The engineering-based bottom-up design process can also be called science-based bottom-up design. However, my research experiences as a Ph.D. student in the College of Design informs my use of engineering-based design terminology in this text. Since art and science processes are often closely related or even overlapping, I use the term engineering-based bottom-up design process to differentiate its meaning from the arts-based top-down design process. As Bye (2010) mentioned, it followed a traditional approach in the U.S. and was suitable for "functional, protective and well-fitted garments, and performance garments" (p.209). I wondered why functional wear could not incorporate aesthetics into functionality and usability. Even though the curricula in higher education were determined by faculty members' research backgrounds, the concept and

84

approach of design were totally different from what I had learned in South Korea. In South Korea, I could design creatively without defining a problem and interviewing with end users. The design work came from my "desire" rather than a "problem." I did not know how I could differentiate two different approaches in the design process. I could not explain to faculty members clearly what I wanted to express and how I felt at that time. I just realized that I had learned different things in South Korea and was learning different thing at that time. I was merely adjusting to a new cultural environment with language barriers and was learning different approaches in the design process. Every moment in classroom was unfamiliar for me for the first two years. It was hard for me to adjust to this new environment. At the same time, however, it was great to learn new approaches. That (learning a different approach in design) was what I had wanted to know while in South Korea, but the reality of accepting a totally different view was harsh. The important thing was that I could not find creative "flow" without the desire of emotional expression and aesthetic value in designing. According to Csikszentmihalyi (1990), human being cannot expect to achieve enjoyment and reach a state of flow without cultivating the necessary skills of the task. What had I cultivated in designing in South Korea? I had plowed into the meaning of aesthetics and final visualization with multi-dimensional media in fashion design. It means that I had developed ABTD focusing on philosophical phenomenology, social/environmental issues and historical meaning of design to express them through fashion design in South Korea. On the other hand, I had to focus on innovative and creative design thinking to solve problems of products based on end-users' opinion. What was I doing in engineering-based bottom-up design process in the U.S.?

When I took a class, Human Factors in Design, I was involved in a NASA

(National Aeronautics and Space Administration) project, designing wearable device

attachment products. The aim of the project was to design a secure, comfortable, quick,

and unobtrusive method without changing clothes. Rachen, majoring in engineering, was

involved in our project with me. We tried to think creatively of human factors in design.

Since the end-users were astronauts in a rigid zero gravity environment, we tried to

develop innovative methods with mixed media. We conducted usability tests to develop

creative prototypes after mind mapping problem identification, as in Figure 13. The user

in usability test was not real end-user an astronaut, but we had focused on their opinion

regarding wearability and emotional feeling with six different prototypes. The main

purpose of testing was to explore the best solution based on user's opinion, and to reflect

them in developing prototypes. It means that the design approach under EBUD is

exploring creative solution after identifying problems systemically through researching

and analyzing process based on user's opinion (See Figure 14). Our focus for the project

was to find out the ways of wearability and functionality within a short period of time

under zero gravity.

	Wrist band 1	Wrist band 2	Neck lace	Waist band	Bandage type	X-type band
Photos						
Features	-Two narrow elastic band -Magnetic attachment	Slap band: Touching to roll up	Accessorizing neck lace with short length→ Attaching to magnetic bar	Normal belt type with elastic band and Velcro	Sticky bandage type to access skin on any part of the body	All-in one attachment on the body with comfort like army
Strength	Easy to wear Easy to access Easy to move	Easy to wear Easy to access Easy to move	Easy to wear Easy to access Easy to move Appearance	Easy to wear Easy to access Easy to move	Easy to wear Easy to access Easy to move	Easy to access Easy to move Multiple devices
Materials	-Soft elastic band -Magnetic tape -Neodymium magnet	-Existing slap band with magnet tape	-Smooth strap -Magnetic tape -Neodymium magnet	-2" width elastic band -Velcro --Magnetic tape	-low sticky medical bandage -neodymium magnet	-Soft elastic band -Buckles -Magnetic tape

Figure 12. The first usability test for the NASA project.
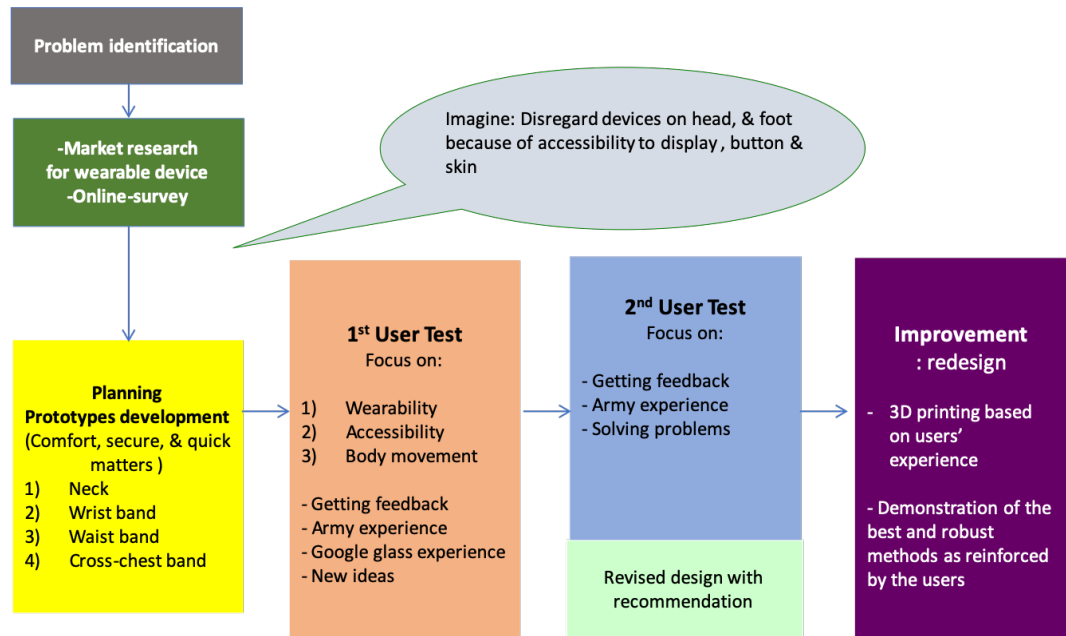
Figure 13. Problem-solving process in NASA project (EBUD).

The process of designing and the experiences of presenting at NASA in Houston, TX, were unforgettable and valuable even though our team had challenged different design processes under a harsh time frame. We could meet and see real astronauts and space environment in Houston. I was so proud of myself to be able to take part in the project. Diverse schools took part in the project, and many different projects were presented. Almost all of the teams conducted an engineering-based design with problem definition, but there were also several students who did not know about usability testing under EBUD. A student from Pratt Institute said to me during our conference in Houston.

> *"We did not know what the usability test was and how to develop it. We just had developed prototypes and final design by getting inspiration and finding appropriate materials and patterns to be embedded technologies on our garment."*
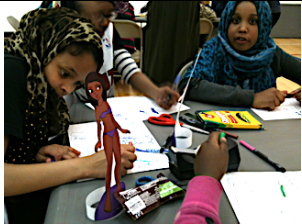
They displayed their prototypes with motion of dance performance. I remembered this situation because they were ashamed their prototypes were not based on usability tests and human factors in design. I realized that EBUD focused on the process of developing prototypes with an innovative thinking process rather than final visualization, for very functional design.

I also worked as a research assistant in an interdisciplinary project titled "Impact of Culturally Sensitive Apparel Co-design on the Physical Activity of East African Adolescent Girls." Since 2013, the school of Kinesiology, College of Design, Cedar Riverside Community School for Somalis, and the Tucker Center have teamed up to create culturally appropriate active wear designs. The purpose of the project aimed to design culturally appropriate active wear based on Somali adolescent girls' voices and opinions. The project used a participatory design process, to solve problems of physical interruption and to improve the Somali community's sustainable health, physically and emotionally in the U.S. culture (Thul & La Voi, 2011; Thul, 2012). Participatory design or co-design is defined as actively engaging laypeople in decision-making, with outcomes of user satisfaction, social sustainable development, and commitment to the community (Howard, 2004). There are several similar terminologies of co-design, such as public interested design, social response design, design for social change, community-based participatory research, and social impact design, but I will use community-based participatory research (CBPR) here. Although the terminology is still ambiguous, CBPR in design came from Participatory Action Research (PAR). PAR, rooted deeply within critical social science, has gained popularity especially in the area of community empowerment and community development. It calls for full participation using the

bottom-up approach from the community members and all stakeholders including the researchers. Therefore, the goal of design based on PAR does not only encourage physical production, but also encourage the profound production of knowledge that emancipates and empowers humans within their social context and dynamic connections (Katoppo, Oppusunggu, Valencia, & Triyadi, 2014).

Ultimately, our CBPR for Somali girls' active wear design was not a top-down design process, but a bottom-up design based on a problem-solving process (See Table 4). In other EBUD, end users and participants merely take part in the usability test, giving feedback based on their environment and their problems on the developed prototypes by professional designers. But the CBPR is aiming for actively engaging participants in the whole design research process. Interdisciplinary teams planned time schedules and communicated regularly with all stakeholders, and the professional designers, including me, led the design process based on our experiences. However, the process involved a great deal of external factors such as participants' different cultural backgrounds and difficulties in time management, so our team struggled to develop the process. During this process, many researchers addressed knowledge gaps in the design evaluation and conflicting views between the professional designers and participants in design evaluation. The reason was that novice users in design evaluation usually focus on the visible "form" beyond usability and function in design evaluation. In other words, it was difficult to evaluate design holistically for novice users.

Table 4. Design process of culturally appropriate activewear design project.

Process	Contents & images	Note
Problem definition with participants	"East African adolescent girls have trouble in playing sports with long skirts and hijab, so culturally appropriate active wear is needed for their health improvement"	Interdisciplinary research (Thul & La Voi, 2011; Thul, 2012)
Investigation		-Theoretical research for Muslim culture -Field trips -Regular meeting with participants
Idea development with participants		-Leading participants to engage in designing -Fun activities for participants' active engagement -Developing researchers' ideas based on participants' opinions
Developing prototypes		-4 Prototypes by participants' selection -Fox news reporters were on the ground to get the story
Evaluation & final two designs: selected by participants		-Listening to participants' evaluation on prototypes -One of the final designs was mine
Revising		Revising size & form based on participants' evaluations

The "Revising" contents cell contains the following embedded table:

Issues / Session	Overall	Neck line	Hijab	Sleeve	Waist line	Skirt/Slit	Fabric	Leggings
Morning session (8:00-10:00am) **Participants:** 6 women 2 men **Condition:** Prototypes were on hanger along with illustration	-positive feedbacks -parents also want same design if possible to get fund in the fund	They didn't mentioned about neck line	-good design -various size will be needed	-Looks good	-fine to act as long as it is loose enough w/o curve	-skirt length: below the knee -looks good	-most parents like patterned fabric -"blue" color reminds "happy" & Somali sky	-leggings are fine as fitting
Evening session (6:00-8:20pm) **Participants:** 4women(?) 4 girls **Condition:** 4 girls wore each prototype, larger & more opened group.	**Adults:** -some positive feedbacks, some say expose too much **Girls:** -design is good -comfortable to act -feel hot after running	**Adults:** -check neck size exactly: too big or too small **Girls:** -don't like high neck: feel hot (round neck is fine)	**Adults:** -too tight→various size of hijab **Girls:** -too tight especially for Sutra & Merriam	**Adults:** -looks good **Girls:** -too big for Sutra & Merriam (back to original size) -thumbhole design on sleeve (Recommendation)	**Adults:** -waist elastic is fine if not too tight **Girls:** -both of them (elastic waist & straight) feel good to move	**Adults:** -skirt length: below the knee -mixed feedback for slit (fine vs. too much) **Girls:** -want more short length with long slit as easy moving	**Adults:** -blue color looks good & active **Girls:** -like pattern fabric, but feel hot as non-wicking fabric	**Adults:** -too tight **Girls:** -fine -Merriam's leggings has a hole
Remarks (Results for researchers)		High neck→ Round neck	Various size for hijab	-Sutra & Merriam's: back to original size -Thumbhole design on arm	Not too tight elastic waist line	-skirt length: below the knee -Comments of slit are very different →checking!	Looking for patterned wicking fabric	Little bit looser leggings

91

	Retrieved from: http://designatmnblog.com/2014/10/culturally-appropriate-activew/	
Final works		Fashion show: Models by Somali participants

Additionally, we led participants' (Somali girls) active engagement with fun activities because they were only 8 to 13 years old. Instead of interviewing them, we chose a paper doll activity to learn what they wanted to wear and how they felt about Westernized culture. We prepared black female naked paper dolls clothed with inner wear as a play activity for design development. Participants drew what they wanted to wear on the paper doll models with pleasure and active engagement. Afterwards, we took a picture of the girls' own design sketches to show them to their parents, but their parents appeared uncomfortable with the paper doll's naked body. Even though we tried to consider their cultural differences on the paper doll with skin color and hairstyle, it was not enough. We understood their culture through surface-layered learning. We had to delay the design process due to the cultural issue, and we revised the paper doll model with the parents' permission (See Table 5).

Table 5. Paper doll model revising in culturally appropriate activewear design project

The first paper doll model	The revised paper doll model

Another cultural issue was a generation gap between immigrant parents and girls. The girls were U.S.-born Somali exposed to Western culture, and they wanted to wear Westernized active wear; however, their parents did not allow that. Researchers had to arbitrate the generation gap with flexibility, but it was not easy. Although the participants' ideas and voices were based on the new design, researchers had to redesign the garments to improve its suitability for activities. The main factors of the new designs were fabric and silhouette, but there were many design constraints. In using activewear materials, researchers were encouraged to use mesh fabric because it was breathable, while also preventing skin exposure to others. With unexpected problems and external factors, the time schedule of the project was delayed, and our design team members felt fatigued.

Furthermore, I did not know how I could keep the team on task, but I wanted to learn more about the process. Although I did not have a background on the different design processes, I tried to do research by myself rather than ask my advisor step by step. I did not want to appear ignorant of new methodologies as an international student. I think it was a silly situation. I should have asked my advisor step by step, and then, I might have felt less stressed. During the project, I had to listen attentively to Somali girls' opinions and their parents' views rather than my own design thinking. In the final design selection, my design was selected by the participants, but I didn't know why they chose it. Everything was different from what I had known in Korea in designing, in building relationships, and in living in the U.S. What was wrong? I grew tired gradually and had severe difficulties in 2014. I needed a new environment again.

Embarrassing and Interesting

Arrived in Minnesota
In an all new setting,
I had a passion for new learning
with self-confidence
Because
I was an excellent, and a privileged student in Korea
Then, however,
It was my delusion

"Why was I in here? "
It's because of learning different design process but,
Ironically,
different approach in design
engineering-based design
within problem-solving process
made me be confused
It was helpful in researching
but I had to research for research
Where was the meaning-making process?
How did students get inspiration for emotional expression?

My advisor was too busy to talk personally
The attitudes of people were different from Korean
I was a marginalized student in the U.S.
Working process, building relationships,
everything was new and different beyond language barriers
How could I build relationships successfully?
It was embarrassing
It was hard to recognize myself as a marginalized one in a society
It took me so long to accept that I was a stranger

At the beginning of teaching in Minnesota
My students looked at me like I was an alien
It might be my misconception
But
Their gaze made me be embarrassed, but
Over the course of time
our relationship was relaxed gradually
Some students showed me gratitude
Students brought foods and
we had a party in the last class

In the bottom-up design process,
I had faced with Somali participants

As a design researcher,
What could I do?
Had to learn their problems
Had to lead them to do design
Had to teach basic design
My advisor and I had faced cultural issues
with surface-layered understanding
We spent almost two years on the project
It was a great experience, but
hard to manage

One day, in summer 2014
Suddenly,
I lost everything at once
lost my health
lost my father-in-law
lost my grandmother
lost my self-confidence
Disappeared going no one knows where

I felt I was a social failure
My cognition seemed to stop working
My husband seemed to be insane
What could I do?
How could I overcome it?
Nobody let me know

Minnesota nice was fearful to me
Their sarcastic remarks jarred my nerves
in the face of the wall of "difference"
I was afraid of everything, but
I was comforted internally from
my Korean friends in the church, and
Barbara in ISSS[8] at the U

I realized
in-depth relationships
were valuable in life
One's personality could be changed
by external factors
One's identity could be hybrid
within a new environment

---

[8] ISSS: International Student and Scholar Services

Someday,
I met a friend, Sunny
who was in art education.
He advised me, and I
determined to overcome it within a new era
in art education with Jim

Their voices: Struggling in-between life

My colleagues also thought back on their struggle when starting Ph.D. programs in Minnesota. We were in agreement when we talked about that time. Now, all of us are overcoming our angst, and trying to understand our hybrid identity and diverse cultural makeup, but at first, they, like me, were all struggling in-between life. Some colleagues just tried to adjust to their new environment ignoring what they could not do well and focusing on what they could do well. These colleagues had very positive personalities and felt less stress adjusting to the new environment. On the other hand, others tried to associate with others in the U.S. to overcome their challenges. We are on the path toward becoming capable educators who remain willing to broaden our perspectives.

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Our conversation started with my first question about life in Minnesota. I assumed colleagues who had lived in another country before, such as Nelly and Jasmin, felt less stressful.

I: Nelly, how was your first year in Minnesota? I assumed you could adjust to the new environment better than others because you had lived in another country when you were younger and had used English in studying there.

Nelly: Everybody assumes that, but I hated that state. I also struggled with my new environment in the U.S. as well, you know.

I: Could you tell me more about your experiences?

Nelly: Well, I was too nervous that first year. I had to learn different content in class, and I had to discuss what I was learning with others. Even though I had studied English in Mongolia, it was completely different from using English in the U.S. In Mongolia, though, I was confident because I thought I was superior to them. It might be my unconscious feeling, but it was obvious.

I: I can understand what you mean. Can you keep going?

Nelly: Yes, but, you know, I've been completely negative here, in Minnesota. The feeling of being Asian in a Western culture became difficult. I mean unconsciously, we think Western culture is superior to Eastern culture. Since we were young and had learned stereotypes, this might make me feel harsh. So, without confidence, I was always nervous if the design approach that I had been doing in Mongolia and South Korea would match the way we did things in the U.S. I was worried about what I was doing wrong, and it was beyond the language barrier.

I: I understand. I also felt like that. Do you have other experiences?

Nelly: While teaching undergraduate students, I thought of myself as a minority in the U.S. In the classroom, students seemed to think of me as an alien, to look at me strangely, to evaluate all my actions, and see whether I was wrong or right. I thought there was too much tension at that time. Students might not think so, but I felt that way. But now I understand them better, because they also did not have much experience with Asian people within the Midwest. So, later I would like to share my experiences more with students indirectly.

I realized that the hybrid cultural aspects my colleagues and I shared living and working in the U.S. gave us potential power to understand diverse phenomenology in design education, but the process of overcoming discrimination was harsh for everyone. Nelly also talked about the different design approach, ABTD and EBUD, and her anguish deciding which one was right during the program. Now she knows that the different approaches in design depend on the purpose of design, such as design for functional clothing or design for competition or exhibition. Further, she totally supported a balanced curriculum approach using both ABTD and EBUD when appropriate. Nelly saw the importance of recognizing students' backgrounds and interests and already had included culturally sensitive design aspects in teaching and developing creative design research.

<p align="center">***</p>

Jasmin who had lived in Italy and the U.S. before arriving in Minnesota also struggled with different design approaches.

Jasmin: I hated discussion time in classroom! It was the most difficult part for me understanding different approaches in design. I thought I was a silly, and foolish when I could not challenge others' opinions, and could not take part in the discussions.

I: So, how did you overcome this?

Jasmin: I didn't overcome it; I just was better at doing what I do well such as final presentations and writing papers. The visual final work for classes could show what I had done well without the discussion. If I had focused on what I couldn't do well, I might have gotten sick and had to give up my Ph.D. program.

I: But, sometimes, we need to overcome what we can't do well and get trained, you know.

Jasmin: I know, but it was too hard for me. And the design work is not only about process but also product at the same time. I mean during the design process, I had to figure out what (target) customers want and need through research. And then on each step, I had to produce some prototypes based on their opinions and my perspectives as a professional designer. So, I would like to show each product to others rather than discuss it. Designers should show their ideas visually. It is important to communicate with others, especially in the graphic design area.

I: Then, how did you develop your collaboration work without discussion?

Jasmin: I mean I could discuss, but discussion was too much a part of classrooms in the U.S. I wanted to show visualizations to generate ideas and pragmatic knowledge, rather than have a theory-based discussion.

<center>***</center>

I could understand why Jasmin wanted to show her design progress in classrooms during the Ph.D. program. As international students, discussion was difficult with limited expression in English, and fear that what we thought might be wrong or not. But beyond language barriers, there were culturally relevant issues in learning and teaching. We did not have the self-confidence to challenge these differences as a minority. We came to the U.S. to study abroad, to broaden our perspectives, and to experience other approaches, but real life in a different culture was harsh.

<center>***</center>

I also asked the same questions of Holy.

I: Holy, can you tell me your experiences living and studying in Minnesota? How was life at first?

<center>99</center>

Holy: Looking back now, it was a disaster at first. You know, I had studied in LA, but it was a different environment, and the Ph.D. program was harsh. Especially, I didn't know what I had done in class during my graduate program in Minnesota. Without enough time, I had to adjust new to a new environment and work as a TA (Teaching Assistantship) and RA (Research Assistantship) for my funding, and I also had to study. I did not understand many things in most of classes, because I could not say a word in many discussions and sat there like a fool. I just focused on the final paper related to my research topic. It should be improved for many international students as a way to teach.

I: Why did you struggle with the difference? Can you explain the reason?

Holy: I am an international student, and I had no idea about living in Minnesota. But I, like other international students, felt fear about what we didn't know. You know, in Korean education, we felt shame if we didn't know something in front of students and others. We lost self-confidence because of our different cultural backgrounds. I think it was a key factor. I was totally passive in learning at that time. I don't want to go back to that period.

I: That's good point. can you tell me more about that time?

Holy: Well, in Korea, especially in Seoul, Korean live mainly in apartments. But American kids usually live in single family-homes and have grown up with their parents since they were kids. However, I did not know the terminology and household culture as an international student. It was hard to teach beyond the language barrier. It's a cultural difference. Things that students have learned over their shoulder from their mom and dad were the cumulative knowledge of their everyday life. All of these things were so unfamiliar to me.

Holy pointed out the value of funds of knowledge to understand cultural diversity and develop creative ideas in design education. It was natural for us not to know different approaches, different attitudes and different learning styles based on funds of knowledge. However, we needed mentoring to understand how to apply that in the classroom. Holy has studied in interior design and worked in industry as an intern before getting a job in academia. Since she felt that she was not ready to teach diverse students in design education, she tried to overcome this reticence by collaborating with others. Learning about CRP and CP is essential for working in higher education. My other colleague Shirly also advocated for learning about cultural diversity. She has a positive personality and was more open minded after living in the Netherlands.

<p style="text-align:center">***</p>

Shirly: Actually, when I was in Minnesota, it was too hard. I did not say a word in class, and just sat there like a fool. Some faculty members would ask, "What was your thoughts?" Whenever I hesitated to answer, I thought poorly of myself. I hated this situation, but alternatively, it was very natural because I'm an international student. So, even when I came here as a Ph.D. student, I didn't think I had to learn a lot of things rather, I thought I should learn things beyond class content.

I: It's interesting. Can you give an example?

Shirly: For example, when I had to do projects in a class, I could learn to build relationships outside class. I would work on communication skills with other students from different backgrounds. I only needed to learn one thing. It was enough. Actually, sometimes, I felt too stressed to overcome the situation. So, alternatively, I thought it was less painful disregarding content. After that, I could enjoy studying without stress.

I: How did you know that?

Shirly: I remember when I was in the Netherlands. I think it was helpful for me to hang out with friends from different backgrounds. I honestly didn't remember what I had learned in class. It seemed like learning social skills and talking with friends who did not know each other well was important.

I: Wow, this was a great experience in your life!

Shirly: I had self-confidence associating with others. It was important to learn real world design beyond text and theory-based learning inside classroom. Since Koreans have lived within a monoculture historically, it is impossible to understand multicultural aspects in the U.S. within a short time. Furthermore, our educational system was different from the U.S. so, I think we need to communicate with others frankly. And we need to learn to think critically and discuss ideas with others. You know, the Korean attitude toward discussion was different from U.S. culture.

I: I also agree with that. So, I am researching about culturally relevant pedagogy, critical pedagogy, and the value of lived experiences in design education.

Shirly: I think you're very clever and your research topic is unique and creative!

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Their voices in new era: Struggling

I felt
I was a fool & nothing
in classroom
in the U.S.
Studying for Ph.D. degree
were totally different from
one-year study abroad
I realized I am minority in the U.S.
It made me be daunted

Other students were
talking & talking
discussing
I did not know well
How I could appeal
How I could get an appropriate time
to talk in my turn
When is my turn?
Where am I?
What I am doing now?'
I recognized myself as being trifle in classroom

I did not know
how respond to that situation
Relationship
between professor and students
were different from Korean
Attitude between person to person,
social/cultural norm, and
design process and approach were
different
Even though I had experiences
in another country to study
It was hard to adjust to the new environment
as minority

I felt myself as tiny dust
Look back on,
it was
the most cold,
the worst situation
in my life
Lonely time

<div align="center">***</div>

Regarding EBUD (Engineering-based Bottom-up Design process), 44.5% of my

colleagues preferred the process as a systematic approach and analyzable reason based on

users' opinion. Jessica mentioned that the analyzing user's opinion and research process

is the key point of designing under EBUD. She preferred analysis process rather than

combining process in design. She showed her design portfolio of what she had done without hesitating. She said,

> *"I don't have any arts-based design works, rather, I can show what I have done under EBUD. I prefer this process because I love analysing (laughs)."*

Jessica's design work was also conducted in Human Factors in Design class as in Figure 15.

She analyzed problem of elderly people's challenge to wear a bra based on physical aspects such as fit, mobility, comfort, to test usability. From identifying problems to developing prototypes, she had focused on user's opinion and solving problems.
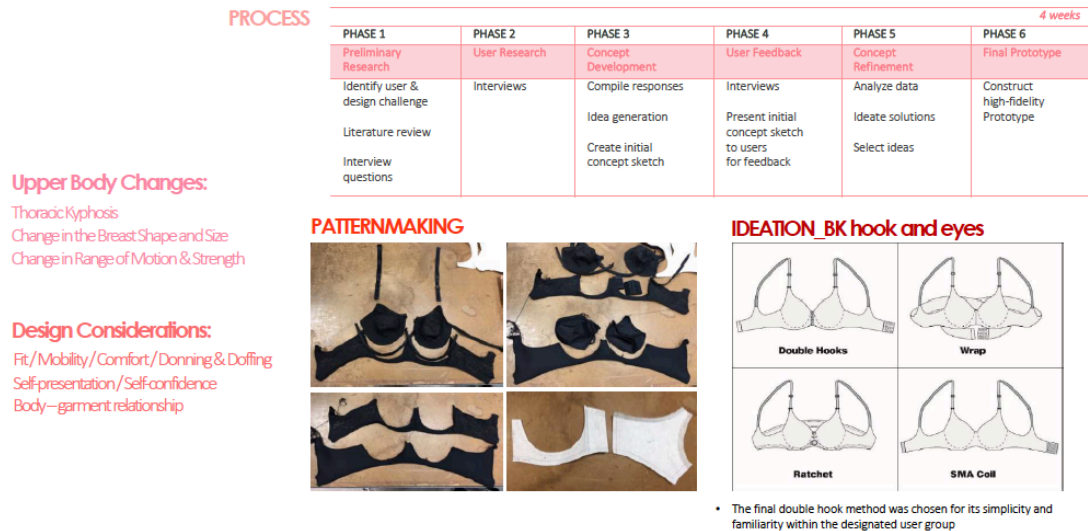
Figure 14. Jessica's design work based on EBUD.

The key point of EBUD is to listen to user's opinion and reflect their voice developing ideas, and sometimes users can participate in design process directly. Designers' role in EBUD is to understand their opinion, and solve problems based on research process.

Listening to user's opinion is important to develop diverse creative ideas while collaborating with others. Then, how do we understand their real voices and reflect their diversity in design? Is it possible without knowing cultural diversity? Many of my colleagues in the College of Design have regarded art as subjective and a tool of self-expression at first. They dichotomized the meaning of art and design, design practice and design research at the beginning of the conversation. However, when I explained the meaning of arts-based research, postmodern art based on mass media and multiculturalism, they could understand what I said the relationship between art and design. They also accepted why I would like to say practical design works could be regarded as design research based on arts-based research methodology. When we regard art and design as a tool for changing our society, we can balance the meaning of ABTD & EBUD. Balancing means art + engineering-based bottom-up design process leads the public to engage in the art + design works. Both are pursuing solving problems within diverse ways, and we need to balance them as art + design educators in the postmodern era. Further, the most important thing in art + design education is developing creative ideas in both ABTD and EBUD. After discussing our stories both in ABTD and EBUD, they were all advocate for the value of developing creative ideas through diverse lived experiences. In addition, when I asked them what good design is and what creative design is, they all answered that it should be sustainable, and should include functionality, usability, and great visualization. Then, we can call it good design, and it looks good. So, we can redefine the aesthetic meaning of design as balancing functionality, usability, and appearance within diverse cultural aspects. To understand this, we need to balance curriculum within diverse cultural aspects. As Berk (2013) mentioned, design should be

developed within culture-cantered design process. She assumed that the design process is culturally sensitive. She points out the difference of aesthetic response in culture-centered design process between professional designers and users within different cultural backgrounds. Since the cultural context, date, time, place as well as values and ideals of a society can affect the aesthetic perception (DeLong,1998). The analyzing multisided perspectives of culture and contexts allows audiences to understand when designers intended to express cultural diversity through design. However, if end users can participate in each process of participatory design, the strategies and challenges will be different in the whole process. Designers should figure out different cultural contexts with participants like my CBPR project. Then, how do we educate students in design education to conduct and develop participatory design process? It is the "how" matters not the "what" matters in design education. It is interrelated with pedagogical approach, especially culturally relevant pedagogy and critical pedagogy understanding multiculturalism. Without understanding this background, design educators would struggle with cultural issues in design process with students and diverse community members. During our conversation, all colleagues advocate developing creative ideas for both ABTD and EBUD in the future design education. Since, the main purpose of design education is to improve our society and make a better world with creative ideas, we, as design educators, need to educate students to learn these processes. They all pointed out the value of learning diverse aspects in developing creative ideas with balancing ABTD and EBUD in design education. To balance ABTD and EBUD with understanding cultural diversity and inclusive aesthetics is the first step to develop creative and innovative ideas.

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Monika: I think the U.S design approach is also good. Because we are not living in the past, we are living for the present and the future, and our living culture has already become accustomed to convenience in capitalism. In the past, the top-down process was vague without listening real users' opinions. In the future, however, there will be more fashionable and functional clothes. And there are lots of clothes that are related to biomedical and health fields. So, it is important how the aesthetic part is combined with this functional apparel. In contemporary era, I do not think consumers prefer 100 percent visually oriented approach with less focusing on functionality and usability."

I: Can you tell me more about the aesthetic approach you describe?

Monika: I mean aesthetics in all our lives. It means all things people feel in everyday life through five sense. So, aesthetics includes color, texture, shape, and all design elements such as functionality and usability, and philosophical aesthetic as well. Because aesthetics is our life.

I: That's a good point, aesthetic is our life, from philosophical aesthetics and everyday aesthetics.

Monika: I think so. Well, even though the product is very functional and useful, if the product is not beautiful, nobody will purchase it. So, the aesthetic is important in design, and it should include all aspects in the contemporary era.

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Holy also generated ideas regarding a holistic view of aesthetics in design education.

Holy: I always have supported the multi-perspective in design. I mean the aesthetic, function, and usability. I think creativity is important in design, but it is a dilemma how visual creativity could not interrupt evidence-based design. I have thought how artistic matter could be dissolved in practical design with function and technology. It is the most important element in developing good design under limited condition. But I don't know how I could do it well.

I: I know it's important and difficult, so I think it can be taught in our educational system.

Holy: I hope so in the future, I have to teach this to students as well. I have to be trained, first (laughs).

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Shirly had studied design as an undergraduate degree in South Korea, and she is studying retail merchandising in the U.S. But she knows the value of a holistic view of design education.

> *"To me, design is at the intersection of aesthetics, selling in business, functionality, technologies, and productivity. I was not trained well to develop design products visually, but I know it should be harmonized in our education."*

Jasmin has studied arts-based design in graphic design, but she also recognizes the value of problem-solving process in EBUD. So, she pointed out the value of creativity to solve problem, but at the same time, she advocates that design should be based on artistic sense as well.

Jasmin: Design is based on a problem-solving process. It means good design should be functional, usable, and aesthetically beautiful. So, it should be recognizable for public

sustainably. Creativity is very new and innovative, and a key point of good design. Creativity makes public good design sustainably. In this sense, creativity contributes to sustainability.

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All participants agree with the value of lived experiences to develop creative ideas inside and outside classroom. As international students, we have potential power to solve diverse problems because we have had hybrid cultural identities, and experienced eastern and western culture even though it was very harsh at times. We need to encourage students to conduct them as well directly and indirectly. We need to share our ideas and cumulative ideas as design educators. It is important to encourage students to experience diverse aspects in everyday life.

Creative and Critical Thinking in Design

75% of participants point out
Creativity is valuable
It could be trained
through observing everyday activities
meaning making every day aesthetics
It should be trained
inside and outside classrooms
Lived experiences is valuable
inside and outside classrooms

Creativity is vital resources
to develop good design
to solve problems
to interconnect
our diverse, scattered experiences and ideas

Creativity is an ability
to interconnect very different things

meaningfully
into one concept
to interweave different perspectives
into one category
meaningfully

Without diverse experiences
inside and outside classroom
in our everyday lives
It's not easy to select
unique and appropriative resources
within our bag of cognition

So,
creative and critical thinking
could change our life
could make a better world
Creative and critical thinking is an ability
to distinguish human beings
from Artificial Intelligence

Part 5. Now: Who am I?

I have overcome most of the difficulties in this new environment again slowly, and I am trying to develop a balanced curriculum for design students' reflexive, creative learning. Now, I can respond to "Minnesota Nice" naturally. I know we are the same human beings, and feeling similarly, but we just express ourselves differently. I am still a marginalized student in the U.S., but, now, I know the ways of life. Our social norms could be different from each other because of our diverse experiences. The important thing is that we needed to communicate with each other straightforwardly and let others know what we did not know.

I actively tried to learn what I needed to know by attending a conference in another domain, working in an internship in a Somali museum, and taking part in extra-curricular activities. In spring 2016, I attended a conference, Structures for Inclusion: Structural Changes-Mission, Profession, & Education. Since it was about the community-based participatory research (CBPR) process in design with real-world project examples, I thought it could be a great experience to see and hear what they explored. The conference usually focused on architecture and landscape design domains, but it did not matter to me (See Figure 16).
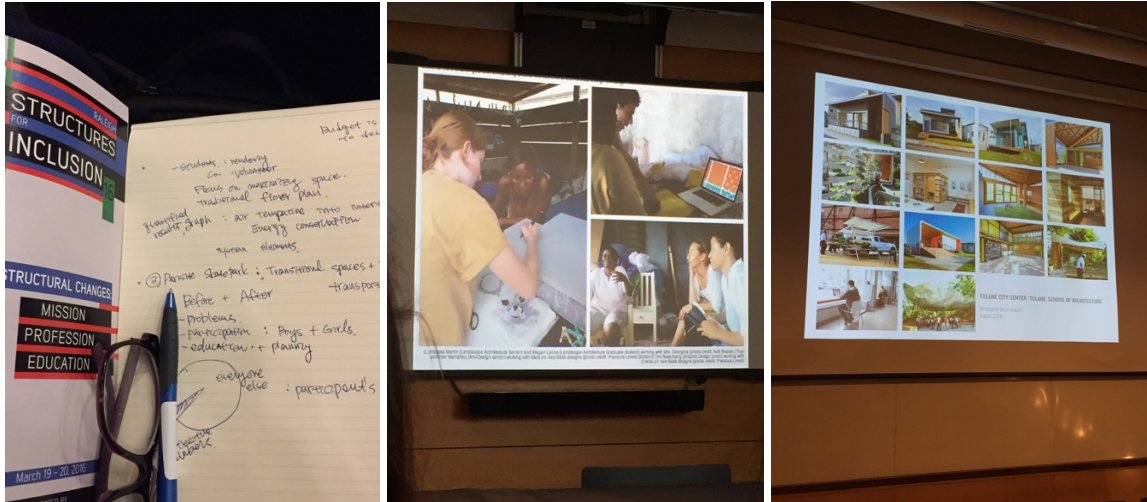
Figure 15. Understanding CBPR in Structures for Inclusion conference in 2016.

A lot of design researchers discussed cultural issues and sustainable relationships in developing projects rather than only "designing" matter. It expanded the meaning of design to give bigger impact in our society. A professor at the University of Cincinnati mentioned cultural issues within CBPR at the conference.

> *"If we do not understand the meaningful culture of participants, we could make a mistake to them in the global era. It could be post-colonialism."*

Also, I could learn different approaches in design and hear others' experiences through the conference. I met a Korean friend, Daniel who won a prize for participating in a project in Kenya. He got a prize because he successfully balanced ABTD though meaning-making process and EBUD to solve problems. He appropriately understood indigenous participants' cultural aspects and used culturally oriented materials to develop creative ideas through listening to their own voices. I heard his experiences and his challenges in a CPBR project as well. We discussed together and saw our future design education. He had majored in architecture in Harvard University, but was also interested

in my experience in the Somali girls' activewear design project, as well. Meeting new people in a new place was a good experience, as it could broaden my knowledge.

While remembering the Somali girls' activewear project, I also wondered what went wrong in the project, and I wanted to experience Somali culture directly in the U.S. I contacted the director of the Somali Museum of Minnesota. When I met the director of the museum, many Somali community members looked at me strangely. The first time, I felt threatened by their behavior and loud, aggressive speech. I then realized I had a stereotype of Somalis, feeling fear unconsciously from media exposure of Somalis as terrorists. However, the stereotype was a complete misunderstanding of them. Their attitude and strong intonation made me act defensively, but that was just their expressive behaviour. They were very kind and straightforward to me gradually, and I also opened my mind to them. They already recognized that other people disliked negative media portrayals of themselves and other Somalis as terrorists in the U.S. Therefore, they wanted to let others know about Somali culture positively through a traditional "dance troupe" performance and any other displays of traditional culture in the museum (See Figure 17). I only worked three months with them in summer 2016, but I could associate with them naturally.
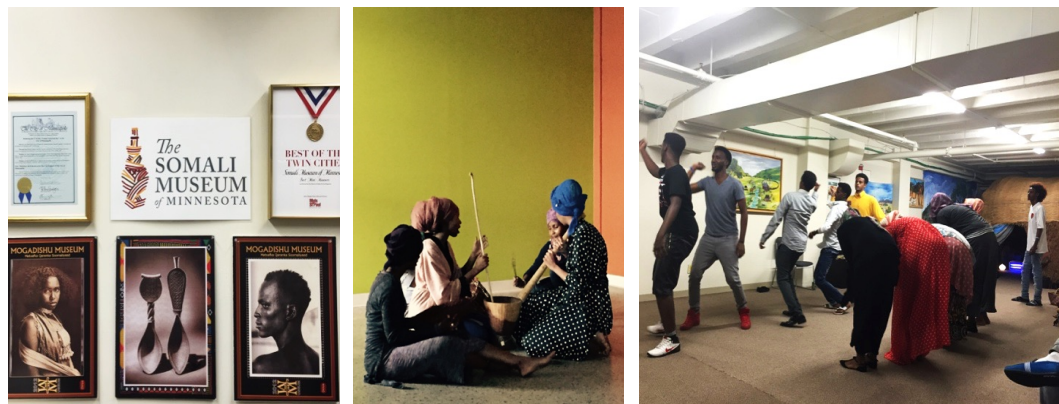
Figure 16. Dance Troupe team in the Somali museum of Minnesota

I realized what I had misunderstood about the Somali culture in the Somali girls'

activewear design project. There was a big gap in understanding their traditional Somali

culture among U.S. born Somali kids, immigrant Somali youth, and their parents because

what they learned and experienced in childhood was different fundamentally. University

researchers in CBPR, however, understood Somali culture through theoretical research

about Muslim-oriented traditional Somali culture. That prevented them from

authentically understanding Somali girls' culture. Further, when I visited an African

festival (See Figure 18), I acknowledged that the national flag of Somalia is designed

with blue and white.
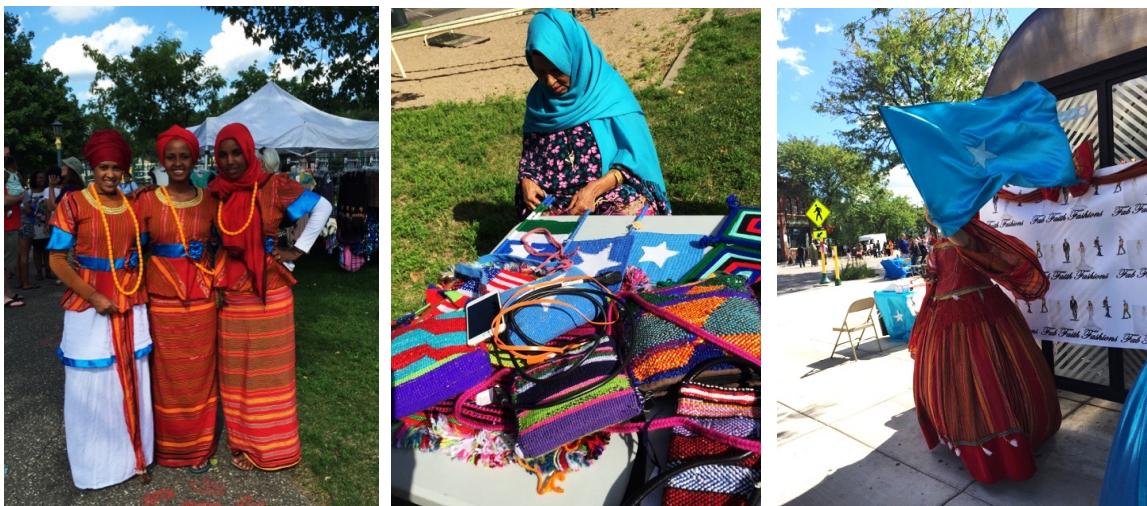
Figure 17. Somali culture in African festival in 2016

Finally, I understood why participants selected my design with blue stripes in the

Somali girls' active wear design project. In the Somali active wear design project, several

participants said, "Blue color reminds me of experiences in Somalia, I miss it" during the

participants' evaluation session. Striped patterns are a symbol of Somali traditional

clothing, and the blue color reminded them of the Somali national flag and the blue sky

of Somalia. When I designed the active wear with blue stripes, I only focused on design

principles to improve their active appearance, but the participants understood it based on their "funds of knowledge" (Gonzalez, 2005).

While doing the extracurricular activities, I realized that we should recognize and accept the "differences," and we should not judge others by our own norms and stereotypes. I realize that my experiences, both in ABTD and EBUD, are valuable toward "transformative knowledge" in teaching and learning in design education (Sullivan & Gu, 2017, p.54).

After experiencing my misunderstanding of culture, I decided to take culturally relevant pedagogy in fall 2016. It was a different domain to me, but I would take it for my experience and my research interests. When I tried to take culturally relevant pedagogy class at the beginning, I thought of culture as traditional something based on time, place, and race, initially. However, learning funds of knowledge (Gonzalez, 2005) concept in culturally relevant pedagogy allowed me to rethink how culture is getting to be dynamic and hybrid and how it affects human beings' fundamental knowledge and perception. In other words, I found out what was wrong to understand cultural differences in design education. Through an interview with a teacher in Saint Paul who took the culturally relevant teaching course, I could experience the U.S. K-12 classroom and their new teaching and learning environment (See Figure 19). The teacher said,

> *"After learning culturally relevant pedagogy (CRP), I could understand diverse students and interact with them effectively as a white teacher."*

Even though the same contents of learning, teachers were focused on diverse students' backgrounds in learning and teaching and advocated for their diverse expressional ways and learning styles and mounted them to share it with all students in the classroom. I

realized that CRP has an impact on developing creative ideas and associating with diverse students and communities in design education in higher education as well. Not all educators are practicing CRP from K-12 to higher education, but we need to understand and apply it to educate students and associate with diverse communities for future design education.
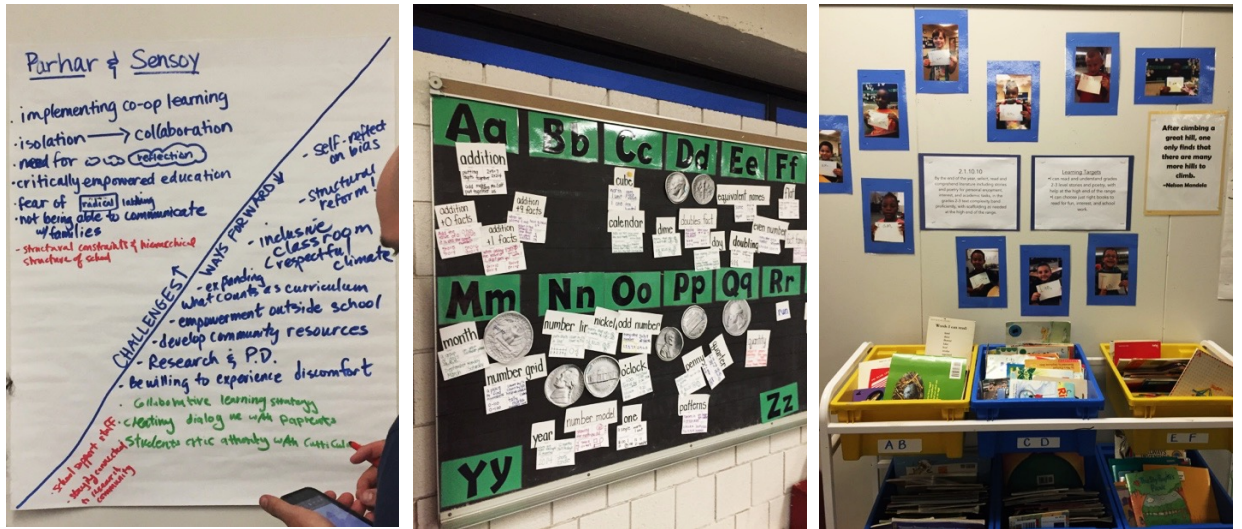
Figure 18. Culturally Relevant Pedagogy in K-12 classrooms.

Now: Who am I? (Why am I here?)

I am in a new environment again
Learned the difference in teaching background
between Korea and the U.S.
Learned hybrid culture and identity in the postmodern era
Learned new research methodologies
Worked in the Somali museum
for an in-depth understanding of their culture
Everything is broadening my mind

I am trying to let others know
cultural differences and hybrid identities
I saw the light here.
I am learning arts-based research and
realizing that all my past days
are valuable for teaching and learning

My experiences are all funds of knowledge
Trying to develop a balanced curriculum
for students
Trying to apply my funds of knowledge
to a teaching philosophy
Trying to understand students in-depth
through straightforward communication

I don't know
what will happen in the future
But, I hope
it will not be worse than my memories in 2014
I appreciate arts-based research
to interconnect my rhizomatic experiences

If you ask me
"What would you want to change if you could go back to 10 years ago?"
I would choose the same way
even though
it was a long and hard way
…
Because
I love
teaching, researching,
and designing
Everything is
meaningful

To discuss culturally relevant pedagogy (CRP) and critical pedagogy (CP) in design education, I would like to say again the aesthetic response in both ABTD and EBUD. In ABTD (arts-based top down design process), professional designers can design with their own experience and philosophical aesthetics based on social and economic phenomenology. The aesthetic value of a design is evaluated by professional designers and then, consumers would select it. Then, how could design educators evaluate aesthetic value in CBPR based on EBUD? In CBPR, multiple stakeholders are involved in a project, and professional designers are trying to arbitrate the aesthetic value with participants (See Figure 20). Can all participants evaluate good design based on hierarchical aesthetics, functionality, and usability, as Jordan (2000) mentioned? Functionality can be explained by the product itself, if it works well or not. And usability can be explained as the relationship between humans and a designed product, if it is easy to use or not. So, Jordan (2000) explains the relationship among aesthetics, functionality, and usability hierarchically.
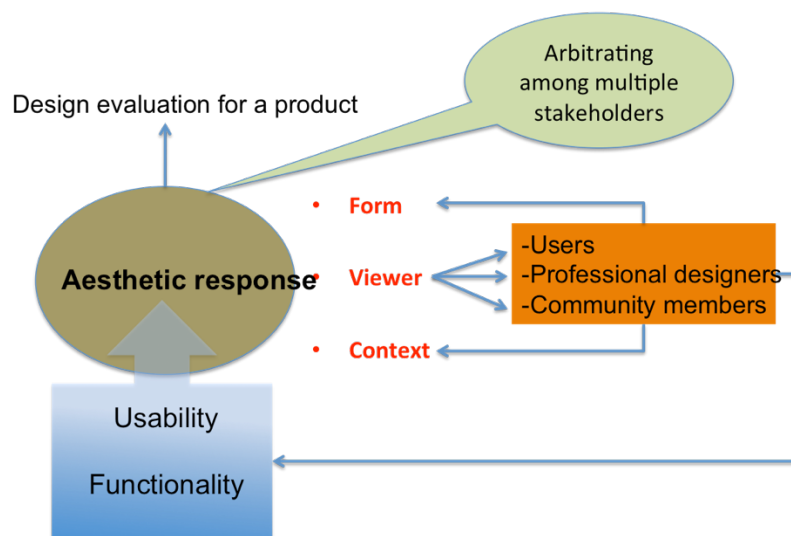
Figure 19. Framework for the aesthetic evaluation in CBPR.

As DeLong (2015) mentioned, aesthetics in design involves understanding what we value without consciously understanding how and why such a peak aesthetic experience took place. Therefore, aesthetics can be approached from different perspectives, and a framework for considering these various perspectives is helpful to understand the aesthetic experiences. Aesthetic response involves perceiving and resulting experiences, such as what one likes and selects as an expression of preference (DeLong, 1998). Understanding one's aesthetic response comes through awareness of the "form," the "viewer" or "user," and the physical and cultural "contexts," and the interactions that take place among them. DeLong (1998, 2015) outlines the aesthetic response related to dress and fashion, but it could apply to all designed products based on visual culture. Since we can consider advertisements as cultural circumstances with special meaning (Sturken & Cartwright, 2001), we can understand and interpret the meaning of these images. Further, the language of visual art and patterns can differ from individuals' experience and knowledge (Myers, 1989), and decorative designs can be analyzed by viewers' different perspectives based on many factors, both physiological and psychological. This is the "perception of order" (Gombrich, 1979). Lastly, the architecture and interior design are also a kind of art based on sociocultural aspects (Quinn, 2003). In the aesthetic response to design, the "form" represents a distinctive arrangement of colors, textures, lines, and shapes including the entire unit of analysis on visible appearance. The "viewer" may be the observer of the form or the user. Each viewer brings individual traits such as gender, age, personal aptitudes and skills, knowledge and experience, likes and dislikes. These individual traits affect one's response (DeLong, 1998). It could apply to an individual's "pleasurable experience."

119

According to Jordan (2000), human beings have four-pleasures beyond traditional usability in a product: physio-pleasure, socio-pleasure, psycho-pleasure, and ideo-pleasure. These pleasures are based on individual experiences and relationships with the environment. The viewer's pleasurable experience can ultimately affect his or her aesthetic response. Jordan (2000) provides an overview on how holistic knowledge about a person's lifestyle and values can be used as the basis for creating a product benefits specification, which in turn, can be used as the basis for making design decisions. Next, the "context" is the physical space, which immediately surrounds the form, as well as the cultural milieu. The context includes the time, place and current and past values and ideals held by the viewer's society (DeLong, 2015). One's individual experience and aesthetic response represent one perspective, and this includes the experiences of oneself for individual satisfaction. If the aesthetic response is different from individual perspectives, how do we view the collective response? As Forsey's view in *Aesthetics of Design* (2013), when we judge something as a "good design," how do we make that decision, and how do these experiences and judgments differ from those of other aesthetics objects? For these reasons, DeLong (2015) suggested that sorting out and reflecting upon what is individual, collective, and universal in our response is needed to understand aesthetics, as well as to recognize the importance of interrelationships in aesthetic response. Then, how do we define aesthetics in design?

Determining the definitions, meanings, and value of art, and deciding how art is to be approached are the core issues of aesthetics in art education (Anderson, & McRorie, 1997). This issue is important in design education, as well for developing a curriculum. In theoretical and practical terms, how can aesthetics be used to generate the core

concepts that result in a systematically coherent art and design program? Anderson and McRorie (1997) suggested a balance between formalist aesthetics and contextualism. This assertion could support DeLong's framework of the aesthetic response (2015) in design. Formalist aesthetics focus on the elements and principles of design and manipulate materials with a focus on the mastery of particular media and the originality of art works. On the other hand, contextualism regards art as a social communication system. The meaning for the same symbol can vary in different cultures and times because the meanings are assigned. Therefore, pragmatists believe that "art should do something worthwhile for members of the community that produce the art" (p. 208). Contextualism is closer to the meaning of developing CBPR in design education. Therefore, there is a thread of connection between Anderson & McRorie's (1997) view and DeLong's (2015) one; thus, design educators have to balance aesthetic value between formalism and contextualism.

Then, how do we approach the view of holistic aesthetic value in design education? It is a culturally relevant analysis in design evaluation including usability and functionality. To achieve that, designers should have flexible norms in evaluating the design. In design education in higher education, educators have to encourage students to experience diverse cultural aspects through participatory design process. Through associating with others with different backgrounds, students can learn "diversity" and "creativity." In design works, collaboration with others is important. Since products are designed for clients with different views, students need to learn and listen what clients want in design. Then, they can apply their own creativity to clients' opinion in a designed product. If I define visible "appearance" as color, shape, surface, decoration, and

combination, it should be harmonious with functionality and usability of being a "good design" as a holistic aesthetic value. Based on these harmonious perspectives, the aesthetic value should involve sociocultural differences and philosophical values affecting human being's pleasure (See Figure 21).
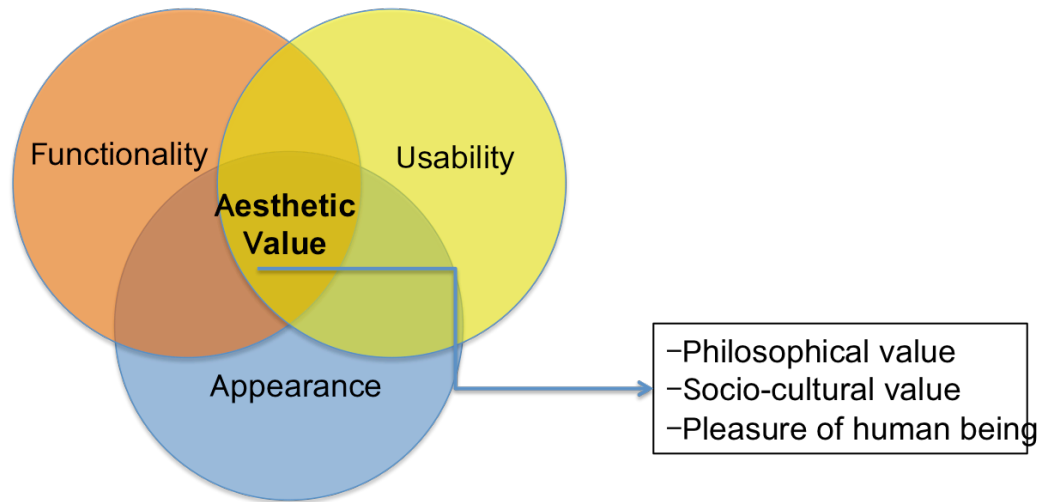
Figure 20. Harmonious perspectives of aesthetic value in design.

Through engaging in diverse discourse and practices in the field, students can learn experiences to develop subjective knowledge and practical skill within art and design education. Therefore, learning art and design is valuable for students as a tool for personal growth and as an interconnecting objective and subjective knowledge of the world through critique discussion of multiplicity (Winter, 2011). CBPR in design education could have a core value of raising awareness for the next generation to develop participatory design process. As Moll & Gonzalez (2004) mentioned, "The student is no longer defined solely by what happens in the classroom, a reduced social context. The student is now understood as a person who partakes in a broader social life, which also includes the school and classroom" (p.701). Specifically, design students in higher

education can expand their experiences with a pragmatic problem-solving process and can build multiple relationships through CBPR (Brown, 2019; Fisher, 2016). As Johnson (2013) said, the creative and innovative ideas come from fluid networking information, not by dramatic "Eureka" moment. Continuous researching and connecting works should be followed via numerous experiences by physically and emotionally, because these cumulative experiences can be a great resource of creative designing. To learn and develop creative ideas in design education, art + design educators should keep in mind CRP (culturally relevant pedagogy) and CP (critical pedagogy) to respect students' alternative, cross-cultural experiences, and as a result, "diversity could be developed in a design class". (Asojo, 2013).

As a design-oriented educator, I aim for "unflatness" in learning and teaching (Sousanis, 2015). "Unflatness" is interconnected with "creativity" and "reflexivity" (Rolling, 2013), and it has a core value in leading students to learn something new. Future education should create "unflat" environments for nurturing creative students. Further, teachers also keep learning the "unflat" and "reflexive" thinking of diverse students as Freire (2000) said. Based on my rhizomatic experiences, I could create my inclusive teaching philosophy.

Teaching philosophy

I came from a top-down design field
Now I am learning a bottom-up participatory design process
I remember struggling with the different approaches of design
Trying to create a new balanced curriculum
What can I do?
What can I do?
Encouraging students to learn
creative thinking
critical thinking
reflexive adaptation
Now I pray for a better world to learn
I am practicing and learning

Students are learning in a small room
with short-sighted
fragmentary knowledge
They are afraid of grading
They are competing with others for grading
What can I do?
What can I do?

I will focus on transformational learning,
meaningful learning, and critical thinking
Creativity comes from critical thinking
Creativity comes from diversity
Creativity comes from reflexivity
Go with diversity and reflexivity
rather than with outcomes and competition

Build sustainable relationships with others
in a community-based participatory design process
within interactive discussion
Start the meaning-making process in creation
And then,
Understand the problems what the community has,
Understand cultural and social diversity in designing

Go outside and open your five senses
Face up challenges
within a flipped classroom
If so,
become
knowing and experiencing
doing and making

sharing and revising
from aesthetic and philosophical value
to the problem-solving process

You could go to a museum
You could set up a journal club with colleagues
You could take pictures or make a performance
You could follow an independent schedule
You could attend another seminar
You could interview with others
For your own learning and growing

Then,
How can I determine your diverse value?
How can I judge your creativity alone?
How can I combine objective and subjective value in assessment?
What can I do?
Alternatively
Reflexively

Open my mind
Then,
layering and
mixing them up
based on a co-assessment system with students' self-evaluation
Talking and listening to students' voices
Let's share with other students
Let's share with other disciplines
focusing on the process rather than products

I am a learner
Keep learning
Keep improving teaching based on students' mid-term evaluation
Every endeavor can be my knowledge
Cumulative knowledge can be my experiences
with an open mind
Share my stories
for a better world
It does not be the same tomorrow

As Csíkszentmihályi's 'flow' concept,
Students will learn to design as of intrinsically rewarding
rather than to achieve external goals
As Dewey's belief on the lived experiences in learning
As Freire's anti-oppressed pedagogy,
I will lead students to learn flow in their everyday lives

Their voices: Overcoming

I was wondering how others could overcome challenges in different educational environments and culture, and how others' viewpoints could be changed under multiculturalism. At the end of conversation parts, we discussed how hard it was to overcome, and how we could grow up gradually with invaluable experiences.

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Monika had lived with an American friend, who was teaching in K-12 education in Minnesota and having an adopted Korean sister, while living in Minnesota. Monika was very lucky to adapt to a new environment and to understand different culture with the friend.

Monika: Actually, I had no worries at the beginning of the studying in Minnesota because I had lived in Italy and had my own business in Korea. Since I had a lot of experiences, I had self-confidence. But, the first six months was hard for me to adjust. To be frank, I might be better than other students with diverse experiences, but I also felt fear. Especially, cultural issues.

I: How did you overcome it?

Monika: Well, I was lucky. After six months, I lived with an American friend. She was teaching English in a K-12 setting, so I could learn real American English. You know, even thought we had learned and studied English in South Korea, the meaning and terminologies are different from 'Korean English' somewhat. But after associating with her, I could learn and understand the U.S. attitude and culture.

I: Wow, you were so lucky. Can you tell me more about your story?

Monika: Sure, my friend also had a sister who had adopted from Korea, and she was very interested in Korean culture and already familiar with Korean. So, we could live together without prejudice and stereotypes. We could converse with each other straightforwardly, and I did not hesitate to ask anything. She also had no stereotypes of Asian culture.

I: That's a really good experience to live together and associate with an American friend. It's valuable.

Monika: Absolutely! Just learning inside classrooms has limitation. Associating with others with different backgrounds and culture is crucial to learn diversity and to be able to understand others truly. And another thing is an open mind for flexibility without stereotypes. You know, many people already have stereotypes with cumulative learning in our culture. But it could be dangerous.

I: I think so, too!

Monika: And my lived experiences in Italy was also helpful to overcome the life as minority in the U.S. and to expand my viewpoint in different design approaches. So, it is important for students to experience diverse cultural aspects directly and indirectly as well. You know, we are all design students pursuing design educator in higher education. Anyway, my key point was to meet and associate with diverse people and learn different viewpoints! It is very helpful to develop creative ideas in our field. You know, in this sense, your experience in the project with Somali girls' activewear design was a great opportunity for you. I think so.

Yes, truly I think so. I also deeply understand different culture and experiencing others actively engaged in projects and events and associating with them outside the classroom. I was a lucky person to be able to experiences a diverse design process within different cultural aspects.

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Shirly mentioned having an open mind to teach students as a overcoming tool. Since we usually think we should be able to know much more than students in teaching students in classrooms, we get stressful. I also had thought like that before learning critical pedagogy (CP) in Curriculum and Instruction. However, the reality is that we are facilitators rather than instructors. It means that we could learn from students as well, and further, students could teach each other with their diverse cultural knowledge and backgrounds in higher education. Especially, art + design education should be developed within cultural diversity, so we need to learn from students and diverse communities associating with them directly.

Shirly: As I said before, I was so terrible my first year in Minnesota. Even though I had studied in the Netherlands, you know, I had to study for a Ph.D. degree in Minnesota. It was a totally different stress level. Further, in teaching, I was so stupid at first. I felt fear in front of students wondering if I was wrong or not. I was worried if they were judging me as a fool or not.

I: I understand. I also remember when I taught students in Minnesota at first. I was so nervous!

Shirly: Exactly! But I realized that students also had little idea about an Asian teacher with a language barrier. And they could have taught each other. I mean when I realized I

<center>128</center>

could learn something different, terminology, or even their own lived experiences from students, I could be flexible and feel much better. When I asked something of the students, they could respond well, and we could be closer with each other. I think it could be cultural difference of attitude between faculty and students. That made me feel better and have self-confidence.

I: You were learning critical pedagogy by yourself!

Shirly: Really? Actually, I don't know enough about pedagogical approaches, but my lived experiences in the Netherlands and the U.S. allows me to think like that.

I: Absolutely! The lived experiences are key point to learning diversity and to understand critical pedagogy and culturally relevant pedagogy for students-oriented learning! That's my dissertation topic!

Shirly: Great. I advocate for your topic and stories!

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Cristin is an assistant professor in apparel design with a product development focus. After graduating from the Ph.D. program, she accepted a position in California and has been teaching students from diverse backgrounds for two years. She never taught during her graduate program so when she had a difficult time adjusting to life in Minnesota, she dug in and concentrated fulltime on studying. However, she told that associating with students and understanding diverse cultural aspects are more difficult than adjusting new environment alone.

Cristin: Yes, I'm still struggling with teaching, but I am overcoming. To be frank, at first, my students just regarded me as a short Asian faculty member and paid little attention to my teaching. But I keep an open mind and have tried to improve my methods

and better understand their different cultures and keep associating with them.

Understanding different culture is harsh to Korean students. You know~!

I: Yes, it should take it step by step.

Cristin: Exactly! If I could have learned more and been trained, I would be able to teach them better. And without fear. I was so nervous and felt like a fool at first. I do not want to remember that time.

I: I understand. You had no experiences teaching directly during the Ph.D. program, right? You just had taught students as a TA, as you mentioned. It is pretty different from direct teaching. I know.

Cristin: Absolutely. I regret not associating much with others in Minnesota. I was too busy to have time with others. But now I am learning different cultural aspects from students. And the learning environment in California is pretty different from Minnesota. I mean in the diversity. I am also learning from local communities.

I: Then, what do you think about balancing curriculum, ABTD and EBUD?

Cristin: Absolutely agree with your ideas. Currently, I only teach product development based on EBUD. But the arts-based approach also should be taught to students. I think it is needed for student-oriented learning. Last semester, I got the best teaching award from students (laughs). I am improving step by step.

My colleague Jessica also mentioned keeping a flexible mind to overcome challenge. She recommended staying positive. She had also struggled in Minnesota, studying and working within a different educational environment and culture, but she learned to ask directly for help.

Jessica: Alternately, I always ask other faculty members or students when I have questions without prejudice about a different culture. Because I am an international student, and it is natural not to know, I do not hesitate to ask for help.

I: Always? Then, you don't have any challenges in adjusting to a new environment.

Jessica: You know, it's impossible not to have challenges. I am just living and overcoming challenges. As I mentioned, it is a path to be grown up with lived experiences I would never have if I were still in Korea. I think positively! You know, the U.S has a diverse cultural environment. It is a very hard environment to understand the culture exactly, but alternatively, it could be a great resource to learn diversity. I can use it to learn to be a great educator!

I: You are so brave and positive!

Jessica: Thank you! To be frank, it is how to survive as a minority without stress. We need to learn to actively engage in any projects and conversation in the U.S. to survive. It should be trained. I think so. We are doing well. You too~!

I: Thank you, Jessica! You cheer me up.

Self-awareness: overcoming

Associating with diverse people
allow me to open mind
It made me understand
students' diverse opinion
and background
If I were just in Korea,
we never know this diversity
It is important to learn
diverse perspectives
inside and outside classroom
We are still struggling with new environment

But
Now I'm better than the first year in Minnesota
The second time, I felt better than the first time
The third time, I felt better than the second time
We are overcoming & challenging
obstacles
step by step

It's stressful to live as a minority
But,
we could learn in-between situation
we're opening our thoughts
we're going to be flexible
we're reducing stereotypes and prejudice
as a good design educator

As a final question, I asked my colleagues what is our role as design educators? They told me it looked like any job interview to be a great faculty member. So, they have prepared and thought about that. Some colleagues are already teaching at the university level, and others are looking for jobs in design domains in higher education. We are all future design educator. Only 37.5% of interviewees could take part in community-based participatory design process in a specific project, but all have been involved in diverse EBUD projects during their Ph.D. program. They realized a need for project involvement with students from diverse communities' for sustainable improvement in daily life as design educators. They wanted to contribute their ability to students and communities with creative ideas. We are all design educators with hybrid identity and need to solve problems with creative ideas working with students and communities. We are facing paradigm shift in design education toward community-based participatory design process, CBPDP. We need to have specific direction to teach it to students based on CRP and CP.

And we need to learn and teach diverse design processes with students and communities to bridge the gap between academia and industry. They all said,

> *"Now, I have hybrid identity in the U.S., and have lived as a minority with diverse lived experiences. I would like to share my ideas and experiences with students to broaden their perspectives."*

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I: Jasmin, what is your role as a design educator? Have you ever thought about that?

Jasmin: Sure, I think I need to bridge the gap between academia and industry. As I learned in Italy, it is important to meet real designers and real consumers in academia with diverse design process. In teaching, I am always trying to share my experiences with my students.

I: How do you bridge the gap in academia?

Jasmin: Well, I can connect with diverse communities to solve their problems. In that case, community participants could give opinion to develop design, especially functional aspects. Sometimes, they could make a voice to generate their cultural aspects and daily life to develop ideas. Then, we can perceive their perspectives as everyday aesthetics and melt their perspectives to our storytelling as professional designers. Listening and re-analyzing participants' stories are our role to connect academia and industry. I think it is a balanced approach combining ABTD and EBUD. Students should learn the process inside and outside classroom.

I: Wow, that's what I want to develop in art + design education.

Jasmin: As you mentioned, I have to reconsider the meaning of contemporary art in design education again. It was new perspectives. Thanks! It was helpful to me.

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I: Nelly, you will be a design educator in fashion design domain. What do you think your role is as a design educator?

Nelly: First of all, I think I have to understand hybrid identity to understand diverse students' backgrounds. As you said, understanding funds of knowledge in learning and teaching is important. I think it is a key point to associate with diverse students in teaching. To do so, I will recommend students to travel and engage in extra-curricular activities as much as they can.

I: So, you are reflecting on your lived experiences to be a good faculty member, right?

Nelly: I think so. Further, using local materials and associate with diverse communities are also important to deal with diverse social and environmental issues. For example, when I have learned sustainability in design class, I had visited a Goodwill store to develop creative design works with recycling materials. I will teach students this process as well in the future. I had no project in community-based participatory design process like you, but I think it is a good opportunity for students and me as well to balance arts-based and engineering-based approaches in design while listening to a diverse public's voice and solving diverse problems. I would like to learn and take part in it in the future.

I: You're right. I was lucky to experience diverse design processes while I am learning. Even though it was hard time to overcome it.

Nelly: But you have power to handle them all. I think creative ideas come from alternative ideas, so students need to learn everyday aesthetics from our lives. Creativity could be trained in our daily lives. It is my dissertation topic!

I: Great, thank you!

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I: Monika, you will be an educator in the future in a design domain. What would you like to do as a design educator?

Monika: I would like to teach diverse aspects to students to develop creative ideas. It is not easy to travel to a lot of countries and study abroad like me, so I will share my experiences, and will expose diverse issues in our society to recognize and apply them to design. I think it's my role as a design educator.

I: Great, anything else?

Monika: As we discuss diverse design process, I would like to balance ABTD and EBUD for students-oriented learning. Nowadays, we are moving forward to a future design world. So, I have to provide more future-oriented learning in the U.S. for my students. I mean focusing on everyday perspectives to solve problems and collaborating with diverse fields such as engineering, art, and others. I think so. Today many researchers are showcasing design education topics with pedagogical approach at conferences. Because we are struggling with future direction without experiences, we need guideline as soon as possible. I think you can contribute your experiences in design education area. Good luck

I: Thanks, Monika. It's helpful for me to hear and it cheers me up!

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Jessica and Holy also agree that balancing curriculum between ABTD and EBUD has potential. They have to teach another way now with existing curriculum, but they hope to be able to teach students with balanced curriculum. Further, they both agreed with student-oriented learning with understanding of funds of knowledge to associate

<center>135</center>

well with students' hybrid identity characteristics. As design educators. they support the tenents of my research topic as a way to structure more equitable educational environments. But at the same time, they also recommended real world problems in academia based on economic issues to conduct balanced curriculum. So, I have thought of possible ways to get a grant for developing community-based participatory design process action research. Learning and associating with communities to solve our societal problems is the first step to teach students ABTD and EBUD at the same time. We need to focus on contemporary art and design education as a tool for changing society. Second, we need to teach everyday aesthetics to understand fully diverse community's real life. Learning everyday aesthetics and the meaning of balancing aesthetics in contemporary design domain is the first step to move forward to future design education collaborating with others to conduct CBPR. Without learning everyday aesthetics, it is not easy to solve problems in our daily lives.

What do we have to do as design educators?

We, as design educators,
Bridge gap
between academia and industry
between audience (consumer/community) and students
We need to allow students
to experience
diverse aspects
inside and outside classroom

As, design educators
could contribute
to our society
to our community
to make a better world
We need to interconnect
diverse social /cultural/ environmental/political issues
in design education

We have to respect
diverse students' opinion
their cumulative knowledge
We need to know
how dealing with our diverse issues
how solving problems
with creative and critical ideas

Creative ideas
come form diverse experiences
Our role is to make students have creative thoughts
Creativity could be trained
inside and outside classroom

But also,
We need to realize the realistic problems
in economic issues in higher education
We need to know "how" matters
with realistic plans
We are design educators
If we face 'problems',
We have to find out the solutions
within cultural aspects

Through the rhizomatic experiences, I am accumulating my knowledge, and that will help me develop a balanced curriculum not only for students, but also for educators in art + design (Figure 22). This process is based on Rolling's (2013) "improvisatory arts-based curriculum-making strategy" framework (p.159). It is a curriculum-making process for the arts and design education that involves thinking reflexively, wherein the self becomes both the site and an instrument of research or student learning. As Rolling (2013) mentioned, it is a non-linear process of curriculum development affected by cultural issues, and several pedagogical approaches. Further, its form is established as a function of becoming.
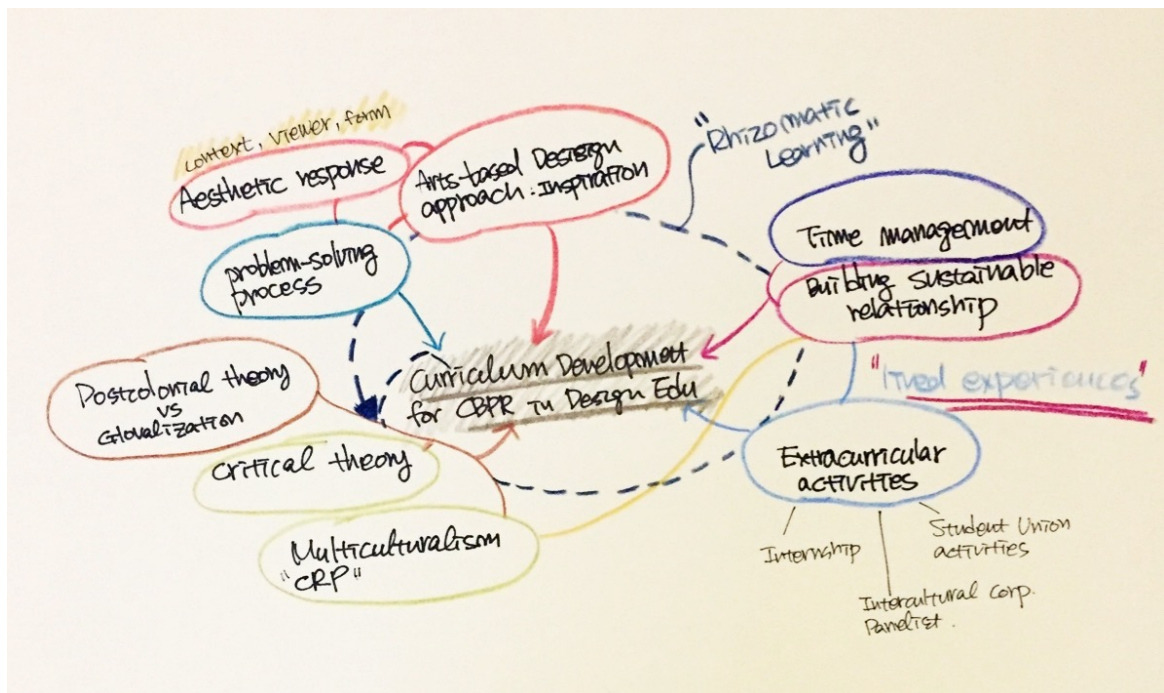

Figure 21. Improvisatory arts-based curriculum-making strategy for CBPR in design education.

Rolling views ABR as critical–activist research practice within the postmodern era, acknowledging a shift in the research paradigm to epistemological methods, including the local formulation of cultural meaning and other marginalized groups' opinions.

> *"In ABR, creative active viewer participation lead to more immersive experiences and self-authorship providing unique opportunities for teaching and learning experiences and embodied knowledge" (p.110).*

He shows how they develop and combine data by incorporating participants' diverse experiences and hybrid multidisciplinary researchers in the project. The researchers "deal with research questions and problems accomplished by identifying a matrix of community voices, and a video montage of interview with people" (Rolling, 2013, p.111). It contains the meaning of CBPR as process and product. With respect to Rolling's (2013) suggestion, I synthesize my experiences in the process of CBPR to reconstruct and represent them, as in Figure 22. I am still a learner, and I am enjoying my journey to develop a balanced curriculum for reflexive student-oriented learning. This whole process gathers great resources for balancing curriculum in art + design education for student-oriented learning: toward community-based participatory design research.

To develop a harmonious design and to teach a reflexive design process, we should reconsider design education for CBPR (community-based participatory research), balanced with ABTD (arts-based top down design process) and EBUD (engineering-based bottom up design process) in the postmodern era, as below.

1) Are we understanding multiculturalism based on funds of knowledge?

Many researchers developing CBPR in design education struggle with cultural issues and sustainable relationships with communities, as mentioned above. What is the fundamental problem? That is, design educators do not understand the hybridity of funds of knowledge beyond culture thoroughly. In the Structures for Inclusion conference in 2016, many researchers in industry and academia mentioned the challenges of cultural issues in developing successful participatory design process. They are, however, mainly focused on a stereotyped culture based on race and place, not on hybrid culture. When we understand human beings' different cultures and their fundamental knowledge, we should understand that not based on our stereotyped culture, but rather on their unique cultures through funds of knowledge. Ultimately, culture cannot be bonded, and be able to be hybrid in the postmodern era (Gonzalez, 2005). To apply funds of knowledge to CBPR in design education, pragmatic association with communities before starting a project is important for a time. As Stuhr (1994) mentioned, art is taught as it is experienced in life, as part of a social and cultural context. As Gee (2007) and Dewey (1934, 1980) also pointed out, art and design education function as life experience. Therefore, design educators should keep in mind the value of lived experiences as expanded aesthetics in education and should learn how to apply effectively it to CBPR process.

2) What is the role of design educator?

Sanders and Stappers (2008) suggested the role of designers and researchers in the participatory design process as to "lead, guide, provide scaffolds, and offer a clean slate" (p.14). When I was involved in the Somali girls' activewear design project, however, our

leadership was limited because we did not understand the participants thoroughly. Further, other design researchers in CBPR also thought that they were leaders of the project, and participants were just participating even though the holistic stakeholders should have the same voice in developing a project. In other words, they could not develop sustainable relationships with an outward understandings of the communities' different cultures. To solve this problem, I think design researchers should reconsider our role as "learners," and not just "leaders" in CBPR based on CRP (culturally relevant pedagogy). We, design researchers, are not only teaching community members, but also learning and experiencing different communities' cultures and lives for mutual benefit in the participatory design process. We only lead the project with great funding. If we open our minds and sincerely try to understand what disadvantaged communities really want, we can access and communicate with them closely. As Moll and Gonzalez (2004) mentioned, culture is hybrid through funds of knowledge, and we should stop understanding the cultural "difference" based on our stereotype, and use research-based knowledge instead. May (1993) also points out that action research is not always aimed at problem solving: "Teachers may or may not aim to solve specific problems or 'improve' practice, even though such may happen…focusing only on such narrow problems can separate means from ends and increase attention to instrumental problems of practice rather than to meanings" (p. 116). Further, the concept of "educators as learners" is related to critical pedagogy (CP). As Kumashiro (2004) mentioned, teachers could be learners and students could be teachers in a classroom. It matters how we learn and what we think through education. It is because "…learning is not about acquiring more knowledge. Learning is about releasing our dependence on knowledge that has, until

now, framed the ways we live in the world" (p.48). In addition, he argues that teachers as researchers in that "…teachers need to continually learn, to be lifelong learners, to themselves be perpetual students of teaching" (p.10). This view about "educator as learner" has something in common with Freire (2000)'s opinion in CP. Freire criticizes oppressive pedagogy when educators regard students as empty bank accounts that should remain open to deposits made by the teacher. Ultimately, Kumashiro and Freire suggest that students in education should be empowered in learning and teaching with teachers together. Since our world is made up of diverse culture, knowledge, and human beings, educators cannot understand and acknowledge all things. Through the different views and knowledge of students and community members in the world, educators could learn these "differences." At this point, listening to students and community members' voices is a core value of teaching in design education. As withdrawing common sense and privileged knowledge, design researchers and educators can grow up together with students and community members to lead to a better world. In addition, Hermann (2005) asserted the role of educators should be as facilitators in postmodern art and design education. In other words, by encouraging students to think critically about the visual culture of which they are a part, and how these images and texts relate to one another, students can gain an understanding of how they are influenced and how they themselves can influence.

Therefore, design educators should associate with students and community members as learners. Collaboration with others having different backgrounds allows educators to understand students and community members in-depth; further, this will result in great relationships among all participants in CBPR. Since the process can take place within sustainable relationships between universities and communities,

empowerment among agencies should be shared among all stakeholders-between teachers and students, teachers and community members, and students and community members.

3) Postmodern art + design and pedagogy

Postmodern art and design are a pervasive part of our everyday lives involving emotional feeling, objectivity, and subjectivity, so we have to consider it within the context of our "quotidian activities" and "intrinsic concerns" (Forsey, 2013). The reason is that "aesthetics are how we as human beings perceive the forms we experience in the world about us, whether they are other human beings, a process we observe or partake in, or objects we encounter or create" (Stephans & Boland, 2015, p.222). This opinion is related to DeLong (2015)'s aesthetic response, and further, the funds of knowledge in CRP (culturally relevant pedagogy). With an expanded understanding of aesthetics, from philosophical value to everyday experiences in our lives, we can balance between ABTD (arts-based top-down design process) and EBUD (engineering-based bottom-up design process) for reflexive learning and teaching in art + design education. Ultimately, conducting design starts from understanding cultures, aesthetics, and problems of participants and a society. Currently, many designers are concerned about climate change, social justice, and equity, and they discuss "what design can do for climate action challenges."[9] Designers are also considering how our lives could be happy with "good design" and "pleasurable design" (balancing with aesthetics + functionality + usability) within our neighbourhoods at the same time. As Kimbell (2011) said, we have to

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[9] https://impactdesignhub.org/2017/06/02/design-can-climate-action-challenge/

reconsider the role of designers in the world through an understanding of culture, economy, politics, and our world. As Sanders and Stappers (2008) said, our design education paradigm is shifting to participatory design process gradually. However, we cannot ignore traditional knowledge in design education. Therefore, complementary cooperation is needed in the postmodern era. As Dewey (1934) said, aesthetic knowledge is useful for defining and solving organizational problems as it is the summative quality of a situation or experience. In doing so, balanced approaches are valuable for student-oriented reflexive learning in art + design education.

Epilogue

One day in May 2017, I unexpectedly met Midori, who was one of the students I had taught in the College of Design in Minnesota. It was the commencement day of the College of Design, and we were waiting for each graduate to come up to receive their diploma. While waiting for our friends, we talked about many things, especially about designing, for a while. At that time, my research interest involved different design processes, so I asked Midori, "How was your learning in design?" (She was working at a design company after graduating last year). She replied. "The curriculum was too focused on utility and usability in designing. But in the field, it is not at all. I remember you taught us how to get inspiration with creativity. It was helpful in the design field." At that moment, I gained confidence in my research topic in comparing different design processes within ABR.

Researching and engaging in self-reflection led me to improve my teaching philosophy and design practice as an educator and designer: What I need to do further is to develop a better educational environment for student-oriented learning based on CP and CRP. As an outsider in another country, I could critically analyze different design educational systems and cultural differences. While conducting this research, I recognized that every moment was valuable whether it was painful or not. In addition, I could discover my hybrid cultural background and changeable personality based on my learning and living environments. As many researchers have mentioned, postmodern identity is hybrid and represents a meta-symbol through which we construct and reconstruct our version of the world (Gonzalez, 2005; Moll & Gonzalez, 2004; Rolling, 2013). Through conducting an autoethnography with poetry in ABR, I could research

myself as experiencing both privileged and marginalized being in-between different cultures and systems. I am still a learner in art + design education, and I would like to improve my teaching and learning environment through my own research. Ultimately, through the lens of my own experiences, I could gaze at my insights to shape the presentation. As Dewey (1938), said, "Educative process can be identified with growth when that is understood in terms of the active participle, *growing*. It, not only physically but intellectually and morally, is one exemplification of the principle of continuity" (p.36). As many researchers have testified, the process of telling and writing personal stories is a powerful means of fostering educators' professional growth and embodied knowledge (Elbaz-Luwisch, 2002; Rolling, 2013; Van Maanen, 2011). Particularly, the digital images hyperlinked from the smartphone and social media have allowed easy access to the metaphors of my experiences within memories. I appreciate to technology and the ABR methodology to make me grow gradually.

CHAPTER FIVE. CONCLUDING THOUGHTS

The study

This study started from my own experiences as a Korean international student in different culture and different educational systems in higher education in the U.S. Why my previous knowledge learning from arts-based top-down design process (ABTD) in South Korea was different from the learning from engineering-based bottom-up design process (EBUD) in the U.S. are discussed in this study to address different cultural and educational systems in-between Korea and the U.S. Through the comparison and argument between ABTD and EBUD within arts-based research methodology, I explored why we need to reconsider a balanced curriculum in art and design education for student-oriented learning toward community-based participatory design research. Through my stories in art + design education within different environments, I drew upon critical pedagogy (CP) (Freire, 2000; Kumashiro, 2004) and culturally relevant pedagogy (CRP) (González, 2005) within Dewey's (1934, 1938) philosophy, stressing the value of lived experiences, for students-oriented creative learning in art + design.

As a process of exploring balanced curriculum for reflexive and creative students-oriented learning in art + design education, I addressed cultural issues in learning and teaching in the U.S. educational system and explored the reason toward CBPR in art + design education. My research questions in this study were three.

1) How do international students from Korea adapt to the different approaches to teaching and learning in the U.S. art + design education program?

2) How do lived experiences affect Korean students' response to U.S. art + design education practices?

3) How would Korean student improve the educational environment for student-oriented learning in art + design education?

Research question 1 is for addressing cultural issues while adapting new environment within different culture and different educational system from Korean international students including me. Research question 3 is to explore balanced curriculum for student-oriented learning in art + design education. To explore a process of balanced curriculum, I asked the role of art + design educators to improve educational system based on our hybrid identity. Research question 2 is transition between research question1 and 3, so it is for exploring the value of lived experiences in art + design education to address diverse issues in creative design thinking and to explore balanced curriculum in the notion of Dewey's philosophy (1934).

To address cultural issues and to explore balanced curriculum for students-oriented learning in art + design education, my assumptions in the study are as below. **First**, synonymous meaning of art and design in the study. The postmodern art and design go in parallel based on multiculturalism and visual culture as a tool of social change and making a better world emotionally and physically. It reflects on bottom-up process in art + design domain.

Second, design approach reflects cultural differences based on social norms, educational systems, value of aesthetic response, and the purpose of design, but the holistic design process is similar as problem-solving process.

Third, Korean international students who have studied/or are studying in the College of Design at the University of Minnesota had learned ABTD in Korean educational system in Bachelor's or/and Master's degree, and recognized the different design approach between ABTD and EBUD.

Through the multi-layered analysis and creating poetry, I could generate three themes as below.

Theme 1. Students with diverse funds of knowledge and lived experiences are struggling with flatten curriculum and would like to learn diverse design approaches to keep their studying in art + design education.

I have interviewed with eight participants (current design educators and future design educators) to support my stories, and analyzed the data within autoethnography based on research questionnaires. Based on our stories, I could confirm there are diverse students with different interests in art + design education, and they have different talents in developing creative ideas to solve problems. Some students would like to develop creative ideas based on ABTD, and others would like to approach design as EBUD focusing on analyzing process. At the same time, they recognize the needs of balancing arts-based and engineering-based approaches in design education with understanding diverse students' interest and solving diverse problems in our society. However, they should only adjust flatten curriculum in-between Korea and the U.S. and realized that

both ABTD and EBUD are needed in art + design education with balancing them with understanding paradigm shift in art + design education.

Theme 2. *Lived experiences inside and outside classroom reflect on creative design thinking of learning and teaching process in art + design education.*

Lived experiences affect developing creative ideas in learning and teaching in art + design education. Since lived experiences through traveling, studying abroad, associating with diverse people in living and extra-curricular activities can expand our views in designing with cultural diversity and developing sustainable relationship, we could be flexible, reflexive with open mind and reducing stereotypes. This cumulative knowledge through lived experiences can be shared with students as art + design education, and is helpful to understand diverse students' funds of knowledge in teaching and to focus on students-oriented learning.

Theme 3. *The role of art + design educator is encouraging students to learn diverse cultural differences inside and outside classroom, and to contribute our creative design abilities to our society with students and diverse communities.*

Our stories shows that our role, as art + design educators, is first, to bridge gap between academia and industry with encouraging students to learn diverse cultural differences and real world experiences inside and outside classroom, second, to contribute our creative design thinking to make a better world with students and diverse communities in our society. I also confirmed these thoughts and cumulative experiences can give bigger impact on our society with balanced curriculum through CBPR.

I tried to express three themes through my autoethnography with chronological stories and added qualitative in-depth interview data from my colleagues who have associated with me in the College of Design at the University of Minnesota based on the themes. Each part of autoethnography has metaphor embedded with emotional feeling, theoretical backgrounds with memoing and analyzed themes through grounded theory.

Meaning of the research

I was a fashion designer and a researcher in clothing design domain; now I am researching the better educational environment with the balanced curriculum for students-oriented learning in art + design education with critical pedagogy (CP) and Culturally relevant pedagogy (CRP) within the notion of Dewey's philosophy valuing lived experiences. As a Korean international student in the U.S., I have experienced a different culture and different educational environment in the U.S. I have questioned why the design approach was different between Korea and the U.S., within different educational environment, and explore how we, as art + design educators, could develop balanced curriculum for student-oriented learning in art + design education. To explore my research questions, I used an autoethnography with poetry within arts-based research (ABR). As a new research methodology in the postmodern era, ABR can approach human beings' emotional aspects of social life, lived experiences, and identity work such as difference, diversity, prejudice, etc. (Leavy, 2009). Through the ABR, I could generate my emotional aspects of social life between Korea and the U.S., and the meaning of lived experiences in developing creative ideas of balancing curriculum for student-oriented learning in art + design education. What I have experienced between different culture and

different educational environments are great resource to consider balanced curriculum within CRP, CP, and Dewey's notion of lived experiences. Furthermore, I could confirm the value of ABR through data collection from other colleague's supportive stories as data observation, analyzing, storytelling, and thinking conceptually, symbolizing, metaphorical process with creativity, flexibility, and intuition. My colleague's stories through qualitative in-depth interview were analyzed with an art + design educators' lens and intermingled within my autoethnography to support my opinion. The multi-layered data was analyzed based on grounded theory to generate themes, and great resources to create poetry and conversational stories as shaping up the autoethnography within ABR. The conversational stories came from qualitative in-depth interview data and has been shaped like fictional stories. It was embedded participants' emotional feeling as a minority in the U.S., and design philosophy, teaching philosophy as art + design educators directly and indirectly. I could overcome struggles with validity in the methodology: aesthetic evaluation, reflection, theory, and literature review, qualitative in-depth interview, analysis cycle, and ethics. Literature review was intermingled within autoethnography as theoretical backgrounds. Through multi-layered analyzing process and creating process, I could confirm diverse students with different funds of knowledge and cultural aspects are struggling with flatten curriculum inside classroom, and participants in interviewing also agreed with developing balanced curriculum in art + design education. I also could confirm the value of lived experiences to develop creative ideas within diverse cultural aspects in art + design education. Through the analyzing process, finally, I emphasized how community-based participatory design research (CBPR) is important to understand cultural diversity in creating ideas and solve diverse

problems in our society with expanding our views of aesthetics from philosophical

aesthetic and everyday aesthetic as an art + design educator.

As many researchers mentioned, we are facing paradigm shift in art + design

education (Efland, 1996; Freedman & Stuhr, 2004; Sanders & Stappers, 2008): the

subject and the main stream of art and design have moved from professional artists,

designers, and teachers to the public and students (from top-down process to bottom-up

process) within a problem-solving process (Clack, 1996; Duncan, 2010; Loscialpo,

2011). The postmodern art and design based on multiculturalism and visual culture goes

in parallel, we need to consider new pedagogical approaches with understanding

multiculturalism. Even though we need to move forward to bottom-up design process

based on the paradigm shift, I do not mean the art-based top-down design process is not

necessary in CBPR. With understanding expanded aesthetic value from philosophical

aesthetic to everyday aesthetic, we need to know the value of harmonious aesthetic

response in art + design education. As Stephens & Boland (2014) mentioned, aesthetic

knowledge is useful for defining and solving organizational problems as recognizing

diverse issues in our society. A problem is defined as "a choice situation" that is given a

particular meaning because it is an experience that participants want to change (Dewey,

1934; Johnson, 2008).

Toward community-based participatory research (CBPR) in art + design education

Tim Brown (2019), CEO of IDEO[10] a global design and innovation company, also

addressed the value of balancing art and engineering in design education to creative

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[10] https://www.ideo.com, A global design and innovation company.

design thinking. With advocating CBPR in design education, he emphasizes in-between divergent and convergent thinking process in his book (See Figure 23).

"If the convergent phase of problem solving is what drives us toward solutions, the objective of divergent thinking is to multiply options to create choices." (Brown, 2019, p.73).
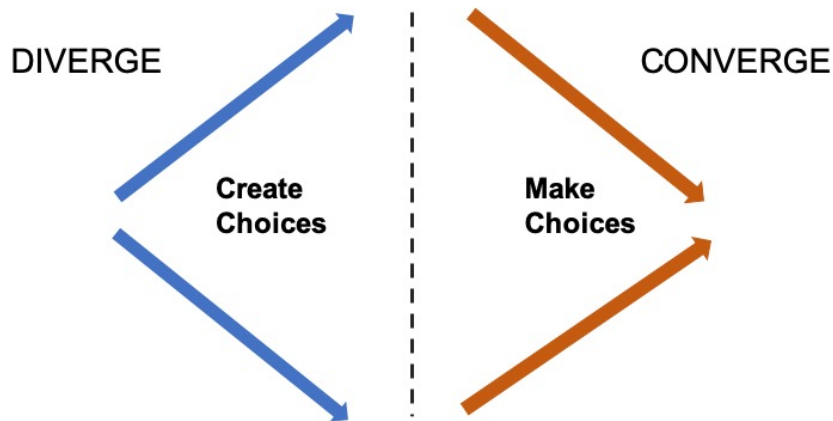
Figure 22. Convergent and divergent thinking, (Brown, 2019, p.73).

He has valued on the different cultural backgrounds in developing thoughts between Western and Eastern culture and points out the value of mixing them in creating ideas.

"*The point is not that we must all become right-brain artists practicing divergent thinking and hoping for the best; there is a good reason why design education draws in equal measure upon art and engineering. The process of the design thinker, rather, looks like a rhythmic exchange between the divergent and convergent phases, with each subsequent iteration less broad and more detailed than the previous ones.*" (p.74).

These all process to develop creative ideas in-between convergent and divergent design thinking are interconnected with in-between ABTD and EBUD to conduct successful participatory design process to solve problems in our society. Through the divergent and convergent thinking process, we can do bigger impact on our society as design educators (Brown, 2019; Fisher, 2016).

Without understanding diverse cultural aspects based on everyday aesthetics and funds of knowledge of students and communities, we would not be able to move forward to CBPR in art + design education. This notion is the key element to balance ABTD and EBUD toward CBPR in art + design education with CRP and CP for student-oriented learning. To move forward to CBPR in art + design education, I suggested three points:

1) **Are we understanding multiculturalism based on funds of knowledge?**

   Based on my own experiences for the different culture and different design approaches as an international student, I also asked to my colleagues if they have experienced similar one or not. Our memories and our overcoming situation depend on personality and funds of knowledge before coming to the U.S. as Ph.D. degree, but the path to overcome was similar as international students. How harsh it was and how were we struggling with the "difference" as a minority. Many researchers developing CBPR in design education struggle with cultural issues and sustainable relationships with communities. If design educators could understand and apply multiculturalism based on funds of knowledge in CRP to teach students and associate with diverse communities and students, I believe we can overcome these obstacles with training students inside classroom and conduct successful CBPR with building sustainable relationship.

2) **What is the role of design educator?**

How do we regard diverse communities in CBPR, and how to teach students inside and outside classroom? As the notion of CP, "Educators are learners" (Freire, 2000; Kumashiro, 2004), we need to build up the sustainable relationship with students and communities. Our role as professional design educators in CBPR, we are not only leader, but also learner from students and diverse communities to learn diverse cultural aspects and their meaningful everyday aesthetics. In addition, we need to bridge gap between academia and industry through contributing our talents by creative design thinking to our society to make a better world with students and diverse community members.

3) **Postmodern art + design and pedagogy**

Almost colleagues in design education have recognized the meaning of art as only subjective one. They said, it should be differentiated from design at the beginning stage of the interviewing. However, after generating my research process and conversation, they could understand the meaning of postmodern art and design. If we could understand the meaning of postmodern art + design and could apply it to design education, it could be easy for us to access diverse problems within holistic aesthetic response.

These three suggestions are based on CRP and CP with value of lived experiences. CBPR is not only solve internal and external problems of diverse communities but also expand views of students in art + design education with exposing diverse situation and associating with diverse population inside and outside classroom.

Through developing balanced curriculum toward CBPR, we can solve diverse problems in our society, and make a better world with understanding diverse communities' fundamental improvement and active engagement in our society and design process. We, as art + design educators, need to understand the whole process of CBPR and the fundamental meaning of CBPR to overcome cultural issues to conduct successful design research and build sustainable relationship with diverse communities. We need to start from understanding diverse students' cultural aspects in classroom and teach them with open mind and reflexive curriculum based on CRP and CP.

Through the iterative process in the research, I could research myself based on ABR methodology, and confirmed the validity of my stories through qualitative in-depth interview. As shown Figure 24, researcher is researched within cultural aspect. The ABR within autoethnography can expand my view in researching in art + design education, and allow me to address diverse cultural issues through expressing emotional feeling and interweaving multi-layered data.
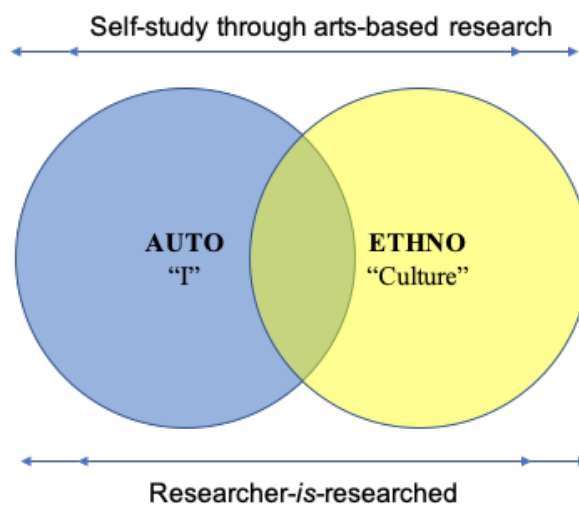
Figure 23. The meaning of autoethnography through arts-based research.

In the research, I could acknowledge how my teaching philosophy was improved through self-study, and how I could grow as an educator beyond being only a designer. As Dewey suggests, human knowledge can be shaped with cumulative experiences, and it can be expressed through art and design work. I could express my long journey to become a good art + design educator into poetry and conversational stories with my colleagues.

Implications and future study

This study started from my personal stories of living in between different cultural and educational environments as an art + design educator. It includes emotions, feelings, reflection, storytelling, and additional supportive stories from interviews with eight of my colleagues. Like many arts-based researchers my process was iterative, and it creatively captures different perspectives of multiple design education processes. My colleagues agree that my arts-based methods produced a creative research text that may improves design education.

Through this process, I could confirm the value of autoethnography within ABR improving this art + design research study. It also helped me grow and critically view myself as an international art + design educator in the U.S., allowing me to create a teaching philosophy for student-oriented learning. This in turn helped me advocate for CBPR in art + design education while recognizing the value of lived experiences within CRP and CP.

Creating poetry and fictionalized conversational stories from multi-layered data was a novel idea that invites broader audiences to understand and interact more easily with my research. As a designer, researcher, and educator, I would like to introduce this qualitative methodology to other colleagues in the academy and industry, and to conduct ABR with students in future classrooms.

One limitation of the study was only collecting data from eight Korean international students who experienced similar emotional feeling as me while in the College of Design at the University of Minnesota. In a future study, however, I would

like to collect data from diverse students with different backgrounds from other countries to confirm the value of lived experiences and cultural diversity in art + design education.

A second limitation of my study was not focusing holistically on analyzing the Design, Housing, and Apparel program of the College of Design. Instead I chose to focus on the emotional feelings of international students, including myself, studying in different educational environments. Colleagues who were interviewed for my study, only explained the EBUD process based on our research experiences as Ph.D. students. We never took undergraduate courses in the College of Design at the University of Minnesota. Looking through an art + design educator's lens I was able to address cultural issues including participants' reactions to obvious discrimination in the U.S. Comparisons of different design approaches permitted exploring pedagogical approaches to balance curriculum toward CBPR. But my discussion of EBUD in this research in no way represents all programs in the College of Design at the University of Minnesota.

The third limitation of my research was giving Korean participants in the study racialized pseudonyms. By unintentionally choosing eight western female names that I became familiar with through U.S. media exposure, rather than using names more representative of these women's Asian culture, I ignored key principles of CP and CRP. This would include disrupting and dismantling unjust racial, socioeconomic, gender, and language injustices in education. In future publications, I would like to restory data from this dissertation in more culturally relevant ways. My aim would be to challenge systems and structures of racism and oppression, and to eliminate barriers and obstacles created by institutional discrimination in art + design education.

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Appendix A

Consent Form

INFORMATION SHEET FOR RESEARCH

Title: A Balanced Curriculum for Student-Oriented Learning in Art + Design Education: Toward Community-Based Participatory Design Research

You are invited to be in a research study on developing a balanced curriculum for reflexive and creative student-oriented learning in art + design education. You were selected as a possible participant because you are associated with me and study in the College of Design as a graduate student at the University of Minnesota. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Mee Jekal and James Bequette, Arts in Education, Curriculum & Instruction, University of Minnesota, Minneapolis.

Procedures:

If you agree to be in this study, we would ask you to do the following things:

The researcher will conduct a one-on-one interview with you after writing and analyzing her own autoethnography. For the interview, the researcher will contact you through email or a phone call to make an appointment and set up an appropriate location and time to feel comfortable. A face-to-face interview has priority, but internet-based options such as Skype or Zoom also could be used if you want. Each interview will take approximately 45-60 minutes and will be audio-recorded. The researcher will share the research questions with you in Korean before starting the interview. The interview will proceed in English, but you could use Korean if you want at any time. A consent form will be obtained from each participant before the interview process starts. The research questions are semi-structured and will focus on your experiences adapting to a new environment in Minnesota, and your perception of design and future direction as an art + design educator in higher education based on demographic information. The audio-recorded interview data will be transcribed. During the interview, the researcher may ask you to show your own art + design portfolio if you are willing.

Confidentiality:

The records of this study will be kept private. Any sort of report that might be published or presented will not include any information that would make it possible to identify any participant or person recorded during the study. The participants' names will not be connected with responses. Instead, you will be given a pseudo name in any sort of report that might be published. Research records will be stored securely, and only researchers will have access to records for two years.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researchers conducting this study are Mee Jekal and James Bequette. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact Mee Jekal at 612-644-0900, jekal001@umn.edu, or James Bequette at 612-625-5286, bequette@umn.edu.

This research has been reviewed and approved by an IRB within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at 612-625-1650 or go to https://research.umn.edu/units/hrpp/research-participants/questions-concerns. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Participant's Name
(printed)_____

_____

_____
Participant's Signature   Date

You will be given a copy of this information to keep for your records.

Appendix B

Recruitment Forms

Dear. Participant

I am Mee Jekal, a Ph.D. student in Curriculum & Instruction since 2015, and a transferee from College of Design. I am conducting a research study on developing a balanced curriculum for reflexive and creative student-oriented learning in art + design education (STUDY00006423).

I contacted you because you associated with me as a colleague in the College of Design at the University of Minnesota. This research is arts-based using autoethnographic methods with poetry. Sharing your retrospective experiences as a design student will support my autoethnographic research and provide qualitative in-depth interview data. If you accept this interview request, I will make an appointment and set up an appropriate location and a time to feel comfortable. A face-to-face interview has priority, but internet-based interview options such as Skype or Zoom also could be used. The interview will take approximately 45-60 minutes and will be audio-recorded. The research questions are semi-structured and will focus on your experiences adapting to a new environment in Minnesota, perception of design, and future direction of art + design as an art + design educator in higher education based on basic demographic information. During the interview, the researcher may ask you to show your own art + design portfolio if you have examples and are willing.

If you have questions for the interview, please contact with me at C.P 612-644-0900, or e-mail jekal001@umn.edu.

Thank you,
Mee Jekal

Appendix C

Interview Questionnaires

Objectives

The purpose of the research is to address cultural issues of the educational environment through a comparison of different art + design education approaches in higher education programs in Korea and the U.S., and to explore a balanced curriculum development process based on critical pedagogy, culturally relevant pedagogy, and the value of lived experiences for reflexive and creative student-oriented learning in art + design education.

Research questions:

1. How do international students from Korea adapt to the different approaches to teaching and learning in the U.S. art + design education programs?
2. How do lived experiences affect Korean students' response to the U.S. art + design education practices?
3. How would Korean students improve the educational environment for student-oriented learning in art + design education?

Interview questionnaire (semi-structured questions)

1. General questions for background check

1-4. Where did you study design education?

1-5. Why did you select this domain of design education?

1-6. What kinds of experiences have you done for your study in design area?

2. Adaptation to new environment

2-1. Did you feel valued when you took classes in your U.S. design program?

2-2. What kinds of differences did you experience when learning U.S. design approaches?

2-3. If there were differences, did you overcome them? If so, how?

2-4. How do lived experiences in different cultures affect your design practices and research?

3. Perception of design

3-1. Has your perception of design approaches changed? If so, how?

3-2. How have you recognized perception of aesthetics in design?

4. Future direction as an art + design educator

4-1. How will you improve learning and teaching in art + design education? What is your role as an art + design educator?

4-2. How do you care about your students with different backgrounds and different approaches in art + design?